



PHONE (575) 397-6388 • FAX (575) 397- 0397 • 1324 W. MARLAND • P.O. BOX 805 • HOBBS, NM 88241-0805  
E-MAIL: [cbrunson@bbcinternational.com](mailto:cbrunson@bbcinternational.com)

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**APPROVED** NMOCD RP 4428  
*By Kristen Lynch at 11:17 am, Nov 10, 2016*

## **OXY – LIVINGSTON RIDGE 19 FEDERAL #1 CTB (8/26/16)**

### **REMEDIATION PLAN**

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OXY will excavate the spill area as depicted on the following site diagram. The entire leak area will be excavated to a depth of 6 inches. The entire site will then be backfilled with clean soil.

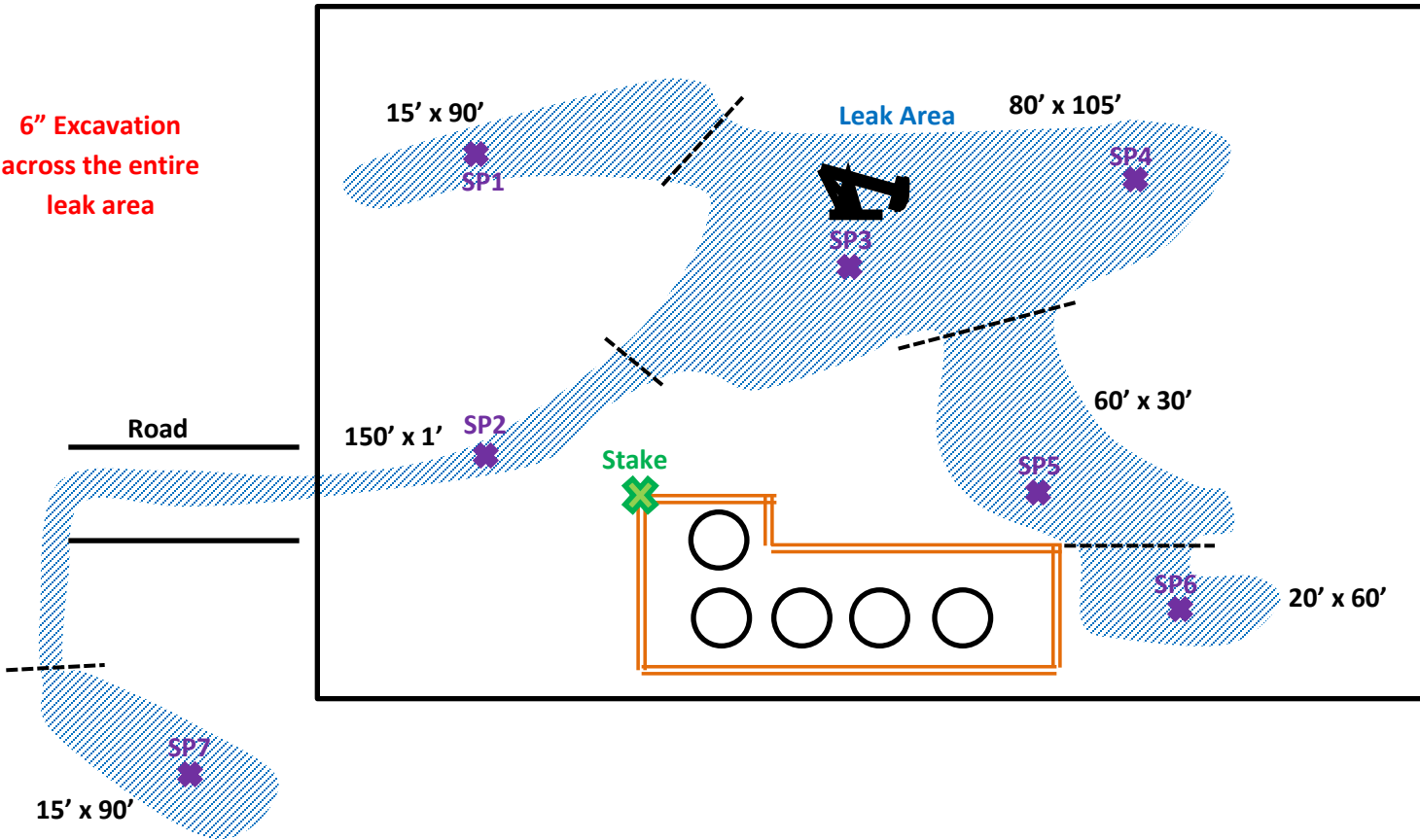
All excavated materials will be disposed of at an NMOCD-approved disposal facility.



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

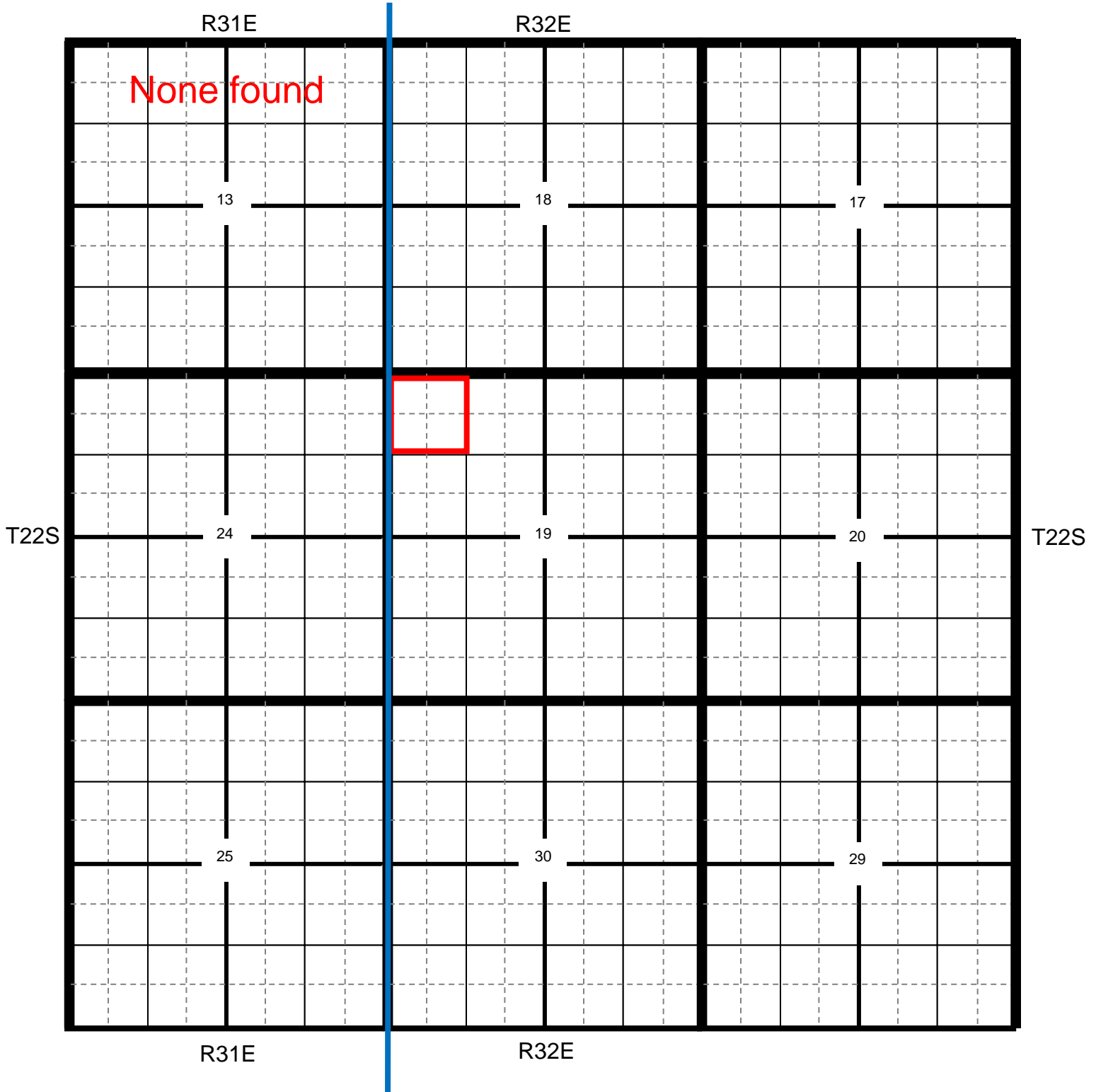


# Groundwater Plot

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

Trend Map 225'

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

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

Analyte	Method	Sample Date	SP1 @ SURFACE	SP1 @ 1'
			10/4/16	10/4/16
			mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	<0.050
Toluene	BTEX 8021B		<b>0.151</b>	<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		<b>13200</b>	<10.0

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

Analyte	Method	Sample Date	SP2 @ SURFACE	SP2 @ 1'
			10/4/16	10/4/16
			mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	<0.050
Toluene	BTEX 8021B		<b>0.128</b>	<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		<b>4000</b>	<10.0

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

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

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

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



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](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive 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		
<b>Toluene*</b>	<b>0.151</b>	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			
<b>DRO &gt;C10-C28</b>	<b>13200</b>	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

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 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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 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 @ 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	
<b>Toluene*</b>	<b>0.128</b>	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		
<b>DRO &gt;C10-C28</b>	<b>4000</b>	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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 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

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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 3 @ SURFACE (H602247-05)**

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	10/08/2016	ND	2.18	109	2.00	1.67	
<b>Toluene*</b>	<b>0.096</b>	0.050	10/08/2016	ND	2.23	112	2.00	2.26	
<b>Ethylbenzene*</b>	<b>0.175</b>	0.050	10/08/2016	ND	2.16	108	2.00	2.55	
<b>Total Xylenes*</b>	<b>0.655</b>	0.150	10/08/2016	ND	6.49	108	6.00	2.83	
<b>Total BTEX</b>	<b>0.925</b>	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		
<b>DRO &gt;C10-C28</b>	<b>20400</b>	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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 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	
<b>Toluene*</b>	<b>0.062</b>	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	
<b>DRO &gt;C10-C28</b>	<b>23.3</b>	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	
<b>Toluene*</b>	<b>0.119</b>	0.050	10/07/2016	ND	2.23	112	2.00	2.26	
<b>Ethylbenzene*</b>	<b>0.085</b>	0.050	10/07/2016	ND	2.16	108	2.00	2.55	
<b>Total Xylenes*</b>	<b>0.259</b>	0.150	10/07/2016	ND	6.49	108	6.00	2.83	
<b>Total BTEX</b>	<b>0.463</b>	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		
<b>DRO &gt;C10-C28</b>	<b>15800</b>	100	10/06/2016	ND	207	104	200	1.48		

Surrogate: 1-Chlorooctane 115 % 35-147

Surrogate: 1-Chlorooctadecane 696 % 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 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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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 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	
<b>Toluene*</b>	<b>0.295</b>	0.050	10/08/2016	ND	2.23	112	2.00	2.26	
<b>Ethylbenzene*</b>	<b>0.479</b>	0.050	10/08/2016	ND	2.16	108	2.00	2.55	
<b>Total Xylenes*</b>	<b>1.61</b>	0.150	10/08/2016	ND	6.49	108	6.00	2.83	
<b>Total BTEX</b>	<b>2.38</b>	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		
<b>DRO &gt;C10-C28</b>	<b>25200</b>	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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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 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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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 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	
<b>Toluene*</b>	<b>0.313</b>	0.050	10/08/2016	ND	2.23	112	2.00	2.26	
<b>Ethylbenzene*</b>	<b>0.506</b>	0.050	10/08/2016	ND	2.16	108	2.00	2.55	
<b>Total Xylenes*</b>	<b>1.66</b>	0.150	10/08/2016	ND	6.49	108	6.00	2.83	
<b>Total BTEX</b>	<b>2.48</b>	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		
<b>DRO &gt;C10-C28</b>	<b>25300</b>	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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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 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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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 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	
<b>Toluene*</b>	<b>0.245</b>	0.050	10/08/2016	ND	2.23	112	2.00	2.26	
<b>Ethylbenzene*</b>	<b>0.382</b>	0.050	10/08/2016	ND	2.16	108	2.00	2.55	
<b>Total Xylenes*</b>	<b>1.34</b>	0.150	10/08/2016	ND	6.49	108	6.00	2.83	
<b>Total BTEX</b>	<b>1.97</b>	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		
<b>DRO &gt;C10-C28</b>	<b>23300</b>	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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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 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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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.
- 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



---

Celey D. Keene, Lab Director/Quality Manager



**ARDINAL LABORATORIES**

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

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

1/2

**BILL TO**

**ANALYSIS REQUEST**

Company Name: BBC International, Inc.  
 Project Manager: Cliff Brunson  
 Address: P.O. Box 805  
 City: Hobbs State: NM Zip: 88241  
 Phone #: 575-397-6388 Fax #: 575-397-0397  
 Project #: Project Owner: Oxy  
 Project Name: Livingston Ridge 19 Federal #1 CTB  
 Project Location: Leas County, NM  
 Sampler Name: Roger Hernandez  
 P.O. #: Company: Attn: Address: City: State: Zip: Phone #: Fax #:

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV.	SAMPLING	DATE	TIME	TPH	BTEX
				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :						
1	SP1 @ SURFACE	G	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10/4/16	8:00 AM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	SP1 @ 1'	G	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10/4/16	8:10 AM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	SP2 @ SURFACE	G	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10/4/16	8:31 AM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	SP2 @ 1'	G	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10/4/16	8:38 AM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	SP3 @ SURFACE	G	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10/4/16	8:42 AM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	SP3 @ 1'	G	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10/4/16	8:56 AM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	SP4 @ SURFACE	G	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10/4/16	9:11 AM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	SP4 @ 1'	G	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10/4/16	9:26 AM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	SP5 @ SURFACE	G	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10/4/16	9:35 AM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
	SP5 @ 1'	G	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10/4/16	9:42 AM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

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Relinquished By: [Signature] Date: 10/4/16 Time: 2:00 PM Received By: [Signature] Date: 10/5/16 Time: 9:30 AM

Delivered By: (Circle One)  UPS  Bus  Other: -1.42

Sample Condition:  Cool  Intact  Yes  No

CHECKED BY: [Signature] (Initials)

REMARKS:

Phone Result:  Yes  No Add'l Phone #:   
 Fax Result:  Yes  No Add'l Fax #:

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

#75





**ARDINAL LABORATORIES**

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

2/2

**BILL TO**

**ANALYSIS REQUEST**

Company Name: BBC International, Inc.  
 Project Manager: Cliff Brunson  
 Address: P. O. Box 805  
 City: Hobbs State: NM Zip: 88241  
 Phone #: 575-397-6388 Fax #: 575-397-0397  
 Project #: Project Owner: Oxy  
 Project Name: Livingston Ridge 19 Federal #1 CTB  
 Project Location: Leas County, NM  
 Sampler Name: Roger Hernandez  
 P.O. #: \_\_\_\_\_ Company: \_\_\_\_\_  
 Attn: \_\_\_\_\_ Address: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Phone #: \_\_\_\_\_ Fax #: \_\_\_\_\_

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP. # CONTAINERS	MATRIX						PRESERV.	SAMPLING	DATE	TIME	TPH	BTEX
			GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :						
11	SP6 @ SURFACE	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	10/4/16	10:32 AM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
12	SP6 @ 1'	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	10/4/16	10:38 AM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
13	SP7 @ SURFACE	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	10/4/16	11:31 AM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
14	SP7 @ 1'	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	10/4/16	11:35 AM	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
KIP 10/15/16														

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: *W. Carls* Date: 10/14/16  
 Time: 2:00p  
 Received By: *Medi Jensen*  
 Delivered By: (Circle One)  UPS  Bus  Other: *-142*  
 Sample Condition:  Cool  Intact  
 Yes  No  
 CHECKED BY: *[Signature]*

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

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

\* Attach Additional Sheets If Necessary