



DELINEATION WORKPLAN

OXY – MLMU SATELLITE #4 (Leak Date: 6/19/17)

**RP # 1RP-4752
API # 30-025-27089**

This delineation workplan and remediation proposal addresses the release associated with RP # 1RP-4752.

The following information includes:

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

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

OXY will excavate the spill area as depicted on the following site diagram. The leak area near SP1 (shaded in yellow) will be excavated to a depth of 1 foot. The leak area near SP2 – SP8 (shaded in pink) will be excavated to a depth of 3 feet then an impermeable liner will be placed in the excavation.

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

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

Oxy, MLMU Satellite #4

Leak date: 06/19/2017

Lea County, NM

API# 30-025-27089

1RP-4752

Legend

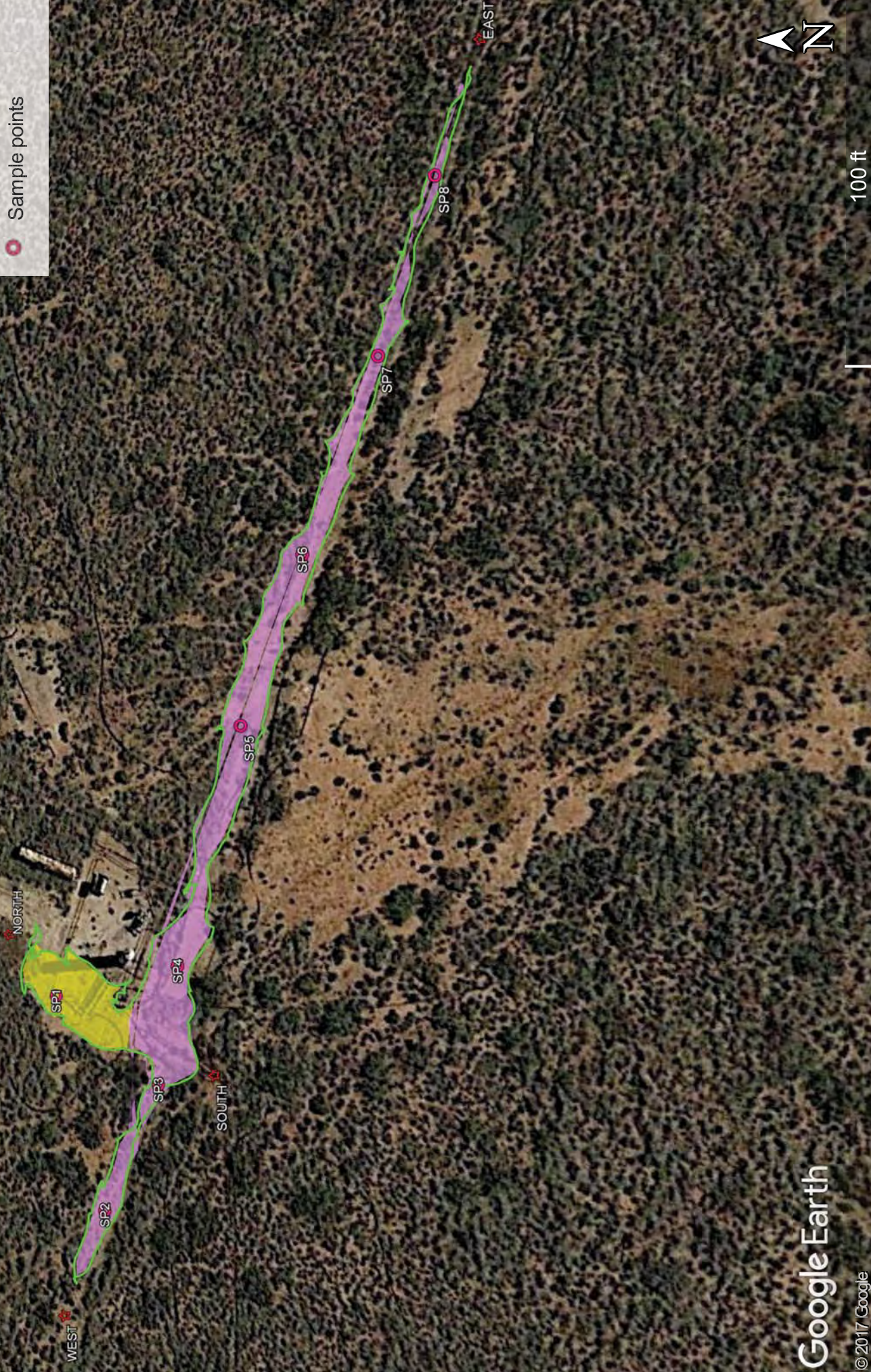
1' Excavation

3' Excavation with liner

Cardinal sample points

Leak Area

Sample points



Oxy, MLMU Satellite #4

Sample points, hand auger

SP1, N 32.23281 W-103.20623

SP2, N 32.23275 W-103.20645

SP3, N 32.23269 W-103.20631

SP4, N 32.23267 W-103.20618

SP5, N 32.23261 W-103.20593

SP6, N 32.23255 W-103.20576

SP7, N 32.23248 W-103.20556

SP8, N 32.23242 W-103.20540

NORTH, N 32.23286 W-103.20617

SOUTH, N 32.23263 W-103.20629

EAST, N 32.23238 W-103.20527

WEST, N 32.23280 W-103.20658

Oxy, MLMU Satellite #4
U/L E, Section 7, T24S, R37E
Groundwater: 125'





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): 668827

Northing (Y): 3567746

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 9:57 AM

WATER COLUMN/ AVERAGE
DEPTH TO WATER

Public Land Survey System (PLSS)

☐

Q64:

Q16:

SW

Q4:

NW

Sec:

07

Tws:

24S

Rng:

37E

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):

668827.0

mtrs

Northing (Y):

3567746.0

mtrs

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

Laboratory Analytical Results Summary
MLMU Satellite #4

Analyte	Sample		SP1 @ 1'	SP1 @ 2'	SP1 @ 3'	SP1 @ 4'	SP1 @ 9'	SP1 @ 14'
	Method	Date	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	<0.150	<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	<0.300	<0.300	<0.300
Chloride	SM4500C+I-B		16	240	560	160	160	160
GRO	TPH 8015M		<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
DRO	TPH 8015M		79.1	95.7	33.4	<10.0	<10.0	<10.0
EXT DRO	TPH 8015M		109	34.6	16.9	<10.0	<10.0	<10.0

Analyte	Sample		SP2 @ 1'	SP2 @ 2'	SP2 @ 3'	SP2 @ 4'	SP2 @ 5'	SP2 @ 6'	SP2 @ 11'	SP2 @ 16'
	Method	Date	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	n/a	n/a	n/a	<0.050	<0.050
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	n/a	n/a	n/a	<0.050	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	n/a	n/a	n/a	<0.050	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	n/a	n/a	n/a	<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	n/a	n/a	n/a	<0.300	<0.300
Chloride	SM4500C+I-B		96	160	1440	1100	640	64	64	80
GRO	TPH 8015M		<10.0	<10.0	<10.0	n/a	n/a	n/a	<10.0	<10.0
DRO	TPH 8015M		806	102	<10.0	n/a	n/a	n/a	<10.0	<10.0
EXT DRO	TPH 8015M		172	31.3	<10.0	n/a	n/a	n/a	<10.0	<10.0

Analyte	Sample		SP3 @ 1'	SP3 @ 2'	SP3 @ 3'	SP3 @ 4'	SP3 @ 5'	SP3 @ 6'	SP3 @ 7'	SP3 @ 8'	SP3 @ 9'	SP3 @ 10'	SP3 @ 15'	SP3 @ 18'
	Method	Date	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	<0.050	n/a	n/a	n/a	n/a	<0.050	<0.050	<0.050
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	<0.050	n/a	n/a	n/a	n/a	<0.050	<0.050	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	<0.050	n/a	n/a	n/a	n/a	<0.050	<0.050	<0.050
Total Xylenes	BTEX 8021B		0.222	1.58	<0.150	<0.150	<0.150	n/a	n/a	n/a	n/a	<0.150	<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	1.58	<0.300	<0.300	<0.300	n/a	n/a	n/a	n/a	<0.300	<0.300	<0.300
Chloride	SM4500C+I-B		288	640	704	848	912	960	1040	1220	896	32	48	32
GRO	TPH 8015M		<50.0	73.1	<10.0	<10.0	<10.0	n/a	n/a	n/a	n/a	<10.0	<10.0	<10.0
DRO	TPH 8015M		5210	990	253	<10.0	17.9	n/a	n/a	n/a	n/a	<10.0	<10.0	<10.0
EXT DRO	TPH 8015M		978	181	86.2	<10.0	<10.0	n/a	n/a	n/a	n/a	<10.0	<10.0	<10.0

Analyte	Sample		SP4 @ 1'	SP4 @ 2'	SP4 @ 3'	SP4 @ 4'	SP4 @ 5'	SP4 @ 6'	SP4 @ 7'	SP4 @ 8'	SP4 @ 9'	SP4 @ 10'	SP4 @ 15'	SP4 @ 18'
	Method	Date	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	<0.050	n/a	n/a	n/a	n/a	<0.050	<0.050	<0.050
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	<0.050	n/a	n/a	n/a	n/a	<0.050	<0.050	<0.050
Ethylbenzene	BTEX 8021B		<0.050	1.79	<0.050	<0.050	<0.050	n/a	n/a	n/a	n/a	<0.050	<0.050	<0.050
Total Xylenes	BTEX 8021B		<0.150	2.29	<0.150	<0.150	<0.150	n/a	n/a	n/a	n/a	<0.150	<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	4.07	<0.300	<0.300	<0.300	n/a	n/a	n/a	n/a	<0.300	<0.300	<0.300
Chloride	SM4500C+I-B		304	608	768	1020	832	880	1040	1230	864	48	16	48
GRO	TPH 8015M		<50.0	47.2	<10.0	<10.0	<10.0	n/a	n/a	n/a	n/a	<10.0	<10.0	<10.0
DRO	TPH 8015M		5610	475	230	<10.0	<10.0	n/a	n/a	n/a	n/a	<10.0	<10.0	<10.0
EXT DRO	TPH 8015M		1100	101	80.2	<10.0	<10.0	n/a	n/a	n/a	n/a	<10.0	<10.0	<10.0

Laboratory Analytical Results Summary
MLMU Satellite #4

Analyte	Sample		SP5 @ 1'	SP5 @ 2'	SP5 @ 3'	SP5 @ 4'	SP5 @ 5'	SP5 @ 6'	SP5 @ 7'	SP5 @ 8'	SP5 @ 13'
	Method	Date	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	n/a	n/a	n/a	<0.050	<0.050
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	n/a	n/a	n/a	<0.050	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	n/a	n/a	n/a	<0.050	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	<0.150	n/a	n/a	n/a	<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	<0.300	n/a	n/a	n/a	<0.300	<0.300
Chloride	SM4500C-B		288	720	1680	848	624	656	656	48	32
GRO	TPH 8015M		<50.0	<10.0	<10.0	<10.0	n/a	n/a	n/a	<10.0	<10.0
DRO	TPH 8015M		1130	<10.0	11.4	<10.0	n/a	n/a	n/a	<10.0	<10.0
EXT DRO	TPH 8015M		187	<10.0	<10.0	<10.0	n/a	n/a	n/a	<10.0	<10.0

Analyte	Sample		SP6 @ 1'	SP6 @ 2'	SP6 @ 3'	SP6 @ 4'	SP6 @ 5'	SP6 @ 6'	SP6 @ 7'	SP6 @ 8'	SP6 @ 13'
	Method	Date	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	n/a	n/a	n/a	<0.050	<0.050
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	n/a	n/a	n/a	<0.050	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	n/a	n/a	n/a	<0.050	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	<0.150	n/a	n/a	n/a	<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	<0.300	n/a	n/a	n/a	<0.300	<0.300
Chloride	SM4500C-B		32	1200	1170	752	656	640	592	32	32
GRO	TPH 8015M		<50.0	<10.0	<10.0	<10.0	n/a	n/a	n/a	<10.0	<10.0
DRO	TPH 8015M		1200	<10.0	<10.0	<10.0	n/a	n/a	n/a	<10.0	<10.0
EXT DRO	TPH 8015M		267	<10.0	<10.0	<10.0	n/a	n/a	n/a	<10.0	<10.0

Analyte	Sample		SP7 @ 1'	SP7 @ 2'	SP7 @ 3'	SP7 @ 4'	SP7 @ 5'	SP7 @ 10'
	Method	Date	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	n/a	n/a	<0.050
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	n/a	n/a	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	n/a	n/a	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	n/a	n/a	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	n/a	n/a	<0.300
Chloride	SM4500C-B		64	928	576	448	48	64
GRO	TPH 8015M		<10.0	<10.0	<10.0	n/a	n/a	<10.0
DRO	TPH 8015M		<10.0	47	<10.0	n/a	n/a	<10.0
EXT DRO	TPH 8015M		<10.0	30.9	<10.0	n/a	n/a	<10.0

Analyte	Sample		SP8 @ 1'	SP8 @ 2'	SP8 @ 3'	SP8 @ 4'	SP8 @ 5'	SP8 @ 10'
	Method	Date	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	n/a	n/a	<0.050
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	n/a	n/a	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	n/a	n/a	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	n/a	n/a	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	n/a	n/a	<0.300
Chloride	SM4500C-B		96	928	672	480	656	32
GRO	TPH 8015M		<10.0	<10.0	<10.0	n/a	n/a	<10.0
DRO	TPH 8015M		<10.0	14.2	<10.0	n/a	n/a	<10.0
EXT DRO	TPH 8015M		<10.0	<10.0	<10.0	n/a	n/a	<10.0

Analyte	Method	Sample Date	NORTH @ SURFACE
			8/10/17 mg/kg
Benzene	BTEX 8021B		<0.050
Toluene	BTEX 8021B		<0.050
Ethylbenzene	BTEX 8021B		<0.050
Total Xylenes	BTEX 8021B		<0.150
Total BTEX	BTEX 8021B		<0.300
Chloride	SM4500C+B		32
GRO	TPH 8015M		<10.0
DRO	TPH 8015M		<10.0
EXT DRO	TPH 8015M		<10.0

Analyte	Method	Sample Date	EAST @ SURFACE
			8/10/17 mg/kg
Benzene	BTEX 8021B		<0.050
Toluene	BTEX 8021B		<0.050
Ethylbenzene	BTEX 8021B		<0.050
Total Xylenes	BTEX 8021B		<0.150
Total BTEX	BTEX 8021B		<0.300
Chloride	SM4500C+B		48
GRO	TPH 8015M		<10.0
DRO	TPH 8015M		<10.0
EXT DRO	TPH 8015M		<10.0

Analyte	Method	Sample Date	WEST @ SURFACE
			8/10/17 mg/kg
Benzene	BTEX 8021B		<0.050
Toluene	BTEX 8021B		<0.050
Ethylbenzene	BTEX 8021B		<0.050
Total Xylenes	BTEX 8021B		<0.150
Total BTEX	BTEX 8021B		<0.300
Chloride	SM4500C+B		80
GRO	TPH 8015M		<10.0
DRO	TPH 8015M		<10.0
EXT DRO	TPH 8015M		<10.0

Analyte	Method	Sample Date	SOUTH @ SURFACE
			8/10/17 mg/kg
Benzene	BTEX 8021B		<0.050
Toluene	BTEX 8021B		<0.050
Ethylbenzene	BTEX 8021B		<0.050
Total Xylenes	BTEX 8021B		<0.150
Total BTEX	BTEX 8021B		<0.300
Chloride	SM4500C+B		32
GRO	TPH 8015M		<10.0
DRO	TPH 8015M		<10.0
EXT DRO	TPH 8015M		<10.0

August 22, 2017

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: MLMU SATELLITE #4

Enclosed are the results of analyses for samples received by the laboratory on 08/15/17 11:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

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

Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/09/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP1 @ 1' (H702150-01)

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	08/16/2017	ND	1.80	89.9	2.00	12.7	
Toluene*	<0.050	0.050	08/16/2017	ND	1.71	85.3	2.00	13.9	
Ethylbenzene*	<0.050	0.050	08/16/2017	ND	1.78	88.9	2.00	14.8	
Total Xylenes*	<0.150	0.150	08/16/2017	ND	5.35	89.1	6.00	14.1	
Total BTX	<0.300	0.300	08/16/2017	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	16.0	16.0	08/16/2017	ND	400	100	400	3.92	

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	08/16/2017	ND	200	99.9	200	0.460	
DRO >C10-C28	79.1	10.0	08/16/2017	ND	205	102	200	1.04	
EXT DRO >C28-C36	109	10.0	08/16/2017	ND					

Surrogate: 1-Chlorooctane 91.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 99.1 % 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: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/09/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP1 @ 2' (H702150-02)

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	08/16/2017	ND	1.80	89.9	2.00	12.7		
Toluene*	<0.050	0.050	08/16/2017	ND	1.71	85.3	2.00	13.9		
Ethylbenzene*	<0.050	0.050	08/16/2017	ND	1.78	88.9	2.00	14.8		
Total Xylenes*	<0.150	0.150	08/16/2017	ND	5.35	89.1	6.00	14.1		
Total BTX	<0.300	0.300	08/16/2017	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	240	16.0	08/16/2017	ND	400	100	400	3.92	

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	08/16/2017	ND	200	99.9	200	0.460	
DRO >C10-C28	95.7	10.0	08/16/2017	ND	205	102	200	1.04	
EXT DRO >C28-C36	34.6	10.0	08/16/2017	ND					

Surrogate: 1-Chlorooctane 94.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 101 % 34.7-157

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Analytical Results For:

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

Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/09/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP1 @ 3' (H702150-03)

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	08/17/2017	ND	2.06	103	2.00	1.77	
Toluene*	<0.050	0.050	08/17/2017	ND	1.97	98.3	2.00	0.0308	
Ethylbenzene*	<0.050	0.050	08/17/2017	ND	2.06	103	2.00	0.0464	
Total Xylenes*	<0.150	0.150	08/17/2017	ND	6.11	102	6.00	0.290	
Total BTX	<0.300	0.300	08/17/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	560	16.0	08/16/2017	ND	400	100	400	3.92	

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	08/16/2017	ND	200	99.9	200	0.460	
DRO >C10-C28	33.4	10.0	08/16/2017	ND	205	102	200	1.04	
EXT DRO >C28-C36	16.9	10.0	08/16/2017	ND					

Surrogate: 1-Chlorooctane 79.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 77.2 % 34.7-157

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Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/09/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP1 @ 4' (H702150-04)

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	08/17/2017	ND	2.06	103	2.00	1.77	
Toluene*	<0.050	0.050	08/17/2017	ND	1.97	98.3	2.00	0.0308	
Ethylbenzene*	<0.050	0.050	08/17/2017	ND	2.06	103	2.00	0.0464	
Total Xylenes*	<0.150	0.150	08/17/2017	ND	6.11	102	6.00	0.290	
Total BTX	<0.300	0.300	08/17/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	160	16.0	08/16/2017	ND	400	100	400	3.92	

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	08/16/2017	ND	200	99.9	200	0.460	
DRO >C10-C28	<10.0	10.0	08/16/2017	ND	205	102	200	1.04	
EXT DRO >C28-C36	<10.0	10.0	08/16/2017	ND					

Surrogate: 1-Chlorooctane 87.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 90.1 % 34.7-157

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Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/09/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP1 @ 9' (H702150-05)

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	08/17/2017	ND	2.06	103	2.00	1.77	
Toluene*	<0.050	0.050	08/17/2017	ND	1.97	98.3	2.00	0.0308	
Ethylbenzene*	<0.050	0.050	08/17/2017	ND	2.06	103	2.00	0.0464	
Total Xylenes*	<0.150	0.150	08/17/2017	ND	6.11	102	6.00	0.290	
Total BTX	<0.300	0.300	08/17/2017	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	160	16.0	08/16/2017	ND	400	100	400	3.92	

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	08/16/2017	ND	200	99.9	200	0.460	
DRO >C10-C28	<10.0	10.0	08/16/2017	ND	205	102	200	1.04	
EXT DRO >C28-C36	<10.0	10.0	08/16/2017	ND					

Surrogate: 1-Chlorooctane 78.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 78.9 % 34.7-157

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Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/09/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP1 @ 14' (H702150-06)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/17/2017	ND	2.06	103	2.00	1.77	
Toluene*	<0.050	0.050	08/17/2017	ND	1.97	98.3	2.00	0.0308	
Ethylbenzene*	<0.050	0.050	08/17/2017	ND	2.06	103	2.00	0.0464	
Total Xylenes*	<0.150	0.150	08/17/2017	ND	6.11	102	6.00	0.290	
Total BTEX	<0.300	0.300	08/17/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	160	16.0	08/16/2017	ND	400	100	400	3.92	

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	08/16/2017	ND	200	99.9	200	0.460	
DRO >C10-C28	<10.0	10.0	08/16/2017	ND	205	102	200	1.04	
EXT DRO >C28-C36	<10.0	10.0	08/16/2017	ND					

Surrogate: 1-Chlorooctane 77.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 77.5 % 34.7-157

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Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/09/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP2 @ 1' (H702150-07)

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	08/17/2017	ND	2.06	103	2.00	1.77	
Toluene*	<0.050	0.050	08/17/2017	ND	1.97	98.3	2.00	0.0308	
Ethylbenzene*	<0.050	0.050	08/17/2017	ND	2.06	103	2.00	0.0464	
Total Xylenes*	<0.150	0.150	08/17/2017	ND	6.11	102	6.00	0.290	
Total BTX	<0.300	0.300	08/17/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	96.0	16.0	08/16/2017	ND	400	100	400	3.92	

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	08/16/2017	ND	200	99.9	200	0.460	
DRO >C10-C28	806	10.0	08/16/2017	ND	205	102	200	1.04	
EXT DRO >C28-C36	172	10.0	08/16/2017	ND					

Surrogate: 1-Chlorooctane 91.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 102 % 34.7-157

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Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/09/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP2 @ 2' (H702150-08)

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	08/17/2017	ND	1.87	93.3	2.00	0.693	QR-03
Toluene*	<0.050	0.050	08/17/2017	ND	1.84	92.1	2.00	0.577	
Ethylbenzene*	<0.050	0.050	08/17/2017	ND	1.94	97.2	2.00	0.545	
Total Xylenes*	<0.150	0.150	08/17/2017	ND	5.79	96.5	6.00	1.16	
Total BTEx	<0.300	0.300	08/17/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	160	16.0	08/16/2017	ND	400	100	400	3.92	

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	08/16/2017	ND	200	99.9	200	0.460	
DRO >C10-C28	102	10.0	08/16/2017	ND	205	102	200	1.04	
EXT DRO >C28-C36	31.3	10.0	08/16/2017	ND					

Surrogate: 1-Chlorooctane 85.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 87.0 % 34.7-157

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Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/09/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP2 @ 3' (H702150-09)

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	08/17/2017	ND	1.87	93.3	2.00	0.693	
Toluene*	<0.050	0.050	08/17/2017	ND	1.84	92.1	2.00	0.577	
Ethylbenzene*	<0.050	0.050	08/17/2017	ND	1.94	97.2	2.00	0.545	
Total Xylenes*	<0.150	0.150	08/17/2017	ND	5.79	96.5	6.00	1.16	
Total BTX	<0.300	0.300	08/17/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	1440	16.0	08/16/2017	ND	400	100	400	3.92	

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	08/16/2017	ND	200	99.9	200	0.460	
DRO >C10-C28	<10.0	10.0	08/16/2017	ND	205	102	200	1.04	
EXT DRO >C28-C36	<10.0	10.0	08/16/2017	ND					

Surrogate: 1-Chlorooctane 72.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 74.2 % 34.7-157

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Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/09/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP2 @ 4' (H702150-10)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1100	16.0	08/16/2017	ND	400	100	400	3.92		

Sample ID: SP2 @ 5' (H702150-11)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	640	16.0	08/16/2017	ND	400	100	400	3.92	

Sample ID: SP2 @ 6' (H702150-12)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	08/16/2017	ND	416	104	400	0.00	QR-03

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Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/09/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP2 @ 11' (H702150-13)

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	08/17/2017	ND	1.87	93.3	2.00	0.693	
Toluene*	<0.050	0.050	08/17/2017	ND	1.84	92.1	2.00	0.577	
Ethylbenzene*	<0.050	0.050	08/17/2017	ND	1.94	97.2	2.00	0.545	
Total Xylenes*	<0.150	0.150	08/17/2017	ND	5.79	96.5	6.00	1.16	
Total BTX	<0.300	0.300	08/17/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 100 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	08/16/2017	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	08/16/2017	ND	180	89.8	200	4.66	
DRO >C10-C28	<10.0	10.0	08/16/2017	ND	183	91.5	200	5.52	
EXT DRO >C28-C36	<10.0	10.0	08/16/2017	ND					

Surrogate: 1-Chlorooctane 67.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 72.8 % 34.7-157

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Analytical Results For:

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

Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/09/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP2 @ 16' (H702150-14)

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	08/17/2017	ND	1.87	93.3	2.00	0.693	
Toluene*	<0.050	0.050	08/17/2017	ND	1.84	92.1	2.00	0.577	
Ethylbenzene*	<0.050	0.050	08/17/2017	ND	1.94	97.2	2.00	0.545	
Total Xylenes*	<0.150	0.150	08/17/2017	ND	5.79	96.5	6.00	1.16	
Total BTX	<0.300	0.300	08/17/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	80.0	16.0	08/16/2017	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	08/16/2017	ND	180	89.8	200	4.66	
DRO >C10-C28	<10.0	10.0	08/16/2017	ND	183	91.5	200	5.52	
EXT DRO >C28-C36	<10.0	10.0	08/16/2017	ND					

Surrogate: 1-Chlorooctane 67.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 72.3 % 34.7-157

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 Fax To: (575) 397-0397

 Received: 08/15/2017
 Reported: 08/22/2017
 Project Name: MLMU SATELLITE #4
 Project Number: NONE GIVEN
 Project Location: OXY - LEA CO NM

 Sampling Date: 08/10/2017
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP3 @ 1' (H702150-15)

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	08/17/2017	ND	1.87	93.3	2.00	0.693	
Toluene*	<0.050	0.050	08/17/2017	ND	1.84	92.1	2.00	0.577	
Ethylbenzene*	<0.050	0.050	08/17/2017	ND	1.94	97.2	2.00	0.545	
Total Xylenes*	0.222	0.150	08/17/2017	ND	5.79	96.5	6.00	1.16	
Total BTEX	<0.300	0.300	08/17/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 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	08/16/2017	ND	416	104	400	0.00		
TPH 8015M		mg/kg		Analyzed By: MS						S-06

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	08/16/2017	ND	180	89.8	200	4.66	
DRO >C10-C28	5210	50.0	08/16/2017	ND	183	91.5	200	5.52	
EXT DRO >C28-C36	978	50.0	08/16/2017	ND					

Surrogate: 1-Chlorooctane 90.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 166 % 34.7-157

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Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP3 @ 2' (H702150-16)

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	08/17/2017	ND	1.87	93.3	2.00	0.693	
Toluene*	<0.050	0.050	08/17/2017	ND	1.84	92.1	2.00	0.577	
Ethylbenzene*	<0.050	0.050	08/17/2017	ND	1.94	97.2	2.00	0.545	
Total Xylenes*	1.58	0.150	08/17/2017	ND	5.79	96.5	6.00	1.16	
Total BTX	1.58	0.300	08/17/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 158 % 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	640	16.0	08/16/2017	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	73.1	50.0	08/16/2017	ND	180	89.8	200	4.66	
DRO >C10-C28	990	50.0	08/16/2017	ND	183	91.5	200	5.52	
EXT DRO >C28-C36	181	50.0	08/16/2017	ND					


Surrogate: 1-Chlorooctane 87.9 % 28.3-164

Surrogate: 1-Chlorooctadecane 107 % 34.7-157

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Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP3 @ 3' (H702150-17)

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	08/17/2017	ND	1.87	93.3	2.00	0.693	
Toluene*	<0.050	0.050	08/17/2017	ND	1.84	92.1	2.00	0.577	
Ethylbenzene*	<0.050	0.050	08/17/2017	ND	1.94	97.2	2.00	0.545	
Total Xylenes*	<0.150	0.150	08/17/2017	ND	5.79	96.5	6.00	1.16	
Total BTX	<0.300	0.300	08/17/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	704	16.0	08/16/2017	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	08/16/2017	ND	180	89.8	200	4.66	
DRO >C10-C28	253	10.0	08/16/2017	ND	183	91.5	200	5.52	
EXT DRO >C28-C36	86.2	10.0	08/16/2017	ND					


Surrogate: 1-Chlorooctane 74.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 92.3 % 34.7-157

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Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP3 @ 4' (H702150-18)

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	08/17/2017	ND	1.87	93.3	2.00	0.693	
Toluene*	<0.050	0.050	08/17/2017	ND	1.84	92.1	2.00	0.577	
Ethylbenzene*	<0.050	0.050	08/17/2017	ND	1.94	97.2	2.00	0.545	
Total Xylenes*	<0.150	0.150	08/17/2017	ND	5.79	96.5	6.00	1.16	
Total BTX	<0.300	0.300	08/17/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	848	16.0	08/16/2017	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	08/16/2017	ND	180	89.8	200	4.66	
DRO >C10-C28	<10.0	10.0	08/16/2017	ND	183	91.5	200	5.52	
EXT DRO >C28-C36	<10.0	10.0	08/16/2017	ND					

Surrogate: 1-Chlorooctane 93.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 97.9 % 34.7-157

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Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP3 @ 5' (H702150-19)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/17/2017	ND	1.87	93.3	2.00	0.693		
Toluene*	<0.050	0.050	08/17/2017	ND	1.84	92.1	2.00	0.577		
Ethylbenzene*	<0.050	0.050	08/17/2017	ND	1.94	97.2	2.00	0.545		
Total Xylenes*	<0.150	0.150	08/17/2017	ND	5.79	96.5	6.00	1.16		
Total BTEx	<0.300	0.300	08/17/2017	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	912	16.0	08/16/2017	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	08/16/2017	ND	180	89.8	200	4.66	
DRO >C10-C28	17.9	10.0	08/16/2017	ND	183	91.5	200	5.52	
EXT DRO >C28-C36	<10.0	10.0	08/16/2017	ND					

Surrogate: 1-Chlorooctane 82.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 88.4 % 34.7-157

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Analytical Results For:

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 Cliff Brunson
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 Fax To: (575) 397-0397

 Received: 08/15/2017
 Reported: 08/22/2017
 Project Name: MLMU SATELLITE #4
 Project Number: NONE GIVEN
 Project Location: OXY - LEA CO NM

 Sampling Date: 08/10/2017
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP3 @ 6' (H702150-20)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	960	16.0	08/16/2017	ND	416	104	400	0.00	

Sample ID: SP3 @ 7' (H702150-21)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1040	16.0	08/16/2017	ND	416	104	400	0.00	

Sample ID: SP3 @ 8' (H702150-22)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1220	16.0	08/16/2017	ND	416	104	400	0.00	

Sample ID: SP3 @ 9' (H702150-23)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	896	16.0	08/16/2017	ND	416	104	400	0.00	

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Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP3 @ 10' (H702150-24)

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	08/17/2017	ND	1.87	93.3	2.00	0.693		
Toluene*	<0.050	0.050	08/17/2017	ND	1.84	92.1	2.00	0.577		
Ethylbenzene*	<0.050	0.050	08/17/2017	ND	1.94	97.2	2.00	0.545		
Total Xylenes*	<0.150	0.150	08/17/2017	ND	5.79	96.5	6.00	1.16		
Total BTX	<0.300	0.300	08/17/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	08/16/2017	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	08/16/2017	ND	180	89.8	200	4.66	
DRO >C10-C28	<10.0	10.0	08/16/2017	ND	183	91.5	200	5.52	
EXT DRO >C28-C36	<10.0	10.0	08/16/2017	ND					

Surrogate: 1-Chlorooctane 77.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 81.9 % 34.7-157

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Fax To: (575) 397-0397

Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP3 @ 15' (H702150-25)

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	08/17/2017	ND	1.87	93.3	2.00	0.693		
Toluene*	<0.050	0.050	08/17/2017	ND	1.84	92.1	2.00	0.577		
Ethylbenzene*	<0.050	0.050	08/17/2017	ND	1.94	97.2	2.00	0.545		
Total Xylenes*	<0.150	0.150	08/17/2017	ND	5.79	96.5	6.00	1.16		
Total BTEx	<0.300	0.300	08/17/2017	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	48.0	16.0	08/16/2017	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	08/16/2017	ND	180	89.8	200	4.66	
DRO >C10-C28	<10.0	10.0	08/16/2017	ND	183	91.5	200	5.52	
EXT DRO >C28-C36	<10.0	10.0	08/16/2017	ND					

Surrogate: 1-Chlorooctane 72.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 77.8 % 34.7-157

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Analytical Results For:

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

Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP3 @ 18' (H702150-26)

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	08/17/2017	ND	1.87	93.3	2.00	0.693	
Toluene*	<0.050	0.050	08/17/2017	ND	1.84	92.1	2.00	0.577	
Ethylbenzene*	<0.050	0.050	08/17/2017	ND	1.94	97.2	2.00	0.545	
Total Xylenes*	<0.150	0.150	08/17/2017	ND	5.79	96.5	6.00	1.16	
Total BTEX	<0.300	0.300	08/17/2017	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	32.0	16.0	08/16/2017	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	08/17/2017	ND	180	89.8	200	4.66	
DRO >C10-C28	<10.0	10.0	08/17/2017	ND	183	91.5	200	5.52	
EXT DRO >C28-C36	<10.0	10.0	08/17/2017	ND					

Surrogate: 1-Chlorooctane 70.0 % 28.3-164

Surrogate: 1-Chlorooctadecane 73.9 % 34.7-157

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Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP4 @ 1' (H702150-27)

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	08/17/2017	ND	1.87	93.3	2.00	0.693	
Toluene*	<0.050	0.050	08/17/2017	ND	1.84	92.1	2.00	0.577	
Ethylbenzene*	<0.050	0.050	08/17/2017	ND	1.94	97.2	2.00	0.545	
Total Xylenes*	<0.150	0.150	08/17/2017	ND	5.79	96.5	6.00	1.16	
Total BTX	<0.300	0.300	08/17/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 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	304	16.0	08/16/2017	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	<50.0	50.0	08/17/2017	ND	180	89.8	200	4.66	
DRO >C10-C28	5610	50.0	08/17/2017	ND	183	91.5	200	5.52	
EXT DRO >C28-C36	1100	50.0	08/17/2017	ND					

Surrogate: 1-Chlorooctane 98.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 178 % 34.7-157

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Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP4 @ 2' (H702150-28)

BTEx 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	08/17/2017	ND	1.87	93.3	2.00	0.693	
Toluene*	<0.050	0.050	08/17/2017	ND	1.84	92.1	2.00	0.577	
Ethylbenzene*	1.79	0.050	08/17/2017	ND	1.94	97.2	2.00	0.545	
Total Xylenes*	2.29	0.150	08/17/2017	ND	5.79	96.5	6.00	1.16	
Total BTEX	4.07	0.300	08/17/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 158 % 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	608	16.0	08/16/2017	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	47.2	10.0	08/17/2017	ND	180	89.8	200	4.66	
DRO >C10-C28	475	10.0	08/17/2017	ND	183	91.5	200	5.52	
EXT DRO >C28-C36	101	10.0	08/17/2017	ND					

Surrogate: 1-Chlorooctane 89.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 96.7 % 34.7-157

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Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP4 @ 3' (H702150-29)

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	08/17/2017	ND	1.87	93.3	2.00	0.693	
Toluene*	<0.050	0.050	08/17/2017	ND	1.84	92.1	2.00	0.577	
Ethylbenzene*	<0.050	0.050	08/17/2017	ND	1.94	97.2	2.00	0.545	
Total Xylenes*	<0.150	0.150	08/17/2017	ND	5.79	96.5	6.00	1.16	
Total BTX	<0.300	0.300	08/17/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	768	16.0	08/16/2017	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	08/17/2017	ND	180	89.8	200	4.66	
DRO >C10-C28	230	10.0	08/17/2017	ND	183	91.5	200	5.52	
EXT DRO >C28-C36	80.2	10.0	08/17/2017	ND					

Surrogate: 1-Chlorooctane 77.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 87.6 % 34.7-157

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Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP4 @ 4' (H702150-30)

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	08/17/2017	ND	1.87	93.3	2.00	0.693	
Toluene*	<0.050	0.050	08/17/2017	ND	1.84	92.1	2.00	0.577	
Ethylbenzene*	<0.050	0.050	08/17/2017	ND	1.94	97.2	2.00	0.545	
Total Xylenes*	<0.150	0.150	08/17/2017	ND	5.79	96.5	6.00	1.16	
Total BTX	<0.300	0.300	08/17/2017	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	1020	16.0	08/16/2017	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	08/17/2017	ND	180	89.8	200	4.66	
DRO >C10-C28	<10.0	10.0	08/17/2017	ND	183	91.5	200	5.52	
EXT DRO >C28-C36	<10.0	10.0	08/17/2017	ND					


Surrogate: 1-Chlorooctane 78.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 84.9 % 34.7-157

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Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP4 @ 5' (H702150-31)

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	08/17/2017	ND	1.87	93.3	2.00	0.693		
Toluene*	<0.050	0.050	08/17/2017	ND	1.84	92.1	2.00	0.577		
Ethylbenzene*	<0.050	0.050	08/17/2017	ND	1.94	97.2	2.00	0.545		
Total Xylenes*	<0.150	0.150	08/17/2017	ND	5.79	96.5	6.00	1.16		
Total BTX	<0.300	0.300	08/17/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 108 % 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	832	16.0	08/16/2017	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	08/17/2017	ND	180	89.8	200	4.66	
DRO >C10-C28	<10.0	10.0	08/17/2017	ND	183	91.5	200	5.52	
EXT DRO >C28-C36	<10.0	10.0	08/17/2017	ND					

Surrogate: 1-Chlorooctane 77.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 83.0 % 34.7-157

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Fax To: (575) 397-0397

Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP4 @ 6' (H702150-32)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	880	16.0	08/16/2017	ND	432	108	400	3.77		

Sample ID: SP4 @ 7' (H702150-33)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1040	16.0	08/16/2017	ND	432	108	400	3.77		

Sample ID: SP4 @ 8' (H702150-34)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1230	16.0	08/16/2017	ND	432	108	400	3.77	

Sample ID: SP4 @ 9' (H702150-35)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	864	16.0	08/16/2017	ND	432	108	400	3.77	

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Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP4 @ 10' (H702150-36)

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	08/17/2017	ND	1.87	93.3	2.00	0.693	
Toluene*	<0.050	0.050	08/17/2017	ND	1.84	92.1	2.00	0.577	
Ethylbenzene*	<0.050	0.050	08/17/2017	ND	1.94	97.2	2.00	0.545	
Total Xylenes*	<0.150	0.150	08/17/2017	ND	5.79	96.5	6.00	1.16	
Total BTX	<0.300	0.300	08/17/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	08/16/2017	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/17/2017	ND	180	89.8	200	4.66	
DRO >C10-C28	<10.0	10.0	08/17/2017	ND	183	91.5	200	5.52	
EXT DRO >C28-C36	<10.0	10.0	08/17/2017	ND					

Surrogate: 1-Chlorooctane 80.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 84.9 % 34.7-157

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Fax To: (575) 397-0397

Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP4 @ 15' (H702150-37)

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	08/17/2017	ND	1.87	93.3	2.00	0.693	
Toluene*	<0.050	0.050	08/17/2017	ND	1.84	92.1	2.00	0.577	
Ethylbenzene*	<0.050	0.050	08/17/2017	ND	1.94	97.2	2.00	0.545	
Total Xylenes*	<0.150	0.150	08/17/2017	ND	5.79	96.5	6.00	1.16	
Total BTX	<0.300	0.300	08/17/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 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	16.0	16.0	08/16/2017	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/17/2017	ND	180	89.8	200	4.66	
DRO >C10-C28	<10.0	10.0	08/17/2017	ND	183	91.5	200	5.52	
EXT DRO >C28-C36	<10.0	10.0	08/17/2017	ND					

Surrogate: 1-Chlorooctane 78.0 % 28.3-164

Surrogate: 1-Chlorooctadecane 81.7 % 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: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP4 @ 18' (H702150-38)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/18/2017	ND	1.84	92.2	2.00	1.40	
Toluene*	<0.050	0.050	08/18/2017	ND	1.80	90.0	2.00	0.871	
Ethylbenzene*	<0.050	0.050	08/18/2017	ND	1.93	96.5	2.00	0.401	
Total Xylenes*	<0.150	0.150	08/18/2017	ND	5.78	96.3	6.00	0.297	
Total BTEX	<0.300	0.300	08/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 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	48.0	16.0	08/16/2017	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/17/2017	ND	180	89.8	200	4.66	
DRO >C10-C28	<10.0	10.0	08/17/2017	ND	183	91.5	200	5.52	
EXT DRO >C28-C36	<10.0	10.0	08/17/2017	ND					

Surrogate: 1-Chlorooctane 73.0 % 28.3-164

Surrogate: 1-Chlorooctadecane 77.6 % 34.7-157

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Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP5 @ 1' (H702150-39)

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	08/18/2017	ND	1.84	92.2	2.00	1.40	
Toluene*	<0.050	0.050	08/18/2017	ND	1.80	90.0	2.00	0.871	
Ethylbenzene*	<0.050	0.050	08/18/2017	ND	1.93	96.5	2.00	0.401	
Total Xylenes*	<0.150	0.150	08/18/2017	ND	5.78	96.3	6.00	0.297	
Total BTX	<0.300	0.300	08/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 108 % 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	288	16.0	08/16/2017	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<50.0	50.0	08/17/2017	ND	180	89.8	200	4.66	
DRO >C10-C28	1130	50.0	08/17/2017	ND	183	91.5	200	5.52	
EXT DRO >C28-C36	187	50.0	08/17/2017	ND					

Surrogate: 1-Chlorooctane 84.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 108 % 34.7-157

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Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP5 @ 2' (H702150-40)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/18/2017	ND	1.84	92.2	2.00	1.40		
Toluene*	<0.050	0.050	08/18/2017	ND	1.80	90.0	2.00	0.871		
Ethylbenzene*	<0.050	0.050	08/18/2017	ND	1.93	96.5	2.00	0.401		
Total Xylenes*	<0.150	0.150	08/18/2017	ND	5.78	96.3	6.00	0.297		
Total BTEx	<0.300	0.300	08/18/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	720	16.0	08/16/2017	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/17/2017	ND	180	89.8	200	4.66	
DRO >C10-C28	<10.0	10.0	08/17/2017	ND	183	91.5	200	5.52	
EXT DRO >C28-C36	<10.0	10.0	08/17/2017	ND					

Surrogate: 1-Chlorooctane 75.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 78.0 % 34.7-157

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Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP5 @ 3' (H702150-41)

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	08/18/2017	ND	1.84	92.2	2.00	1.40	
Toluene*	<0.050	0.050	08/18/2017	ND	1.80	90.0	2.00	0.871	
Ethylbenzene*	<0.050	0.050	08/18/2017	ND	1.93	96.5	2.00	0.401	
Total Xylenes*	<0.150	0.150	08/18/2017	ND	5.78	96.3	6.00	0.297	
Total BTX	<0.300	0.300	08/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	1680	16.0	08/16/2017	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/16/2017	ND	202	101	200	0.659	
DRO >C10-C28	11.4	10.0	08/16/2017	ND	197	98.7	200	1.11	
EXT DRO >C28-C36	<10.0	10.0	08/16/2017	ND					

Surrogate: 1-Chlorooctane 93.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 98.5 % 34.7-157

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Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP5 @ 4' (H702150-42)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/18/2017	ND	1.84	92.2	2.00	1.40		
Toluene*	<0.050	0.050	08/18/2017	ND	1.80	90.0	2.00	0.871		
Ethylbenzene*	<0.050	0.050	08/18/2017	ND	1.93	96.5	2.00	0.401		
Total Xylenes*	<0.150	0.150	08/18/2017	ND	5.78	96.3	6.00	0.297		
Total BTEx	<0.300	0.300	08/18/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	848	16.0	08/16/2017	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/16/2017	ND	202	101	200	0.659	
DRO >C10-C28	<10.0	10.0	08/16/2017	ND	197	98.7	200	1.11	
EXT DRO >C28-C36	<10.0	10.0	08/16/2017	ND					

Surrogate: 1-Chlorooctane 87.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 87.3 % 34.7-157

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Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP5 @ 5' (H702150-43)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	624	16.0	08/16/2017	ND	432	108	400	3.77		

Sample ID: SP5 @ 6' (H702150-44)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	656	16.0	08/16/2017	ND	432	108	400	3.77	

Sample ID: SP5 @ 7' (H702150-45)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	656	16.0	08/16/2017	ND	432	108	400	3.77		

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Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP5 @ 8' (H702150-46)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/18/2017	ND	1.84	92.2	2.00	1.40	
Toluene*	<0.050	0.050	08/18/2017	ND	1.80	90.0	2.00	0.871	
Ethylbenzene*	<0.050	0.050	08/18/2017	ND	1.93	96.5	2.00	0.401	
Total Xylenes*	<0.150	0.150	08/18/2017	ND	5.78	96.3	6.00	0.297	
Total BTEX	<0.300	0.300	08/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	48.0	16.0	08/16/2017	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/16/2017	ND	202	101	200	0.659	
DRO >C10-C28	<10.0	10.0	08/16/2017	ND	197	98.7	200	1.11	
EXT DRO >C28-C36	<10.0	10.0	08/16/2017	ND					


Surrogate: 1-Chlorooctane 79.9 % 28.3-164

Surrogate: 1-Chlorooctadecane 74.1 % 34.7-157

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Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP5 @ 13' (H702150-47)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/18/2017	ND	1.84	92.2	2.00	1.40	
Toluene*	<0.050	0.050	08/18/2017	ND	1.80	90.0	2.00	0.871	
Ethylbenzene*	<0.050	0.050	08/18/2017	ND	1.93	96.5	2.00	0.401	
Total Xylenes*	<0.150	0.150	08/18/2017	ND	5.78	96.3	6.00	0.297	
Total BTEx	<0.300	0.300	08/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	08/16/2017	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/16/2017	ND	202	101	200	0.659	
DRO >C10-C28	<10.0	10.0	08/16/2017	ND	197	98.7	200	1.11	
EXT DRO >C28-C36	<10.0	10.0	08/16/2017	ND					

Surrogate: 1-Chlorooctane 66.9 % 28.3-164

Surrogate: 1-Chlorooctadecane 73.0 % 34.7-157

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Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP6 @ 1' (H702150-48)

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	08/18/2017	ND	1.84	92.2	2.00	1.40		
Toluene*	<0.050	0.050	08/18/2017	ND	1.80	90.0	2.00	0.871		
Ethylbenzene*	<0.050	0.050	08/18/2017	ND	1.93	96.5	2.00	0.401		
Total Xylenes*	<0.150	0.150	08/18/2017	ND	5.78	96.3	6.00	0.297		
Total BTX	<0.300	0.300	08/18/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	320	16.0	08/16/2017	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<50.0	50.0	08/16/2017	ND	202	101	200	0.659	
DRO >C10-C28	1200	50.0	08/16/2017	ND	197	98.7	200	1.11	
EXT DRO >C28-C36	267	50.0	08/16/2017	ND					

Surrogate: 1-Chlorooctane 80.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 111 % 34.7-157

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Analytical Results For:

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

Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP6 @ 2' (H702150-49)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/18/2017	ND	1.84	92.2	2.00	1.40	
Toluene*	<0.050	0.050	08/18/2017	ND	1.80	90.0	2.00	0.871	
Ethylbenzene*	<0.050	0.050	08/18/2017	ND	1.93	96.5	2.00	0.401	
Total Xylenes*	<0.150	0.150	08/18/2017	ND	5.78	96.3	6.00	0.297	
Total BTEx	<0.300	0.300	08/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	1200	16.0	08/16/2017	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/17/2017	ND	182	90.9	200	0.0599	
DRO >C10-C28	<10.0	10.0	08/17/2017	ND	187	93.7	200	1.31	
EXT DRO >C28-C36	<10.0	10.0	08/17/2017	ND					

Surrogate: 1-Chlorooctane 84.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 89.3 % 34.7-157

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Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP6 @ 3' (H702150-50)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/18/2017	ND	1.84	92.2	2.00	1.40		
Toluene*	<0.050	0.050	08/18/2017	ND	1.80	90.0	2.00	0.871		
Ethylbenzene*	<0.050	0.050	08/18/2017	ND	1.93	96.5	2.00	0.401		
Total Xylenes*	<0.150	0.150	08/18/2017	ND	5.78	96.3	6.00	0.297		
Total BTEx	<0.300	0.300	08/18/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	1170	16.0	08/16/2017	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/17/2017	ND	182	90.9	200	0.0599	
DRO >C10-C28	<10.0	10.0	08/17/2017	ND	187	93.7	200	1.31	
EXT DRO >C28-C36	<10.0	10.0	08/17/2017	ND					

Surrogate: 1-Chlorooctane 97.0 % 28.3-164

Surrogate: 1-Chlorooctadecane 101 % 34.7-157

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Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP6 @ 4' (H702150-51)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/18/2017	ND	1.84	92.2	2.00	1.40		
Toluene*	<0.050	0.050	08/18/2017	ND	1.80	90.0	2.00	0.871		
Ethylbenzene*	<0.050	0.050	08/18/2017	ND	1.93	96.5	2.00	0.401		
Total Xylenes*	<0.150	0.150	08/18/2017	ND	5.78	96.3	6.00	0.297		
Total BTEX	<0.300	0.300	08/18/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	752	16.0	08/16/2017	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/17/2017	ND	182	90.9	200	0.0599	
DRO >C10-C28	<10.0	10.0	08/17/2017	ND	187	93.7	200	1.31	
EXT DRO >C28-C36	<10.0	10.0	08/17/2017	ND					

Surrogate: 1-Chlorooctane 84.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 89.5 % 34.7-157

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Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP6 @ 5' (H702150-52)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	656	16.0	08/16/2017	ND	416	104	400	0.00	

Sample ID: SP6 @ 6' (H702150-53)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	640	16.0	08/16/2017	ND	416	104	400	0.00	

Sample ID: SP6 @ 7' (H702150-54)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	592	16.0	08/16/2017	ND	416	104	400	0.00	

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Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP6 @ 8' (H702150-55)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/18/2017	ND	1.84	92.2	2.00	1.40		
Toluene*	<0.050	0.050	08/18/2017	ND	1.80	90.0	2.00	0.871		
Ethylbenzene*	<0.050	0.050	08/18/2017	ND	1.93	96.5	2.00	0.401		
Total Xylenes*	<0.150	0.150	08/18/2017	ND	5.78	96.3	6.00	0.297		
Total BTEx	<0.300	0.300	08/18/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	32.0	16.0	08/16/2017	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	08/17/2017	ND	182	90.9	200	0.0599	
DRO >C10-C28	<10.0	10.0	08/17/2017	ND	187	93.7	200	1.31	
EXT DRO >C28-C36	<10.0	10.0	08/17/2017	ND					

Surrogate: 1-Chlorooctane 72.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 74.5 % 34.7-157

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Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP6 @ 13' (H702150-56)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/18/2017	ND	1.84	92.2	2.00	1.40		
Toluene*	<0.050	0.050	08/18/2017	ND	1.80	90.0	2.00	0.871		
Ethylbenzene*	<0.050	0.050	08/18/2017	ND	1.93	96.5	2.00	0.401		
Total Xylenes*	<0.150	0.150	08/18/2017	ND	5.78	96.3	6.00	0.297		
Total BTEx	<0.300	0.300	08/18/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	08/16/2017	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	08/17/2017	ND	182	90.9	200	0.0599	
DRO >C10-C28	<10.0	10.0	08/17/2017	ND	187	93.7	200	1.31	
EXT DRO >C28-C36	<10.0	10.0	08/17/2017	ND					

Surrogate: 1-Chlorooctane 75.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 79.1 % 34.7-157

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Fax To: (575) 397-0397

Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP7 @ 1' (H702150-57)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/18/2017	ND	1.84	92.2	2.00	1.40		
Toluene*	<0.050	0.050	08/18/2017	ND	1.80	90.0	2.00	0.871		
Ethylbenzene*	<0.050	0.050	08/18/2017	ND	1.93	96.5	2.00	0.401		
Total Xylenes*	<0.150	0.150	08/18/2017	ND	5.78	96.3	6.00	0.297		
Total BTEx	<0.300	0.300	08/18/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	08/16/2017	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	08/17/2017	ND	182	90.9	200	0.0599	
DRO >C10-C28	<10.0	10.0	08/17/2017	ND	187	93.7	200	1.31	
EXT DRO >C28-C36	<10.0	10.0	08/17/2017	ND					

Surrogate: 1-Chlorooctane 83.9 % 28.3-164

Surrogate: 1-Chlorooctadecane 88.1 % 34.7-157

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Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP7 @ 2' (H702150-58)

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	08/18/2017	ND	1.84	92.2	2.00	1.40		
Toluene*	<0.050	0.050	08/18/2017	ND	1.80	90.0	2.00	0.871		
Ethylbenzene*	<0.050	0.050	08/18/2017	ND	1.93	96.5	2.00	0.401		
Total Xylenes*	<0.150	0.150	08/18/2017	ND	5.78	96.3	6.00	0.297		
Total BTX	<0.300	0.300	08/18/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	928	16.0	08/16/2017	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	08/17/2017	ND	182	90.9	200	0.0599	
DRO >C10-C28	47.0	10.0	08/17/2017	ND	187	93.7	200	1.31	
EXT DRO >C28-C36	30.9	10.0	08/17/2017	ND					

Surrogate: 1-Chlorooctane 73.0 % 28.3-164

Surrogate: 1-Chlorooctadecane 76.5 % 34.7-157

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Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP7 @ 3' (H702150-59)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/18/2017	ND	1.84	92.2	2.00	1.40		
Toluene*	<0.050	0.050	08/18/2017	ND	1.80	90.0	2.00	0.871		
Ethylbenzene*	<0.050	0.050	08/18/2017	ND	1.93	96.5	2.00	0.401		
Total Xylenes*	<0.150	0.150	08/18/2017	ND	5.78	96.3	6.00	0.297		
Total BTEx	<0.300	0.300	08/18/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	576	16.0	08/16/2017	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	08/17/2017	ND	182	90.9	200	0.0599	
DRO >C10-C28	<10.0	10.0	08/17/2017	ND	187	93.7	200	1.31	
EXT DRO >C28-C36	<10.0	10.0	08/17/2017	ND					

Surrogate: 1-Chlorooctane 81.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 84.3 % 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: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP7 @ 4' (H702150-60)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	448	16.0	08/16/2017	ND	416	104	400	0.00	

Sample ID: SP7 @ 5' (H702150-61)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	08/16/2017	ND	416	104	400	0.00	

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Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP7 @ 10' (H702150-62)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/18/2017	ND	1.84	92.2	2.00	1.40		
Toluene*	<0.050	0.050	08/18/2017	ND	1.80	90.0	2.00	0.871		
Ethylbenzene*	<0.050	0.050	08/18/2017	ND	1.93	96.5	2.00	0.401		
Total Xylenes*	<0.150	0.150	08/18/2017	ND	5.78	96.3	6.00	0.297		
Total BTEX	<0.300	0.300	08/18/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	64.0	16.0	08/16/2017	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	08/17/2017	ND	182	90.9	200	0.0599	
DRO >C10-C28	<10.0	10.0	08/17/2017	ND	187	93.7	200	1.31	
EXT DRO >C28-C36	<10.0	10.0	08/17/2017	ND					

Surrogate: 1-Chlorooctane 86.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 88.9 % 34.7-157

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Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP8 @ 1' (H702150-63)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/18/2017	ND	1.84	92.2	2.00	1.40		
Toluene*	<0.050	0.050	08/18/2017	ND	1.80	90.0	2.00	0.871		
Ethylbenzene*	<0.050	0.050	08/18/2017	ND	1.93	96.5	2.00	0.401		
Total Xylenes*	<0.150	0.150	08/18/2017	ND	5.78	96.3	6.00	0.297		
Total BTEX	<0.300	0.300	08/18/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 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	96.0	16.0	08/16/2017	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	08/17/2017	ND	182	90.9	200	0.0599	
DRO >C10-C28	<10.0	10.0	08/17/2017	ND	187	93.7	200	1.31	
EXT DRO >C28-C36	<10.0	10.0	08/17/2017	ND					

Surrogate: 1-Chlorooctane 85.9 % 28.3-164

Surrogate: 1-Chlorooctadecane 89.2 % 34.7-157

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Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP8 @ 2' (H702150-64)

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	08/18/2017	ND	1.84	92.2	2.00	1.40		
Toluene*	<0.050	0.050	08/18/2017	ND	1.80	90.0	2.00	0.871		
Ethylbenzene*	<0.050	0.050	08/18/2017	ND	1.93	96.5	2.00	0.401		
Total Xylenes*	<0.150	0.150	08/18/2017	ND	5.78	96.3	6.00	0.297		
Total BTX	<0.300	0.300	08/18/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	928	16.0	08/16/2017	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	08/17/2017	ND	182	90.9	200	0.0599	
DRO >C10-C28	14.2	10.0	08/17/2017	ND	187	93.7	200	1.31	
EXT DRO >C28-C36	<10.0	10.0	08/17/2017	ND					

Surrogate: 1-Chlorooctane 76.2 % 28.3-164

Surrogate: 1-Chlorooctadecane 80.9 % 34.7-157

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Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP8 @ 3' (H702150-65)

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	08/18/2017	ND	1.84	92.2	2.00	1.40		
Toluene*	<0.050	0.050	08/18/2017	ND	1.80	90.0	2.00	0.871		
Ethylbenzene*	<0.050	0.050	08/18/2017	ND	1.93	96.5	2.00	0.401		
Total Xylenes*	<0.150	0.150	08/18/2017	ND	5.78	96.3	6.00	0.297		
Total BTX	<0.300	0.300	08/18/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	672	16.0	08/16/2017	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	08/17/2017	ND	182	90.9	200	0.0599	
DRO >C10-C28	<10.0	10.0	08/17/2017	ND	187	93.7	200	1.31	
EXT DRO >C28-C36	<10.0	10.0	08/17/2017	ND					

Surrogate: 1-Chlorooctane 94.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 98.6 % 34.7-157

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Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP8 @ 4' (H702150-66)

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	08/16/2017	ND	416	104	400	0.00		

Sample ID: SP8 @ 5' (H702150-67)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	656	16.0	08/16/2017	ND	416	104	400	0.00	

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Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP8 @ 10' (H702150-68)

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	08/18/2017	ND	1.73	86.5	2.00	0.962	
Toluene*	<0.050	0.050	08/18/2017	ND	1.76	87.9	2.00	1.37	
Ethylbenzene*	<0.050	0.050	08/18/2017	ND	1.89	94.7	2.00	1.07	
Total Xylenes*	<0.150	0.150	08/18/2017	ND	5.71	95.1	6.00	1.37	
Total BTX	<0.300	0.300	08/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	08/16/2017	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	08/17/2017	ND	182	90.9	200	0.0599	
DRO >C10-C28	<10.0	10.0	08/17/2017	ND	187	93.7	200	1.31	
EXT DRO >C28-C36	<10.0	10.0	08/17/2017	ND					

Surrogate: 1-Chlorooctane 89.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 93.3 % 34.7-157

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Fax To: (575) 397-0397

Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: NORTH @ SURFACE (H702150-69)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/18/2017	ND	1.73	86.5	2.00	0.962		
Toluene*	<0.050	0.050	08/18/2017	ND	1.76	87.9	2.00	1.37		
Ethylbenzene*	<0.050	0.050	08/18/2017	ND	1.89	94.7	2.00	1.07		
Total Xylenes*	<0.150	0.150	08/18/2017	ND	5.71	95.1	6.00	1.37		
Total BTEx	<0.300	0.300	08/18/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 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	32.0	16.0	08/16/2017	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	08/17/2017	ND	182	90.9	200	0.0599	
DRO >C10-C28	<10.0	10.0	08/17/2017	ND	187	93.7	200	1.31	
EXT DRO >C28-C36	<10.0	10.0	08/17/2017	ND					

Surrogate: 1-Chlorooctane 83.8 % 28.3-164

Surrogate: 1-Chlorooctadecane 87.7 % 34.7-157

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Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: EAST @ SURFACE (H702150-70)

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	08/18/2017	ND	1.73	86.5	2.00	0.962	
Toluene*	<0.050	0.050	08/18/2017	ND	1.76	87.9	2.00	1.37	
Ethylbenzene*	<0.050	0.050	08/18/2017	ND	1.89	94.7	2.00	1.07	
Total Xylenes*	<0.150	0.150	08/18/2017	ND	5.71	95.1	6.00	1.37	
Total BTX	<0.300	0.300	08/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	08/16/2017	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	08/17/2017	ND	182	90.9	200	0.0599	
DRO >C10-C28	<10.0	10.0	08/17/2017	ND	187	93.7	200	1.31	
EXT DRO >C28-C36	<10.0	10.0	08/17/2017	ND					

Surrogate: 1-Chlorooctane 86.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 89.8 % 34.7-157

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Received: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: WEST @ SURFACE (H702150-71)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/18/2017	ND	1.73	86.5	2.00	0.962	
Toluene*	<0.050	0.050	08/18/2017	ND	1.76	87.9	2.00	1.37	
Ethylbenzene*	<0.050	0.050	08/18/2017	ND	1.89	94.7	2.00	1.07	
Total Xylenes*	<0.150	0.150	08/18/2017	ND	5.71	95.1	6.00	1.37	
Total BTEX	<0.300	0.300	08/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	08/16/2017	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	08/17/2017	ND	182	90.9	200	0.0599	
DRO >C10-C28	<10.0	10.0	08/17/2017	ND	187	93.7	200	1.31	
EXT DRO >C28-C36	<10.0	10.0	08/17/2017	ND					


Surrogate: 1-Chlorooctane 60.9 % 28.3-164

Surrogate: 1-Chlorooctadecane 66.8 % 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: 08/15/2017
Reported: 08/22/2017
Project Name: MLMU SATELLITE #4
Project Number: NONE GIVEN
Project Location: OXY - LEA CO NM

Sampling Date: 08/10/2017
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SOUTH @ SURFACE (H702150-72)

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	08/18/2017	ND	1.73	86.5	2.00	0.962	
Toluene*	<0.050	0.050	08/18/2017	ND	1.76	87.9	2.00	1.37	
Ethylbenzene*	<0.050	0.050	08/18/2017	ND	1.89	94.7	2.00	1.07	
Total Xylenes*	<0.150	0.150	08/18/2017	ND	5.71	95.1	6.00	1.37	
Total BTX	<0.300	0.300	08/18/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	32.0	16.0	08/16/2017	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	08/17/2017	ND	182	90.9	200	0.0599	
DRO >C10-C28	<10.0	10.0	08/17/2017	ND	187	93.7	200	1.31	
EXT DRO >C28-C36	<10.0	10.0	08/17/2017	ND					

Surrogate: 1-Chlorooctane 76.9 % 28.3-164

Surrogate: 1-Chlorooctadecane 80.8 % 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.
QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
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



ARDINAL LABORATORIES

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

3048

Company Name: BBC International, Inc.

Project Manager: Cliff Brunson

Address: P.O. Box 805

City: Hobbs

Phone #: 575-397-6388

Project #:

Project Name: MLMU Satellite #4

Project Location: Lea County, NM

Sample Name: Jeff Ornelas

FOR LAB USE ONLY

Lab I.D.

Sample I.D.

H102150

21

22

23

24

25

26

27

28

29

30

SP4 @ 4'

SP3 @ 7'

SP3 @ 8'

SP3 @ 9'

SP3 @ 10'

SP3 @ 15'

SP3 @ 18'

SP4 @ 1'

SP4 @ 2'

SP4 @ 3'

SP4 @ 4'

SP4 @ 4'

SP4 @ 4'

SP4 @ 4'

SP4 @ 4'

P.O. #:

Company:

Attn:

Address:

City:

State: Zip:

Phone #:

Fax #:

BILL TO

ANALYSIS REQUEST

(G)RAB OR (C)OMP.

CONTAINERS

GROUNDWATER

WASTEWATER

SOIL

OIL

SLUDGE

OTHER :

ACID/BASE:

ICE / COOL

OTHER :

DATE

TIME

DATE

TIME

DATE

TIME

DATE

TIME

DATE

TIME

DATE

TIME

DATE

TIME

DATE

TIME

P.O. #:

Company:

Attn:

Address:

City:

State: Zip:

Phone #:

Fax #:

(G)RAB OR (C)OMP.

CONTAINERS

GROUNDWATER

WASTEWATER

SOIL

OIL

SLUDGE

OTHER :

ACID/BASE:

ICE / COOL

OTHER :

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P.O. #:

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State: Zip:

Phone #:

Fax #:

(G)RAB OR (C)OMP.

CONTAINERS

GROUNDWATER

WASTEWATER

SOIL

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SLUDGE

OTHER :

ACID/BASE:

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(G)RAB OR (C)OMP.

CONTAINERS

GROUNDWATER

WASTEWATER

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(G)RAB OR (C)OMP.

CONTAINERS

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Fax #:

(G)RAB OR (C)OMP.

CONTAINERS

GROUNDWATER

WASTEWATER

SOIL

OIL

SLUDGE

OTHER :

ACID/BASE:

ICE / COOL

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(G)RAB OR (C)OMP.

CONTAINERS

GROUNDWATER

WASTEWATER

SOIL

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SLUDGE

OTHER :

ACID/BASE:

ICE / COOL

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Fax #:

(G)RAB OR (C)OMP.

CONTAINERS

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Fax #:

(G)RAB OR (C)OMP.

CONTAINERS

GROUNDWATER

WASTEWATER

SOIL

OIL

SLUDGE

OTHER :

ACID/BASE:

ICE / COOL

OTHER :

DATE

TIME

DATE

TIME

DATE

TIME

DATE



CARDINAL LABORATORIES

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

BILL TO

ANALYSIS REQUEST

P.O. #:

Company:

Attn: *Wade Hatcher*

Address:

City:

State:

Zip:

Phone #:

Fax #:

Company Name: BBC International, Inc.

Project Manager: Cliff Brunson

Address: P.O. Box 805

City: Hobbs

Phone #: 575-397-6388

Project #:

Project Name: MLMU Satellite #4

Project Location: Lea County, NM

Sample Name: Jeff Ornelas

FOR LAB USE ONLY

Lab I.D.

Sample I.D.

H102150

41

42

43

44

45

46

47

48

49

50

SP6 @ 3'

SP6 @ 2'

SP6 @ 1'

SP6 @ 13'

SP6 @ 7'

SP5 @ 8'

SP5 @ 13'

SP5 @ 6'

SP5 @ 5'

SP5 @ 4'

SP5 @ 3'

(G)RAB OR (C)OMP

CONTAINERS

GROUNDWATER

WASTEWATER

SOIL

OIL

SLUDGE

OTHER :

ACID/BASE:

ICE / COOL

OTHER :

DATE

TIME

DATE

TIME

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TIME

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Relinquished By: *Jeff Ornelas*
Date: *8/10/17*
Time: *8:30 AM*

Received By: *Wade Hatcher*
Date: *8/15/17*
Time: *11:30 AM*

Delivered By: (Circle One) *3.12*
Sample - UPS - Bus - Other: *Corrected 3.35E*

Sample Condition
Cool ☐ Intact ☐
Yes ☐ No ☐
Checked By: *7:0-#75*

REMARKS:

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



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(505) 393-2326 FAX (505) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: BBC International, Inc.		P.O. #:		BILL TO												ANALYSIS REQUEST																									
Project Manager: Cliff Brunson		Company: Oxy																																							
Address: P.O. Box 805		Attn: Wade Smith																																							
City: Hobbs		Address:																																							
State: NM Zip: 88241																																									
Phone #: 575-397-6388		City:																																							
Fax #: 575-397-0397		State:																																							
Project #: Project Owner: Oxy		Zip:																																							
Project Name: MLMU Satellite #4		Phone #:																																							
Project Location: Lea County, NM		Fax #:																																							
Sample Name: Jeff Ornelas																																									
FOR LAB USE ONLY																																									
Lab I.D.		Sample I.D.		(G)RAB OR (C)OMP.		# CONTAINERS		GROUNDWATER		WASTEWATER		SOIL		OIL		SLUDGE		OTHER :		ACID/BASE:		ICE / COOL		OTHER :		DATE		TIME													
H702150		SP7 @ 5'		G		1																				8/10/17		2:15 pm		CI											
61		SP7 @ 10'		G		1																				8/10/17		2:22 pm		BTEX											
62		SP8 @ 1'		G		1																				8/10/17		2:25 pm		TPTX											
63		SP8 @ 2'		G		1																				8/10/17		2:29 pm													
64		SP8 @ 3'		G		1																				8/10/17		2:33 pm													
65		SP8 @ 4'		G		1																				8/10/17		2:39 pm													
66		SP8 @ 5'		G		1																				8/10/17		2:45 pm													
67		SP8 @ 10'		G		1																				8/10/17		2:53 pm													
68		NORTH @ SURFACE		G		1																				8/10/17		2:59 pm													
69		EAST @ SURFACE		G		1																				8/10/17		3:03 pm													
70																																									
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 analysis. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruption, 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. Impairment of whether such claim is based upon any of the above stated reasons or otherwise.		Relinquished By: VJP/OW/AS		Date: 8/10/17		Time: 3:30pm		Received By: [Signature]		Sample Condition: Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/>		CHECKED BY: [Signature]		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Phone #:		Add'l Fax #:		REMARKS:																			
Delivered By: (Circle One) 3.1c		Date: 8/15/17		Time: 11:30a		Received By: [Signature]		Sample Condition: Cool <input type="checkbox"/> Intact <input type="checkbox"/>		CHECKED BY: [Signature]		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Phone #:		Add'l Fax #:																							
Sampler - UPS - Bus - Other: Contained 335f		Date: 8/15/17		Time: 3:35p		Received By: [Signature]		Sample Condition: Cool <input type="checkbox"/> Intact <input type="checkbox"/>		CHECKED BY: [Signature]		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Phone #:		Add'l Fax #:																							

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



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(505) 393-2326 FAX (505) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

2828

Company Name: BBC International, Inc.

Project Manager: Cliff Brunson

Address: P.O. Box 805

City: Hobbs

Phone #: 575-397-6388

Project #:

Project Name: MLMU Satellite #4

Project Location: Lea County, NM

Sample Name: Jeff Ornelas

FOR LAB USE ONLY

Lab I.D.

Sample I.D.

H702150

71

72

WEST @ SURFACE

SOUTH @ SURFACE

8/15/17

Relinquished By:

Relinquished By:

Delivered By: (Circle One)

Sampler - UPS - Bus - Other:

BILL TO

P.O. #:

Company:

Attn:

Address:

City:

State:

Phone #:

Fax #:

ANALYSIS REQUEST

(G)RAB OR (C)OMP.

CONTAINERS

GROUNDWATER

WASTEWATER

SOIL

OIL

SLUDGE

OTHER:

ACID/BASE:

ICE / COOL

OTHER:

DATE

TIME

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

Sample Condition

Cool Intact

Yes No

Yes No

Yes No

Yes No

Phone Result:

Fax Result:

REMARKS:

Phone Result:

Fax Result:

REMARKS:

Phone Result:

Fax Result:

REMARKS:

Phone Result:

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

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised 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	OXY USA WTP LP	Contact	CASEY L SUMMERS
Address	PO BOX 4294; HOUSTON, TX 77210	Telephone No.	575-513-8289
Facility Name	MLMU SATALITTE #4	Facility Type	BATTERY
Surface Owner	Fee	Mineral Owner	BLM
		API No.	30-025-27089

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
F	7	24S	37E					LEA

Latitude_ 32.23315 _ Longitude_ -103.20601 _ NAD83

NATURE OF RELEASE

Type of Release	OIL & PRODUCED WATER	Volume of Release	15 bbls OIL & 50 bbls PW	Volume Recovered	1 bbls
Source of Release	6 inch fiberglass production trunkline at the header	Date and Hour of Occurrence	6-19-2017	Date and Hour of Discovery	6-19-2017
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		
By Whom?	WADE DITTRICH	Date and Hour	6-20-2017 @ 3:43 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.*

RECEIVED

By Olivia Yu at 1:58 pm, Jul 10, 2017


Describe Cause of Problem and Remedial Action Taken.*

Leak was caused by a 6 inch fiberglass production trunkline at the header. The line has been repaired and put back into service.

Describe Area Affected and Cleanup Action Taken.*

The affected area of the spill is 180 by 8 ft (measurements are subject to change with future GPS track). Remediation will be completed in accordance with a remediation plan approved by the NMOCD.

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 L SUMMERS		Approved by Environmental Specialist: 	
Title: ENVIRONMENTAL ADVISOR		Approval Date: 7/10/2017	Expiration Date:
E-mail Address: casey_summers@oxy.com		Conditions of Approval:	Attached <input checked="" type="checkbox"/>
Date: 7-10-17 Phone: 575-513-8289		see attached directive	

* Attach Additional Sheets If Necessary

1RP-4752

fOY1719150731

nOY1719150884

pOY1719151188

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 7/10/2017 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 1RP-4752 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 8/10/2017. 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; C₆ thru C₃₆), 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; C₆ thru C₃₆), 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.

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