



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 – CEDAR CANYON 15-1 SWD (Leak Date: 5/31/19)

RP # 2RP-5523

This delineation workplan and remediation proposal addresses the releases associated with RP # 2RP-5523.

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 proposes zero remediation at this spill site. The laboratory results confirm there was no impact to the soils.

Form C-141

State of New Mexico
Oil Conservation Division

Page 3

Incident ID	
District RP	2RP-5523
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?	52 _____ (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 checked="" type="checkbox"/> Yes <input 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 not 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	2RP-5523
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: 10-10-19
 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	2RP-5523
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: 10-10-19

email: wade_dittrich@oxy.com Telephone: (575) 390-2828

OCD Only

Received by: _____ Date: _____

Approved Approved with Attached Conditions of Approval Denied Deferral Approved

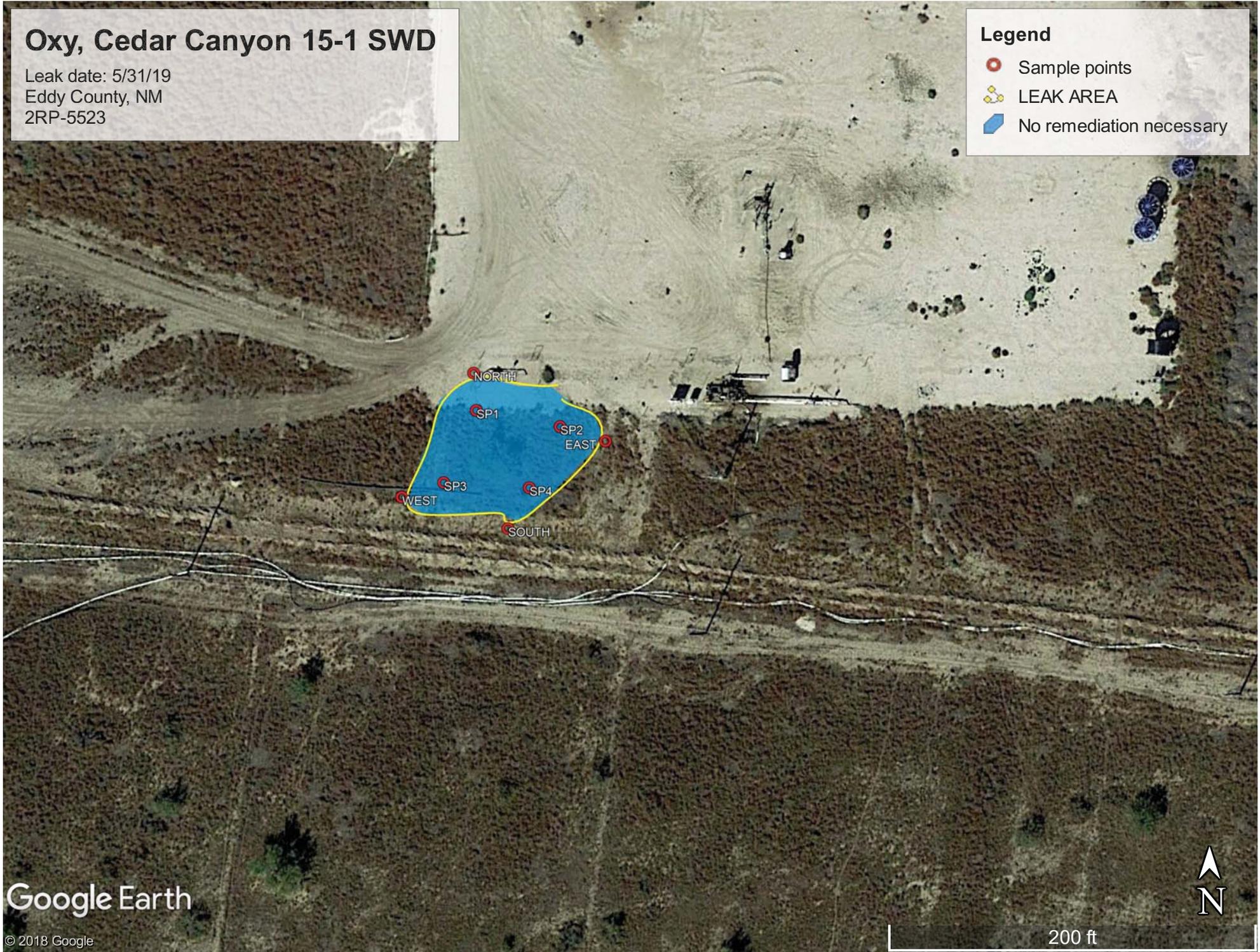
Signature: _____ Date: _____

Oxy, Cedar Canyon 15-1 SWD

Leak date: 5/31/19
Eddy County, NM
2RP-5523

Legend

-  Sample points
-  LEAK AREA
-  No remediation necessary



Google Earth

© 2018 Google

200 ft

Oxy, Cedar Canyon 15-1 SWD

Sample points

SP1, N 32.22383 W-103.99379

SP2, N 32.22381 W-103.99365

SP3, N 32.22372W-103.99385

SP4, N 32.22372 W-103.99370

NORTH, N 32.22389 W-103.99380

SOUTH, N 32.22365 W-103.99374

EAST, N 32.22379 W-103.99357

WEST, N 32.22370 W-103.99392

**Oxy, Cedar Canyon 15 1 SWD
U/L D, Section 16, T24S, R29E
Groundwater: 50'-75'**





USGS Home
 Contact USGS
 Search USGS

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

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 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.

[Questions about sites/data?](#)
[Feedback on this web site](#)
[Automated retrievals](#)
[Help](#)
[Data Tips](#)
[Explanation of terms](#)
[Subscribe for system changes](#)
[News](#)

[Accessibility](#) [Plug-Ins](#) [FOIA](#) [Privacy](#) [Policies and Notices](#)

[U.S. Department of the Interior](#) | [U.S. Geological Survey](#)

Title: Groundwater for New Mexico: Water Levels

URL: <https://nwis.waterdata.usgs.gov/nm/nwis/gwlevels?>

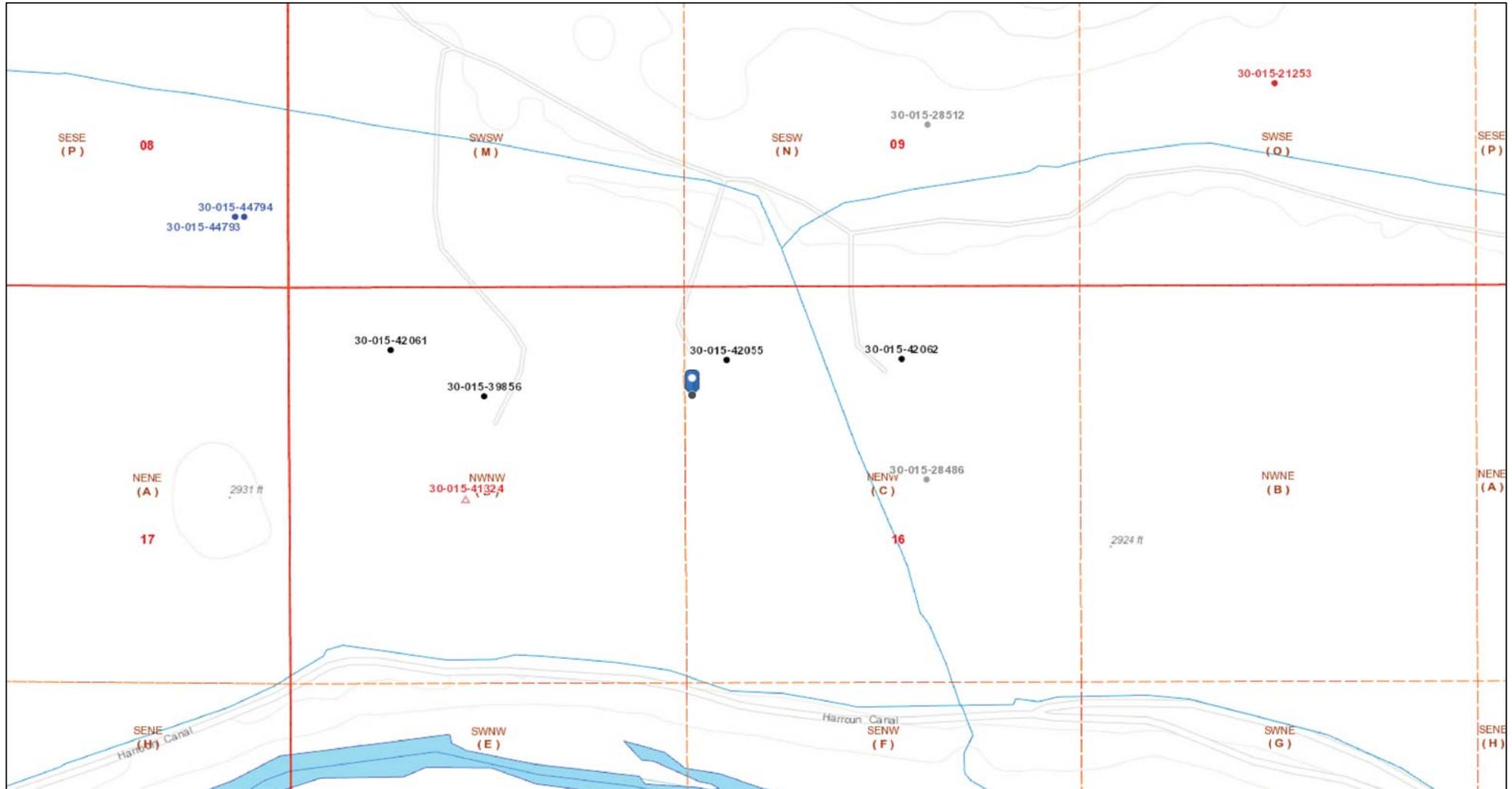
Page Contact Information: [New Mexico Water Data Maintainer](#)

Page Last Modified: 2019-07-02 15:17:40 EDT

0.49 0.47 nadww01



Cedar Canyon 15-1 SWD



7/2/2019 1:06:12 PM

- Well Locations - Small Scale**
- Active
 - New
 - Plugged
 - Cancelled
 - Temporarily Abandoned

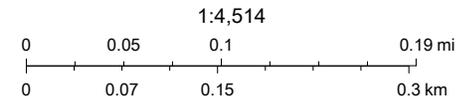
- Well Locations - Large Scale**
- Miscellaneous
 - CO2 Active
 - CO2 Cancelled
 - CO2 New
 - CO2 Plugged
 - CO2 Temporarily Abandoned

- Gas Active
- Gas, Cancelled, Never Drilled
- Gas, New
- Gas, Plugged
- Gas, Temporarily Abandoned
- Injection, Active

- Injection, Cancelled
- Injection, New
- Injection, Plugged
- Injection, Temporarily Abandoned
- Oil, Active
- Oil, Cancelled

- Oil, New
- Oil, Plugged
- Oil, Temporarily Abandoned
- Salt Water Injection, Active
- Salt Water Injection, Cancelled
- Salt Water Injection, New

- Salt Water Injection, Plugged
- Salt Water Injection Temporarily Abandoned
- Water, Active
- Water, Cancelled
- Water, New
- Water, Plugged



OCD, Bureau of Land Management, Texas Parks & Wildlife, Esri, HERE, Garmin, INCREMENT P, USGS, EPA, USDA, BLM

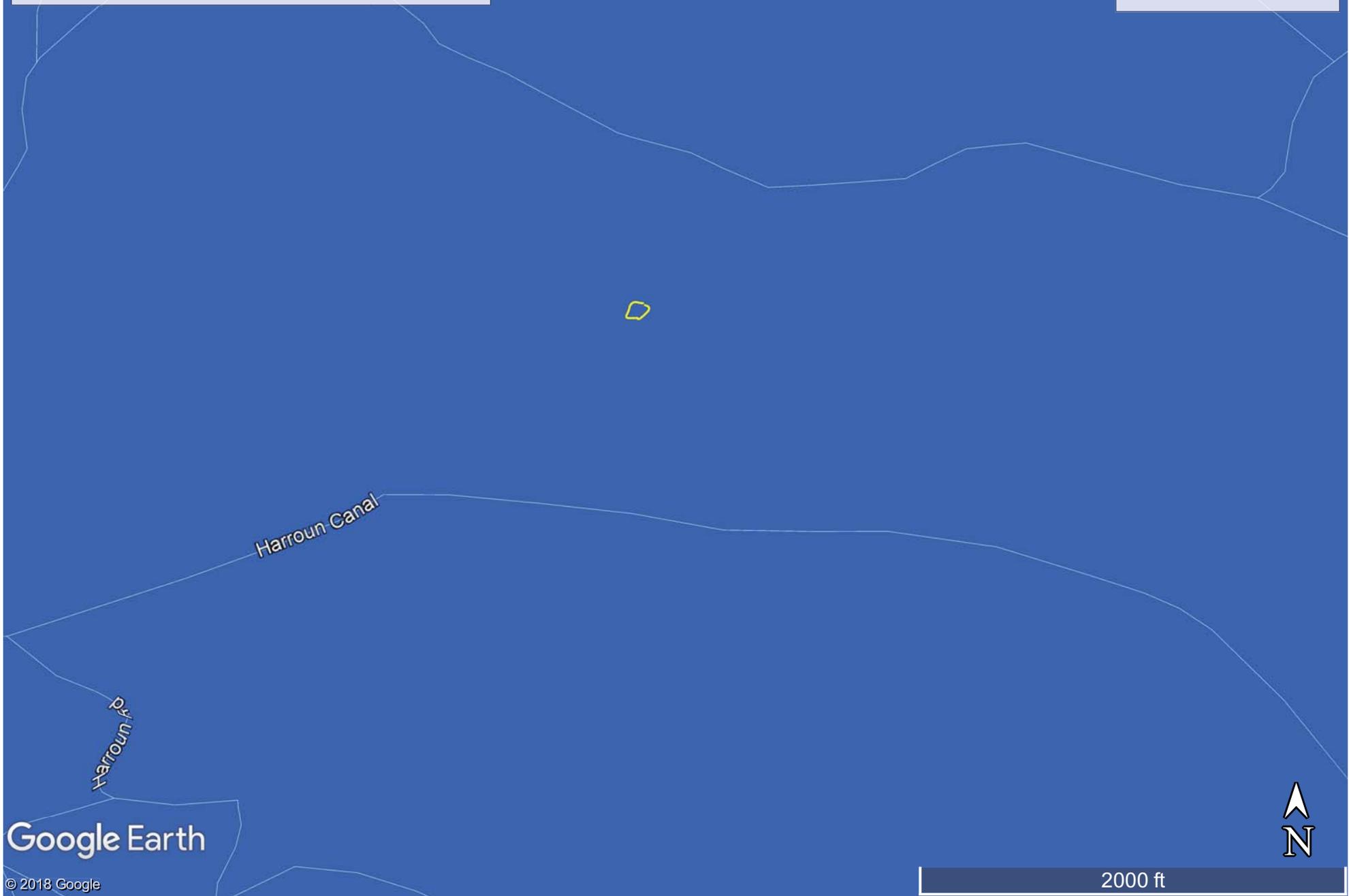
Oxy, Cedar Canyon 15 1 SWD

Leak date: 5/31/19
Eddy County, NM

BLM CAVE KARST MAP

Legend

-  LEAK AREA
-  Medium potential



Google Earth

© 2018 Google

2000 ft

National Flood Hazard Layer FIRMette



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 D |
| OTHER AREAS | | Area of Minimal Flood Hazard Zone X |
| | | Effective LOMRs |
| GENERAL STRUCTURES | | Area of Undetermined Flood Hazard Zone D |
| | | Channel, Culvert, or Storm Sewer |
| | | Levee, Dike, or Floodwall |
| OTHER FEATURES | | 20.2 Cross Sections with 1% Annual Chance Water Surface Elevation |
| | | 17.5 Coastal Transect |
| | | Base Flood Elevation Line (BFE) |
| | | Limit of Study |
| | | Jurisdiction Boundary |
| 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 7/2/2019 at 3:26:58 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
Cedar Canyon 15-1 SWD (5/31/19)

Analyte	Method	Sample ID	SP1 @	SP1 @ 1'	SP1 @ 2'
			SURFACE	9/10/19	9/10/19
			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	SM4500CI-B		32	160	160
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

Analyte	Method	Sample ID	NORTH @	EAST @	WEST @	SOUTH @
			SURFACE	SURFACE	SURFACE	SURFACE
			9/10/19	9/10/19	9/10/19	9/10/19
			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	SM4500CI-B		16	32	16	<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

Analyte	Method	Sample ID	SP2 @	SP2 @ 1'	SP2 @ 2'
			SURFACE	9/10/19	9/10/19
			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	SM4500CI-B		16	32	16
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

Analyte	Method	Sample ID	SP3 @	SP3 @ 1'	SP3 @ 2'
			SURFACE	9/10/19	9/10/19
			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	SM4500CI-B		16	32	16
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

Analyte	Method	Sample ID	SP4 @	SP4 @ 1'	SP4 @ 2'
			SURFACE	9/10/19	9/10/19
			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	SM4500CI-B		64	160	144
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



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

September 18, 2019

Cliff Brunson
BBC International, Inc.
P.O. Box 805
Hobbs, NM 88241

RE: CEDAR CANYON 15-1 SWD

Enclosed are the results of analyses for samples received by the laboratory on 09/13/19 15:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene
Lab Director/Quality Manager



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:	09/13/2019	Sampling Date:	09/10/2019
Reported:	09/18/2019	Sampling Type:	Soil
Project Name:	CEDAR CANYON 15-1 SWD	Sampling Condition:	Cool & Intact
Project Number:	5-31-19	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SP 1 @ SURFACE (H903172-01)

BTEX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/17/2019	ND	2.02	101	2.00	3.46		
Toluene*	<0.050	0.050	09/17/2019	ND	2.01	101	2.00	1.74		
Ethylbenzene*	<0.050	0.050	09/17/2019	ND	2.03	102	2.00	1.46		
Total Xylenes*	<0.150	0.150	09/17/2019	ND	6.05	101	6.00	1.97		
Total BTEX	<0.300	0.300	09/17/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 83.2 % 73.3-129

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	09/16/2019	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	09/17/2019	ND	210	105	200	0.401		
DRO >C10-C28*	<10.0	10.0	09/17/2019	ND	205	103	200	1.86		
EXT DRO >C28-C36	<10.0	10.0	09/17/2019	ND						

Surrogate: 1-Chlorooctane 79.3 % 41-142

Surrogate: 1-Chlorooctadecane 83.7 % 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:	09/13/2019	Sampling Date:	09/10/2019
Reported:	09/18/2019	Sampling Type:	Soil
Project Name:	CEDAR CANYON 15-1 SWD	Sampling Condition:	Cool & Intact
Project Number:	5-31-19	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SP 1 @ 1' (H903172-02)

BTEX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/17/2019	ND	2.02	101	2.00	3.46		
Toluene*	<0.050	0.050	09/17/2019	ND	2.01	101	2.00	1.74		
Ethylbenzene*	<0.050	0.050	09/17/2019	ND	2.03	102	2.00	1.46		
Total Xylenes*	<0.150	0.150	09/17/2019	ND	6.05	101	6.00	1.97		
Total BTEX	<0.300	0.300	09/17/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 80.8 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	09/16/2019	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	09/17/2019	ND	210	105	200	0.401		
DRO >C10-C28*	<10.0	10.0	09/17/2019	ND	205	103	200	1.86		
EXT DRO >C28-C36	<10.0	10.0	09/17/2019	ND						

Surrogate: 1-Chlorooctane 75.5 % 41-142

Surrogate: 1-Chlorooctadecane 79.0 % 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:	09/13/2019	Sampling Date:	09/10/2019
Reported:	09/18/2019	Sampling Type:	Soil
Project Name:	CEDAR CANYON 15-1 SWD	Sampling Condition:	Cool & Intact
Project Number:	5-31-19	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SP 1 @ 2' (H903172-03)

Chloride, SM4500Cl-B	mg/kg	Analyzed By: AC							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	09/16/2019	ND	432	108	400	0.00	

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:	09/13/2019	Sampling Date:	09/10/2019
Reported:	09/18/2019	Sampling Type:	Soil
Project Name:	CEDAR CANYON 15-1 SWD	Sampling Condition:	Cool & Intact
Project Number:	5-31-19	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SP 2 @ SURFACE (H903172-04)

BTEX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/17/2019	ND	2.02	101	2.00	3.46		
Toluene*	<0.050	0.050	09/17/2019	ND	2.01	101	2.00	1.74		
Ethylbenzene*	<0.050	0.050	09/17/2019	ND	2.03	102	2.00	1.46		
Total Xylenes*	<0.150	0.150	09/17/2019	ND	6.05	101	6.00	1.97		
Total BTEX	<0.300	0.300	09/17/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 82.7 % 73.3-129

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	09/16/2019	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	09/16/2019	ND	195	97.7	200	0.849		
DRO >C10-C28*	<10.0	10.0	09/16/2019	ND	189	94.3	200	4.14		
EXT DRO >C28-C36	<10.0	10.0	09/16/2019	ND						

Surrogate: 1-Chlorooctane 75.5 % 41-142

Surrogate: 1-Chlorooctadecane 81.8 % 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:	09/13/2019	Sampling Date:	09/10/2019
Reported:	09/18/2019	Sampling Type:	Soil
Project Name:	CEDAR CANYON 15-1 SWD	Sampling Condition:	Cool & Intact
Project Number:	5-31-19	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SP 2 @ 1' (H903172-05)

BTEX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/17/2019	ND	2.02	101	2.00	3.46		
Toluene*	<0.050	0.050	09/17/2019	ND	2.01	101	2.00	1.74		
Ethylbenzene*	<0.050	0.050	09/17/2019	ND	2.03	102	2.00	1.46		
Total Xylenes*	<0.150	0.150	09/17/2019	ND	6.05	101	6.00	1.97		
Total BTEX	<0.300	0.300	09/17/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 84.3 % 73.3-129

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	09/16/2019	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	09/16/2019	ND	195	97.7	200	0.849		
DRO >C10-C28*	<10.0	10.0	09/16/2019	ND	189	94.3	200	4.14		
EXT DRO >C28-C36	<10.0	10.0	09/16/2019	ND						

Surrogate: 1-Chlorooctane 68.1 % 41-142

Surrogate: 1-Chlorooctadecane 73.2 % 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:	09/13/2019	Sampling Date:	09/10/2019
Reported:	09/18/2019	Sampling Type:	Soil
Project Name:	CEDAR CANYON 15-1 SWD	Sampling Condition:	Cool & Intact
Project Number:	5-31-19	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SP 2 @ 2' (H903172-06)

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	09/16/2019	ND	432	108	400	0.00	

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:	09/13/2019	Sampling Date:	09/10/2019
Reported:	09/18/2019	Sampling Type:	Soil
Project Name:	CEDAR CANYON 15-1 SWD	Sampling Condition:	Cool & Intact
Project Number:	5-31-19	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SP 3 @ SURFACE (H903172-07)

BTEX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/17/2019	ND	2.02	101	2.00	3.46		
Toluene*	<0.050	0.050	09/17/2019	ND	2.01	101	2.00	1.74		
Ethylbenzene*	<0.050	0.050	09/17/2019	ND	2.03	102	2.00	1.46		
Total Xylenes*	<0.150	0.150	09/17/2019	ND	6.05	101	6.00	1.97		
Total BTEX	<0.300	0.300	09/17/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 81.8 % 73.3-129

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	09/16/2019	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	09/16/2019	ND	195	97.7	200	0.849		
DRO >C10-C28*	<10.0	10.0	09/16/2019	ND	189	94.3	200	4.14		
EXT DRO >C28-C36	<10.0	10.0	09/16/2019	ND						

Surrogate: 1-Chlorooctane 68.7 % 41-142

Surrogate: 1-Chlorooctadecane 72.8 % 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:	09/13/2019	Sampling Date:	09/10/2019
Reported:	09/18/2019	Sampling Type:	Soil
Project Name:	CEDAR CANYON 15-1 SWD	Sampling Condition:	Cool & Intact
Project Number:	5-31-19	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SP 3 @ 1' (H903172-08)

BTEX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/17/2019	ND	2.02	101	2.00	3.46		
Toluene*	<0.050	0.050	09/17/2019	ND	2.01	101	2.00	1.74		
Ethylbenzene*	<0.050	0.050	09/17/2019	ND	2.03	102	2.00	1.46		
Total Xylenes*	<0.150	0.150	09/17/2019	ND	6.05	101	6.00	1.97		
Total BTEX	<0.300	0.300	09/17/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 85.0 % 73.3-129

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	09/16/2019	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	09/16/2019	ND	195	97.7	200	0.849		
DRO >C10-C28*	<10.0	10.0	09/16/2019	ND	189	94.3	200	4.14		
EXT DRO >C28-C36	<10.0	10.0	09/16/2019	ND						

Surrogate: 1-Chlorooctane 69.4 % 41-142

Surrogate: 1-Chlorooctadecane 74.9 % 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:	09/13/2019	Sampling Date:	09/10/2019
Reported:	09/18/2019	Sampling Type:	Soil
Project Name:	CEDAR CANYON 15-1 SWD	Sampling Condition:	Cool & Intact
Project Number:	5-31-19	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SP 3 @ 2' (H903172-09)

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	09/16/2019	ND	432	108	400	0.00	

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:	09/13/2019	Sampling Date:	09/10/2019
Reported:	09/18/2019	Sampling Type:	Soil
Project Name:	CEDAR CANYON 15-1 SWD	Sampling Condition:	Cool & Intact
Project Number:	5-31-19	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SP 4 @ SURFACE (H903172-10)

BTEX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/17/2019	ND	2.02	101	2.00	3.46		
Toluene*	<0.050	0.050	09/17/2019	ND	2.01	101	2.00	1.74		
Ethylbenzene*	<0.050	0.050	09/17/2019	ND	2.03	102	2.00	1.46		
Total Xylenes*	<0.150	0.150	09/17/2019	ND	6.05	101	6.00	1.97		
Total BTEX	<0.300	0.300	09/17/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 85.9 % 73.3-129

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	09/16/2019	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	09/16/2019	ND	195	97.7	200	0.849		
DRO >C10-C28*	<10.0	10.0	09/16/2019	ND	189	94.3	200	4.14		
EXT DRO >C28-C36	<10.0	10.0	09/16/2019	ND						

Surrogate: 1-Chlorooctane 66.4 % 41-142

Surrogate: 1-Chlorooctadecane 71.6 % 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:	09/13/2019	Sampling Date:	09/10/2019
Reported:	09/18/2019	Sampling Type:	Soil
Project Name:	CEDAR CANYON 15-1 SWD	Sampling Condition:	Cool & Intact
Project Number:	5-31-19	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SP 4 @ 1' (H903172-11)

BTEX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/17/2019	ND	2.02	101	2.00	3.46		
Toluene*	<0.050	0.050	09/17/2019	ND	2.01	101	2.00	1.74		
Ethylbenzene*	<0.050	0.050	09/17/2019	ND	2.03	102	2.00	1.46		
Total Xylenes*	<0.150	0.150	09/17/2019	ND	6.05	101	6.00	1.97		
Total BTEX	<0.300	0.300	09/17/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 83.3 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	160	16.0	09/16/2019	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	09/16/2019	ND	195	97.7	200	0.849		
DRO >C10-C28*	<10.0	10.0	09/16/2019	ND	189	94.3	200	4.14		
EXT DRO >C28-C36	<10.0	10.0	09/16/2019	ND						

Surrogate: 1-Chlorooctane 70.9 % 41-142

Surrogate: 1-Chlorooctadecane 75.6 % 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:	09/13/2019	Sampling Date:	09/10/2019
Reported:	09/18/2019	Sampling Type:	Soil
Project Name:	CEDAR CANYON 15-1 SWD	Sampling Condition:	Cool & Intact
Project Number:	5-31-19	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SP 4 @ 2' (H903172-12)

Chloride, SM4500Cl-B	mg/kg	Analyzed By: AC							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	09/16/2019	ND	432	108	400	0.00	

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:	09/13/2019	Sampling Date:	09/10/2019
Reported:	09/18/2019	Sampling Type:	Soil
Project Name:	CEDAR CANYON 15-1 SWD	Sampling Condition:	Cool & Intact
Project Number:	5-31-19	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: NORTH @ SURFACE (H903172-13)

BTEX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/17/2019	ND	2.02	101	2.00	3.46		
Toluene*	<0.050	0.050	09/17/2019	ND	2.01	101	2.00	1.74		
Ethylbenzene*	<0.050	0.050	09/17/2019	ND	2.03	102	2.00	1.46		
Total Xylenes*	<0.150	0.150	09/17/2019	ND	6.05	101	6.00	1.97		
Total BTEX	<0.300	0.300	09/17/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 88.1 % 73.3-129

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	09/16/2019	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	09/16/2019	ND	195	97.7	200	0.849		
DRO >C10-C28*	<10.0	10.0	09/16/2019	ND	189	94.3	200	4.14		
EXT DRO >C28-C36	<10.0	10.0	09/16/2019	ND						

Surrogate: 1-Chlorooctane 71.8 % 41-142

Surrogate: 1-Chlorooctadecane 76.6 % 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:	09/13/2019	Sampling Date:	09/10/2019
Reported:	09/18/2019	Sampling Type:	Soil
Project Name:	CEDAR CANYON 15-1 SWD	Sampling Condition:	Cool & Intact
Project Number:	5-31-19	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: EAST @ SURFACE (H903172-14)

BTEX 8021B		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/17/2019	ND	2.14	107	2.00	1.74		
Toluene*	<0.050	0.050	09/17/2019	ND	1.87	93.6	2.00	1.52		
Ethylbenzene*	<0.050	0.050	09/17/2019	ND	1.87	93.5	2.00	1.70		
Total Xylenes*	<0.150	0.150	09/17/2019	ND	5.65	94.2	6.00	1.72		
Total BTEX	<0.300	0.300	09/17/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.0 % 73.3-129

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	09/16/2019	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	09/16/2019	ND	195	97.7	200	0.849		
DRO >C10-C28*	<10.0	10.0	09/16/2019	ND	189	94.3	200	4.14		
EXT DRO >C28-C36	<10.0	10.0	09/16/2019	ND						

Surrogate: 1-Chlorooctane 65.8 % 41-142

Surrogate: 1-Chlorooctadecane 69.8 % 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:	09/13/2019	Sampling Date:	09/10/2019
Reported:	09/18/2019	Sampling Type:	Soil
Project Name:	CEDAR CANYON 15-1 SWD	Sampling Condition:	Cool & Intact
Project Number:	5-31-19	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: WEST @ SURFACE (H903172-15)

BTEX 8021B		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/17/2019	ND	2.14	107	2.00	1.74		
Toluene*	<0.050	0.050	09/17/2019	ND	1.87	93.6	2.00	1.52		
Ethylbenzene*	<0.050	0.050	09/17/2019	ND	1.87	93.5	2.00	1.70		
Total Xylenes*	<0.150	0.150	09/17/2019	ND	5.65	94.2	6.00	1.72		
Total BTEX	<0.300	0.300	09/17/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 93.8 % 73.3-129

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	09/16/2019	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	09/16/2019	ND	195	97.7	200	0.849		
DRO >C10-C28*	<10.0	10.0	09/16/2019	ND	189	94.3	200	4.14		
EXT DRO >C28-C36	<10.0	10.0	09/16/2019	ND						

Surrogate: 1-Chlorooctane 65.1 % 41-142

Surrogate: 1-Chlorooctadecane 67.8 % 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:	09/13/2019	Sampling Date:	09/10/2019
Reported:	09/18/2019	Sampling Type:	Soil
Project Name:	CEDAR CANYON 15-1 SWD	Sampling Condition:	Cool & Intact
Project Number:	5-31-19	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SOUTH @ SURFACE (H903172-16)

BTEX 8021B		mg/kg		Analyzed By: CK						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/17/2019	ND	2.14	107	2.00	1.74		
Toluene*	<0.050	0.050	09/17/2019	ND	1.87	93.6	2.00	1.52		
Ethylbenzene*	<0.050	0.050	09/17/2019	ND	1.87	93.5	2.00	1.70		
Total Xylenes*	<0.150	0.150	09/17/2019	ND	5.65	94.2	6.00	1.72		
Total BTEX	<0.300	0.300	09/17/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 92.4 % 73.3-129

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	09/16/2019	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	09/17/2019	ND	195	97.7	200	0.849		
DRO >C10-C28*	<10.0	10.0	09/17/2019	ND	189	94.3	200	4.14		
EXT DRO >C28-C36	<10.0	10.0	09/17/2019	ND						

Surrogate: 1-Chlorooctane 67.6 % 41-142

Surrogate: 1-Chlorooctadecane 71.2 % 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

Notes and Definitions

- 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.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

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

