

Closure Report

Site Description

Site Name:	Livingston Ridge 19 Federal #1 CTB
Company:	Oxy Permian
Legal Description:	U/L D, Section 19, T22S, R32E
County:	Lea County, NM
GPS Coordinates:	N 32.38219° W 103.72215°

Release Data

Date of Release:	08/26/2016
Type of Release:	Oil
Source of Release:	Ball valve failure on the circulating pump
Volume of Release:	100 bbls
Volume Recovered:	70 bbls

Remediation Specifications

Remediation Parameters:	Excavate the leak area to a depth of 6 inches. Backfill the excavation with clean soil.	
Remediation Activities:	01/02/2017 to 01/06/2017	
Plan Sent to OCD:	11/05/2016	Email from Cliff Brunson to Kristen Lynch
OCD Approval of Plan:	11/10/2016	Email from Kristen Lynch to Cliff Brunson
Plan Sent to BLM:	11/05/2016	Email from Cliff Brunson to Shelly Tucker
BLM Approval of Plan:	11/07/2016	Email from Shelly Tucker to Cliff Brunson

Supporting Documentation

Initial C-141	Signed 08/31/2016
Final C-141	Signed 01/11/2017
Site Diagram	August 2016
Groundwater Plot	225'
TOPO Maps	August 2016
Lab Summary	10/04/2016
Lab Analysis	10/04/2016
Correspondence	Request and approval of remediation plan via email

Request for Closure

Based on the completion of the remediation plan as agreed upon, BBC International requests closure approval from NMOCD.

Cliff Brunson, President of BBC International Inc.

01/20/2016

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	Livingston Ridge 19 Federal #1 CTB	Facility Type	Battery

Surface Owner	BLM	Mineral Owner		API No.	30-025-32677- <i>KAP</i>
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LOCATION OF RELEASE

30-025-35960

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	19	22S	32E					Lea County, NM

Latitude N 32.38219° Longitude W 103.72215°

NATURE OF RELEASE

Type of Release	Oil	Volume of Release	100 bbls	Volume Recovered	70 bbls
Source of Release	Ball valve failure on the circulating pump	Date and Hour of Occurrence	08/26/2016	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?	Jamie Keyes, Kristen Lynch- NMOCD; Shelly Tucker-BLM		
By Whom?	Kathy Purvis, BBC International	Date and Hour	08/26/2016 @ 4:44 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.*

Ball valve failure on the circulating pump caused a spill of 100 bbls of oil. A vacuum truck recovered 70 bbls of oil and the ball valve was put back into service.

Describe Area Affected and Cleanup Action Taken.*

The affected area is approximately 200' x 50' both on and off location. Remediation will be completed in accordance with a remediation plan approved by NMOCD and the BLM.

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

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:	<i>8-31-16</i>	Phone:	(575) 513-8289

* Attach Additional Sheets If Necessary

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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	Livingston Ridge 19 Federal #1 CTB	Facility Type	Battery
Surface Owner	BLM	Mineral Owner	API No. 30-025-32677

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	19	22S	32E					Lea County, NM

Latitude N 32.38219° Longitude W 103.72215°

NATURE OF RELEASE

Type of Release	Oil	Volume of Release	100 bbls	Volume Recovered	70 bbls
Source of Release	Ball valve failure on the circulating pump	Date and Hour of Occurrence	08/26/2016	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?	Jamie Keyes, Kristen Lynch- NMOCD; Shelly Tucker-BLM		
By Whom?	Kathy Purvis, BBC International	Date and Hour	08/26/2016 @ 4:44 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.*

Ball valve failure on the circulating pump caused a spill of 100 bbls of oil. A vacuum truck recovered 70 bbls of oil and the ball valve was put back into service.

Describe Area Affected and Cleanup Action Taken.*

The affected area is approximately 200' x 50' both on and off location. Remediation was completed in accordance with the remediation plan approved by Kristen Lynch of NMOCD via email on 11/10/2016 and approved by Shelly Tucker of the BLM via email on 11/07/2016.

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

Signature:	OIL CONSERVATION DIVISION		
Printed Name: Casey Summers	Approved by Environmental Specialist:		
Title: NM Environmental Advisor	Approval Date:	Expiration Date:	
E-mail Address: Casey.Summers@oxv.com	Conditions of Approval:		Attached <input type="checkbox"/>
Date: 1-11-17	Phone: (575) 513-8289		

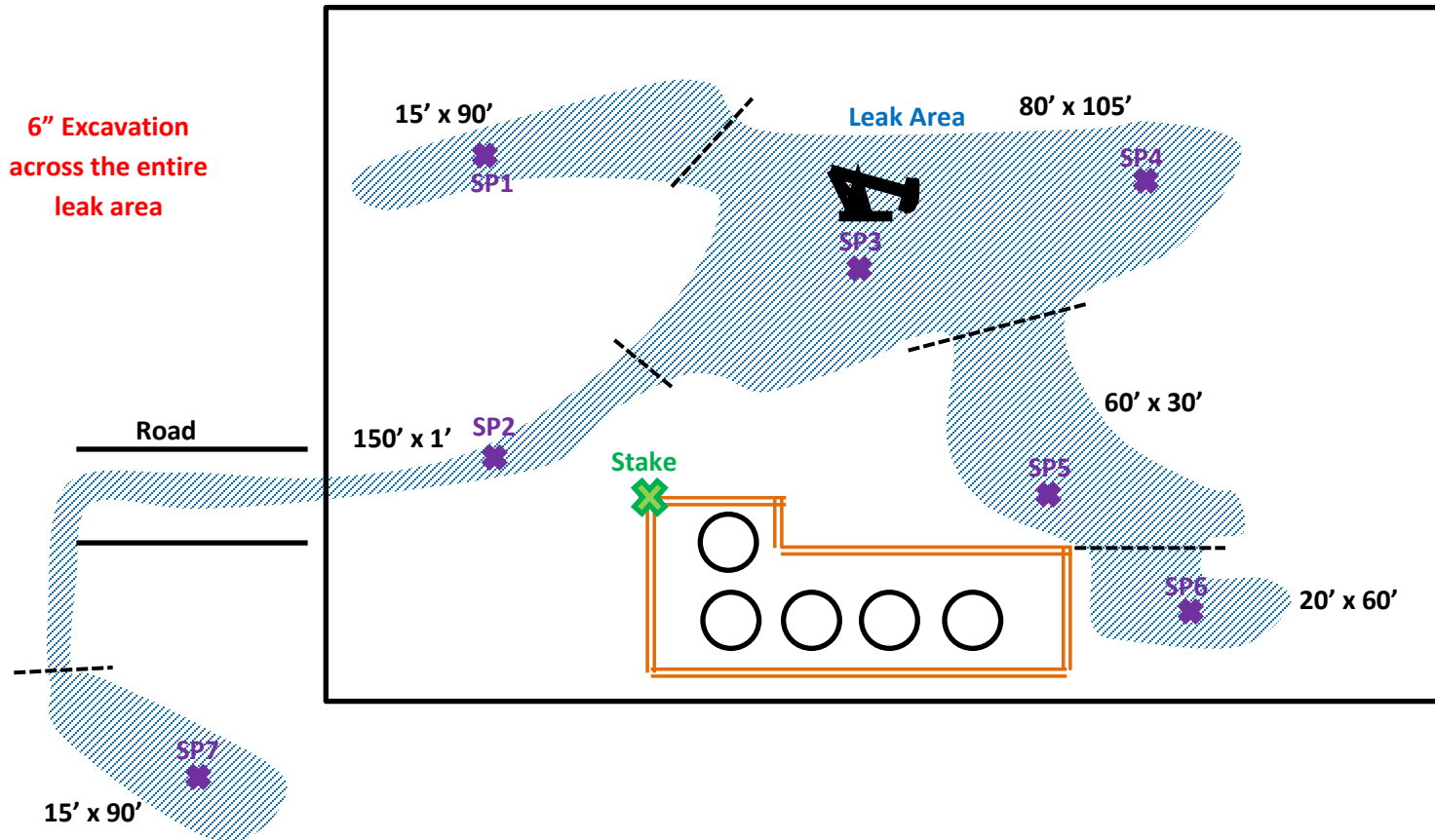
* Attach Additional Sheets If Necessary



Oxy

Livingston Ridge 19 Federal #1 CTB (8/26/16)

6" Excavation
across the entire
leak area



U/L D, Section 19, T22S, R32E

Lea County, NM

N 32.38219° W 103.72215°

API# 30-025-32677

BBC International, Inc.

Oxy

Livingston Ridge 19 Federal #1 CTB

Date: 08/31/2016

DRWG by: K. Purvis

NOT TO SCALE

File: Oxy 2016



Groundwater Plot

Oxy Livingston Ridge 19 Federal #1 CTB

County
Lea

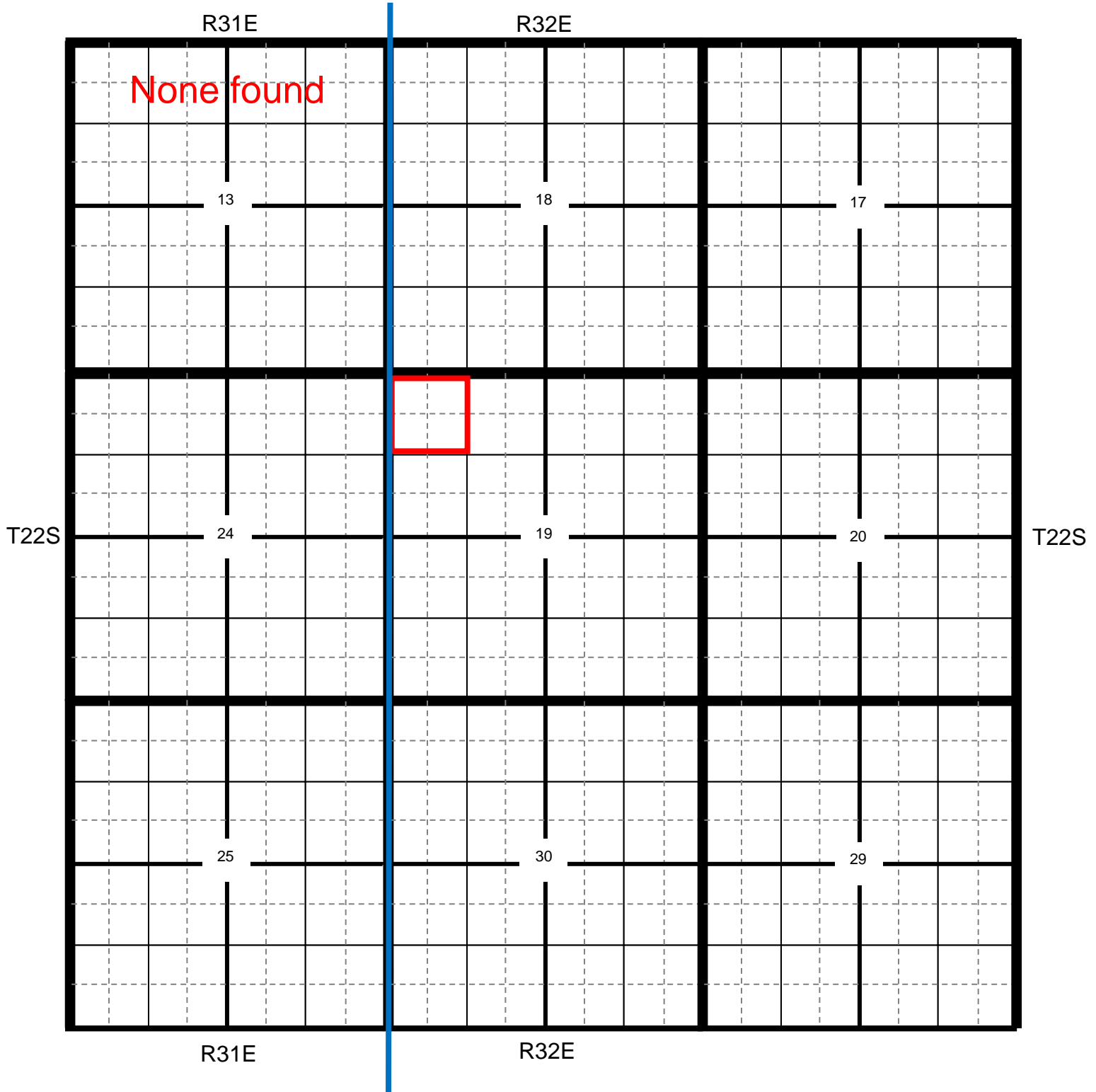
Unit Letter
D

Section
19

Township
22S

Range
32E

Trend Map 225'



★ Location

● OCD

● USGS

● SEO

● All Databases

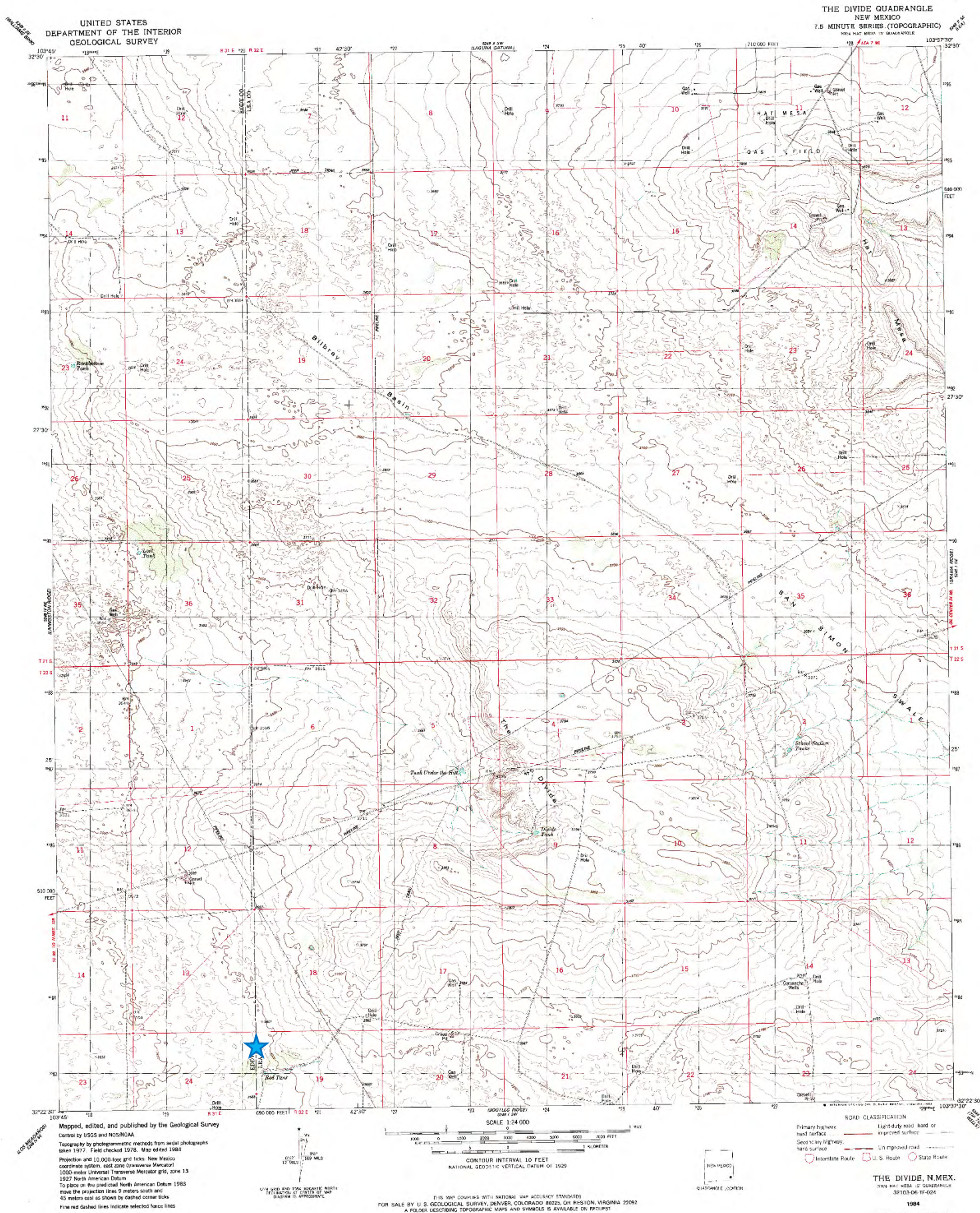
Oxy Livingston Ridge 19 Fed #1 CTB

County	Unit Letter	Section	Township	Range
Lea	D	19	22S	32E

Trend Map 225'

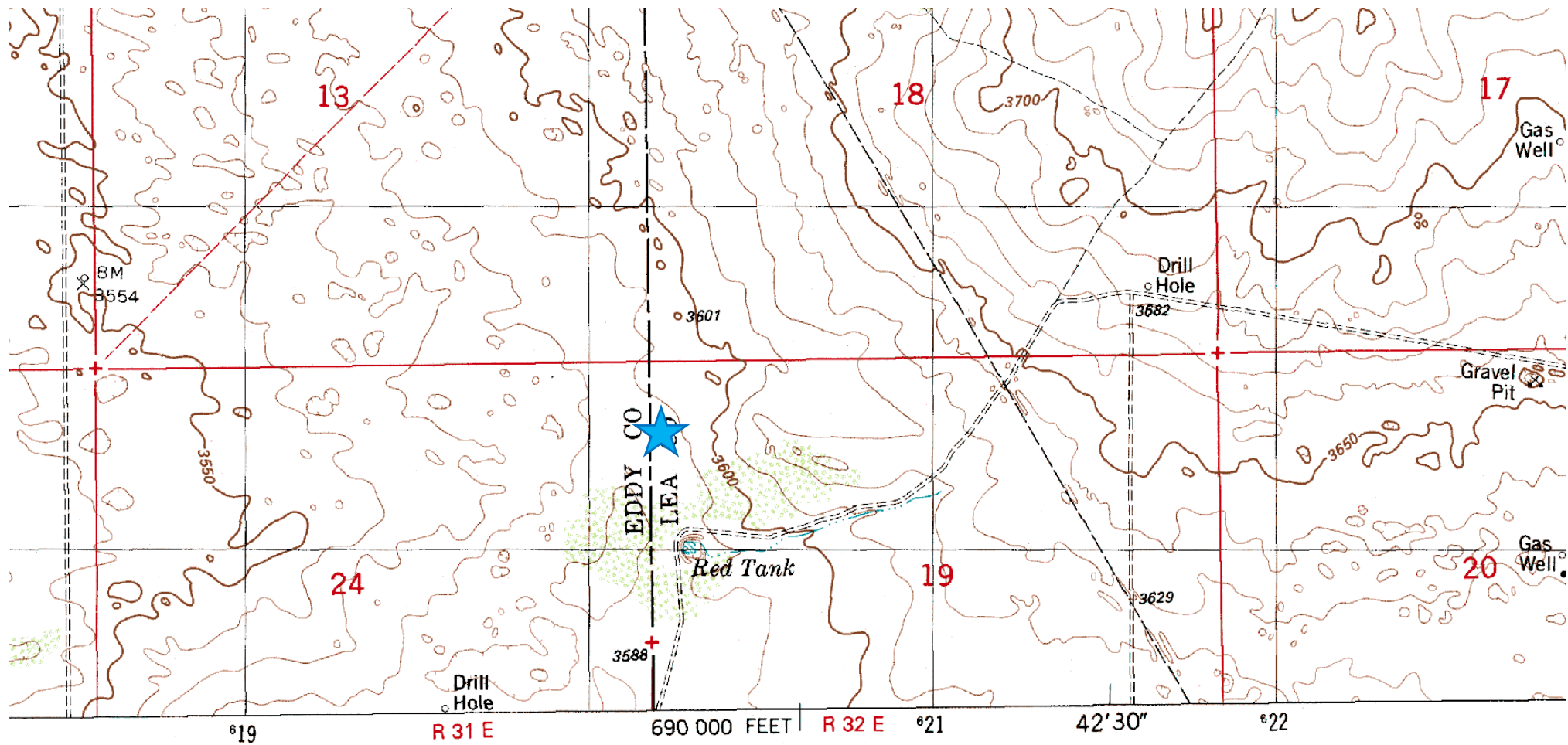
1		2	
NW/NW	NE/NW	NW/NE	NE/NE
		None found	
Unit Letter D	Unit Letter C	Unit Letter B	Unit Letter A
SW/NW	SE/NW	SW/NE	SE/NE
Unit Letter E	Unit Letter F	Unit Letter G	Unit Letter H
NW/SW	NE/SW	NW/SE	NE/SE
Unit Letter L	Unit Letter K	Unit Letter J	Unit Letter I
SW/SW	SE/SW	SW/SE	SE/SE
Unit Letter M	Unit Letter N	Unit Letter O	Unit Letter P
3		4	

Oxy



Oxy

Livingston Ridge 19 Federal #1 CTB



Published by the Geological Survey

**Laboratory Analytical Results Summary
Livingston Ridge 19 Federal #1 CTB**

		Sample	SP1 @ SURFACE	SP1 @ 1'
Analyte	Method	Date	10/4/16	10/4/16
			mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	<0.050
Toluene	BTEX 8021B		0.151	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300
GRO	TPH 8015M		<100	<10.0
DRO	TPH 8015M		13200	<10.0

		Sample	SP2 @ SURFACE	SP2 @ 1'
Analyte	Method	Date	10/4/16	10/4/16
			mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	<0.050
Toluene	BTEX 8021B		0.128	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300
GRO	TPH 8015M		<50.0	<10.0
DRO	TPH 8015M		4000	<10.0

		Sample	SP3 @ SURFACE	SP3 @ 1'
Analyte	Method	Date	10/4/16	10/4/16
			mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	<0.050
Toluene	BTEX 8021B		0.096	0.062
Ethylbenzene	BTEX 8021B		0.175	<0.050
Total Xylenes	BTEX 8021B		0.655	<0.150
Total BTEX	BTEX 8021B		0.925	<0.300
GRO	TPH 8015M		<100	<10.0
DRO	TPH 8015M		20400	23.3

		Sample	SP4 @ SURFACE	SP4 @ 1'
Analyte	Method	Date	10/4/16	10/4/16
			mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	<0.050
Toluene	BTEX 8021B		0.119	<0.050
Ethylbenzene	BTEX 8021B		0.085	<0.050
Total Xylenes	BTEX 8021B		0.259	<0.150
Total BTEX	BTEX 8021B		0.463	<0.300
GRO	TPH 8015M		<100	<10.0
DRO	TPH 8015M		15800	<10.0

		Sample	SP5 @ SURFACE	SP5 @ 1'
Analyte	Method	Date	10/4/16	10/4/16
			mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	<0.050
Toluene	BTEX 8021B		0.295	<0.050
Ethylbenzene	BTEX 8021B		0.479	<0.050
Total Xylenes	BTEX 8021B		1.61	<0.150
Total BTEX	BTEX 8021B		2.38	<0.300
GRO	TPH 8015M		<100	<10.0
DRO	TPH 8015M		25200	<10.0

		Sample	SP6 @ SURFACE	SP6 @ 1'
Analyte	Method	Date	10/4/16	10/4/16
			mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	<0.050
Toluene	BTEX 8021B		0.313	<0.050
Ethylbenzene	BTEX 8021B		0.506	<0.050
Total Xylenes	BTEX 8021B		1.66	<0.150
Total BTEX	BTEX 8021B		2.48	<0.300
GRO	TPH 8015M		<100	<10.0
DRO	TPH 8015M		25300	<10.0

		Sample	SP7 @ SURFACE	SP7 @ 1'
Analyte	Method	Date	10/4/16	10/4/16
			mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	<0.050
Toluene	BTEX 8021B		0.245	<0.050
Ethylbenzene	BTEX 8021B		0.382	<0.050
Total Xylenes	BTEX 8021B		1.34	<0.150
Total BTEX	BTEX 8021B		1.97	<0.300
GRO	TPH 8015M		<100	<10.0
DRO	TPH 8015M		23300	<10.0



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

October 10, 2016

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: LIVINGSTON RIDGE 19 FEDERAL #1 CTB

Enclosed are the results of analyses for samples received by the laboratory on 10/05/16 16:25.

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,

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:	10/05/2016	Sampling Date:	10/04/2016
Reported:	10/10/2016	Sampling Type:	Soil
Project Name:	LIVINGSTON RIDGE 19 FEDERAL #1 CTE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP 1 @ SURFACE (H602247-01)

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	10/07/2016	ND	2.19	109	2.00	1.20	
Toluene*	0.151	0.050	10/07/2016	ND	2.23	112	2.00	1.19	
Ethylbenzene*	<0.050	0.050	10/07/2016	ND	2.16	108	2.00	1.45	
Total Xylenes*	<0.150	0.150	10/07/2016	ND	6.50	108	6.00	1.43	
Total BTEX	<0.300	0.300	10/07/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.6 % 73.6-140

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	10/06/2016	ND	190	94.9	200	2.35	
DRO >C10-C28	13200	100	10/06/2016	ND	207	104	200	1.48	

Surrogate: 1-Chlorooctane 91.0 % 35-147

Surrogate: 1-Chlorooctadecane 653 % 28-171

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:	10/05/2016	Sampling Date:	10/04/2016
Reported:	10/10/2016	Sampling Type:	Soil
Project Name:	LIVINGSTON RIDGE 19 FEDERAL #1 CTE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP 1 @ 1' (H602247-02)

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	10/07/2016	ND	2.18	109	2.00	1.67		
Toluene*	<0.050	0.050	10/07/2016	ND	2.23	112	2.00	2.26		
Ethylbenzene*	<0.050	0.050	10/07/2016	ND	2.16	108	2.00	2.55		
Total Xylenes*	<0.150	0.150	10/07/2016	ND	6.49	108	6.00	2.83		
Total BTEX	<0.300	0.300	10/07/2016	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.3 % 73.6-140

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	10/06/2016	ND	190	94.9	200	2.35		
DRO >C10-C28	<10.0	10.0	10/06/2016	ND	207	104	200	1.48		

Surrogate: 1-Chlorooctane 108 % 35-147

Surrogate: 1-Chlorooctadecane 109 % 28-171

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*=Accredited Analyte

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Fax To: (575) 397-0397

Received:	10/05/2016	Sampling Date:	10/04/2016
Reported:	10/10/2016	Sampling Type:	Soil
Project Name:	LIVINGSTON RIDGE 19 FEDERAL #1 CTE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP 2 @ SURFACE (H602247-03)

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	10/07/2016	ND	2.18	109	2.00	1.67	
Toluene*	0.128	0.050	10/07/2016	ND	2.23	112	2.00	2.26	
Ethylbenzene*	<0.050	0.050	10/07/2016	ND	2.16	108	2.00	2.55	
Total Xylenes*	<0.150	0.150	10/07/2016	ND	6.49	108	6.00	2.83	
Total BTEX	<0.300	0.300	10/07/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.9 % 73.6-140

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	<50.0	50.0	10/06/2016	ND	190	94.9	200	2.35		
DRO >C10-C28	4000	50.0	10/06/2016	ND	207	104	200	1.48		

Surrogate: 1-Chlorooctane 93.1 % 35-147

Surrogate: 1-Chlorooctadecane 262 % 28-171

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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:	10/05/2016	Sampling Date:	10/04/2016
Reported:	10/10/2016	Sampling Type:	Soil
Project Name:	LIVINGSTON RIDGE 19 FEDERAL #1 CTE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP 2 @ 1' (H602247-04)

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	10/07/2016	ND	2.18	109	2.00	1.67	
Toluene*	<0.050	0.050	10/07/2016	ND	2.23	112	2.00	2.26	
Ethylbenzene*	<0.050	0.050	10/07/2016	ND	2.16	108	2.00	2.55	
Total Xylenes*	<0.150	0.150	10/07/2016	ND	6.49	108	6.00	2.83	
Total BTEX	<0.300	0.300	10/07/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.4 % 73.6-140

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	10/06/2016	ND	190	94.9	200	2.35	
DRO >C10-C28	<10.0	10.0	10/06/2016	ND	207	104	200	1.48	

Surrogate: 1-Chlorooctane 90.2 % 35-147

Surrogate: 1-Chlorooctadecane 95.9 % 28-171

Cardinal Laboratories

*=Accredited Analyte

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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:	10/05/2016	Sampling Date:	10/04/2016
Reported:	10/10/2016	Sampling Type:	Soil
Project Name:	LIVINGSTON RIDGE 19 FEDERAL #1 CTE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP 3 @ SURFACE (H602247-05)

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	10/08/2016	ND	2.18	109	2.00	1.67	
Toluene*	0.096	0.050	10/08/2016	ND	2.23	112	2.00	2.26	
Ethylbenzene*	0.175	0.050	10/08/2016	ND	2.16	108	2.00	2.55	
Total Xylenes*	0.655	0.150	10/08/2016	ND	6.49	108	6.00	2.83	
Total BTX	0.925	0.300	10/08/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 112 % 73.6-140

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	10/06/2016	ND	190	94.9	200	2.35		
DRO >C10-C28	20400	100	10/06/2016	ND	207	104	200	1.48		

Surrogate: 1-Chlorooctane 117 % 35-147

Surrogate: 1-Chlorooctadecane 886 % 28-171

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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:	10/05/2016	Sampling Date:	10/04/2016
Reported:	10/10/2016	Sampling Type:	Soil
Project Name:	LIVINGSTON RIDGE 19 FEDERAL #1 CTE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP 3 @ 1' (H602247-06)

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	10/07/2016	ND	2.18	109	2.00	1.67		
Toluene*	0.062	0.050	10/07/2016	ND	2.23	112	2.00	2.26		
Ethylbenzene*	<0.050	0.050	10/07/2016	ND	2.16	108	2.00	2.55		
Total Xylenes*	<0.150	0.150	10/07/2016	ND	6.49	108	6.00	2.83		
Total BTEX	<0.300	0.300	10/07/2016	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.3 % 73.6-140

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	10/06/2016	ND	190	94.9	200	2.35		
DRO >C10-C28	23.3	10.0	10/06/2016	ND	207	104	200	1.48		

Surrogate: 1-Chlorooctane 87.6 % 35-147

Surrogate: 1-Chlorooctadecane 91.8 % 28-171

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Received:	10/05/2016	Sampling Date:	10/04/2016
Reported:	10/10/2016	Sampling Type:	Soil
Project Name:	LIVINGSTON RIDGE 19 FEDERAL #1 CTE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP 4 @ SURFACE (H602247-07)

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	10/07/2016	ND	2.18	109	2.00	1.67	
Toluene*	0.119	0.050	10/07/2016	ND	2.23	112	2.00	2.26	
Ethylbenzene*	0.085	0.050	10/07/2016	ND	2.16	108	2.00	2.55	
Total Xylenes*	0.259	0.150	10/07/2016	ND	6.49	108	6.00	2.83	
Total BTEx	0.463	0.300	10/07/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 73.6-140

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	10/06/2016	ND	190	94.9	200	2.35		
DRO >C10-C28	15800	100	10/06/2016	ND	207	104	200	1.48		

Surrogate: 1-Chlorooctane 115 % 35-147

Surrogate: 1-Chlorooctadecane 696 % 28-171

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Received:	10/05/2016	Sampling Date:	10/04/2016
Reported:	10/10/2016	Sampling Type:	Soil
Project Name:	LIVINGSTON RIDGE 19 FEDERAL #1 CTE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP 4 @ 1' (H602247-08)

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	10/07/2016	ND	2.18	109	2.00	1.67		
Toluene*	<0.050	0.050	10/07/2016	ND	2.23	112	2.00	2.26		
Ethylbenzene*	<0.050	0.050	10/07/2016	ND	2.16	108	2.00	2.55		
Total Xylenes*	<0.150	0.150	10/07/2016	ND	6.49	108	6.00	2.83		
Total BTEX	<0.300	0.300	10/07/2016	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.0 % 73.6-140

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	10/06/2016	ND	190	94.9	200	2.35		
DRO >C10-C28	<10.0	10.0	10/06/2016	ND	207	104	200	1.48		

Surrogate: 1-Chlorooctane 97.2 % 35-147

Surrogate: 1-Chlorooctadecane 88.2 % 28-171

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Received:	10/05/2016	Sampling Date:	10/04/2016
Reported:	10/10/2016	Sampling Type:	Soil
Project Name:	LIVINGSTON RIDGE 19 FEDERAL #1 CTE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP 5 @ SURFACE (H602247-09)

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	10/08/2016	ND	2.18	109	2.00	1.67	
Toluene*	0.295	0.050	10/08/2016	ND	2.23	112	2.00	2.26	
Ethylbenzene*	0.479	0.050	10/08/2016	ND	2.16	108	2.00	2.55	
Total Xylenes*	1.61	0.150	10/08/2016	ND	6.49	108	6.00	2.83	
Total BTEX	2.38	0.300	10/08/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 117 % 73.6-140

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	10/06/2016	ND	190	94.9	200	2.35		
DRO >C10-C28	25200	100	10/06/2016	ND	207	104	200	1.48		

Surrogate: 1-Chlorooctane 116 % 35-147

Surrogate: 1-Chlorooctadecane 1140 % 28-171

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Received:	10/05/2016	Sampling Date:	10/04/2016
Reported:	10/10/2016	Sampling Type:	Soil
Project Name:	LIVINGSTON RIDGE 19 FEDERAL #1 CTE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP 5 @ 1' (H602247-10)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/07/2016	ND	2.18	109	2.00	1.67	
Toluene*	<0.050	0.050	10/07/2016	ND	2.23	112	2.00	2.26	
Ethylbenzene*	<0.050	0.050	10/07/2016	ND	2.16	108	2.00	2.55	
Total Xylenes*	<0.150	0.150	10/07/2016	ND	6.49	108	6.00	2.83	
Total BTEX	<0.300	0.300	10/07/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.1 % 73.6-140

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	10/06/2016	ND	190	94.9	200	2.35		
DRO >C10-C28	<10.0	10.0	10/06/2016	ND	207	104	200	1.48		

Surrogate: 1-Chlorooctane 77.3 % 35-147

Surrogate: 1-Chlorooctadecane 86.4 % 28-171

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Received:	10/05/2016	Sampling Date:	10/04/2016
Reported:	10/10/2016	Sampling Type:	Soil
Project Name:	LIVINGSTON RIDGE 19 FEDERAL #1 CTE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP 6 @ SURFACE (H602247-11)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/08/2016	ND	2.18	109	2.00	1.67	
Toluene*	0.313	0.050	10/08/2016	ND	2.23	112	2.00	2.26	
Ethylbenzene*	0.506	0.050	10/08/2016	ND	2.16	108	2.00	2.55	
Total Xylenes*	1.66	0.150	10/08/2016	ND	6.49	108	6.00	2.83	
Total BTEX	2.48	0.300	10/08/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 118 % 73.6-140

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	10/06/2016	ND	193	96.5	200	0.362		
DRO >C10-C28	25300	100	10/06/2016	ND	212	106	200	1.53		

Surrogate: 1-Chlorooctane 105 % 35-147

Surrogate: 1-Chlorooctadecane 1180 % 28-171

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Received:	10/05/2016	Sampling Date:	10/04/2016
Reported:	10/10/2016	Sampling Type:	Soil
Project Name:	LIVINGSTON RIDGE 19 FEDERAL #1 CTE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP 6 @ 1' (H602247-12)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/07/2016	ND	2.18	109	2.00	1.67	
Toluene*	<0.050	0.050	10/07/2016	ND	2.23	112	2.00	2.26	
Ethylbenzene*	<0.050	0.050	10/07/2016	ND	2.16	108	2.00	2.55	
Total Xylenes*	<0.150	0.150	10/07/2016	ND	6.49	108	6.00	2.83	
Total BTEX	<0.300	0.300	10/07/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.7 % 73.6-140

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	10/06/2016	ND	193	96.5	200	0.362	
DRO >C10-C28	<10.0	10.0	10/06/2016	ND	212	106	200	1.53	

Surrogate: 1-Chlorooctane 91.8 % 35-147

Surrogate: 1-Chlorooctadecane 95.6 % 28-171

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Received:	10/05/2016	Sampling Date:	10/04/2016
Reported:	10/10/2016	Sampling Type:	Soil
Project Name:	LIVINGSTON RIDGE 19 FEDERAL #1 CTE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP 7 @ SURFACE (H602247-13)

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	10/08/2016	ND	2.18	109	2.00	1.67	
Toluene*	0.245	0.050	10/08/2016	ND	2.23	112	2.00	2.26	
Ethylbenzene*	0.382	0.050	10/08/2016	ND	2.16	108	2.00	2.55	
Total Xylenes*	1.34	0.150	10/08/2016	ND	6.49	108	6.00	2.83	
Total BTEx	1.97	0.300	10/08/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 119 % 73.6-140

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	10/07/2016	ND	193	96.5	200	0.362		
DRO >C10-C28	23300	100	10/07/2016	ND	212	106	200	1.53	QM-07, QR-03	

Surrogate: 1-Chlorooctane 117 % 35-147

Surrogate: 1-Chlorooctadecane 1020 % 28-171

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Received:	10/05/2016	Sampling Date:	10/04/2016
Reported:	10/10/2016	Sampling Type:	Soil
Project Name:	LIVINGSTON RIDGE 19 FEDERAL #1 CTE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	LEA COUNTY, NM		

Sample ID: SP 7 @ 1' (H602247-14)

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	10/07/2016	ND	2.18	109	2.00	1.67	
Toluene*	<0.050	0.050	10/07/2016	ND	2.23	112	2.00	2.26	
Ethylbenzene*	<0.050	0.050	10/07/2016	ND	2.16	108	2.00	2.55	
Total Xylenes*	<0.150	0.150	10/07/2016	ND	6.49	108	6.00	2.83	
Total BTEX	<0.300	0.300	10/07/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.4 % 73.6-140

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	10/07/2016	ND	193	96.5	200	0.362	
DRO >C10-C28	<10.0	10.0	10/07/2016	ND	212	106	200	1.53	

Surrogate: 1-Chlorooctane 105 % 35-147

Surrogate: 1-Chlorooctadecane 109 % 28-171

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Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
QR-03	The RPD value for the sample duplicate or MS/MSD was outside if QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
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

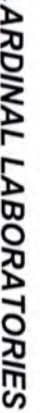
Cardinal Laboratories

*=Accredited Analyte

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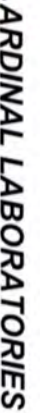
Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

ANALYSIS REQUEST

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



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]

From: Lynch, Kristen, EMNRD
To: [Cliff Brunson](#)
Cc: [Casey Summers](#); jennifer_duarte@oxy.com; [Ken Swinney](#); [Jennifer Gilkey](#); [Kathy Purvis](#)
Subject: RE: OXY - Livingston Ridge 19 Federal #1 CTB - Remediation Plan
Date: Thursday, November 10, 2016 11:51:16 AM
Attachments: [1RP 4428 Oxy Remediation Packet Livingston Ridge 19 Federal #1 CTB.pdf](#)

Good Morning,

Based on documents provided and NMOCD review, the work plan for RP 4428 has been approved. Please see attached for your records.

Thank You,

*Kristen D. Lynch
Environmental Specialist, District 1
Oil Conservation Division, EMNRD
(575) 393-3896 ext. 111
575-370-3180 (emergency-cell)*

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]
Sent: Saturday, November 05, 2016 7:06 PM
To: Lynch, Kristen, EMNRD
Cc: Casey Summers; jennifer_duarte@oxy.com; Ken Swinney; Jennifer Gilkey; Kathy Purvis
Subject: OXY - Livingston Ridge 19 Federal #1 CTB - Remediation Plan

Kristen,

This e-mail is to confirm our discussion concerning the remediation plan for the OXY Livingston Ridge 19 Federal #1 CTB release. I have attached the information packet that we used in our discussion with a cover page describing the remediation plan that we agreed upon.

If you would please reply back via e-mail with your concurrence on this plan, it would be greatly appreciated.

Thanks, Cliff

Cliff P. Brunson, CEI, CRS
President
BBC International, Inc.
World-Wide Environmental Specialists
Mailing Address:

P. O. Box 805
Hobbs, NM 88241-0805 USA
Shipping Address:
1324 W. Marland St.
Hobbs, NM 88240 USA
Phone: (575) 397-6388
Fax: (575) 397-0397
E-Mail: cbrunson@bbcinternational.com



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From: Tucker, Shelly
To: [Cliff Brunson](#)
Cc: [Casey Summers](#); jennifer_duarte@oxy.com; [Ken Swinney](#); [Jennifer Gilkey](#); [Kathy Purvis](#)
Subject: Re: OXY - Livingston Ridge 19 Federal #1 CTB - Remediation Plan
Date: Monday, November 7, 2016 8:59:33 AM

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

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 Sat, Nov 5, 2016 at 7:05 PM, Cliff Brunson <cbrunson@bbcinternational.com> wrote:

Shelly,

I have attached a remediation plan for the Oxy Livingston Ridge 19 Federal #1 CTB release. This plan has been approved by Kristen Lynch of the NMOCD. Oxy is requesting

the BLM's approval of this plan as well. Upon your review of the materials, it would be appreciated if you would respond via email with the BLM's approval.

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:

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Phone: (575) 397-6388

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