



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

DELINEATION/REMEDATION WORKPLAN

OXY – Mesa Verde Wolfcamp 4H (Leak Date: 3/30/20)

Incident ID: NRM2012539093

This delineation workplan and remediation proposal addresses the releases associated with Incident ID #NRM2012539093.

The following information includes:

1. Appropriate completed and signed C-141 pages.
2. Scaled digital site map with spill area demarcated and leak point identified along with sample point locations and areas of remediation at appropriate depths.
3. GPS information for sample points and sample methodology.
4. Depth to groundwater information (i.e., pdf of OSE search results, USGS search results, and/or copy of Chevron groundwater trend map).
5. Watercourse/features map within 1000 feet.
6. BLM Cave Karst map.
7. FEMA National Flood map.
8. Laboratory analysis results summary table and original laboratory analysis reports.
9. Potentially other pertinent information as necessary for site specific purposes.

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

OXY will excavate the spill area as depicted on the following site diagram. The leak area near SP1, SP3-SP5 (GREEN shade on diagram) will be excavated to a depth of 1 foot. The leak area near SP2 (PURPLE shade on diagram) will be excavated to a depth of 2.5 feet.

Bottom confirmation samples will be collected every 75 feet. The estimated amount of soil to be excavated is 338 cubic yards. Remediation activities will commence within 90 days of all approvals.

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.

Form C-141

Page 3

State of New Mexico
Oil Conservation Division

Incident ID	NRM2012539093
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization*This information must be provided to the appropriate district office no later than 90 days after the release discovery date.*

What is the shallowest depth to groundwater beneath the area affected by the release?	33 (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: *Each of the following items must be included in the report.*

- ☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☐ Field data
- ☒ Data table of soil contaminant concentration data
- ☒ Depth to water determination
- ☒ Determination of water sources and significant watercourses within 1/2-mile of the lateral extents of the release
- ☐ Boring or excavation logs
- ☐ Photographs including date and GIS information
- ☒ Topographic/Aerial maps
- ☒ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

Form C-141

Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NRM2012539093
District RP	
Facility ID	
Application ID	

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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.

Printed Name: Wade Dittrich Title: Environmental CoordinatorSignature:  Date: 7-17-20email: wade_dittrich@oxy.com Telephone: (575) 390-2828**OCD Only**Received by: Cristina Eads Date: 07/29/2020

Form C-141

State of New Mexico
Oil Conservation Division

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Incident ID	NRM2012539093
District RP	
Facility ID	
Application ID	

Remediation Plan


Remediation Plan Checklist: Each of the following items must be included in the plan.

- ☐ Detailed description of proposed remediation technique
- ☐ Scaled sitemap with GPS coordinates showing delineation points
- ☐ Estimated volume of material to be remediated
- ☐ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☐ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: Each of the following items must be confirmed as part of any request for deferral of remediation.

- ☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☐ Extents of contamination must be fully delineated.
- ☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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.

Printed Name: Wade Dittrich Title: Environmental Coordinator
 Signature:  Date: 7-11-20
 email: wade_dittrich@oxy.com Telephone: (575) 390-2828

OCD Only

Received by: Cristina Eads Date: 07/29/2020

☐ Approved ☒ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

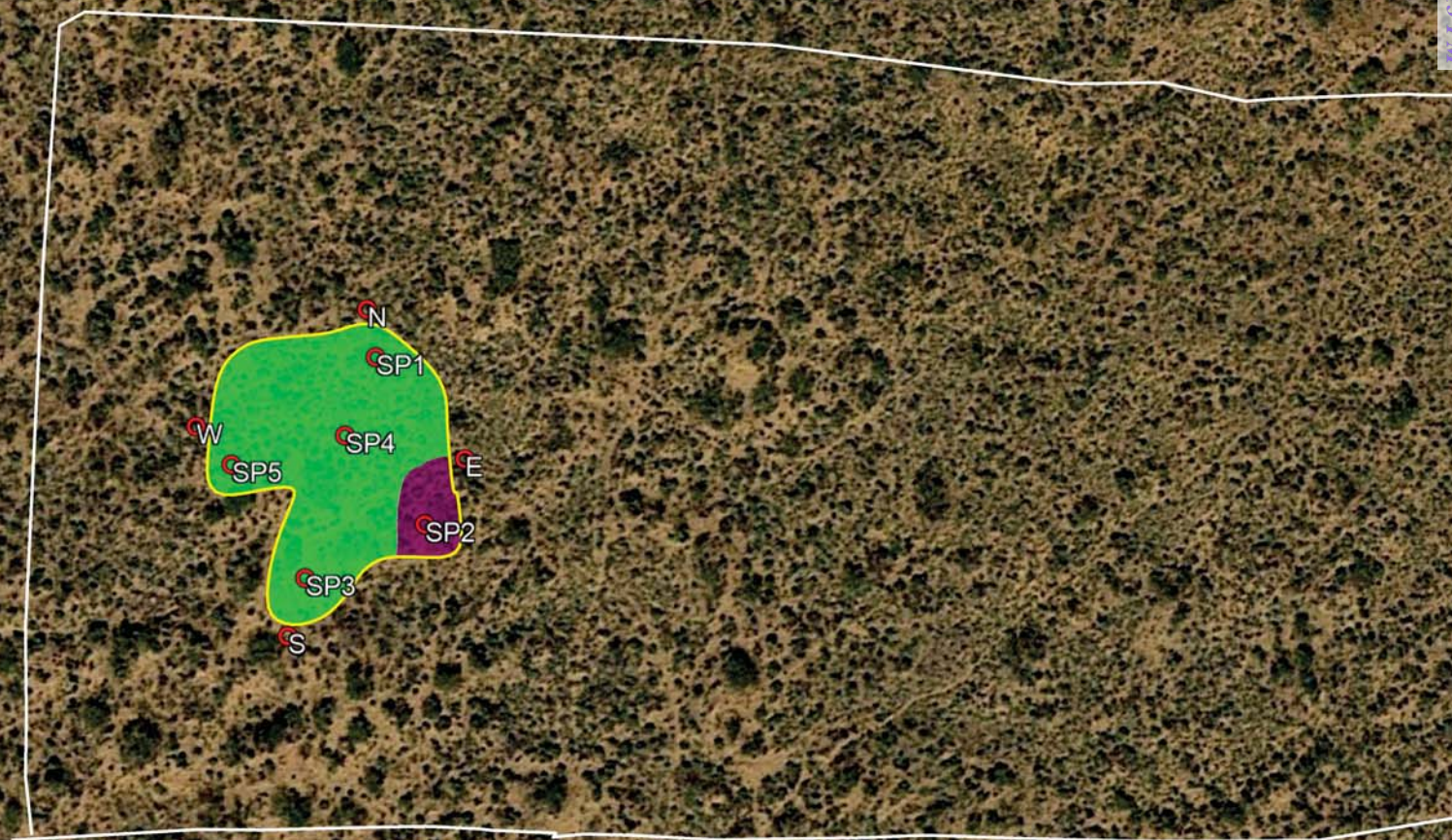
Signature:  Date: 09/29/2020

Oxy, Mesa Verde Wolfcamp 4H

Leak Date: 3-30-2020
Lea County, NM
API: 30-025-46112
Incident ID: NRM2012539093

Legend

- 1 ft Excavation
- 2.5 ft Excavation
- Leak Area
- Location Pad
- Sample Points



Mesa Verde Wolfcamp 4H (3-30-20)

Sample Points:

SP1 N 32.21087 W 103.68539

SP2 N 32.21069 W 103.68532

SP3 N 32.21063 W 103.68548

SP4 N 32.21078 W 103.68543

SP5 N 32.21075 W 103.68557

NORTH, N 32.21092 W 103.68540

EAST, N 32.21076 W 103.68527

WEST, N 32.21079 W 103.68561

SOUTH, N 32.21057 W 103.68550



USGS Home
Contact USGS
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National Water Information System: Web Interface


USGS Water Resources

Data Category:
Groundwater

Geographic Area:
New Mexico

GO

Click to hideNews Bulletins

- **Notice** - The USGS Water Resources Mission Area's priority is to maintain the safety and well-being of our communities, including providing critical situational awareness in times of flooding in all 50 U.S. states and additional territories. Our hydrologic monitoring stations continue to send data in near real-time to NWISWeb, and we are continuing critical water monitoring activities to protect life and property on a case-by-case basis. The health and safety of the public and our employees are our highest priorities, and we continue to follow guidance from the White House, the CDC, and state and local authorities.
- [Introducing The Next Generation of USGS Water Data for the Nation](#)
- [Full News](#) 

Groundwater levels for New Mexico

Click to hide state-specific text

Search Results -- 1 sites found

Agency code = usgs
site_no list =

- 321312103395601

Minimum number of levels = 1
[Save file of selected sites](#) to local disk for future upload

USGS 321312103395601 24S.32E.10.344333

Lea County, New Mexico
Latitude 32°13'30.4", Longitude 103°39'52.7" NAD83
Land-surface elevation 3,589.00 feet above NGVD29
The depth of the well is 60 feet below land surface.
This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

[Table of data](#)

[Tab-separated data](#)

[Graph of data](#)

[Reselect period](#)

Date	Time	? Water-level date-time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Water-level accuracy	? Status	? Method of measurement	? Measuring agency	? Source of measur
1950-04-13			D 33.64				2			U
1955-06-03			D 31.90				2	R		U
1976-01-22			D 31.80				2			U
1981-03-20			D 19.93				2			U
1986-03-18			D 37.16				2			U
1991-05-29			D 39.64				2			U
1996-03-14			D 38.20				2			S
2001-02-27			D 36.58				2			S
2006-02-07	09:30 MST	m	19.40				2		S	USGS
2010-12-16	15:30 MST	m	33.96				2		S	USGS

Explanation

Section	Code	Description
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Received by OCD: 7/29/2020 1:50:13 PM



1:9,028




The image shows two horizontal number lines. The top number line is labeled with miles (mi) and has tick marks at 0, 0.07, 0.15, and 0.3. The bottom number line is labeled with kilometers (km) and has tick marks at 0, 0.15, 0.3, and 0.6. The lines are aligned such that 0.15 miles corresponds to 0.3 kilometers, and 0.3 miles corresponds to 0.6 kilometers.

75: New Mexico Oil Conservation Division

NM OCD Oil and Gas Map. <http://nm-ernrd.maps.arcgis.com/apps/webappviewer/index.html?id=4d017f2306164de29fd2fb9f8f35ca75>; New Mexico Oil Conservation Division

Oxy Mesa Verde Wolfcamp 4H

Leak Date: 3-30-20
Lea County, NM
API: 30-025-46112
Incident ID: NRM2012539093

- Legend**
-  Leak Area
 -  Location Pad
 -  Low Potential

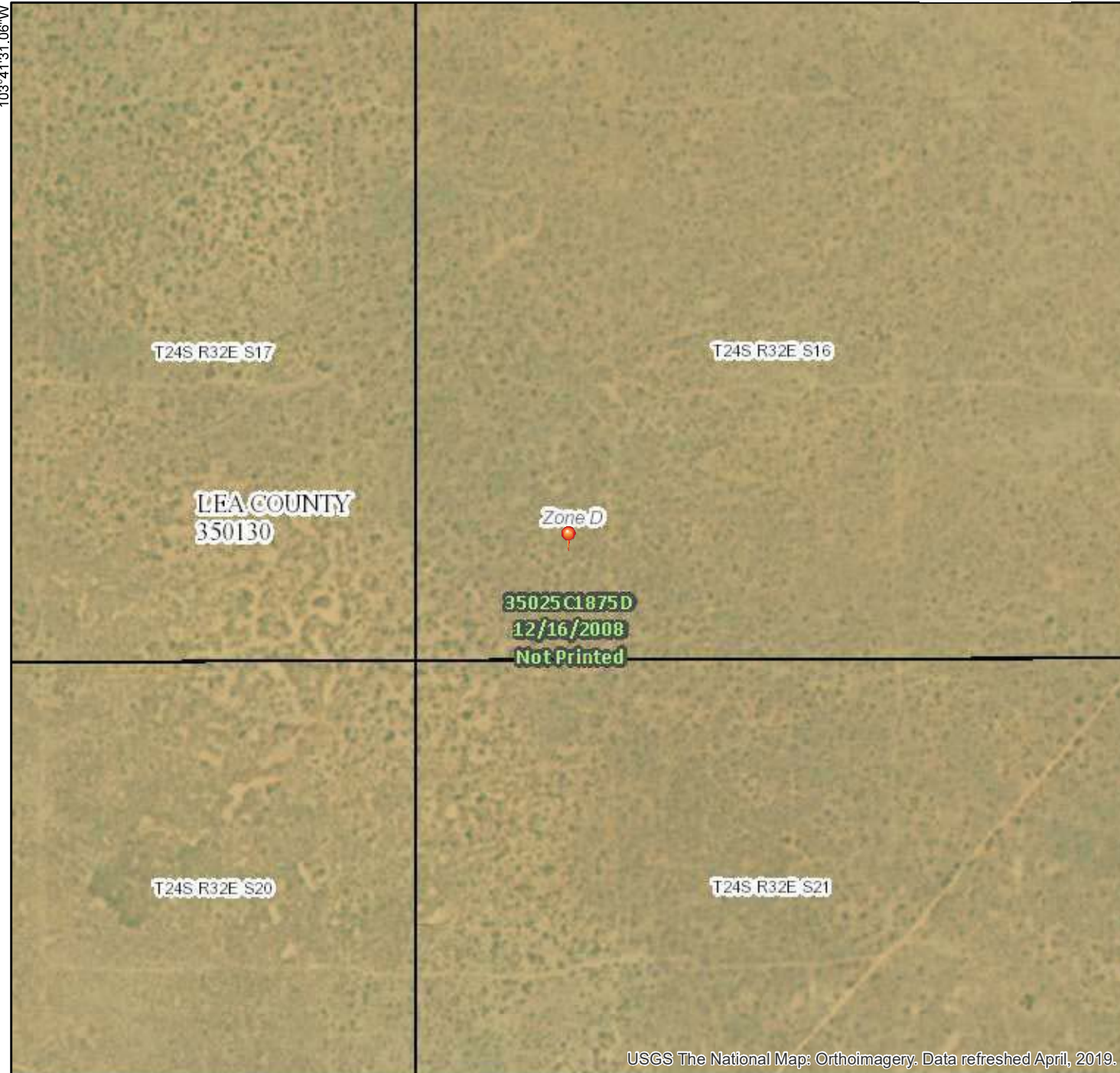
128



National Flood Hazard Layer FIRMette



32°12'55.50"N



0 250 500 1,000 1,500 2,000 Feet

1:6,000

32°12'25.06"N

USGS The National Map: Orthoimagery. Data refreshed April, 2019.

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone X
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped
		The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/7/2020 at 6:17:08 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Laboratory Analytical Results Summary
Oxy, Mesa Verde Wolfcamp #4H (3-30-20)

		Sample ID	North @ Surface	East @ Surface	West @ Surface	South @ Surface
Analyte	Method	Date	6/17/20	6/17/20	6/17/20	6/17/20
			mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	<0.300
Chloride	SM4500Cl-B		240	304	256	192
GRO	TPH 8015M		<10.0	<10.0	<10.0	<10.0
DRO	TPH 8015M		<10.0	<10.0	<10.0	<10.0
EXT DRO	TPH 8015M		<10.0	<10.0	<10.0	<10.0

		Sample ID	SP1 @ Surface	SP1 @ 1'	SP1 @ 2'
Analyte	Method	Date	6/17/20	6/17/20	6/17/20
			mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	n/a
Toluene	BTEX 8021B		<0.050	<0.050	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	n/a
Chloride	SM4500Cl-B		105000	384	144
GRO	TPH 8015M		<10.0	<10.0	n/a
DRO	TPH 8015M		326	<10.0	n/a
EXT DRO	TPH 8015M		<10.0	<10.0	n/a

		Sample ID	SP2 @ Surface	SP2 @ 1'	SP2 @ 2'
Analyte	Method	Date	6/17/20	6/17/20	6/17/20
			mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	n/a
Toluene	BTEX 8021B		<0.050	<0.050	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	n/a
Chloride	SM4500Cl-B		89300	288	608
GRO	TPH 8015M		<10.0	<10.0	n/a
DRO	TPH 8015M		1030	<10.0	n/a
EXT DRO	TPH 8015M		67.9	<10.0	n/a

		Sample ID	SP3 @ Surface	SP3 @ 1'	SP3 @ 2'
Analyte	Method	Date	6/17/20	6/17/20	6/17/20
			mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	n/a
Toluene	BTEX 8021B		<0.050	<0.050	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	n/a
Chloride	SM4500Cl-B		127000	288	224
GRO	TPH 8015M		<10.0	<10.0	n/a
DRO	TPH 8015M		221	<10.0	n/a
EXT DRO	TPH 8015M		<10.0	<10.0	n/a

Laboratory Analytical Results Summary
Oxy, Mesa Verde Wolfcamp #4H (3-30-20)

		Sample ID	SP4 @ Surface	SP4 @ 1'	SP4 @ 2'
Analyte	Method	Date	6/17/20	6/17/20	6/17/20
			mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	n/a
Toluene	BTEX 8021B		<0.050	<0.050	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	n/a
Chloride	SM4500Cl-B		28000	240	112
GRO	TPH 8015M		<10.0	<10.0	n/a
DRO	TPH 8015M		890	<10.0	n/a
EXT DRO	TPH 8015M		56.9	<10.0	n/a

		Sample ID	SP5 @ Surface	SP5 @ 1'	SP5 @ 2'
Analyte	Method	Date	6/17/20	6/17/20	6/17/20
			mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	n/a
Toluene	BTEX 8021B		<0.050	<0.050	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	n/a
Chloride	SM4500Cl-B		25600	32.0	672
GRO	TPH 8015M		<10.0	<10.0	n/a
DRO	TPH 8015M		964	<10.0	n/a
EXT DRO	TPH 8015M		78.2	<10.0	n/a



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

June 24, 2020

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: MESA VERDE WOLFCAMP #4H

Enclosed are the results of analyses for samples received by the laboratory on 06/19/20 11:15.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-20-13. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	06/19/2020	Sampling Date:	06/17/2020
Reported:	06/24/2020	Sampling Type:	Soil
Project Name:	MESA VERDE WOLFCAMP #4H	Sampling Condition:	Cool & Intact
Project Number:	(3-30-20)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - LEA COUNTY, NM		

Sample ID: NORTH @ SURFACE (H001632-01)

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/22/2020	ND	1.97	98.4	2.00	4.98	
Toluene*	<0.050	0.050	06/22/2020	ND	1.99	99.5	2.00	5.56	
Ethylbenzene*	<0.050	0.050	06/22/2020	ND	2.05	102	2.00	6.67	
Total Xylenes*	<0.150	0.150	06/22/2020	ND	5.96	99.3	6.00	6.81	
Total BTEX	<0.300	0.300	06/22/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.4 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	240	16.0	06/22/2020	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/20/2020	ND	216	108	200	7.38	
DRO >C10-C28*	<10.0	10.0	06/20/2020	ND	220	110	200	6.73	
EXT DRO >C28-C36	<10.0	10.0	06/20/2020	ND					

Surrogate: 1-Chlorooctane 117 % 44.3-144

Surrogate: 1-Chlorooctadecane 125 % 42.2-156

Cardinal Laboratories

*=Accredited Analyte

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 client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	06/19/2020	Sampling Date:	06/17/2020
Reported:	06/24/2020	Sampling Type:	Soil
Project Name:	MESA VERDE WOLFCAMP #4H	Sampling Condition:	Cool & Intact
Project Number:	(3-30-20)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - LEA COUNTY, NM		

Sample ID: EAST @ SURFACE (H001632-02)

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	06/22/2020	ND	1.97	98.4	2.00	4.98		
Toluene*	<0.050	0.050	06/22/2020	ND	1.99	99.5	2.00	5.56		
Ethylbenzene*	<0.050	0.050	06/22/2020	ND	2.05	102	2.00	6.67		
Total Xylenes*	<0.150	0.150	06/22/2020	ND	5.96	99.3	6.00	6.81		
Total BTX	<0.300	0.300	06/22/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.0 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	304	16.0	06/22/2020	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	06/20/2020	ND	216	108	200	7.38	
DRO >C10-C28*	<10.0	10.0	06/20/2020	ND	220	110	200	6.73	
EXT DRO >C28-C36	<10.0	10.0	06/20/2020	ND					

Surrogate: 1-Chlorooctane 101 % 44.3-144

Surrogate: 1-Chlorooctadecane 110 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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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:	06/19/2020	Sampling Date:	06/17/2020
Reported:	06/24/2020	Sampling Type:	Soil
Project Name:	MESA VERDE WOLFCAMP #4H	Sampling Condition:	Cool & Intact
Project Number:	(3-30-20)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - LEA COUNTY, NM		

Sample ID: WEST @ SURFACE (H001632-03)

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	06/22/2020	ND	1.97	98.4	2.00	4.98	
Toluene*	<0.050	0.050	06/22/2020	ND	1.99	99.5	2.00	5.56	
Ethylbenzene*	<0.050	0.050	06/22/2020	ND	2.05	102	2.00	6.67	
Total Xylenes*	<0.150	0.150	06/22/2020	ND	5.96	99.3	6.00	6.81	
Total BTX	<0.300	0.300	06/22/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.9 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	256	16.0	06/22/2020	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	06/20/2020	ND	216	108	200	7.38	
DRO >C10-C28*	<10.0	10.0	06/20/2020	ND	220	110	200	6.73	
EXT DRO >C28-C36	<10.0	10.0	06/20/2020	ND					

Surrogate: 1-Chlorooctane 108 % 44.3-144

Surrogate: 1-Chlorooctadecane 117 % 42.2-156

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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:	06/19/2020	Sampling Date:	06/17/2020
Reported:	06/24/2020	Sampling Type:	Soil
Project Name:	MESA VERDE WOLFCAMP #4H	Sampling Condition:	Cool & Intact
Project Number:	(3-30-20)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - LEA COUNTY, NM		

Sample ID: SOUTH @ SURFACE (H001632-04)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/22/2020	ND	1.97	98.4	2.00	4.98		
Toluene*	<0.050	0.050	06/22/2020	ND	1.99	99.5	2.00	5.56		
Ethylbenzene*	<0.050	0.050	06/22/2020	ND	2.05	102	2.00	6.67		
Total Xylenes*	<0.150	0.150	06/22/2020	ND	5.96	99.3	6.00	6.81		
Total BTEx	<0.300	0.300	06/22/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 97.1 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	192	16.0	06/22/2020	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	06/20/2020	ND	216	108	200	7.38	
DRO >C10-C28*	<10.0	10.0	06/20/2020	ND	220	110	200	6.73	
EXT DRO >C28-C36	<10.0	10.0	06/20/2020	ND					

Surrogate: 1-Chlorooctane 114 % 44.3-144

Surrogate: 1-Chlorooctadecane 124 % 42.2-156

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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:	06/19/2020	Sampling Date:	06/17/2020
Reported:	06/24/2020	Sampling Type:	Soil
Project Name:	MESA VERDE WOLFCAMP #4H	Sampling Condition:	Cool & Intact
Project Number:	(3-30-20)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - LEA COUNTY, NM		

Sample ID: SP 1 @ SURFACE (H001632-05)

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	06/22/2020	ND	1.97	98.4	2.00	4.98		
Toluene*	<0.050	0.050	06/22/2020	ND	1.99	99.5	2.00	5.56		
Ethylbenzene*	<0.050	0.050	06/22/2020	ND	2.05	102	2.00	6.67		
Total Xylenes*	<0.150	0.150	06/22/2020	ND	5.96	99.3	6.00	6.81		
Total BTX	<0.300	0.300	06/22/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.5 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	105000	16.0	06/22/2020	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	06/20/2020	ND	216	108	200	7.38	
DRO >C10-C28*	326	10.0	06/20/2020	ND	220	110	200	6.73	
EXT DRO >C28-C36	<10.0	10.0	06/20/2020	ND					

Surrogate: 1-Chlorooctane 93.5 % 44.3-144

Surrogate: 1-Chlorooctadecane 124 % 42.2-156

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Analytical Results For:

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

Received:	06/19/2020	Sampling Date:	06/17/2020
Reported:	06/24/2020	Sampling Type:	Soil
Project Name:	MESA VERDE WOLFCAMP #4H	Sampling Condition:	Cool & Intact
Project Number:	(3-30-20)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - LEA COUNTY, NM		

Sample ID: SP 1 @ 1' (H001632-06)

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	06/22/2020	ND	1.97	98.4	2.00	4.98		
Toluene*	<0.050	0.050	06/22/2020	ND	1.99	99.5	2.00	5.56		
Ethylbenzene*	<0.050	0.050	06/22/2020	ND	2.05	102	2.00	6.67		
Total Xylenes*	<0.150	0.150	06/22/2020	ND	5.96	99.3	6.00	6.81		
Total BTX	<0.300	0.300	06/22/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.4 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	384	16.0	06/22/2020	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	06/20/2020	ND	216	108	200	7.38	
DRO >C10-C28*	<10.0	10.0	06/20/2020	ND	220	110	200	6.73	
EXT DRO >C28-C36	<10.0	10.0	06/20/2020	ND					

Surrogate: 1-Chlorooctane 120 % 44.3-144

Surrogate: 1-Chlorooctadecane 126 % 42.2-156

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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: 06/19/2020
 Reported: 06/24/2020
 Project Name: MESA VERDE WOLFCAMP #4H
 Project Number: (3-30-20)
 Project Location: OXY - LEA COUNTY, NM

Sampling Date: 06/17/2020
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 1 @ 2' (H001632-07)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	144	16.0	06/22/2020	ND	416	104	400	3.77		

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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:	06/19/2020	Sampling Date:	06/17/2020
Reported:	06/24/2020	Sampling Type:	Soil
Project Name:	MESA VERDE WOLFCAMP #4H	Sampling Condition:	Cool & Intact
Project Number:	(3-30-20)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - LEA COUNTY, NM		

Sample ID: SP 2 @ SURFACE (H001632-08)

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	06/22/2020	ND	1.97	98.4	2.00	4.98		
Toluene*	<0.050	0.050	06/22/2020	ND	1.99	99.5	2.00	5.56		
Ethylbenzene*	<0.050	0.050	06/22/2020	ND	2.05	102	2.00	6.67		
Total Xylenes*	<0.150	0.150	06/22/2020	ND	5.96	99.3	6.00	6.81		
Total BTEX	<0.300	0.300	06/22/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.6 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	89300	16.0	06/22/2020	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/20/2020	ND	216	108	200	7.38	
DRO >C10-C28*	1030	10.0	06/20/2020	ND	220	110	200	6.73	
EXT DRO >C28-C36	67.9	10.0	06/20/2020	ND					

Surrogate: 1-Chlorooctane 107 % 44.3-144

Surrogate: 1-Chlorooctadecane 205 % 42.2-156

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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:	06/19/2020	Sampling Date:	06/17/2020
Reported:	06/24/2020	Sampling Type:	Soil
Project Name:	MESA VERDE WOLFCAMP #4H	Sampling Condition:	Cool & Intact
Project Number:	(3-30-20)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - LEA COUNTY, NM		

Sample ID: SP 2 @ 1' (H001632-09)

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	06/22/2020	ND	1.97	98.4	2.00	4.98		
Toluene*	<0.050	0.050	06/22/2020	ND	1.99	99.5	2.00	5.56		
Ethylbenzene*	<0.050	0.050	06/22/2020	ND	2.05	102	2.00	6.67		
Total Xylenes*	<0.150	0.150	06/22/2020	ND	5.96	99.3	6.00	6.81		
Total BTX	<0.300	0.300	06/22/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.2 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	288	16.0	06/22/2020	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	06/20/2020	ND	216	108	200	7.38	
DRO >C10-C28*	<10.0	10.0	06/20/2020	ND	220	110	200	6.73	
EXT DRO >C28-C36	<10.0	10.0	06/20/2020	ND					

Surrogate: 1-Chlorooctane 113 % 44.3-144

Surrogate: 1-Chlorooctadecane 120 % 42.2-156

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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:	06/19/2020	Sampling Date:	06/17/2020
Reported:	06/24/2020	Sampling Type:	Soil
Project Name:	MESA VERDE WOLFCAMP #4H	Sampling Condition:	Cool & Intact
Project Number:	(3-30-20)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - LEA COUNTY, NM		

Sample ID: SP 2 @ 2' (H001632-10)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	608	16.0	06/22/2020	ND	416	104	400	3.77	

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Analytical Results For:

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Received:	06/19/2020	Sampling Date:	06/17/2020
Reported:	06/24/2020	Sampling Type:	Soil
Project Name:	MESA VERDE WOLFCAMP #4H	Sampling Condition:	Cool & Intact
Project Number:	(3-30-20)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - LEA COUNTY, NM		

Sample ID: SP 3 @ SURFACE (H001632-11)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/20/2020	ND	2.21	111	2.00	1.62	GC-NC
Toluene*	<0.050	0.050	06/20/2020	ND	1.97	98.3	2.00	3.66	
Ethylbenzene*	<0.050	0.050	06/20/2020	ND	1.95	97.3	2.00	3.44	
Total Xylenes*	<0.150	0.150	06/20/2020	ND	5.61	93.5	6.00	3.83	
Total BTEX	<0.300	0.300	06/20/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	127000	16.0	06/22/2020	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	06/20/2020	ND	216	108	200	7.38	
DRO >C10-C28*	221	10.0	06/20/2020	ND	220	110	200	6.73	
EXT DRO >C28-C36	<10.0	10.0	06/20/2020	ND					

Surrogate: 1-Chlorooctane 94.8 % 44.3-144

Surrogate: 1-Chlorooctadecane 118 % 42.2-156

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Analytical Results For:

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 Fax To: (575) 397-0397

Received:	06/19/2020	Sampling Date:	06/17/2020
Reported:	06/24/2020	Sampling Type:	Soil
Project Name:	MESA VERDE WOLFCAMP #4H	Sampling Condition:	Cool & Intact
Project Number:	(3-30-20)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - LEA COUNTY, NM		

Sample ID: SP 3 @ 1' (H001632-12)

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	06/20/2020	ND	2.21	111	2.00	1.62	GC-NC
Toluene*	<0.050	0.050	06/20/2020	ND	1.97	98.3	2.00	3.66	
Ethylbenzene*	<0.050	0.050	06/20/2020	ND	1.95	97.3	2.00	3.44	
Total Xylenes*	<0.150	0.150	06/20/2020	ND	5.61	93.5	6.00	3.83	
Total BTX	<0.300	0.300	06/20/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	06/22/2020	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	06/20/2020	ND	216	108	200	7.38	
DRO >C10-C28*	<10.0	10.0	06/20/2020	ND	220	110	200	6.73	
EXT DRO >C28-C36	<10.0	10.0	06/20/2020	ND					

Surrogate: 1-Chlorooctane 120 % 44.3-144

Surrogate: 1-Chlorooctadecane 127 % 42.2-156

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Celey D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

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

Received:	06/19/2020	Sampling Date:	06/17/2020
Reported:	06/24/2020	Sampling Type:	Soil
Project Name:	MESA VERDE WOLFCAMP #4H	Sampling Condition:	Cool & Intact
Project Number:	(3-30-20)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - LEA COUNTY, NM		

Sample ID: SP 3 @ 2' (H001632-13)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	224	16.0	06/22/2020	ND	416	104	400	3.77		

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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:	06/19/2020	Sampling Date:	06/17/2020
Reported:	06/24/2020	Sampling Type:	Soil
Project Name:	MESA VERDE WOLFCAMP #4H	Sampling Condition:	Cool & Intact
Project Number:	(3-30-20)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - LEA COUNTY, NM		

Sample ID: SP 4 @ SURFACE (H001632-14)

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	06/20/2020	ND	2.21	111	2.00	1.62	GC-NC
Toluene*	<0.050	0.050	06/20/2020	ND	1.97	98.3	2.00	3.66	
Ethylbenzene*	<0.050	0.050	06/20/2020	ND	1.95	97.3	2.00	3.44	
Total Xylenes*	<0.150	0.150	06/20/2020	ND	5.61	93.5	6.00	3.83	
Total BTX	<0.300	0.300	06/20/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	28000	16.0	06/22/2020	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	06/20/2020	ND	216	108	200	7.38	
DRO >C10-C28*	890	10.0	06/20/2020	ND	220	110	200	6.73	
EXT DRO >C28-C36	56.9	10.0	06/20/2020	ND					

Surrogate: 1-Chlorooctane 86.1 % 44.3-144

Surrogate: 1-Chlorooctadecane 141 % 42.2-156

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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:	06/19/2020	Sampling Date:	06/17/2020
Reported:	06/24/2020	Sampling Type:	Soil
Project Name:	MESA VERDE WOLFCAMP #4H	Sampling Condition:	Cool & Intact
Project Number:	(3-30-20)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - LEA COUNTY, NM		

Sample ID: SP 4 @ 1' (H001632-15)

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	06/20/2020	ND	2.21	111	2.00	1.62	GC-NC	
Toluene*	<0.050	0.050	06/20/2020	ND	1.97	98.3	2.00	3.66		
Ethylbenzene*	<0.050	0.050	06/20/2020	ND	1.95	97.3	2.00	3.44		
Total Xylenes*	<0.150	0.150	06/20/2020	ND	5.61	93.5	6.00	3.83		
Total BTEX	<0.300	0.300	06/20/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	240	16.0	06/22/2020	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	06/20/2020	ND	216	108	200	7.38	
DRO >C10-C28*	<10.0	10.0	06/20/2020	ND	220	110	200	6.73	
EXT DRO >C28-C36	<10.0	10.0	06/20/2020	ND					

Surrogate: 1-Chlorooctane 113 % 44.3-144

Surrogate: 1-Chlorooctadecane 124 % 42.2-156

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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:	06/19/2020	Sampling Date:	06/17/2020
Reported:	06/24/2020	Sampling Type:	Soil
Project Name:	MESA VERDE WOLFCAMP #4H	Sampling Condition:	Cool & Intact
Project Number:	(3-30-20)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - LEA COUNTY, NM		

Sample ID: SP 4 @ 2' (H001632-16)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	112	16.0	06/22/2020	ND	416	104	400	3.77		

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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:	06/19/2020	Sampling Date:	06/17/2020
Reported:	06/24/2020	Sampling Type:	Soil
Project Name:	MESA VERDE WOLFCAMP #4H	Sampling Condition:	Cool & Intact
Project Number:	(3-30-20)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - LEA COUNTY, NM		

Sample ID: SP 5 @ SURFACE (H001632-17)

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	06/20/2020	ND	2.21	111	2.00	1.62	GC-NC
Toluene*	<0.050	0.050	06/20/2020	ND	1.97	98.3	2.00	3.66	
Ethylbenzene*	<0.050	0.050	06/20/2020	ND	1.95	97.3	2.00	3.44	
Total Xylenes*	<0.150	0.150	06/20/2020	ND	5.61	93.5	6.00	3.83	
Total BTEX	<0.300	0.300	06/20/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	25600	16.0	06/22/2020	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/20/2020	ND	216	108	200	7.38	
DRO >C10-C28*	964	10.0	06/20/2020	ND	220	110	200	6.73	
EXT DRO >C28-C36	78.2	10.0	06/20/2020	ND					

Surrogate: 1-Chlorooctane 109 % 44.3-144

Surrogate: 1-Chlorooctadecane 169 % 42.2-156

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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:	06/19/2020	Sampling Date:	06/17/2020
Reported:	06/24/2020	Sampling Type:	Soil
Project Name:	MESA VERDE WOLFCAMP #4H	Sampling Condition:	Cool & Intact
Project Number:	(3-30-20)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - LEA COUNTY, NM		

Sample ID: SP 5 @ 1' (H001632-18)

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	06/22/2020	ND	1.95	97.5	2.00	5.72		
Toluene*	<0.050	0.050	06/22/2020	ND	1.95	97.5	2.00	5.85		
Ethylbenzene*	<0.050	0.050	06/22/2020	ND	1.99	99.5	2.00	5.62		
Total Xylenes*	<0.150	0.150	06/22/2020	ND	5.80	96.6	6.00	5.46		
Total BTEX	<0.300	0.300	06/22/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.3 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	06/22/2020	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	06/20/2020	ND	216	108	200	7.38	
DRO >C10-C28*	<10.0	10.0	06/20/2020	ND	220	110	200	6.73	
EXT DRO >C28-C36	<10.0	10.0	06/20/2020	ND					

Surrogate: 1-Chlorooctane 119 % 44.3-144

Surrogate: 1-Chlorooctadecane 128 % 42.2-156

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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:	06/19/2020	Sampling Date:	06/17/2020
Reported:	06/24/2020	Sampling Type:	Soil
Project Name:	MESA VERDE WOLFCAMP #4H	Sampling Condition:	Cool & Intact
Project Number:	(3-30-20)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - LEA COUNTY, NM		

Sample ID: SP 5 @ 2' (H001632-19)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: GM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	672	16.0	06/22/2020	ND	416	104	400	3.77		

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Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
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.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
GC-NC	8260 confirmation analysis was performed; initial GC results were not supported by GC/MS analysis and are reported as ND.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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**CARDINAL LABORATORIES**

101 East Marland, Hobbs, NM 88240

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: BBC International, Inc.				BILL TO				ANALYSIS REQUEST																									
Project Manager: Cliff Brunson				P.O. #:																													
Address: P.O. Box 805				Company: OXY																													
City: Hobbs		State: NM Zip: 88241		Attn: WADE																													
Phone #: 575-397-6388		Fax #: 575-397-0397		Address:																													
Project #:		Project Owner: Oxy		City:																													
Project Name: Mesa Verde Wolfcamp #4H (3-30-20)				State: Zip:																													
Project Location: Lea County, NM				Phone #:																													
Sampler Name: Simon Rendon				Fax #:																													
FOR LAB USE ONLY																																	
Lab I.D.		Sample I.D.		(GRAB OR COMPOUND)		# CONTAINERS		MATRIX		PRESERV.		SAMPLING																					
				GROUNDWATER		WASTEWATER		SOIL		OIL		SLUDGE		OTHER :		ACID/BASE:		ICE / COOL		OTHER :		DATE		TIME		CL		BTX		TPH		EXT	
H001632				G		1																6/17/20		9:05 AM		✓		✓		✓			
1		North @ Surface																				6/17/20		9:14 AM		✓		✓		✓			
2		East @ Surface																				6/17/20		9:35 AM		✓		✓		✓			
3		West @ Surface																				6/17/20		9:51 AM		✓		✓		✓			
4		South @ Surface																				6/17/20		10:12 AM		✓		✓		✓			
5		SP1 @ Surface																				6/17/20		10:23 AM		✓		✓		✓			
6		SP1 @ 1'																				6/17/20		10:41 AM		✓		✓		✓			
7		SP1 @ 2'																				6/17/20		11:00 AM		✓		✓		✓			
8		SP2 @ Surface																				6/17/20		11:18 AM		✓		✓		✓			
9		SP2 @ 1'																				6/17/20		11:38 AM		✓		✓		✓			
10		SP2 @ 2'																				6/17/20		11:38 AM		✓		✓		✓			

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Relinquished By: <i>Simon Rendon</i>		Date: 6-19-20		Received By: <i>Braet Pena</i>		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Phone #:	
Time: 7:00 PM		Time: 7:00 PM		Time: 7:00 PM		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Fax #:	
Relinquished By: <i>Braet Pena</i>		Date: 6-19-20		Received By: <i>Tamara Eldredge</i>		REMARKS:			
Time: 8:00 PM		Time: 8:00 PM		Time: 8:00 PM					
Delivered By: (Circle One)		1115		Sample Condition		CHECKED BY: (Initials)			
Sampler - UPS - Bus - Other:		-1.2i #113		Cool Intact		✓			
				Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>					

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

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: BBC International, Inc.				BILL TO				ANALYSIS REQUEST																			
Project Manager: Cliff Brunson				P.O. #:																							
Address: P.O. Box 805				Company: OXY																							
City: Hobbs		State: NM		Zip: 88241		Attn: WADE																					
Phone #: 575-397-6388		Fax #: 575-397-0397		Address:		City:																					
Project #:		Project Owner: Oxy		State:		Zip:																					
Project Name: Mesa Verde Wolfcamp #4H (3-30-20)				Phone #:																							
Project Location: Lea County, NM				Fax #:																							
Sampler Name: Simon Rendon																											
FOR LAB USE ONLY																											
Lab I.D.		Sample I.D.		(GRAB OR C/COMP. # CONTAINERS)		MATRIX		PRESERV.		SAMPLING																	
						GROUNDWATER																					
						WASTEWATER																					
						SOIL																					
						OIL																					
						SLUDGE																					
						OTHER :																					
						ACID/BASE:																					
						ICE / COOL																					
						OTHER :																					
										DATE		TIME															
H001632																											
11		SP3 @ Surface										6/17/20		11:54 AM		✓											
12		SP3 @ 1'										6/17/20		12:42 PM		✓											
13		SP3 @ 2'										6/17/20		12:57 PM		✓											
14		SP4 @ Surface										6/17/20		1:12 PM		✓											
15		SP4 @ 1'										6/17/20		1:29 PM		✓											
16		SP4 @ 2'										6/17/20		1:41 PM		✓											
17		SP5 @ Surface										6/17/20		1:55 PM		✓											
18		SP5 @ 1'										6/17/20		2:12 PM		✓											
19		SP5 @ 2'										6/17/20		2:26 PM		✓											

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

Relinquished By: <i>Simon Rendon</i>		Date: 6-19-20		Received By: <i>Maat Kera</i>		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Phone #:	
Time: 10:00 AM						Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Fax #:	
Relinquished By: <i>Maat Kera</i>		Date: 6-19-20		Received By: <i>Samara Olden</i>		REMARKS:			
Time: 8:00 AM									
Delivered By: (Circle One)				Sample Condition		CHECKED BY:			
Sampler - UPS - Bus - Other: 1.2° #113				Cool Intact		(Initials)			
				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		TO.			

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