



APPROVED

By Nelson Velez at 3:00 pm, Jan 28, 2022

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 – WEST BRAVO DOME 1829 142N (Leak Date: 12/30/19)

#### Incident Reference #: NRM2003546219

This delineation workplan and remediation proposal addresses the releases associated with Incident Reference #: NRM2003546219.

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 and SP3 (BLUE shade on diagram) will be excavated to a depth of 1 foot. The leak area near SP2 (RED shade on diagram) will be excavated to a depth of 2 feet.**

**Bottom and sidewall confirmation samples will be collected every 35 feet. The estimated amount of soil to be excavated is 72 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

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State of New Mexico  
Oil Conservation Division

Incident ID	
District RP	NRM2003546219
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?	20 (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas <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	NRM2003546219
Facility ID	
Application ID	

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Wade Dittrich Title: Environmental CoordinatorSignature:  Date: 2-10-2020email: wade\_dittrich@oxy.com Telephone: (575) 390-2828**OCD Only**Received by: OCD Date: 07/29/2020

Form C-141

Page 5

State of New Mexico  
Oil Conservation Division

Incident ID	
District RP	NRM2003546219
Facility ID	
Application ID	

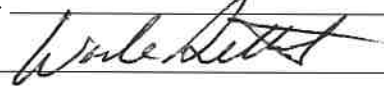
**Remediation Plan****Remediation Plan Checklist:** Each of the following items must be included in the plan.

- ☒ 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: OCD Date: 07/29/2020

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

Signature:  Date: 01/28/2022





# Oxy, West Bravo Dome 1829 142N

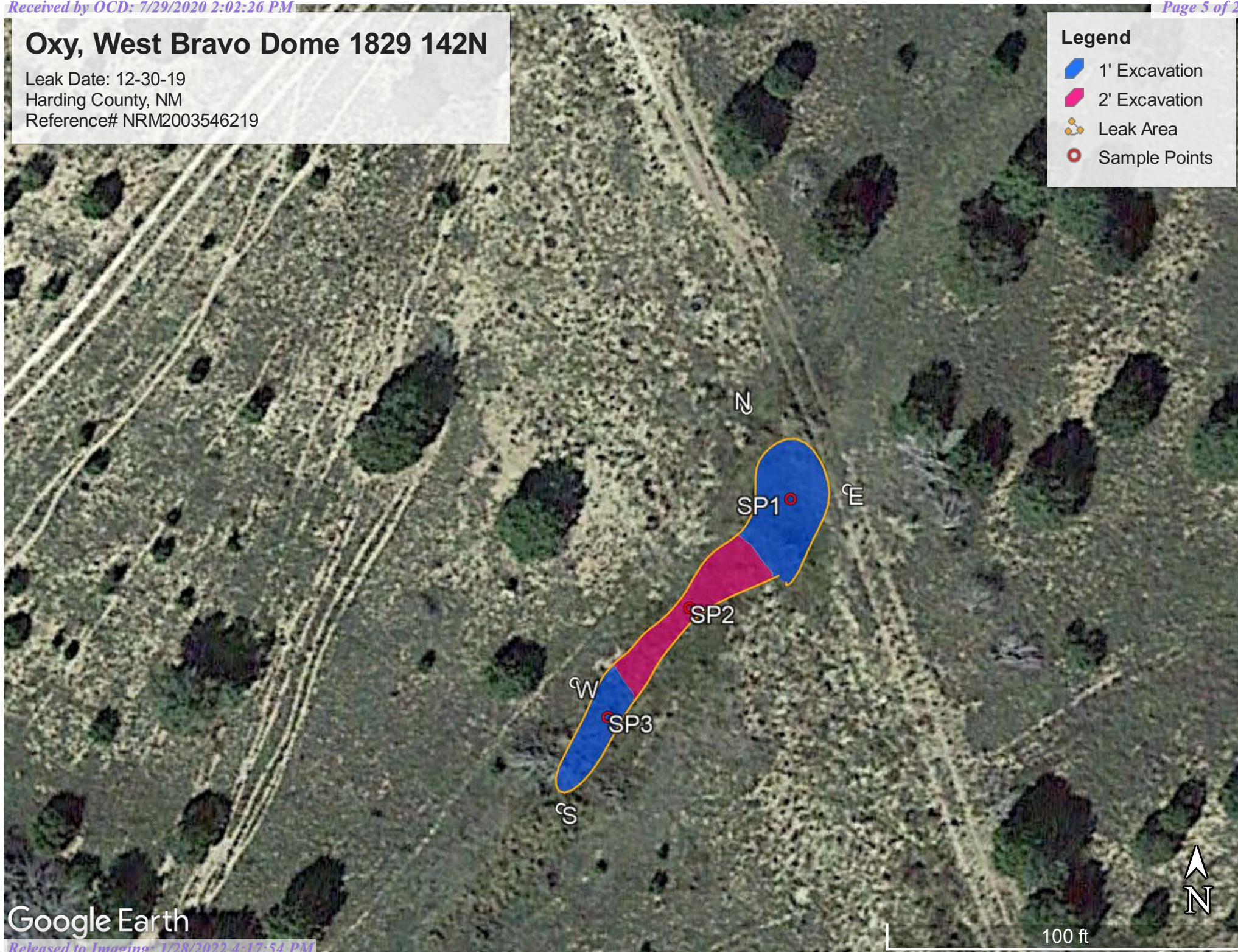
Leak Date: 12-30-19

Harding County, NM

Reference# NRM2003546219

## Legend

-  1' Excavation
-  2' Excavation
-  Leak Area
-  Sample Points



Google Earth

## Oxy, West Bravo Dome 1829 142N 12-30-19

### Sample Points

SP1, N 35.78281 W -103.83238

SP2, N 35.78273 W -103.83248

SP3, N 35.78265 W -103.83256

North, N 35.78288 W -103.83243

East, N 35.78282 W -103.83233

West, N 35.78267, W -103.83259

South, N 35.78258 W -103.83260



USGS Home  
Contact USGS  
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National Water Information System: Web Interface

USGS Water Resources

Data Category:  
Groundwater

Geographic Area:  
New Mexico

GO

Click to hideNews Bulletins

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- Full News

Groundwater levels for New Mexico

Click to hide state-specific text

Search Results -- 1 sites found

Agency code = usgs  
site\_no list =

- 354637103493801

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

USGS 354637103493801 18N.29E.23.1441

Harding County, New Mexico  
Latitude 35°46'37", Longitude 103°49'38" NAD27  
Land-surface elevation 5,347 feet above NAVD88  
The depth of the well is 41.0 feet below land surface.  
This well is completed in the Ogallala Formation (121OGLL) 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
1970-07-29		D	10.12				2		U	
1982-02-09		D	20.72				2		U	

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	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.

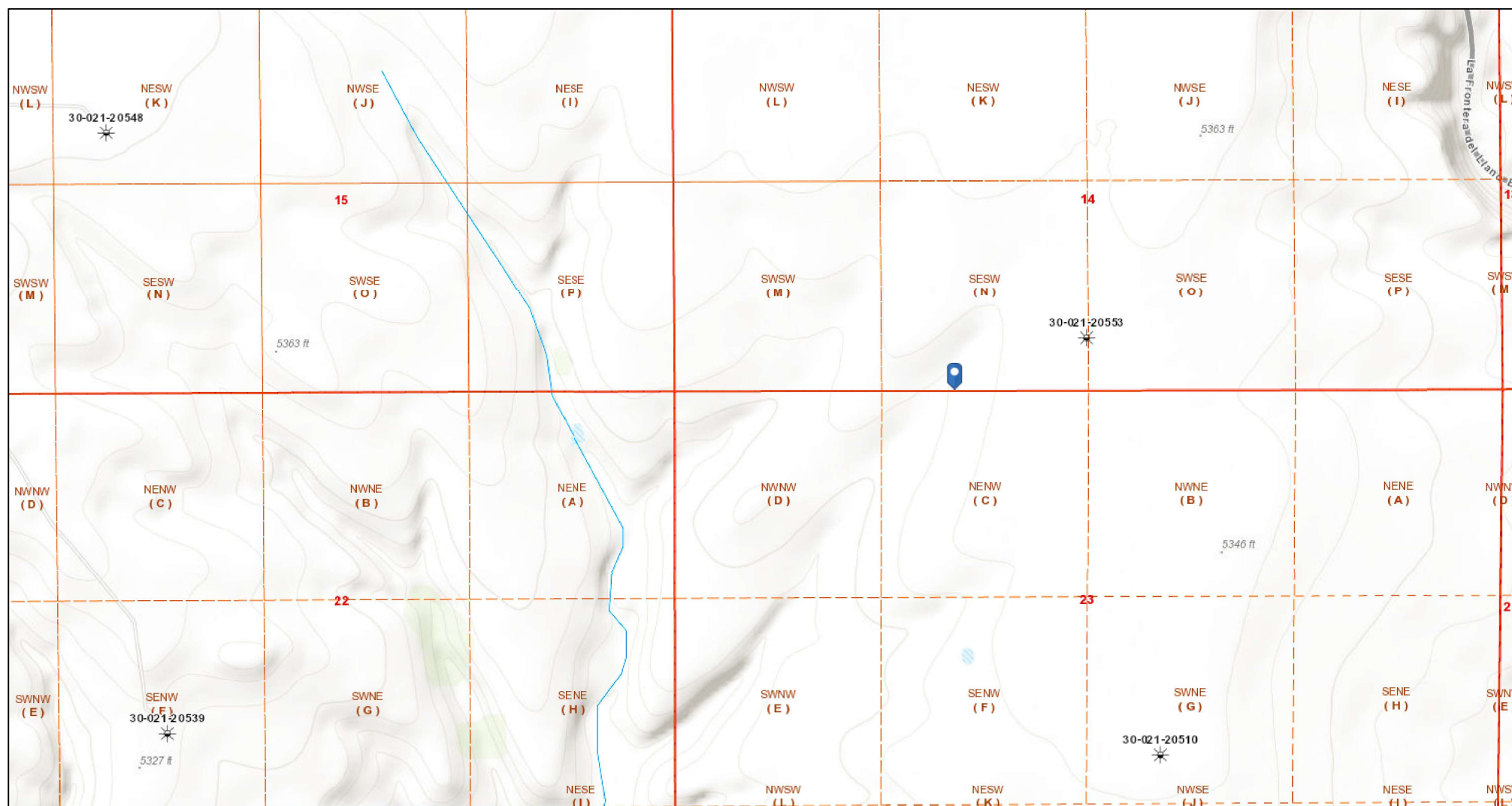
[Questions about sites/data?](#)  
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Page Last Modified: 2020-01-23 14:02:37 EST

0.95 0.19 nadww02

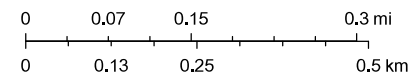
Oxy, West Bravo Dome 1829 142N, 2,500ft to h2o



2/10/2020 12:05:52 PM

- | 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               |   |                            |   |                                  |   |                                 |   |   |

1:9,028



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,

NM OCD Oil and Gas Map. <http://nm-emnrd.maps.arcgis.com/apps/webappviewer/index.html?id=4d017f2306164de29fd2fb9f835ca75>: New Mexico Oil Conservation Division

		Sample ID	North @ Surface	East @ Surface	West @ Surface	South @ Surface
Analyte	Method	Date	1/8/20	1/8/20	1/8/20	1/8/20
			mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	<0.300
Chloride	SM4500Cl-B		16.0	16.0	16.0	32.0
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'	SP1 @ 3'	SP1 @ 4'
Analyte	Method	Date	1/8/20	1/8/20	1/8/20	1/8/20	1/9/20
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a
Toluene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	n/a	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	n/a	n/a	n/a
Chloride	SM4500Cl-B		3680	576	480	16.0	16.0
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

SP2 @ Surface	SP2 @ 1'	SP2 @ 2'	SP2 @ 3'	SP2 @ 4'
1/8/20	1/8/20	1/8/20	1/8/20	1/8/20
mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
<0.050	<0.050	n/a	n/a	n/a
<0.050	<0.050	n/a	n/a	n/a
<0.050	<0.050	n/a	n/a	n/a
<0.150	<0.150	n/a	n/a	n/a
<0.300	<0.300	n/a	n/a	n/a
3320	608	464	<16.0	<16.0
<10.0	<10.0	n/a	n/a	n/a
<10.0	<10.0	n/a	n/a	n/a
<10.0	<10.0	n/a	n/a	n/a

SP3 @ Surface	SP3 @ 1'	SP3 @ 2'	SP3 @ 3'
1/8/20	1/8/20	1/8/20	1/8/20
mg/kg	mg/kg	mg/kg	mg/kg
<0.050	<0.050	n/a	n/a
<0.050	<0.050	n/a	n/a
<0.050	<0.050	n/a	n/a
<0.150	<0.150	n/a	n/a
<0.300	<0.300	n/a	n/a
3400	144	80.0	<16.0
<10.0	<10.0	n/a	n/a
<10.0	<10.0	n/a	n/a
<10.0	<10.0	n/a	n/a



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

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January 15, 2020

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: WEST BRAVO DOME 1829 142N

Enclosed are the results of analyses for samples received by the laboratory on 01/09/20 15:20.

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". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

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

Received:	01/09/2020	Sampling Date:	01/08/2020
Reported:	01/15/2020	Sampling Type:	Soil
Project Name:	WEST BRAVO DOME 1829 142N	Sampling Condition:	Cool & Intact
Project Number:	(12-30-19 )	Sample Received By:	Tamara Oldaker
Project Location:	OXY - HARDING CO NM		

**Sample ID: NORTH @ SURFACE (H000087-01)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/13/2020	ND	1.99	99.5	2.00	0.488	
Toluene*	<0.050	0.050	01/13/2020	ND	1.95	97.7	2.00	0.624	
Ethylbenzene*	<0.050	0.050	01/13/2020	ND	1.97	98.5	2.00	0.873	
Total Xylenes*	<0.150	0.150	01/13/2020	ND	5.75	95.8	6.00	0.803	
Total BTEX	<0.300	0.300	01/13/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.5 % 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	01/13/2020	ND	400	100	400	7.69		

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	01/13/2020	ND	185	92.5	200	9.10	
DRO >C10-C28*	<10.0	10.0	01/13/2020	ND	189	94.7	200	11.6	
EXT DRO >C28-C36	<10.0	10.0	01/13/2020	ND					

Surrogate: 1-Chlorooctane 90.8 % 41-142

Surrogate: 1-Chlorooctadecane 97.6 % 37.6-147

Cardinal Laboratories

\*=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:	01/09/2020	Sampling Date:	01/08/2020
Reported:	01/15/2020	Sampling Type:	Soil
Project Name:	WEST BRAVO DOME 1829 142N	Sampling Condition:	Cool & Intact
Project Number:	(12-30-19 )	Sample Received By:	Tamara Oldaker
Project Location:	OXY - HARDING CO NM		

**Sample ID: EAST @ SURFACE (H000087-02)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/13/2020	ND	1.99	99.5	2.00	0.488		
Toluene*	<0.050	0.050	01/13/2020	ND	1.95	97.7	2.00	0.624		
Ethylbenzene*	<0.050	0.050	01/13/2020	ND	1.97	98.5	2.00	0.873		
Total Xylenes*	<0.150	0.150	01/13/2020	ND	5.75	95.8	6.00	0.803		
Total BTX	<0.300	0.300	01/13/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.2 % 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	16.0	16.0	01/13/2020	ND	400	100	400	7.69		

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	01/13/2020	ND	185	92.5	200	9.10	
DRO >C10-C28*	<10.0	10.0	01/13/2020	ND	189	94.7	200	11.6	
EXT DRO >C28-C36	<10.0	10.0	01/13/2020	ND					

Surrogate: 1-Chlorooctane 90.8 % 41-142

Surrogate: 1-Chlorooctadecane 97.6 % 37.6-147

Cardinal Laboratories

\*=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:	01/09/2020	Sampling Date:	01/08/2020
Reported:	01/15/2020	Sampling Type:	Soil
Project Name:	WEST BRAVO DOME 1829 142N	Sampling Condition:	Cool & Intact
Project Number:	(12-30-19 )	Sample Received By:	Tamara Oldaker
Project Location:	OXY - HARDING CO NM		

**Sample ID: WEST @ SURFACE (H000087-03)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/13/2020	ND	1.99	99.5	2.00	0.488	
Toluene*	<0.050	0.050	01/13/2020	ND	1.95	97.7	2.00	0.624	
Ethylbenzene*	<0.050	0.050	01/13/2020	ND	1.97	98.5	2.00	0.873	
Total Xylenes*	<0.150	0.150	01/13/2020	ND	5.75	95.8	6.00	0.803	
Total BTX	<0.300	0.300	01/13/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.7 % 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	16.0	16.0	01/13/2020	ND	400	100	400	7.69		

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	01/13/2020	ND	185	92.5	200	9.10	
DRO >C10-C28*	<10.0	10.0	01/13/2020	ND	189	94.7	200	11.6	
EXT DRO >C28-C36	<10.0	10.0	01/13/2020	ND					

Surrogate: 1-Chlorooctane 82.9 % 41-142

Surrogate: 1-Chlorooctadecane 88.6 % 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:	01/09/2020	Sampling Date:	01/08/2020
Reported:	01/15/2020	Sampling Type:	Soil
Project Name:	WEST BRAVO DOME 1829 142N	Sampling Condition:	Cool & Intact
Project Number:	(12-30-19 )	Sample Received By:	Tamara Oldaker
Project Location:	OXY - HARDING CO NM		

**Sample ID: SOUTH @ SURFACE (H000087-04)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/14/2020	ND	2.04	102	2.00	1.61	QR-03
Toluene*	<0.050	0.050	01/14/2020	ND	2.05	103	2.00	2.85	
Ethylbenzene*	<0.050	0.050	01/14/2020	ND	2.07	103	2.00	2.47	
Total Xylenes*	<0.150	0.150	01/14/2020	ND	6.02	100	6.00	2.57	
Total BTEx	<0.300	0.300	01/14/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.2 % 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	01/13/2020	ND	400	100	400	7.69	

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	01/13/2020	ND	185	92.5	200	9.10	
DRO >C10-C28*	<10.0	10.0	01/13/2020	ND	189	94.7	200	11.6	
EXT DRO >C28-C36	<10.0	10.0	01/13/2020	ND					

Surrogate: 1-Chlorooctane 82.2 % 41-142

Surrogate: 1-Chlorooctadecane 88.9 % 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:	01/09/2020	Sampling Date:	01/08/2020
Reported:	01/15/2020	Sampling Type:	Soil
Project Name:	WEST BRAVO DOME 1829 142N	Sampling Condition:	Cool & Intact
Project Number:	(12-30-19 )	Sample Received By:	Tamara Oldaker
Project Location:	OXY - HARDING CO NM		

**Sample ID: SP 1 @ SURFACE (H000087-05)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/14/2020	ND	2.04	102	2.00	1.61	
Toluene*	<0.050	0.050	01/14/2020	ND	2.05	103	2.00	2.85	
Ethylbenzene*	<0.050	0.050	01/14/2020	ND	2.07	103	2.00	2.47	
Total Xylenes*	<0.150	0.150	01/14/2020	ND	6.02	100	6.00	2.57	
Total BTX	<0.300	0.300	01/14/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.9 % 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	3680	16.0	01/13/2020	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/13/2020	ND	185	92.5	200	9.10	
DRO >C10-C28*	<10.0	10.0	01/13/2020	ND	189	94.7	200	11.6	
EXT DRO >C28-C36	<10.0	10.0	01/13/2020	ND					

Surrogate: 1-Chlorooctane 93.0 % 41-142

Surrogate: 1-Chlorooctadecane 99.6 % 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:	01/09/2020	Sampling Date:	01/08/2020
Reported:	01/15/2020	Sampling Type:	Soil
Project Name:	WEST BRAVO DOME 1829 142N	Sampling Condition:	Cool & Intact
Project Number:	(12-30-19 )	Sample Received By:	Tamara Oldaker
Project Location:	OXY - HARDING CO NM		

**Sample ID: SP 1 @ 1' (H000087-06)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/14/2020	ND	2.04	102	2.00	1.61	
Toluene*	<0.050	0.050	01/14/2020	ND	2.05	103	2.00	2.85	
Ethylbenzene*	<0.050	0.050	01/14/2020	ND	2.07	103	2.00	2.47	
Total Xylenes*	<0.150	0.150	01/14/2020	ND	6.02	100	6.00	2.57	
Total BTX	<0.300	0.300	01/14/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.7 % 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	576	16.0	01/13/2020	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/13/2020	ND	185	92.5	200	9.10	
DRO >C10-C28*	<10.0	10.0	01/13/2020	ND	189	94.7	200	11.6	
EXT DRO >C28-C36	<10.0	10.0	01/13/2020	ND					

Surrogate: 1-Chlorooctane 86.5 % 41-142

Surrogate: 1-Chlorooctadecane 92.5 % 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:	01/09/2020	Sampling Date:	01/08/2020
Reported:	01/15/2020	Sampling Type:	Soil
Project Name:	WEST BRAVO DOME 1829 142N	Sampling Condition:	Cool & Intact
Project Number:	(12-30-19 )	Sample Received By:	Tamara Oldaker
Project Location:	OXY - HARDING CO NM		

**Sample ID: SP 1 @ 2' (H000087-07)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	480	16.0	01/13/2020	ND	400	100	400	3.92		

**Sample ID: SP 1 @ 3' (H000087-08)**

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	01/13/2020	ND	400	100	400	3.92	

**Sample ID: SP 1 @ 4' (H000087-09)**

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	01/13/2020	ND	400	100	400	3.92	

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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:	01/09/2020	Sampling Date:	01/08/2020
Reported:	01/15/2020	Sampling Type:	Soil
Project Name:	WEST BRAVO DOME 1829 142N	Sampling Condition:	Cool & Intact
Project Number:	(12-30-19 )	Sample Received By:	Tamara Oldaker
Project Location:	OXY - HARDING CO NM		

**Sample ID: SP 2 @ SURFACE (H000087-10)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/14/2020	ND	2.04	102	2.00	1.61	
Toluene*	<0.050	0.050	01/14/2020	ND	2.05	103	2.00	2.85	
Ethylbenzene*	<0.050	0.050	01/14/2020	ND	2.07	103	2.00	2.47	
Total Xylenes*	<0.150	0.150	01/14/2020	ND	6.02	100	6.00	2.57	
Total BTX	<0.300	0.300	01/14/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.7 % 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	3320	16.0	01/13/2020	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/13/2020	ND	185	92.5	200	9.10	
DRO >C10-C28*	<10.0	10.0	01/13/2020	ND	189	94.7	200	11.6	
EXT DRO >C28-C36	<10.0	10.0	01/13/2020	ND					

Surrogate: 1-Chlorooctane 100 % 41-142

Surrogate: 1-Chlorooctadecane 107 % 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:	01/09/2020	Sampling Date:	01/08/2020
Reported:	01/15/2020	Sampling Type:	Soil
Project Name:	WEST BRAVO DOME 1829 142N	Sampling Condition:	Cool & Intact
Project Number:	(12-30-19 )	Sample Received By:	Tamara Oldaker
Project Location:	OXY - HARDING CO NM		

**Sample ID: SP 2 @ 1' (H000087-11)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	01/14/2020	ND	2.04	102	2.00	1.61		
Toluene*	<0.050	0.050	01/14/2020	ND	2.05	103	2.00	2.85		
Ethylbenzene*	<0.050	0.050	01/14/2020	ND	2.07	103	2.00	2.47		
Total Xylenes*	<0.150	0.150	01/14/2020	ND	6.02	100	6.00	2.57		
Total BTX	<0.300	0.300	01/14/2020	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.1 % 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	608	16.0	01/13/2020	ND	400	100	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/13/2020	ND	185	92.5	200	9.10	
DRO >C10-C28*	<10.0	10.0	01/13/2020	ND	189	94.7	200	11.6	
EXT DRO >C28-C36	<10.0	10.0	01/13/2020	ND					

Surrogate: 1-Chlorooctane 94.6 % 41-142

Surrogate: 1-Chlorooctadecane 102 % 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:	01/09/2020	Sampling Date:	01/08/2020
Reported:	01/15/2020	Sampling Type:	Soil
Project Name:	WEST BRAVO DOME 1829 142N	Sampling Condition:	Cool & Intact
Project Number:	(12-30-19 )	Sample Received By:	Tamara Oldaker
Project Location:	OXY - HARDING CO NM		

**Sample ID: SP 2 @ 2' (H000087-12)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	464	16.0	01/13/2020	ND	400	100	400	3.92	

**Sample ID: SP 2 @ 3' (H000087-13)**

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	01/13/2020	ND	400	100	400	3.92		

**Sample ID: SP 2 @ 4' (H000087-14)**

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	01/13/2020	ND	400	100	400	3.92		

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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:	01/09/2020	Sampling Date:	01/08/2020
Reported:	01/15/2020	Sampling Type:	Soil
Project Name:	WEST BRAVO DOME 1829 142N	Sampling Condition:	Cool & Intact
Project Number:	(12-30-19 )	Sample Received By:	Tamara Oldaker
Project Location:	OXY - HARDING CO NM		

**Sample ID: SP 3 @ SURFACE (H000087-15)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/14/2020	ND	2.04	102	2.00	1.61	
Toluene*	<0.050	0.050	01/14/2020	ND	2.05	103	2.00	2.85	
Ethylbenzene*	<0.050	0.050	01/14/2020	ND	2.07	103	2.00	2.47	
Total Xylenes*	<0.150	0.150	01/14/2020	ND	6.02	100	6.00	2.57	
Total BTX	<0.300	0.300	01/14/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.2 % 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	3400	16.0	01/13/2020	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/13/2020	ND	151	75.5	200	9.80	
DRO >C10-C28*	<10.0	10.0	01/13/2020	ND	171	85.5	200	7.99	
EXT DRO >C28-C36	<10.0	10.0	01/13/2020	ND					

Surrogate: 1-Chlorooctane 73.7 % 41-142

Surrogate: 1-Chlorooctadecane 75.3 % 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:	01/09/2020	Sampling Date:	01/08/2020
Reported:	01/15/2020	Sampling Type:	Soil
Project Name:	WEST BRAVO DOME 1829 142N	Sampling Condition:	Cool & Intact
Project Number:	(12-30-19 )	Sample Received By:	Tamara Oldaker
Project Location:	OXY - HARDING CO NM		

**Sample ID: SP 3 @ 1' (H000087-16)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/14/2020	ND	2.04	102	2.00	1.61	
Toluene*	<0.050	0.050	01/14/2020	ND	2.05	103	2.00	2.85	
Ethylbenzene*	<0.050	0.050	01/14/2020	ND	2.07	103	2.00	2.47	
Total Xylenes*	<0.150	0.150	01/14/2020	ND	6.02	100	6.00	2.57	
Total BTX	<0.300	0.300	01/14/2020	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.2 % 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	144	16.0	01/13/2020	ND	400	100	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	01/13/2020	ND	151	75.5	200	9.80	
DRO >C10-C28*	<10.0	10.0	01/13/2020	ND	171	85.5	200	7.99	
EXT DRO >C28-C36	<10.0	10.0	01/13/2020	ND					

Surrogate: 1-Chlorooctane 72.5 % 41-142

Surrogate: 1-Chlorooctadecane 74.5 % 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:	01/09/2020	Sampling Date:	01/08/2020
Reported:	01/15/2020	Sampling Type:	Soil
Project Name:	WEST BRAVO DOME 1829 142N	Sampling Condition:	Cool & Intact
Project Number:	(12-30-19 )	Sample Received By:	Tamara Oldaker
Project Location:	OXY - HARDING CO NM		

**Sample ID: SP 3 @ 2' (H000087-17)**

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	01/13/2020	ND	400	100	400	3.92		

**Sample ID: SP 3 @ 3' (H000087-18)**

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	01/13/2020	ND	400	100	400	3.92	

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Celey D. Keene, Lab Director/Quality Manager



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### 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.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
BS2	Blank spike recovery below laboratory acceptance criteria. Results for analyte potentially biased low.
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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A handwritten signature in black ink, appearing to read "Celey D. Keene".

Celey D. Keene, Lab Director/Quality Manager



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

## 16f2

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**District II**  
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Phone:(575) 748-1283 Fax:(575) 748-9720  
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Phone:(505) 334-6178 Fax:(505) 334-6170  
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Phone:(505) 476-3470 Fax:(505) 476-3462

**State of New Mexico**  
**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

CONDITIONS  
  
Action 9439

CONDITIONS

Operator: OXY USA INC P.O. Box 4294 Houston, TX 772104294	OGRID: 16696
	Action Number: 9439
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
nvelez	None	1/28/2022