



## DELINEATION WORKPLAN

### OXY – BRAVO DOME LEG 5 (Leak Date: 2/15/17)

#### RP # 4RP-12

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This delineation workplan and remediation proposal addresses the releases associated with RP # 4RP-12.

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 entire site will be excavated to a depth of 4 feet with an impermeable liner placed in the bottom of the excavation and then backfilled.***

***OXY requests a variance from the requirements of 19.15.29 NMAC. This variance request consists of the utilization of an impermeable 20 mil plastic liner at 4 feet below ground surface. The variance is requested because of the need to limit the excavation depth to prevent the massive surface disturbance that will be required of an excavation deeper than 4 feet due to OSHA confined space sloping requirements and to respect the landowner in minimizing surface disturbance related to the excavation and transportation of the impacted soils to a disposal facility and the transportation of backfill materials.***

***In addition, the installation of an impermeable liner will be protective of not only groundwater which is greater than 100 feet, but also will be protective of nearby***

# DELINEATION WORKPLAN

## OXY – BRAVO DOME LEG 5 (Leak Date: 2/15/17)

RP # 4RP-12

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*surface water features since 4 feet of clean soil will be compacted on top of the liner and with the liner preventing upward migration of any chlorides left in place.*

*The horizontal edges of the excavation will be determined during the excavation process utilizing a field screening method of potassium chromate/silver nitrate titration. The excavation will be stopped when the horizontal edges are determined to be no higher than 600 ppm in chlorides via field screening. Then sidewall samples will be collected via a composite sample plan that will not be representative of more than 200 square feet and analyzed at a lab for chlorides to verify that chloride content is less than 600 ppm. If lab analysis does not confirm 600 ppm has been achieved, then further excavation will be performed until lab analysis confirms below 600 ppm has been achieved.*

*Once laboratory confirmation is received, the liner will be placed into the excavation and backfilling with clean soil will commence.*

*In addition, upgradient and background soil samples will be analyzed. All laboratory results will be included in the closure report along with a site map of the excavation with depiction and GPS location of the confirmation sidewall sample points. Photographs of the excavation process, liner placement, and backfilled site will be included in the closure report as well.*

*The estimated volume of soil to be excavated is 620 cubic yards. The remediation will be completed within 90 days from receipt of the approval from the NMOCD.*

The entire site will be 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.

Incident ID	
District RP	4RP-12
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?	105 (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 checked="" type="checkbox"/> Yes <input 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.

Incident ID	
District RP	4RP-12
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 Specialist

Signature: *Wade Dittrich* Date: 11-7-18

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

OCD Only

Received by: *Randee Foyjiss* Date: 08Nov18

Incident ID	
District RP	4RP-12
Facility ID	
Application ID	

## Remediation Plan

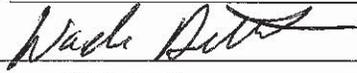
**Remediation Plan Checklist:** *Each of the following items must be included in the plan.*

- 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 Specialist  
 Signature:  Date: 11-7-18  
 email: wade\_dittrich@oxy.com Telephone: (575) 390-2828

**OCD Only**

Received by: Randolph Bayliss Date: 08Nov18

- Approved       Approved with Attached Conditions of Approval       Denied       Deferral Approved

Signature:  Date: 08Nov18

# Oxy, Bravo Leg Dome 5

Leak date: 2/15/17  
Union County, NM  
AP# 30-059-20241  
4RP-12

## Legend

-  4ft Excavation with liner
-  Spill Area
-  Sample points, drilling
-  Sample points, hand auger



Oxy, Bravo Dome Leg 5

Sample points, hand auger

SP1, N 35.82552 W-103.30847

SP2, N 35.82488 W-103.30859

Sample points, drilling

SB1, N 35.82549 W-103.30847

SB2, N 35.82517 W-103.30852

SB3, N 35.82488 W-103.30857



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Well #1  
Leg 5

Search Results -- 1 sites found

Agency code = usgs

site\_no list =  
• 354721103180501

Minimum number of levels = 1

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USGS 354721103180501 18N.34E.15.422

Union County, New Mexico

Latitude 35°47'24.7", Longitude 103°18'16.5" NAD83

Land-surface elevation 4,764 feet above NGVD29

The depth of the well is 174 feet below land surface.

This well is completed in the Dakota Sandstone or Formation (211DKOT) local aquifer.

Output formats

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

Date	Time	Water-level date-time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	Water-level accuracy	Status	Method of measurement	Measuring agency	Source of measurement	Water-level approval status
1970-04-28		D	105.27			2	P	U			A
1975-01-24		D	105.20			2	P	U			A
1976-01-28		D	106.65			2		U			A
1977-01-25		D	104.85			2		U			A
1978-01-24		D	104.89			2		U			A
1979-01-23		D	104.88			2		U			A
1981-02-16		D	104.87			2		U			A
1991-02-01		D	104.74			2		S			A
1996-01-26		D	104.88			2	P	S			A
2007-08-13	09:40 MDT	m	113.40			2	R	S	USGS	S	A
2008-02-18	16:25 MST	m	114			0		S	USGS	R	A
2008-09-16	10:15 MDT	m	111.15			2		S	USGS	S	A
2009-01-30	16:12 MST	m	106.3			1		S	NM030	R	A
2009-08-25	16:31 MDT	m	108.91			2	R	S	USGS	S	A
2010-01-08	11:35 MST	m	105.20			2		S	USGS	R	A
2010-08-24	12:15 MDT	m	105.54			2		S	USGS	S	A
2011-01-07	12:50 MST	m	105.25			2		S	NM030	R	A
2011-08-31	16:16 MDT	m	106.79			2		S	USGS	S	A
2016-01-25	11:45 MST	m	105.52			2		S	NM030	R	P
2017-01-30	16:18 MST	m	105.52			2		S	NM030	R	P

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level date-time accuracy	m	Date is accurate to the Minute
Water-level accuracy	0	Water level accuracy to nearest foot

Section	Code	Description
Water-level accuracy	1	Water level accuracy to nearest tenth of a foot
Water-level accuracy	2	Water level accuracy to nearest hundredth of a foot
Status		The reported water-level measurement represents a static level
Status	P	Site was being pumped.
Status	R	Site had been pumped recently.
Method of measurement	S	Steel-tape measurement.
Method of measurement	U	Unknown method.
Measuring agency		Not determined
Measuring agency	NM030	Natural Resource Conservation System, NM
Measuring agency	USGS	U.S. Geological Survey
Source of measurement	R	Reported by person other than the owner, driller, or another government agency.
Source of measurement	S	Measured by personnel of reporting agency.
Source of measurement	U	Source is unknown.
Water-level approval status	A	Approved for publication -- Processing and review completed.
Water-level approval status	P	Provisional data subject to revision.

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



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*Well #2  
Leg 5*

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Agency code = usgs  
site\_no list = 

- 354947103162601

Minimum number of levels = 1  
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USGS 354947103162601 19N.34E.36.413

Union County, New Mexico  
Latitude 35°49'47", Longitude 103°16'26" NAD27  
Land-surface elevation 4,670.00 feet above NGVD29  
The depth of the well is 85.0 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	Water-level approval status
1981-02-16		D	73.03			2		U			A

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.

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0.54 0.45 nadvw01



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Groundwater levels for New Mexico

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Well #3  
Leg 5

Search Results -- 1 sites found

Agency code = usgs

site\_no list =  
• 355000103211201

Minimum number of levels = 1

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USGS 355000103211201 19N.34E.32.133

Union County, New Mexico

Latitude 35°50'08.6", Longitude 103°21'21.0" NAD83

Land-surface elevation 4,883.00 feet above NGVD29

The depth of the well is 162 feet below land surface.

This well is completed in the High Plains aquifer (N100HGHPLN) national aquifer.

This well is completed in the Ogallala Formation (121OGLL) local aquifer.

Output formats

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

Date	Time	? Water-level date-time accuracy	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Water-level accuracy	? Status	? Method of measurement	? Measuring agency	? Source of measurement	? Water-level approval status
1981-02-15		D	147.73			2			U		A
1991-02-01		D	148.67			2			S		A
1996-01-26		D	149.25			2			S		A
2007-08-13	10:45 MDT	m	158.90			2	R		S	USGS	A
2008-02-18	16:45 MST	m	157.7			1			S	USGS	A
2008-09-16	09:50 MDT	m	148.95			2			S	USGS	A
2009-01-30	16:30 MST	m	151.19			2			S	NM030	A
2009-08-25	17:41 MDT	m	155.87			2	R		S	USGS	A
2010-01-08	11:00 MST	m	151.80			2			S	USGS	A
2010-08-24	12:35 MDT	m	152.04			2			S	USGS	A
2011-01-07	13:29 MST	m	149.14			2			S	NM030	A
2011-08-31	17:19 MDT	m	155.60			2			S	USGS	A
2016-01-25	12:05 MST	m	149.32			2			S	NM030	P
2017-01-30	15:50 MST	m	149.0			1			S	NM030	P

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Water-level date-time accuracy	m	Date is accurate to the Minute
Water-level accuracy	1	Water level accuracy to nearest tenth of a foot
Water-level accuracy	2	Water level accuracy to nearest hundredth of a foot
Status		The reported water-level measurement represents a static level
Status	R	Site had been pumped recently.
Method of measurement	S	Steel-tape measurement.
Method of measurement	U	Unknown method.
Measuring agency		Not determined

Section	Code	Description
Measuring agency	NM030	Natural Resource Conservation System, NM
Measuring agency	USGS	U.S. Geological Survey
Source of measurement	R	Reported by person other than the owner, driller, or another government agency.
Source of measurement	S	Measured by personnel of reporting agency.
Source of measurement	U	Source is unknown.
Water-level approval status	A	Approved for publication -- Processing and review completed.
Water-level approval status	P	Provisional data subject to revision.

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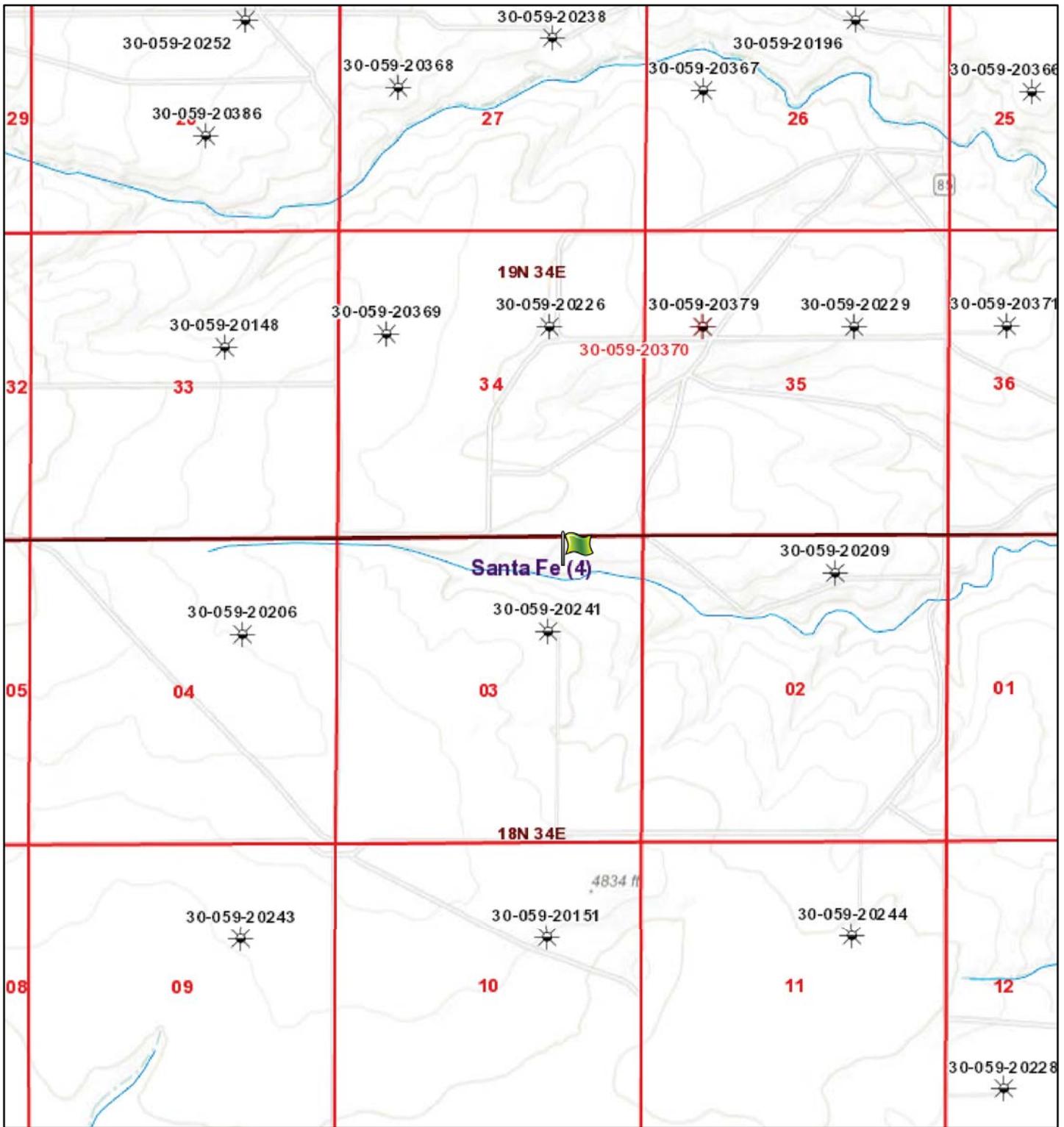
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0.59 0.48 nadww01

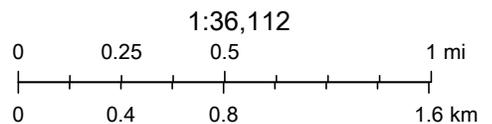


# Surface Waters within 1/2 mile of site



11/7/2018, 3:52:02 PM

- |   |   |  |
|---|---|--|
|  Override 1 |  Temporarily Abandoned |  CO2, Plugged |
| <b>Well Locations - Small Scale</b>   | <b>Well Locations - Large Scale</b>   |  |
|  Active    |  Miscellaneous         |  |
|  New       |  CO2 Active            |  |
|  Plugged   |  CO2 Cancelled         |  |
|  Cancelled |  CO2 New               |  |



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

**Laboratory Analytical Results Summary  
Bravo Dome Leg 5**

		Sample	TT1 @ Top	TT1 @ 6'	TT1 @ 12'	TT1 @ 17'
<b>Analyte</b>	<b>Method</b>	<b>Date</b>	3/27/17	3/27/17	3/27/17	3/27/17
			mg/Kg	mg/Kg	mg/Kg	mg/Kg
<b>Chloride</b>	SM4500Cl-B		<b>12000</b>	<b>3360</b>	<b>6800</b>	<b>8930</b>

		Sample	TT2 @ 4'	TT2 @ 10'	TT2 @ 17'
<b>Analyte</b>	<b>Method</b>	<b>Date</b>	3/27/17	3/27/17	3/27/17
			mg/Kg	mg/Kg	mg/Kg
<b>Chloride</b>	SM4500Cl-B		<b>2160</b>	<b>2880</b>	<b>1410</b>

**Laboratory Analytical Results Summary  
Bravo Dome Leg #5**

		Sample	SB1 @ SURFACE	SB1 @ 5'	SB1 @ 10'	SB1 @ 15'	SB1 @ 17'	SB1 @ 20'	SB1 @ 23'	SB1 @ 28'
Analyte	Method	Date	6/6/17	6/6/17	6/6/17	6/6/17	6/6/17	6/6/17	6/6/17	6/6/17
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
<b>Chloride</b>	SM4500Cl-B		<b>4560</b>	<b>240</b>	<b>4160</b>	<b>784</b>	<b>352</b>	<b>1280</b>	<b>160</b>	<b>208</b>

		Sample	SB2 @ SURFACE	SB2 @ 5'	SB2 @ 10'
Analyte	Method	Date	6/6/17	6/6/17	6/6/17
			mg/Kg	mg/Kg	mg/Kg
<b>Chloride</b>	SM4500Cl-B		<b>3840</b>	<b>64</b>	<b>96</b>

		Sample	SB3 @ SURFACE	SB3 @ 5'	SB3 @ 10'	SB3 @ 15'	SB3 @ 17'	SB3 @ 22'
Analyte	Method	Date	6/6/17	6/6/17	6/6/17	6/6/17	6/6/17	6/6/17
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
<b>Chloride</b>	SM4500Cl-B		<b>4080</b>	<b>2200</b>	<b>1660</b>	<b>304</b>	<b>32</b>	<b>32</b>

April 06, 2017

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: LEG 5

Enclosed are the results of analyses for samples received by the laboratory on 03/31/17 9:45.

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



Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	03/31/2017	Sampling Date:	03/27/2017
Reported:	04/06/2017	Sampling Type:	Soil
Project Name:	LEG 5	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	BRAVO DOME ,NM		

**Sample ID: TT1 TOP (H700854-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	12000	16.0	04/05/2017	ND	432	108	400	3.64	

**Sample ID: TT1 6' (H700854-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3360	16.0	04/05/2017	ND	432	108	400	3.64	

**Sample ID: TT1 12' (H700854-03)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6800	16.0	04/05/2017	ND	432	108	400	3.64	

**Sample ID: TT1 17' (H700854-04)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8930	16.0	04/05/2017	ND	432	108	400	3.64	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 03/31/2017  
 Reported: 04/06/2017  
 Project Name: LEG 5  
 Project Number: NONE GIVEN  
 Project Location: BRAVO DOME ,NM

 Sampling Date: 03/27/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: TT2 4' (H700854-05)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>2160</b>	16.0	04/05/2017	ND	432	108	400	3.64	

**Sample ID: TT2 10' (H700854-06)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>2880</b>	16.0	04/05/2017	ND	432	108	400	3.64	

**Sample ID: TT2 17' (H700854-07)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>1410</b>	16.0	04/05/2017	ND	432	108	400	3.64	

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

- 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



---

Celey D. Keene, Lab Director/Quality Manager



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

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

Company Name: BBC International, Inc.		<b>BILL TO</b>		<b>ANALYSIS REQUEST</b>											
Project Manager: Cliff Brunson		P.O. #:													
Address: P.O. Box 805		Company: <i>OKY</i>													
City: Hobbs State: NM Zip: 88241		Attn:													
Phone #: 575-397-6388 Fax #: 575-397-0397		Address:													
Project #: Project Owner:		City:													
Project Name: <i>Leg 5</i>		State: Zip:													
Project Location: <i>Bravo Dome, NM</i>		Phone #: Fax #:													
Sampler Name:															

FOR LAB USE ONLY		G	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX					PRESERV.			SAMPLING		DATE	TIME	Chloride
Lab I.D.	Sample I.D.				GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:				
<i>H700854</i>																	
	<i>1 TT1 Top</i>		<i>G</i>	<i>1</i>			<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>			<i>3/27/17</i>	<i>9:30A</i>	<input checked="" type="checkbox"/>	
	<i>2 TT1 6'</i>			<i>1</i>			<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>			<i>"</i>	<i>10:00A</i>	<input checked="" type="checkbox"/>	
	<i>3 TT1 12'</i>			<i>1</i>			<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>			<i>"</i>	<i>10:30A</i>	<input checked="" type="checkbox"/>	
	<i>4 TT1 17'</i>			<i>1</i>			<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>			<i>"</i>	<i>10:48A</i>	<input checked="" type="checkbox"/>	
	<i>5 TT2 4'</i>			<i>1</i>			<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>			<i>"</i>	<i>11:00A</i>	<input checked="" type="checkbox"/>	
	<i>6 TT2 10'</i>			<i>1</i>			<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>			<i>"</i>	<i>11:30A</i>	<input checked="" type="checkbox"/>	
	<i>7 TT2 17'</i>			<i>1</i>			<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>			<i>"</i>	<i>12:00p</i>	<input checked="" type="checkbox"/>	

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Relinquished By: <i>[Signature]</i>	Date: <i>3/31/17</i>	Received By: <i>Jennifer Gelkey</i>	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
	Time: <i>8:00am</i>		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Relinquished By: <i>Jennifer Gelkey</i>	Date: <i>3-31-17</i>	Received By: <i>Jamara Oldaker</i>	REMARKS:	
	Time: <i>9:45</i>			
Delivered By: (Circle One)	Sample Condition	CHECKED BY: (Initials)		
Sampler - UPS - Bus - Other:	<i>-18.9°C</i>	<i>TO: #15</i>		

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

June 13, 2017

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: BRAVO DOME LEG #5

Enclosed are the results of analyses for samples received by the laboratory on 06/07/17 16:40.

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



Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	06/07/2017	Sampling Date:	06/06/2017
Reported:	06/13/2017	Sampling Type:	Soil
Project Name:	BRAVO DOME LEG #5	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	OXY		

**Sample ID: SB1 @ SURFACE (H701505-01)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>4560</b>	16.0	06/09/2017	ND	448	112	400	0.00	

**Sample ID: SB1 @ 5' (H701505-02)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>240</b>	16.0	06/09/2017	ND	448	112	400	0.00	

**Sample ID: SB1 @ 10' (H701505-03)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>4160</b>	16.0	06/09/2017	ND	448	112	400	0.00	

**Sample ID: SB1 @ 15' (H701505-04)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>784</b>	16.0	06/09/2017	ND	448	112	400	0.00	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	06/07/2017	Sampling Date:	06/06/2017
Reported:	06/13/2017	Sampling Type:	Soil
Project Name:	BRAVO DOME LEG #5	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	OXY		

**Sample ID: SB1 @ 17' (H701505-05)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	352	16.0	06/09/2017	ND	448	112	400	0.00	

**Sample ID: SB1 @ 20' (H701505-06)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1280	16.0	06/09/2017	ND	448	112	400	0.00	

**Sample ID: SB1 @ 23' (H701505-07)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	06/09/2017	ND	448	112	400	0.00	

**Sample ID: SB1 @ 28' (H701505-08)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	06/09/2017	ND	448	112	400	0.00	

**Sample ID: SB2 @ SURFACE (H701505-09)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3840	16.0	06/09/2017	ND	448	112	400	0.00	

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	06/07/2017	Sampling Date:	06/06/2017
Reported:	06/13/2017	Sampling Type:	Soil
Project Name:	BRAVO DOME LEG #5	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	OXY		

**Sample ID: SB2 @ 5' (H701505-10)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>64.0</b>	16.0	06/09/2017	ND	448	112	400	0.00	

**Sample ID: SB2 @ 10' (H701505-11)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>96.0</b>	16.0	06/09/2017	ND	448	112	400	0.00	

**Sample ID: SB3 @ SURFACE (H701505-12)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>4080</b>	16.0	06/09/2017	ND	432	108	400	3.77	QM-07

**Sample ID: SB3 @ 5' (H701505-13)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>2200</b>	16.0	06/09/2017	ND	432	108	400	3.77	

**Sample ID: SB3 @ 10' (H701505-14)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>1660</b>	16.0	06/09/2017	ND	432	108	400	3.77	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

 Received: 06/07/2017  
 Reported: 06/13/2017  
 Project Name: BRAVO DOME LEG #5  
 Project Number: NOT GIVEN  
 Project Location: OXY

 Sampling Date: 06/06/2017  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Tamara Oldaker

**Sample ID: SB3 @ 15' (H701505-15)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	304	16.0	06/09/2017	ND	432	108	400	3.77	

**Sample ID: SB3 @ 17' (H701505-16)**

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	06/09/2017	ND	432	108	400	3.77	

**Sample ID: SB3 @ 22' (H701505-17)**

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	06/09/2017	ND	432	108	400	3.77	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Notes and Definitions**

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C  
Samples reported on an as received basis (wet) unless otherwise noted on report







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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

2 of 2

Company Name: BBC International, Inc.			<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>										
Project Manager: Cliff Brunson			P.O. #:														
Address: P.O. Box 805			Company:														
City: Hobbs State: NM Zip: 88241			Attn:														
Phone #: 575-397-6388 Fax #: 575-397-0397			Address:														
Project #: Project Owner: OKY			City:														
Project Name: BRAVO DOME LEG #5			State: Zip:														
Project Location:			Phone #:														
Sampler Name: ROGER HERNANDEZ			Fax #:														
FOR LAB USE ONLY																	
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX	PRESERV.	SAMPLING											
				GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER:	ACID/BASE: ICE / COOL OTHER:	DATE TIME											
H-701505																	
11	SB 2 @ 10'	G	1	✓	✓	6-6-17 959	✓										
12	SB 3 @ SURFACE	G	1	✓	✓	6-6-17 1020	✓										
13	5'	G	1	✓	✓	6-6-17 1027	✓										
14	10'	G	1	✓	✓	6-6-17 1038	✓										
15	15'	G	1	✓	✓	6-6-17 1049	✓										
16	17'	G	1	✓	✓	6-6-17 1100	✓										
17	22'	G	1	✓	✓	6-6-17 1115	✓										

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Relinquished By: <i>Roger Hernandez</i>	Date: 6-7-17	Received By:	Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Phone #:
	Time:		Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No	Add'l Fax #:
Relinquished By:	Date: 6-7-17	Received By: <i>Samara Oldaker</i>	REMARKS:	
	Time: 4:40			
Delivered By: (Circle One)	Sample Condition	CHECKED BY:		
Sampler - UPS - Bus - Other:	Cool / Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	(Initials) TO-#15		
	4.9°C			

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

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

State of New Mexico  
Energy Minerals and Natural Resources

Form C-141  
Revised August 8, 2011

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

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

**Release Notification and Corrective Action**

*n RAB1704850616*

**OPERATOR**

Initial Report  Final Report

Name of Company OXY USA Inc. <i>16676</i>	Contact Eric Maestas
Address 770 Rosebud Rd. Amistad NM 88410	Telephone No. 575-420-7825
Facility Name Bravo Dome Gathering System	Facility Type Carbon Dioxide Gathering System
Surface Owner Bradshaw	Mineral Owner Bradshaw
API No. 30-059-20241	

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
G	03	18	34	660	North	660	East	Union

Latitude N 35.825575 Longitude W -103.308502

**NATURE OF RELEASE**

Type of Release Produced Water	Volume of Release 7 bbls	Volume Recovered None
Source of Release: 8 in steel Pipeline	Date and Hour of Occurrence 02/15/2017 8:00 AM	Date and Hour of Discovery 02/15/2017 8:00AM
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? N/A	
By Whom? Eric Maestas	Date and Hour 02/15/2017 9:30 AM	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.\*N/A

Describe Cause of Problem and Remedial Action Taken.\*

Produced water was spilled on the ground after a 8" steel pipeline developed a leak. There was approximately 7 bbls of produced water that ran out of the pipe onto the ground. Area has been delineated in preparation for remediation.

Describe Area Affected and Cleanup Action Taken.\*

Affected area has been delineated, Safety Environmental Solutions Inc. will be assisting with the remediation plan submittal.

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

Signature: <i>[Signature]</i>	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Eric Maestas	Approved by Environmental Specialist: <i>[Signature]</i>	
Title: HES Coordinator	Approval Date: <i>2/15/17</i>	Expiration Date: <i>[Signature]</i>
E-mail Address: eric_maestas@oxy.com	Conditions of Approval:	Attached <input checked="" type="checkbox"/>
Date: <i>2/15/17</i> Phone: 575-420-7825		

\* Attach Additional Sheets If Necessary

*\*SEE ATTACHMENT\**

# CONDITIONS OF APPROVAL

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 15 FEB 17 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 4RP-12 has been assigned. **Please refer to this case number in all future correspondence.**

NRAB1704850616

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

*The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC. [emphasis added]*

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District IV office in SANTA FE on or before 15 MARCH and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized to the following concentrations: benzene 10 mg/kg, total BTEX 50 mg/kg, TPH (GRO+DRO+MRO; C<sub>6</sub> thru C<sub>36</sub>) 100 mg/kg, chloride 600 mg/kg. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.
- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized to the following concentrations: benzene 10 mg/kg, total BTEX 50 mg/kg, TPH (GRO+DRO+MRO; C<sub>6</sub> thru C<sub>36</sub>) 100 mg/kg, chloride 250 mg/kg. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.
- No inference should be made concerning the minimum characterization concentrations expressed above as to the ultimate remediation levels which might be approved. Nominal detection limits for field and laboratory analyses must be provided.
- Composite sampling is not generally allowed.
- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

- Probable depth to shallowest groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

- If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

- Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

**Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.**

**Jim Griswold**

OCD Environmental Bureau Chief

1220 South St. Francis Drive

Santa Fe, New Mexico 87505

505-476-3465

[jim.griswold@state.nm.us](mailto:jim.griswold@state.nm.us)

## Bayliss, Randolph, EMNRD

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**From:** Lowe, Leonard, EMNRD  
**Sent:** Friday, February 17, 2017 11:40 AM  
**To:** Bayliss, Randolph, EMNRD  
**Subject:** FW: OXY Bravo Dome Produced water spill 2152017  
**Attachments:** Scanned from a Xerox multifunction device001.pdf

Mr. Bayliss,

Leonard Lowe  
Engineering Bureau  
Oil Conservation Division  
Energy Minerals and Natural Resources Department  
1220 South St. Frances  
Santa Fe, New Mexico 87004  
Office: 505-476-3492  
Cell: 505-930-6717  
Fax: 505-476-3462  
E-mail: leonard.lowe@state.nm.us  
Website: <http://www.emnrd.state.nm.us/ocd/>

-----Original Message-----

From: Eric\_Maestas@oxy.com [mailto:Eric\_Maestas@oxy.com]  
Sent: Wednesday, February 15, 2017 9:59 AM  
To: Jones, William V, EMNRD <WilliamV.Jones@state.nm.us>; Lowe, Leonard, EMNRD <Leonard.Lowe@state.nm.us>  
Cc: Sharon\_Reid@oxy.com; Eric\_Maestas@oxy.com; Charles\_Terry@oxy.com; Cole\_Wallin@oxy.com;  
Mike\_Kelly2@oxy.com; Tommy\_Pugh@oxy.com; Bradey\_Holland@oxy.com; Casey\_Summers@oxy.com  
Subject: OXY Bravo Dome Produced water spill 2152017

Mr. Jones,

A produced water spill was reported today on the leg 5 lateral of the Bravo Dome field. An internal corrosion leak occurred spilling and estimated 7bbls of produced water. Attached is the C-141 for the 7bbl produced water spill that occurred today. Please let me know if you have any questions or comments.

Thank you,

Eric Maestas  
HES Ops Coordinator  
Bravo Dome Sheep Mountain  
cell: (575)420-7825