



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/REMEDIATION WORKPLAN

### OXY – CEDAR CANYON WTF (Leak Date: 6/29/19)

#### Incident Reference #: NRM1935051494

This delineation workplan and remediation proposal addresses the releases associated with Incident Reference #: NRM1935051494.

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, SP4, and SP5 (WHITE shade on diagram) will require zero remediation. The leak area near SP3 (RED shade on diagram) will be excavated to a depth of 3 feet. The leak area near SP2 (PURPLE shade on diagram) will be excavated to a depth of 1 foot.***

***Bottom and sidewall confirmation samples will be collected every 50 feet. The estimated amount of soil to be excavated is 206 cubic yards. The remediation will be completed within 90 days of approval.***

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

State of New Mexico  
Oil Conservation Division

Page 3

Incident ID	
District RP	NRM1935051494
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?	51 (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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input checked="" type="checkbox"/> Yes <input 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

State of New Mexico  
Oil Conservation Division

Page 4

Incident ID	
District RP	NRM1935051494
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 Coordinator  
 Signature: *Wade Dittrich* Date: 2-10-2020  
 email: wade\_dittrich@oxy.com Telephone: (575) 390-2828

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

Form C-141

State of New Mexico  
Oil Conservation Division

Page 5

Incident ID	
District RP	NRM1935051494
Facility ID	
Application ID	

## Remediation Plan

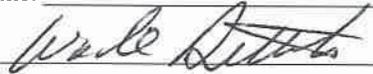
**Remediation Plan Checklist:** *Each of the following items must be included in the plan.*

- 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: 2-10-2020  
 email: wade\_dittrich@oxy.com Telephone: (575) 390-2828

**OCD Only**

Received by: \_\_\_\_\_ Date: \_\_\_\_\_

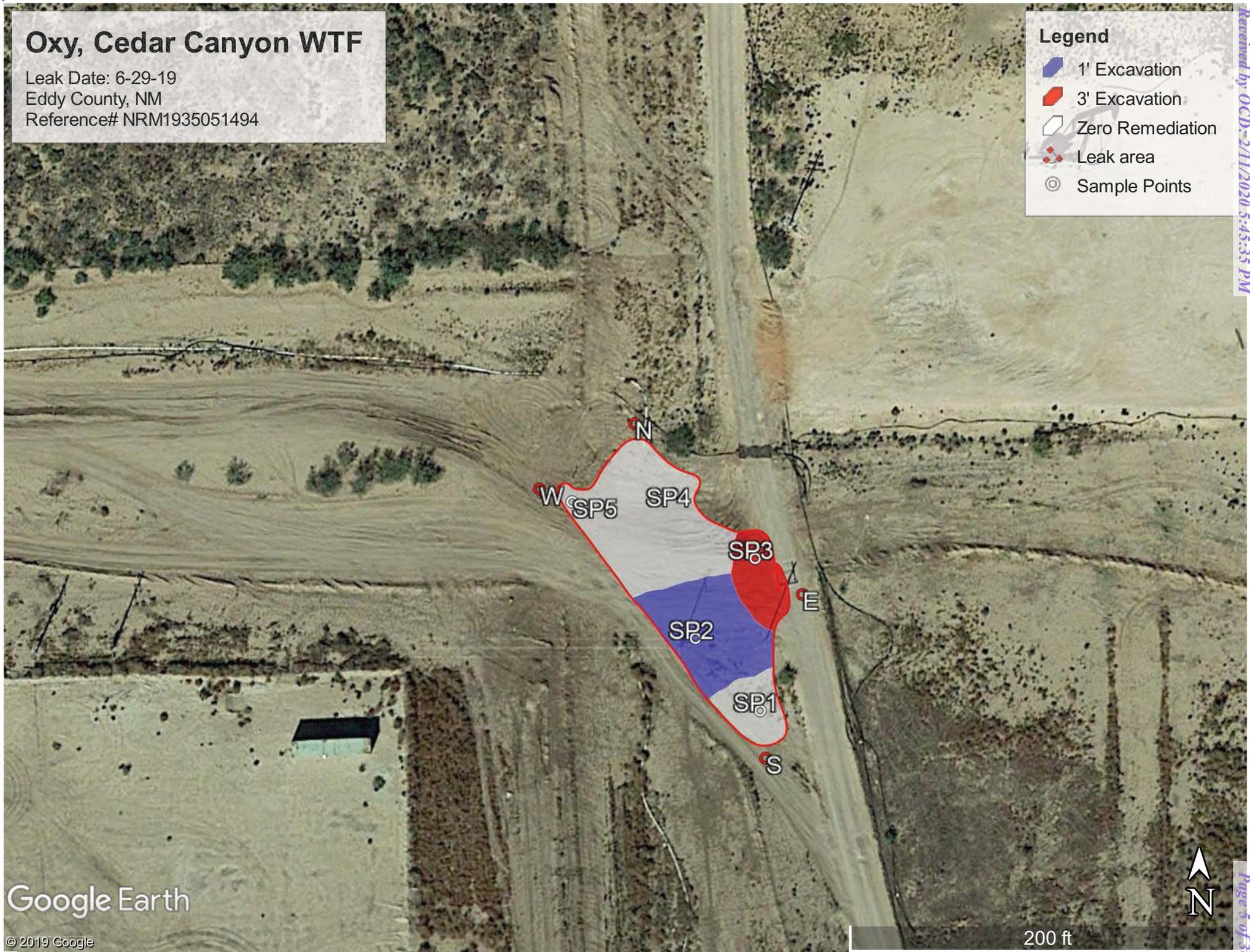
- Approved       Approved with Attached Conditions of Approval       Denied       Deferral Approved

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

# Oxy, Cedar Canyon WTF

Leak Date: 6-29-19  
Eddy County, NM  
Reference# NRM1935051494

- Legend**
- 1' Excavation
  - 3' Excavation
  - Zero Remediation
  - Leak area
  - Sample Points



Google Earth

© 2019 Google

200 ft



Reviewed by: OCD-2/11/2020 5:45:35 PM

Page 5 of 16

## Oxy, Cedar Canyon WTF 6-29-19

### Sample Points

SP1, N 32.22231 W -103.97906

SP2, N 32.22241 W -103.97916

SP3, N 32.22252 W -103.97907

SP4, N 32.22261 W -103.97920

SP5, N 32.22259 W -103.97937

North, N 32.22270 W -103.97926

East, N 32.22247 W -103.97899

West, N 32.22261 W -103.97942

South, N 32.22224 W -103.97905

**Oxy, Cedar Canyon WTF**  
**U/L D, Section 15, T24S, R29E**  
**Groundwater: 75'-100'**





USGS Home  
 Contact USGS  
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National Water Information System: Web Interface

[USGS Water Resources](#)

Data Category:  Geographic Area:

Click to hide News Bulletins

- [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 = 

- 321355104012001

Minimum number of levels = 1

[Save file of selected sites](#) to local disk for future upload

**USGS 321355104012001 24S.29E.07.14444**

Eddy County, New Mexico  
 Latitude 32°13'55", Longitude 104°01'20" NAD27  
 Land-surface elevation 2,983 feet above NAVD88  
 The depth of the well is 160 feet below land surface.  
 This well is completed in the Castile Formation (312CSTL) local aquifer.

**Output formats**

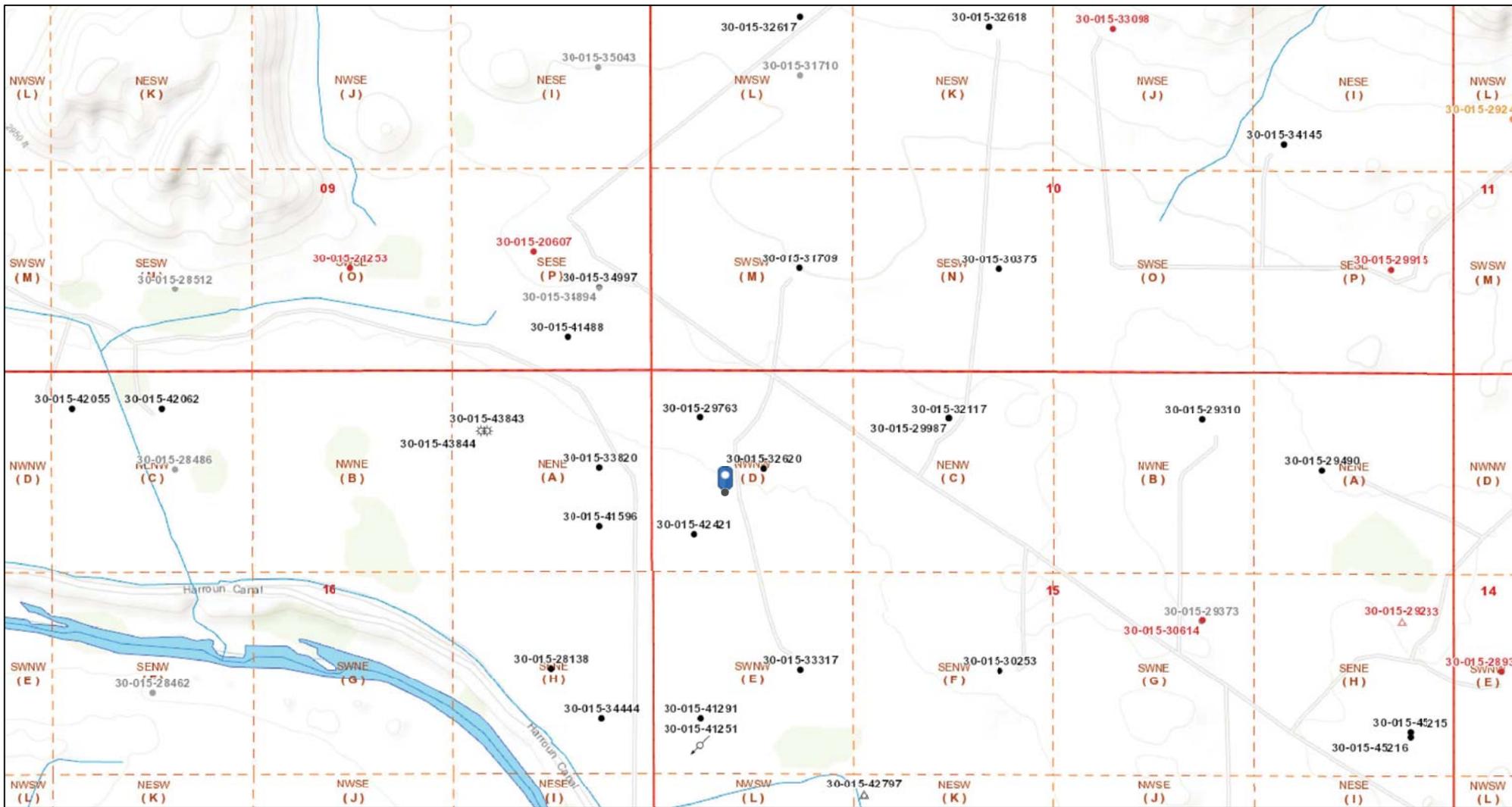
<a href="#">Table of data</a>
<a href="#">Tab-separated data</a>
<a href="#">Graph of data</a>
<a href="#">Reselect period</a>

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 measurement
1983-02-01		D	47.14				2		U	
1987-10-16		D	51.84				2		U	
1988-02-11		D	52.19				2		U	
1992-10-20		D	51.78				2		S	

**Explanation**

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level accuracy	2	Water level accuracy to nearest hundredth of a foot
Status		The reported water-level measurement represents a static level
Method of measurement	S	Steel-tape measurement.
Method of measurement	U	Unknown method.
Measuring agency		Not determined
Source of measurement	U	Source is unknown.
Water-level approval status	A	Approved for publication -- Processing and review completed.

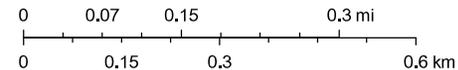
# Oxy, Cedar Canyon WTF (6-29-19) 1,900 ft to h2o



2/10/2020 3:38:16 PM

1:9,028

- |                     |                            |                                  |                                 |   |
|---------------------|----------------------------|----------------------------------|---------------------------------|---|
| Wells - Large Scale | CO2, Temporarily Abandoned | Injection, Active                | Oil, Cancelled                  | Salt Water Injection, New                   |
| undefined           | Gas, Active                | Injection, Cancelled             | Oil, New                        | Salt Water Injection, Plugged               |
| Miscellaneous       | Gas, Cancelled             | Injection, New                   | Oil, Plugged                    | Salt Water Injection, Temporarily Abandoned |
| CO2, Active         | Gas, New                   | Injection, Plugged               | Oil, Temporarily Abandoned      | Water, Active                               |
| CO2, Cancelled      | Gas, Plugged               | Injection, Temporarily Abandoned | Salt Water Injection, Active    | Water, Cancelled                            |
| CO2, New            | Gas, Temporarily Abandoned | Oil, Active                      | Salt Water Injection, Cancelled | Water, New                                  |
| CO2, Plugged        |                            |                                  |                                 |   |



Oil Conservation Division of the New Mexico Energy, Minerals and Natural Resources Department., Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI,

# Oxy, Cedar Canyon WTF

Leak date: 6/29/19  
Eddy County, NM

## BLM CAVE KARST MAP

### Legend

-  Leak area
-  Medium potential



Google Earth

© 2018 Google



2000 ft

# National Flood Hazard Layer FIRMette



32°13'36.83"N



0 250 500 1,000 1,500 2,000 Feet 1:6,000

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

32°13'6.39"N

## 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**
    - 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**
    - 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
    - Hydrographic Feature
  
  - 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 9/10/2019 at 6:53:21 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.

Received by: OCD: 2/18/2020 5:45:35 PM

Page 11 of 36

Laboratory Analytical Results Summary  
Oxy, Cedar Canyon WTF 6-29-19

		Sample ID	North @ Surface	East @ Surface	West @ Surface	South @ Surface
Analyte	Method	Date	12/24/19	12/24/19	12/24/19	12/24/19
			mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.025	<0.025	<0.025	<0.025
Toluene	BTEX 8021B		<0.025	<0.025	<0.025	<0.025
Ethylbenzene	BTEX 8021B		<0.025	<0.025	<0.025	<0.025
Total Xylenes	BTEX 8021B		<0.075	<0.075	<0.075	<0.075
Total BTEX	BTEX 8021B		<0.150	<0.150	<0.150	<0.150
Chloride	SM4500Cl-B		32.0	32.0	32.0	<16.0
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	12/24/19	12/24/19	12/24/19
			mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.025	<0.025	n/a
Toluene	BTEX 8021B		<0.025	<0.025	n/a
Ethylbenzene	BTEX 8021B		<0.025	<0.025	n/a
Total Xylenes	BTEX 8021B		<0.075	<0.075	n/a
Total BTEX	BTEX 8021B		<0.150	<0.150	n/a
Chloride	SM4500Cl-B		368	48.0	32.0
GRO	TPH 8015M		<10.0	<10.0	n/a
DRO	TPH 8015M		<10.0	<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	12/24/19	12/24/19	12/24/19
			mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.025	0.035	n/a
Toluene	BTEX 8021B		<0.025	0.078	n/a
Ethylbenzene	BTEX 8021B		<0.025	0.030	n/a
Total Xylenes	BTEX 8021B		<0.075	<0.075	n/a
Total BTEX	BTEX 8021B		<0.150	0.202	n/a
Chloride	SM4500Cl-B		720	80.0	17.0
GRO	TPH 8015M		<10.0	<10.0	n/a
DRO	TPH 8015M		<10.0	<10.0	n/a
EXT DRO	TPH 8015M		<10.0	<10.0	n/a

		Sample ID	SP3 @ Surface	SP3 @ 1'	SP3 @ 2'	SP3 @ 3'	SP3 @ 4'
Analyte	Method	Date	12/24/19	12/24/19	12/24/19	12/27/19	12/27/19
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.025	<0.025	n/a	n/a	n/a
Toluene	BTEX 8021B		<0.025	<0.025	n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		<0.025	<0.025	n/a	n/a	n/a
Total Xylenes	BTEX 8021B		<0.075	<0.075	n/a	n/a	n/a
Total BTEX	BTEX 8021B		<0.150	<0.150	n/a	n/a	n/a
Chloride	SM4500Cl-B		80.0	1020	656	80.0	32.0
GRO	TPH 8015M		<10.0	<10.0	n/a	n/a	n/a
DRO	TPH 8015M		<10.0	<10.0	n/a	n/a	n/a
EXT DRO	TPH 8015M		<10.0	<10.0	n/a	n/a	n/a

		Sample ID	SP4 @ Surface	SP4 @ 1'	SP4 @ 2'
Analyte	Method	Date	12/27/19	12/27/19	12/27/19
			mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.025	<0.025	n/a
Toluene	BTEX 8021B		<0.025	<0.025	n/a
Ethylbenzene	BTEX 8021B		<0.025	<0.025	n/a
Total Xylenes	BTEX 8021B		<0.075	<0.075	n/a
Total BTEX	BTEX 8021B		<0.150	<0.150	n/a
Chloride	SM4500Cl-B		80.0	64.0	32.0
GRO	TPH 8015M		<10.0	<10.0	n/a
DRO	TPH 8015M		<10.0	<10.0	n/a
EXT DRO	TPH 8015M		<10.0	<10.0	n/a

		Sample ID	SP5 @ Surface	SP5 @ 1'	SP5 @ 2'	SP5 @ 3'
Analyte	Method	Date	12/27/19	12/27/19	12/27/19	12/27/19
			mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.025	<0.025	n/a	n/a
Toluene	BTEX 8021B		<0.025	<0.025	n/a	n/a
Ethylbenzene	BTEX 8021B		<0.025	<0.025	n/a	n/a
Total Xylenes	BTEX 8021B		<0.075	<0.075	n/a	n/a
Total BTEX	BTEX 8021B		<0.150	<0.150	n/a	n/a
Chloride	SM4500Cl-B		96.0	336	80.0	48.0
GRO	TPH 8015M		<10.0	<10.0	n/a	n/a
DRO	TPH 8015M		<10.0	<10.0	n/a	n/a
EXT DRO	TPH 8015M		<10.0	<10.0	n/a	n/a



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

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January 09, 2020

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: CEDAR CANYON WTF

Enclosed are the results of analyses for samples received by the laboratory on 01/03/20 13:50.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-19-12. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

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:	01/03/2020	Sampling Date:	12/24/2019
Reported:	01/09/2020	Sampling Type:	Soil
Project Name:	CEDAR CANYON WTF	Sampling Condition:	Cool & Intact
Project Number:	06-29-19	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: NORTH @ SURFACE (H00019-01)**

BTEX 8260B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	01/06/2020	ND	2.10	105	2.00	1.38		
Toluene*	<0.025	0.025	01/06/2020	ND	2.09	104	2.00	3.19		
Ethylbenzene*	<0.025	0.025	01/06/2020	ND	2.15	107	2.00	2.92		
Total Xylenes*	<0.075	0.075	01/06/2020	ND	6.39	107	6.00	3.64		
Total BTEX	<0.150	0.150	01/06/2020	ND						

Surrogate: Dibromofluoromethane 105 % 90.4-111

Surrogate: Toluene-d8 98.0 % 85.3-114

Surrogate: 4-Bromofluorobenzene 90.9 % 80.1-121

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	01/06/2020	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	01/07/2020	ND	198	99.0	200	5.88		
DRO >C10-C28*	<10.0	10.0	01/07/2020	ND	227	113	200	6.34		
EXT DRO >C28-C36	<10.0	10.0	01/07/2020	ND						

Surrogate: 1-Chlorooctane 64.2 % 41-142

Surrogate: 1-Chlorooctadecane 65.5 % 37.6-147

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:	01/03/2020	Sampling Date:	12/24/2019
Reported:	01/09/2020	Sampling Type:	Soil
Project Name:	CEDAR CANYON WTF	Sampling Condition:	Cool & Intact
Project Number:	06-29-19	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: EAST @ SURFACE (H000019-02)**

BTEX 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	01/06/2020	ND	2.10	105	2.00	1.38	
Toluene*	<0.025	0.025	01/06/2020	ND	2.09	104	2.00	3.19	
Ethylbenzene*	<0.025	0.025	01/06/2020	ND	2.15	107	2.00	2.92	
Total Xylenes*	<0.075	0.075	01/06/2020	ND	6.39	107	6.00	3.64	
Total BTEX	<0.150	0.150	01/06/2020	ND					

Surrogate: Dibromofluoromethane 105 % 90.4-111

Surrogate: Toluene-d8 98.2 % 85.3-114

Surrogate: 4-Bromofluorobenzene 90.8 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>32.0</b>	16.0	01/06/2020	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	01/07/2020	ND	198	99.0	200	5.88	
DRO >C10-C28*	<10.0	10.0	01/07/2020	ND	227	113	200	6.34	
EXT DRO >C28-C36	<10.0	10.0	01/07/2020	ND					

Surrogate: 1-Chlorooctane 66.2 % 41-142

Surrogate: 1-Chlorooctadecane 65.8 % 37.6-147

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\* = Accredited Analyte

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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:	01/03/2020	Sampling Date:	12/24/2019
Reported:	01/09/2020	Sampling Type:	Soil
Project Name:	CEDAR CANYON WTF	Sampling Condition:	Cool & Intact
Project Number:	06-29-19	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: WEST @ SURFACE (H00019-03)**

BTEX 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	01/06/2020	ND	2.10	105	2.00	1.38	
Toluene*	<0.025	0.025	01/06/2020	ND	2.09	104	2.00	3.19	
Ethylbenzene*	<0.025	0.025	01/06/2020	ND	2.15	107	2.00	2.92	
Total Xylenes*	<0.075	0.075	01/06/2020	ND	6.39	107	6.00	3.64	
Total BTEX	<0.150	0.150	01/06/2020	ND					

Surrogate: Dibromofluoromethane 105 % 90.4-111

Surrogate: Toluene-d8 98.2 % 85.3-114

Surrogate: 4-Bromofluorobenzene 92.8 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>32.0</b>	16.0	01/06/2020	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	01/07/2020	ND	210	105	200	14.4	
DRO >C10-C28*	<10.0	10.0	01/07/2020	ND	226	113	200	6.53	
EXT DRO >C28-C36	<10.0	10.0	01/07/2020	ND					

Surrogate: 1-Chlorooctane 83.1 % 41-142

Surrogate: 1-Chlorooctadecane 87.2 % 37.6-147

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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:	01/03/2020	Sampling Date:	12/24/2019
Reported:	01/09/2020	Sampling Type:	Soil
Project Name:	CEDAR CANYON WTF	Sampling Condition:	Cool & Intact
Project Number:	06-29-19	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: SOUTH @ SURFACE (H000019-04)**

BTEX 8260B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	01/06/2020	ND	2.10	105	2.00	1.38		
Toluene*	<0.025	0.025	01/06/2020	ND	2.09	104	2.00	3.19		
Ethylbenzene*	<0.025	0.025	01/06/2020	ND	2.15	107	2.00	2.92		
Total Xylenes*	<0.075	0.075	01/06/2020	ND	6.39	107	6.00	3.64		
Total BTEX	<0.150	0.150	01/06/2020	ND						

Surrogate: Dibromofluoromethane 105 % 90.4-111

Surrogate: Toluene-d8 97.3 % 85.3-114

Surrogate: 4-Bromofluorobenzene 91.7 % 80.1-121

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	01/06/2020	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	01/07/2020	ND	210	105	200	14.4		
DRO >C10-C28*	<10.0	10.0	01/07/2020	ND	226	113	200	6.53		
EXT DRO >C28-C36	<10.0	10.0	01/07/2020	ND						

Surrogate: 1-Chlorooctane 84.0 % 41-142

Surrogate: 1-Chlorooctadecane 89.8 % 37.6-147

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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:	01/03/2020	Sampling Date:	12/24/2019
Reported:	01/09/2020	Sampling Type:	Soil
Project Name:	CEDAR CANYON WTF	Sampling Condition:	Cool & Intact
Project Number:	06-29-19	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: SP 1 @ SURFACE (H00019-05)**

BTEX 8260B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	01/06/2020	ND	2.10	105	2.00	1.38		
Toluene*	<0.025	0.025	01/06/2020	ND	2.09	104	2.00	3.19		
Ethylbenzene*	<0.025	0.025	01/06/2020	ND	2.15	107	2.00	2.92		
Total Xylenes*	<0.075	0.075	01/06/2020	ND	6.39	107	6.00	3.64		
Total BTEX	<0.150	0.150	01/06/2020	ND						

Surrogate: Dibromofluoromethane 105 % 90.4-111

Surrogate: Toluene-d8 97.3 % 85.3-114

Surrogate: 4-Bromofluorobenzene 90.9 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>368</b>	16.0	01/06/2020	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	01/07/2020	ND	210	105	200	14.4		
DRO >C10-C28*	<10.0	10.0	01/07/2020	ND	226	113	200	6.53		
EXT DRO >C28-C36	<10.0	10.0	01/07/2020	ND						

Surrogate: 1-Chlorooctane 79.0 % 41-142

Surrogate: 1-Chlorooctadecane 82.9 % 37.6-147

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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:	01/03/2020	Sampling Date:	12/24/2019
Reported:	01/09/2020	Sampling Type:	Soil
Project Name:	CEDAR CANYON WTF	Sampling Condition:	Cool & Intact
Project Number:	06-29-19	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: SP 1 @ 1' (H00019-06)**

BTEX 8260B		mg/kg		Analyzed By: ms				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	01/06/2020	ND	2.10	105	2.00	1.38	
Toluene*	<0.025	0.025	01/06/2020	ND	2.09	104	2.00	3.19	
Ethylbenzene*	<0.025	0.025	01/06/2020	ND	2.15	107	2.00	2.92	
Total Xylenes*	<0.075	0.075	01/06/2020	ND	6.39	107	6.00	3.64	
Total BTEX	<0.150	0.150	01/06/2020	ND					

Surrogate: Dibromofluoromethane 105 % 90.4-111  
 Surrogate: Toluene-d8 119 % 85.3-114  
 Surrogate: 4-Bromofluorobenzene 92.8 % 80.1-121

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	01/06/2020	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	01/07/2020	ND	210	105	200	14.4	
DRO >C10-C28*	<10.0	10.0	01/07/2020	ND	226	113	200	6.53	
EXT DRO >C28-C36	<10.0	10.0	01/07/2020	ND					

Surrogate: 1-Chlorooctane 85.2 % 41-142  
 Surrogate: 1-Chlorooctadecane 90.8 % 37.6-147

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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:	01/03/2020	Sampling Date:	12/24/2019
Reported:	01/09/2020	Sampling Type:	Soil
Project Name:	CEDAR CANYON WTF	Sampling Condition:	Cool & Intact
Project Number:	06-29-19	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: SP 1 @ 2' (H000019-07)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>32.0</b>	16.0	01/06/2020	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:	01/03/2020	Sampling Date:	12/24/2019
Reported:	01/09/2020	Sampling Type:	Soil
Project Name:	CEDAR CANYON WTF	Sampling Condition:	Cool & Intact
Project Number:	06-29-19	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: SP 2 @ SURFACE (H000019-08)**

BTEX 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	01/06/2020	ND	2.10	105	2.00	1.38	
Toluene*	<0.025	0.025	01/06/2020	ND	2.09	104	2.00	3.19	
Ethylbenzene*	<0.025	0.025	01/06/2020	ND	2.15	107	2.00	2.92	
Total Xylenes*	<0.075	0.075	01/06/2020	ND	6.39	107	6.00	3.64	
Total BTEX	<0.150	0.150	01/06/2020	ND					

Surrogate: Dibromofluoromethane 107 % 90.4-111  
 Surrogate: Toluene-d8 97.1 % 85.3-114  
 Surrogate: 4-Bromofluorobenzene 92.0 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>720</b>	16.0	01/06/2020	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	01/07/2020	ND	210	105	200	14.4	
DRO >C10-C28*	<10.0	10.0	01/07/2020	ND	226	113	200	6.53	
EXT DRO >C28-C36	<10.0	10.0	01/07/2020	ND					

Surrogate: 1-Chlorooctane 82.9 % 41-142  
 Surrogate: 1-Chlorooctadecane 87.4 % 37.6-147

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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:	01/03/2020	Sampling Date:	12/24/2019
Reported:	01/09/2020	Sampling Type:	Soil
Project Name:	CEDAR CANYON WTF	Sampling Condition:	Cool & Intact
Project Number:	06-29-19	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: SP 2 @ 1' (H00019-09)**

BTEX 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Benzene*</b>	<b>0.035</b>	0.025	01/06/2020	ND	2.10	105	2.00	1.38	
<b>Toluene*</b>	<b>0.078</b>	0.025	01/06/2020	ND	2.09	104	2.00	3.19	
<b>Ethylbenzene*</b>	<b>0.030</b>	0.025	01/06/2020	ND	2.15	107	2.00	2.92	
Total Xylenes*	<0.075	0.075	01/06/2020	ND	6.39	107	6.00	3.64	
<b>Total BTEX</b>	<b>0.202</b>	0.150	01/06/2020	ND					

Surrogate: Dibromofluoromethane 105 % 90.4-111

Surrogate: Toluene-d8 96.8 % 85.3-114

Surrogate: 4-Bromofluorobenzene 90.0 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>80.0</b>	16.0	01/06/2020	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	01/07/2020	ND	210	105	200	14.4	
DRO >C10-C28*	<10.0	10.0	01/07/2020	ND	226	113	200	6.53	
EXT DRO >C28-C36	<10.0	10.0	01/07/2020	ND					

Surrogate: 1-Chlorooctane 82.6 % 41-142

Surrogate: 1-Chlorooctadecane 89.8 % 37.6-147

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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:	01/03/2020	Sampling Date:	12/24/2019
Reported:	01/09/2020	Sampling Type:	Soil
Project Name:	CEDAR CANYON WTF	Sampling Condition:	Cool & Intact
Project Number:	06-29-19	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: SP 2 @ 2' (H000019-10)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>64.0</b>	16.0	01/06/2020	ND	416	104	400	3.77	

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**Analytical Results For:**

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 Fax To: (575) 397-0397

Received:	01/03/2020	Sampling Date:	12/24/2019
Reported:	01/09/2020	Sampling Type:	Soil
Project Name:	CEDAR CANYON WTF	Sampling Condition:	Cool & Intact
Project Number:	06-29-19	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: SP 3 @ SURFACE (H000019-11)**

BTEX 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	01/06/2020	ND	2.10	105	2.00	1.38	
Toluene*	<0.025	0.025	01/06/2020	ND	2.09	104	2.00	3.19	
Ethylbenzene*	<0.025	0.025	01/06/2020	ND	2.15	107	2.00	2.92	
Total Xylenes*	<0.075	0.075	01/06/2020	ND	6.39	107	6.00	3.64	
Total BTEX	<0.150	0.150	01/06/2020	ND					

Surrogate: Dibromofluoromethane 104 % 90.4-111  
 Surrogate: Toluene-d8 98.7 % 85.3-114  
 Surrogate: 4-Bromofluorobenzene 90.5 % 80.1-121

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	01/06/2020	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	01/07/2020	ND	210	105	200	14.4	
DRO >C10-C28*	<10.0	10.0	01/07/2020	ND	226	113	200	6.53	
EXT DRO >C28-C36	<10.0	10.0	01/07/2020	ND					

Surrogate: 1-Chlorooctane 81.8 % 41-142  
 Surrogate: 1-Chlorooctadecane 89.7 % 37.6-147

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\*=Accredited Analyte

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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:	01/03/2020	Sampling Date:	12/24/2019
Reported:	01/09/2020	Sampling Type:	Soil
Project Name:	CEDAR CANYON WTF	Sampling Condition:	Cool & Intact
Project Number:	06-29-19	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: SP 3 @ 1' (H00019-12)**

BTEX 8260B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	01/06/2020	ND	2.10	105	2.00	1.38		
Toluene*	<0.025	0.025	01/06/2020	ND	2.09	104	2.00	3.19		
Ethylbenzene*	<0.025	0.025	01/06/2020	ND	2.15	107	2.00	2.92		
Total Xylenes*	<0.075	0.075	01/06/2020	ND	6.39	107	6.00	3.64		
Total BTEX	<0.150	0.150	01/06/2020	ND						

Surrogate: Dibromofluoromethane 108 % 90.4-111

Surrogate: Toluene-d8 96.8 % 85.3-114

Surrogate: 4-Bromofluorobenzene 89.6 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>1020</b>	16.0	01/06/2020	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	01/07/2020	ND	210	105	200	14.4		
DRO >C10-C28*	<10.0	10.0	01/07/2020	ND	226	113	200	6.53		
EXT DRO >C28-C36	<10.0	10.0	01/07/2020	ND						

Surrogate: 1-Chlorooctane 83.1 % 41-142

Surrogate: 1-Chlorooctadecane 89.1 % 37.6-147

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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:	01/03/2020	Sampling Date:	12/24/2019
Reported:	01/09/2020	Sampling Type:	Soil
Project Name:	CEDAR CANYON WTF	Sampling Condition:	Cool & Intact
Project Number:	06-29-19	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: SP 3 @ 2' (H000019-13)**

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	01/06/2020	ND	416	104	400	3.77	

**Sample ID: SP 3 @ 3' (H000019-14)**

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	01/06/2020	ND	416	104	400	3.77	

**Sample ID: SP 3 @ 4' (H000019-15)**

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	01/06/2020	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:	01/03/2020	Sampling Date:	12/27/2019
Reported:	01/09/2020	Sampling Type:	Soil
Project Name:	CEDAR CANYON WTF	Sampling Condition:	Cool & Intact
Project Number:	06-29-19	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: SP 4 @ SURFACE (H00019-16)**

BTEX 8260B		mg/kg		Analyzed By: ms				S-04		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	01/06/2020	ND	2.10	105	2.00	1.38		
Toluene*	<0.025	0.025	01/06/2020	ND	2.09	104	2.00	3.19		
Ethylbenzene*	<0.025	0.025	01/06/2020	ND	2.15	107	2.00	2.92		
Total Xylenes*	<0.075	0.075	01/06/2020	ND	6.39	107	6.00	3.64		
Total BTEX	<0.150	0.150	01/06/2020	ND						

Surrogate: Dibromofluoromethane 105 % 90.4-111

Surrogate: Toluene-d8 118 % 85.3-114

Surrogate: 4-Bromofluorobenzene 90.0 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>80.0</b>	16.0	01/06/2020	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	01/08/2020	ND	191	95.4	200	6.89		
DRO >C10-C28*	<10.0	10.0	01/08/2020	ND	220	110	200	2.66		
EXT DRO >C28-C36	<10.0	10.0	01/08/2020	ND						

Surrogate: 1-Chlorooctane 67.6 % 41-142

Surrogate: 1-Chlorooctadecane 68.8 % 37.6-147

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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:	01/03/2020	Sampling Date:	12/27/2019
Reported:	01/09/2020	Sampling Type:	Soil
Project Name:	CEDAR CANYON WTF	Sampling Condition:	Cool & Intact
Project Number:	06-29-19	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: SP 4 @ 1' (H00019-17)**

BTEX 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	01/06/2020	ND	2.10	105	2.00	1.38	
Toluene*	<0.025	0.025	01/06/2020	ND	2.09	104	2.00	3.19	
Ethylbenzene*	<0.025	0.025	01/06/2020	ND	2.15	107	2.00	2.92	
Total Xylenes*	<0.075	0.075	01/06/2020	ND	6.39	107	6.00	3.64	
Total BTEX	<0.150	0.150	01/06/2020	ND					

Surrogate: Dibromofluoromethane 107 % 90.4-111  
 Surrogate: Toluene-d8 96.1 % 85.3-114  
 Surrogate: 4-Bromofluorobenzene 89.1 % 80.1-121

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	01/06/2020	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	01/08/2020	ND	191	95.4	200	6.89	
DRO >C10-C28*	<10.0	10.0	01/08/2020	ND	220	110	200	2.66	
EXT DRO >C28-C36	<10.0	10.0	01/08/2020	ND					

Surrogate: 1-Chlorooctane 74.3 % 41-142  
 Surrogate: 1-Chlorooctadecane 75.0 % 37.6-147

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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:	01/03/2020	Sampling Date:	12/27/2019
Reported:	01/09/2020	Sampling Type:	Soil
Project Name:	CEDAR CANYON WTF	Sampling Condition:	Cool & Intact
Project Number:	06-29-19	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: SP 4 @ 2' (H000019-18)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>32.0</b>	16.0	01/06/2020	ND	416	104	400	3.77	

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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:	01/03/2020	Sampling Date:	12/27/2019
Reported:	01/09/2020	Sampling Type:	Soil
Project Name:	CEDAR CANYON WTF	Sampling Condition:	Cool & Intact
Project Number:	06-29-19	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: SP 5 @ SURFACE (H00019-19)**

BTEX 8260B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	01/07/2020	ND	2.10	105	2.00	1.38		
Toluene*	<0.025	0.025	01/07/2020	ND	2.09	104	2.00	3.19		
Ethylbenzene*	<0.025	0.025	01/07/2020	ND	2.15	107	2.00	2.92		
Total Xylenes*	<0.075	0.075	01/07/2020	ND	6.39	107	6.00	3.64		
Total BTEX	<0.150	0.150	01/07/2020	ND						

Surrogate: Dibromofluoromethane 109 % 90.4-111

Surrogate: Toluene-d8 96.6 % 85.3-114

Surrogate: 4-Bromofluorobenzene 90.7 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>96.0</b>	16.0	01/06/2020	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	01/08/2020	ND	191	95.4	200	6.89		
DRO >C10-C28*	<10.0	10.0	01/08/2020	ND	220	110	200	2.66		
EXT DRO >C28-C36	<10.0	10.0	01/08/2020	ND						

Surrogate: 1-Chlorooctane 64.3 % 41-142

Surrogate: 1-Chlorooctadecane 64.9 % 37.6-147

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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:	01/03/2020	Sampling Date:	12/27/2019
Reported:	01/09/2020	Sampling Type:	Soil
Project Name:	CEDAR CANYON WTF	Sampling Condition:	Cool & Intact
Project Number:	06-29-19	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: SP 5 @ 1' (H00019-20)**

BTEX 8260B		mg/kg		Analyzed By: ms				S-04		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	01/07/2020	ND	2.10	105	2.00	1.38		
Toluene*	<0.025	0.025	01/07/2020	ND	2.09	104	2.00	3.19		
Ethylbenzene*	<0.025	0.025	01/07/2020	ND	2.15	107	2.00	2.92		
Total Xylenes*	<0.075	0.075	01/07/2020	ND	6.39	107	6.00	3.64		
Total BTEX	<0.150	0.150	01/07/2020	ND						

Surrogate: Dibromofluoromethane 106 % 90.4-111

Surrogate: Toluene-d8 98.9 % 85.3-114

Surrogate: 4-Bromofluorobenzene 73.8 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>336</b>	16.0	01/06/2020	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	01/08/2020	ND	212	106	200	0.228		
DRO >C10-C28*	<10.0	10.0	01/08/2020	ND	236	118	200	0.0984		
EXT DRO >C28-C36	<10.0	10.0	01/08/2020	ND						

Surrogate: 1-Chlorooctane 68.4 % 41-142

Surrogate: 1-Chlorooctadecane 70.2 % 37.6-147

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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:	01/03/2020	Sampling Date:	12/27/2019
Reported:	01/09/2020	Sampling Type:	Soil
Project Name:	CEDAR CANYON WTF	Sampling Condition:	Cool & Intact
Project Number:	06-29-19	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY COUNTY, NM		

**Sample ID: SP 5 @ 2' (H000019-21)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>80.0</b>	16.0	01/06/2020	ND	416	104	400	0.00	

**Sample ID: SP 5 @ 3' (H000019-22)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>48.0</b>	16.0	01/06/2020	ND	416	104	400	0.00	

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Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
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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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



**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.		<b>BILL TO</b>		<b>ANALYSIS REQUEST</b>											
Project Manager: Cliff Brunson		P.O. #:													
Address: P.O. Box 805		Company: <i>Oxy</i>													
City: Hobbs State: NM Zip: 88241		Attn: <i>Wade</i>													
Phone #: 575-397-6388 Fax #: 575-397-0397		Address:													
Project #: Project Owner: <i>Oxy</i>		City:													
Project Name: Cedar Canyon WTF 6-29-19		State: Zip:													
Project Location: Eddy County, NM		Phone #:													
Sampler Name: Jeff Ornelas		Fax #:													

FOR LAB USE ONLY		(G)RAB OR (C)OMP. # CONTAINERS	MATRIX					PRESERV.			SAMPLING		DATE	TIME	C1	BTEX	TPH EXT
Lab I.D.	Sample I.D.		GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :						
<i>H000019</i>																	
<i>1</i>	North @ Surface	<i>1</i>										<i>12-24-19</i>	<i>9:10 AM</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<i>2</i>	East @ Surface											<i>12-24-19</i>	<i>9:18 AM</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<i>3</i>	West @ Surface											<i>12-24-19</i>	<i>9:27 AM</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<i>4</i>	South @ Surface											<i>12-24-19</i>	<i>9:40 AM</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<i>5</i>	SP1 @ Surface											<i>12-24-19</i>	<i>9:55 AM</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<i>6</i>	SP1 @ 1'											<i>12-24-19</i>	<i>10:00 AM</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<i>7</i>	SP1 @ 2'											<i>12-24-19</i>	<i>10:20 AM</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<i>8</i>	SP2 @ Surface											<i>12-24-19</i>	<i>10:42 AM</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<i>9</i>	SP2 @ 1'											<i>12-24-19</i>	<i>10:55 AM</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<i>10</i>	SP2 @ 2'											<i>12-24-19</i>	<i>11:12 AM</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

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Relinquished By:	Date: <i>12-27-19</i> Time: <i>5:00 pm</i>	Received By:	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 #:	
Relinquished By: <i>[Signature]</i>	Date: <i>1-3-20</i> Time: <i>13:50</i>	Received By: <i>[Signature]</i>	REMARKS:		
Delivered By: (Circle One) Sampler - UPS - Bus - Other: <i>#113 0.3c</i>	Sample Condition Cool Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No	CHECKED BY: (Initials) <i>TO.</i>			

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



**ARDINAL 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.				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>																							
Project Manager: Cliff Brunson				P.O. #:																											
Address: P.O. Box 805				Company: <i>Oxy</i>																											
City: Hobbs		State: NM		Zip: 88241		Attn: <i>Wade</i>																									
Phone #: 575-397-6388		Fax #: 575-397-0397		Address:																											
Project #:		Project Owner: <i>Oxy</i>		City:																											
Project Name: Cedar Canyon WTF 6-29-19				State:																Zip:											
Project Location: Eddy County, NM				Phone #:																											
Sampler Name: Jeff Ornelas				Fax #:																											
FOR LAB USE ONLY																															
Lab I.D.		Sample I.D.		(GRAB OR (C)OMP. # CONTAINERS)		MATRIX														PRESERV.			SAMPLING								
						GROUNDWATER			ACID/BASE:			DATE			TIME																
						WASTEWATER			ICE / COOL																						
						SOIL			OTHER :																						
						OIL																									
						SLUDGE																									
						OTHER :																									
<i>HD00019</i>																															
<i>11</i>		SP3 @ Surface		<i>5</i>								<i>12-24-19</i>			<i>11:25 AM</i>			<i>CI</i>													
<i>12</i>		SP3 @ 1'										<i>12-24-19</i>			<i>11:47 AM</i>			<i>BTEX</i>													
<i>13</i>		SP3 @ 2'										<i>12-24-19</i>			<i>12:35 PM</i>			<i>TPH EXT</i>													
<i>14</i>		SP3 @ 3'										<i>12-27-19</i>			<i>9:25 AM</i>																
<i>15</i>		SP3 @ 4'										<i>12-27-19</i>			<i>9:40 AM</i>																
<i>16</i>		SP4 @ Surface										<i>12-27-19</i>			<i>10:00 AM</i>																
<i>17</i>		SP4 @ 1'										<i>12-27-19</i>			<i>10:22 AM</i>																
<i>18</i>		SP4 @ 2'										<i>12-27-19</i>			<i>10:35 AM</i>																
<i>19</i>		SP5 @ Surface										<i>12-27-19</i>			<i>10:55 AM</i>																
<i>20</i>		SP5 @ 1'										<i>12-27-19</i>			<i>11:20 AM</i>																

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Relinquished By:		Date: <i>12-27-19</i>		Received By:		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Phone #:	
		Time: <i>5:00pm</i>				Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No		Add'l Fax #:	
Relinquished By: <i>[Signature]</i>		Date: <i>1-3-20</i>		Received By: <i>[Signature]</i>		REMARKS:			
		Time: <i>13:50</i>							
Delivered By: (Circle One)				Sample Condition		CHECKED BY:			
Sampler - UPS - Bus - Other: <i>#113 0.3°</i>				Cool Intact		(Initials)			
				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<i>T.O.</i>			
				<input type="checkbox"/> No <input type="checkbox"/> No					

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