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DELINEATION WORKPLAN

OXY – SUNDANCE 4-32 SWD (Leak Date: 4/1/19 & 5/2/19)

VS2EM-190805-C-1410

RP # 2RP-5468 & 2RP-5515

This delineation workplan and remediation proposal addresses the releases associated with RP # 2RP-5468 & 2RP-5515.

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 areas near SP1, SP6, SP7, and SP11 (BLUE shade on diagram) will be excavated to a depth of 4 feet. The leak area near SP2 (PINK shade on diagram) will be excavated to a depth of 3 feet. The leak area near SP3 (GREEN shade on diagram) will be excavated to a depth of 1 foot. The leak area near SP4 and SP5 (PURPLE shade on diagram) will be excavated to a depth of 2 feet. The leak area near SP8 – SP10 will require zero remediation.

Bottom and sidewall confirmation samples will be collected every 75 feet.

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.

Incident ID	
District RP	2RP-5468
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?	325 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ 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)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ 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?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas not on an exploration, development, production, or storage site?	☐ Yes ☒ 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 ½-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.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	2RP-5468
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: 

Date: 7-18-19

email: wade_dittrich@oxy.com

Telephone: (575) 390-2828

OCD Only

Received by: _____

Date: _____

Incident ID	
District RP	2RP-5468
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.

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Signature:  Date: 7-18-19
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: _____

Incident ID	
District RP	2RP-5515
Facility ID	
Application ID	

Site Assessment/Characterization

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Printed Name: Wade DittrichTitle: Environmental CoordinatorSignature: Date: 7-18-19email: wade_dittrich@oxy.comTelephone: (575) 390-2828**OCD Only**

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Printed Name: Wade Dittrich Title: Environmental Coordinator
Signature:  Date: 7-18-19
email: wade_dittrich@oxy.com Telephone: (575) 390-2828

OCD Only

Received by: _____ Date: _____

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

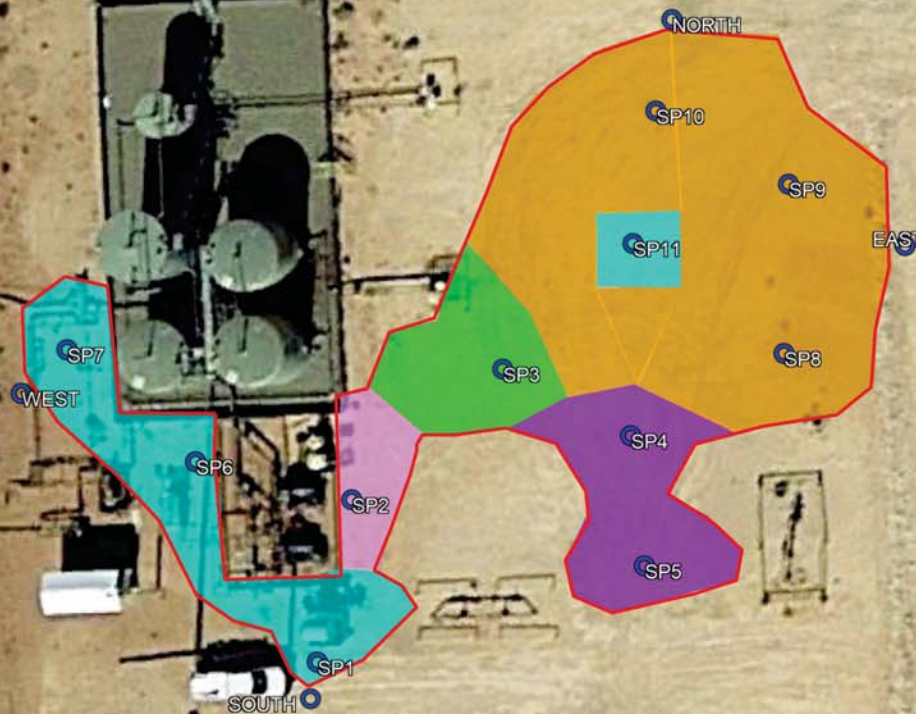
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Oxy, Sundance 4-32 SWD

Leak dates: 4/1/19 and 5/2/19
Eddy County, NM
2RP-5468 and 2RP-5515

Legend

- 1 ft excavation
- 2 ft excavation
- 3 ft excavation
- 4 ft excavation
- Leak area
- No remediation necessary
- Sample points



Oxy, Sundance 4-32 SWD

Sample points

SP1, N 32.25170 W-103.79015

SP2, N 32.25180 W-103.79013

SP3, N 32.25188 W-103.79002

SP4, N 32.25184 W-103.78993

SP5, N 32.25176 W-103.78992

SP6, N 32.25182 W-103.79024

SP7, N 32.25189 W-103.79032

SP8, N 32.25189 W-103.78983

SP9, N 25199 W-103.78982

SP10, N 32.25203 W-103.78992

SP11, N 32.25195 W-103.78993

NORTH, N 32.25208 W-103.78991

SOUTH, N 32.25168 W-103.79016

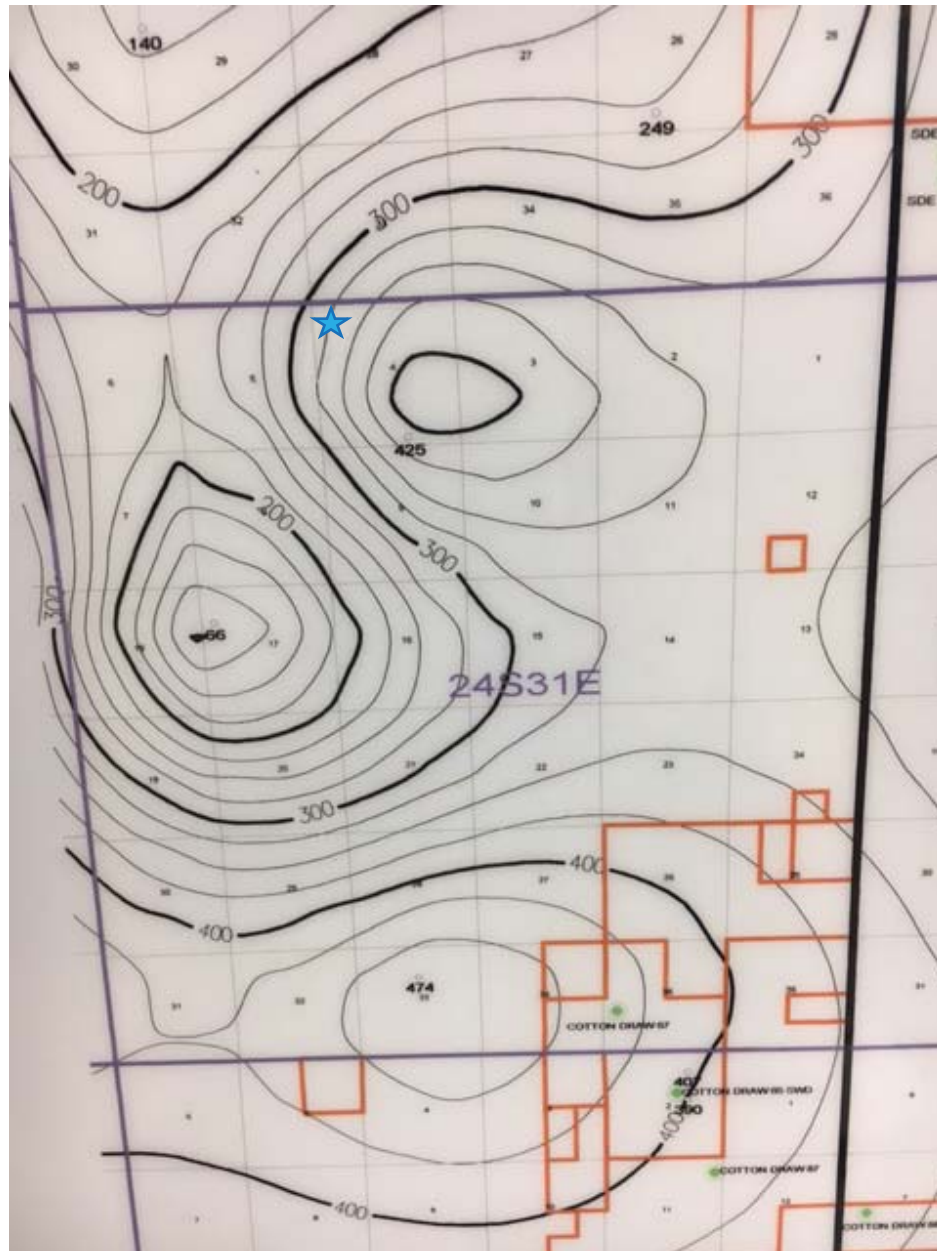
EAST, N 32.25195 W-103.78974

WEST, N 32.25186 W-103.79036

Oxy, Sundance 4-32 SWD Facility

U/L A, Section 4, T24S, R31E

Groundwater: 325'





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National Water Information System: Web Interface

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Data Category: Geographic Area:

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Groundwater levels for New Mexico

Click to hide state-specific text

Search Results -- 1 sites found

Agency code = usgs

site_no list =

- 321421103464901

Minimum number of levels = 1

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

USGS 321421103464901 24S.31E.04.433422

Eddy County, New Mexico

Latitude 32°14'23.7", Longitude 103°46'47.8" NAD83

Land-surface elevation 3,419.00 feet above NGVD29

The depth of the well is 627 feet below land surface.

This well is completed in the Rustler Formation (312RSLR) 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 measurment
1959-03-13		D	424.60			2		U		
2013-01-16	17:30 MST	m	437.47			2	P	S	USGS	

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	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.
Method of measurement	S	Steel-tape measurement.
Method of measurement	U	Unknown method.
Measuring agency		Not determined
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	U	Source is unknown.
Water-level approval status	A	Approved for publication -- Processing and review completed.

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Title: Groundwater for New Mexico: Water Levels

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

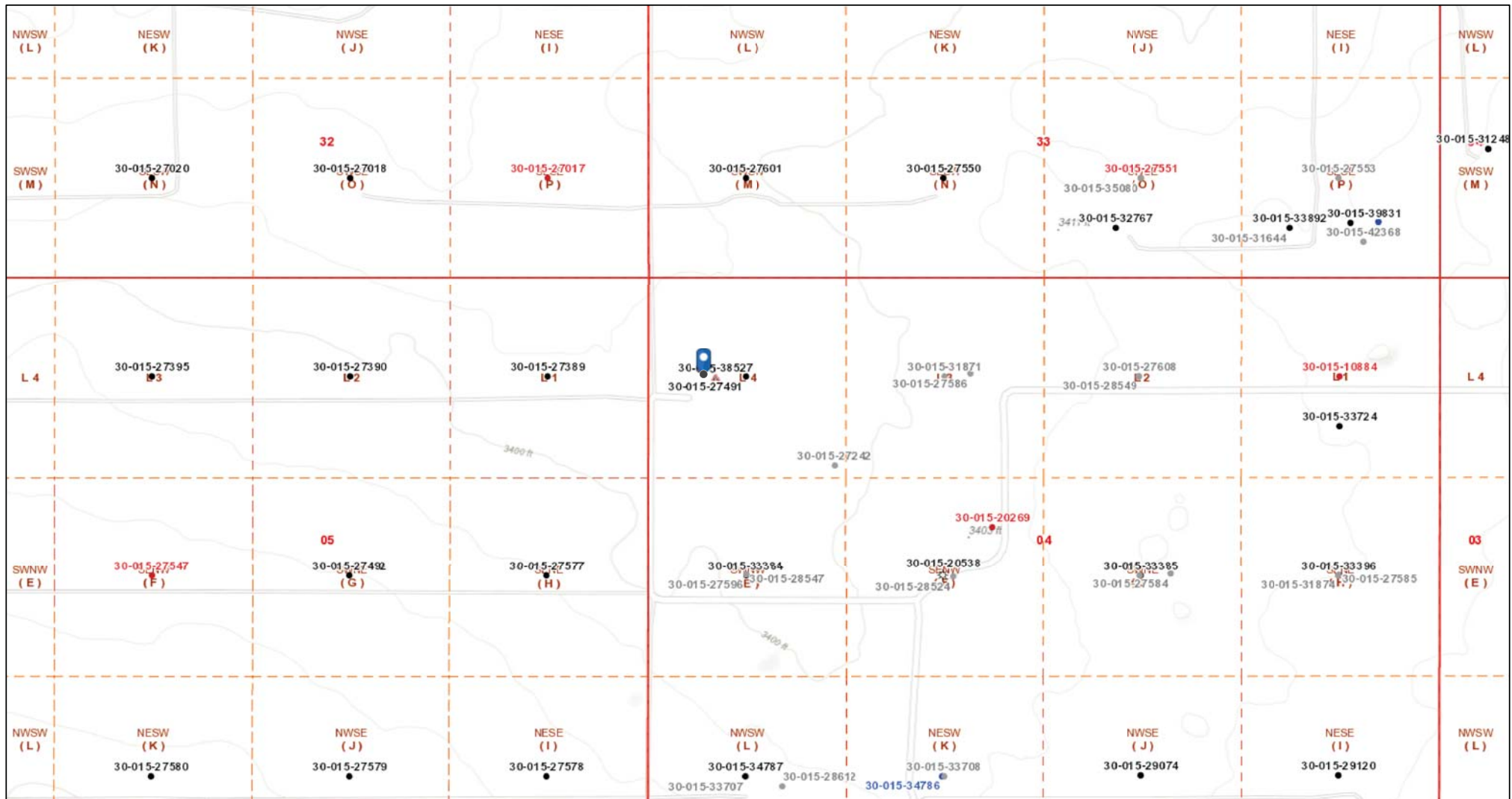
Page Contact Information: [New Mexico Water Data Maintainer](#)

Page Last Modified: 2019-06-21 12:55:46 EDT

0.53 0.48 nadww02



Oxy, Sundance 4-32 SWD Facility



6/21/2019 10:48:52 AM

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

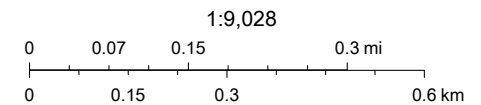
- Injection, New
- Injection, Plugged
- Injection, Temporarily Abandoned

Oil, 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



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

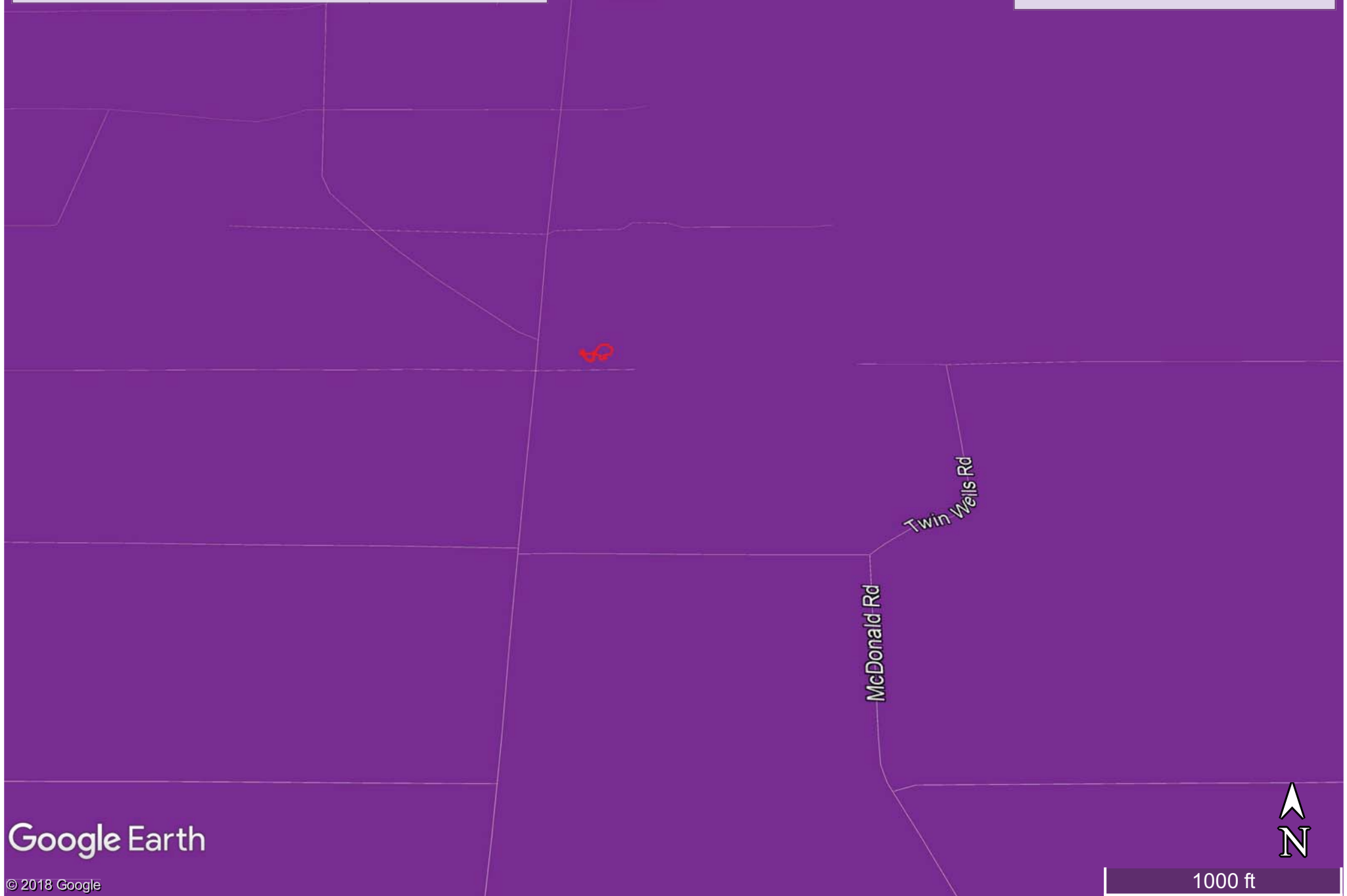
Oxy, Sundance 4-32 SWD Facility

Leak dates: 4/1/19 and 5/2/19
Eddy County, NM

BLM CAVE KARST MAP

Legend

-  Leak area 4-1-19 and 5-2-19
-  Low potential



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		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance
		17.5 Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/21/2019 at 1:03:30 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.

32°15'21.98"N



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

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

32°14'51.55"N

103°47'5.45"W

Laboratory Analytical Results Summary
Sundance 4-32 SWD Facility (4/1/19 and 5/2/19)

		Sample ID	SP1 @ SURFACE	SP1 @ 1'	SP1 @ 2'	SP1 @ 3'	SP1 @ 4'	SP1 @ 5'	SP1 @ 6'	SP1 @ 7'
Analyte	Method	Date	6/18/19	6/18/19	6/18/19	6/18/19	6/18/19	6/18/19	6/18/19	6/18/19
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a	n/a	n/a
Toluene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a	n/a	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	n/a	n/a	n/a	n/a	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	n/a	n/a	n/a	n/a	n/a	n/a
Chloride	SM4500Cl-B		688	512	2720	3280	992	768	16	32
GRO	TPH 8015M		<10.0	<10.0	n/a	n/a	n/a	n/a	n/a	n/a
DRO	TPH 8015M		<10.0	<10.0	n/a	n/a	n/a	n/a	n/a	n/a
EXT DRO	TPH 8015M		<10.0	<10.0	n/a	n/a	n/a	n/a	n/a	n/a

		Sample ID	SP2 @ SURFACE	SP2 @ 1'	SP2 @ 2'	SP2 @ 3'	SP2 @ 4'	SP2 @ 5'	SP2 @ 6'
Analyte	Method	Date	6/18/19	6/18/19	6/18/19	6/18/19	6/18/19	6/18/19	6/18/19
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a	n/a
Toluene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	n/a	n/a	n/a	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	n/a	n/a	n/a	n/a	n/a
Chloride	SM4500Cl-B		640	2720	256	928	96	432	288
GRO	TPH 8015M		<10.0	<10.0	n/a	n/a	n/a	n/a	n/a
DRO	TPH 8015M		<10.0	<10.0	n/a	n/a	n/a	n/a	n/a
EXT DRO	TPH 8015M		<10.0	<10.0	n/a	n/a	n/a	n/a	n/a

		Sample ID	SP3 @ SURFACE	SP3 @ 1'	SP3 @ 2'	SP3 @ 3'	SP3 @ 4'	SP3 @ 5'
Analyte	Method	Date	6/18/19	6/18/19	6/18/19	6/19/19	6/19/19	6/19/19
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a
Toluene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	n/a	n/a	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	n/a	n/a	n/a	n/a
Chloride	SM4500Cl-B		1230	752	448	352	432	320
GRO	TPH 8015M		<10.0	<10.0	n/a	n/a	n/a	n/a
DRO	TPH 8015M		<10.0	<10.0	n/a	n/a	n/a	n/a
EXT DRO	TPH 8015M		<10.0	<10.0	n/a	n/a	n/a	n/a

		Sample ID	SP4 @ SURFACE	SP4 @ 1'	SP4 @ 2'	SP4 @ 3'	SP4 @ 4'
Analyte	Method	Date	6/19/19	6/19/19	6/19/19	6/19/19	6/19/19
			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		42400	2030	416	512	528
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

Laboratory Analytical Results Summary
Sundance 4-32 SWD Facility (4/1/19 and 5/2/19)

		Sample ID	SP5 @ SURFACE	SP5 @ 1'	SP5 @ 2'	SP5 @ 3'	SP5 @ 4'
Analyte	Method	Date	6/19/19	6/19/19	6/19/19	6/19/19	6/19/19
			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		42000	1840	304	192	192
GRO	TPH 8015M		<10.0	<10.0	n/a	n/a	n/a
DRO	TPH 8015M		10.3	<10.0	n/a	n/a	n/a
EXT DRO	TPH 8015M		<10.0	<10.0	n/a	n/a	n/a

		Sample ID	SP6 @ SURFACE	SP6 @ 1'	SP6 @ 2'	SP6 @ 3'	SP6 @ 4'	SP6 @ 5'
Analyte	Method	Date	6/19/19	6/19/19	6/19/19	6/19/19	6/19/19	6/19/19
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a
Toluene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	n/a	n/a	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	n/a	n/a	n/a	n/a
Chloride	SM4500Cl-B		36000	3480	2920	1500	384	336
GRO	TPH 8015M		<10.0	<10.0	n/a	n/a	n/a	n/a
DRO	TPH 8015M		<10.0	<10.0	n/a	n/a	n/a	n/a
EXT DRO	TPH 8015M		<10.0	<10.0	n/a	n/a	n/a	n/a

		Sample ID	SP7 @ SURFACE	SP7 @ 1'	SP7 @ 2'	SP7 @ 3'	SP7 @ 4'	SP7 @ 5'	SP7 @ 6'
Analyte	Method	Date	6/19/19	6/19/19	6/19/19	6/19/19	6/19/19	6/19/19	6/19/19
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a	n/a
Toluene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	n/a	n/a	n/a	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	n/a	n/a	n/a	n/a	n/a
Chloride	SM4500Cl-B		8320	640	2720	1420	288	32	48
GRO	TPH 8015M		<10.0	<10.0	n/a	n/a	n/a	n/a	n/a
DRO	TPH 8015M		<10.0	<10.0	n/a	n/a	n/a	n/a	n/a
EXT DRO	TPH 8015M		<10.0	<10.0	n/a	n/a	n/a	n/a	n/a

		Sample ID	SP8 @ SURFACE	SP8 @ 1'	SP8 @ 2'
Analyte	Method	Date	6/20/19	6/20/19	6/20/19
			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	SM4500Cl-B		32	48	32
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

Laboratory Analytical Results Summary
Sundance 4-32 SWD Facility (4/1/19 and 5/2/19)

		Sample ID	SP9 @ SURFACE	SP9 @ 1'	SP9 @ 2'
Analyte	Method	Date	6/20/19	6/20/19	6/20/19
			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	SM4500Cl-B		64	32	32
GRO	TPH 8015M		<10.0	<10.0	n/a
DRO	TPH 8015M		<10.0	<10.0	n/a
EXT DRO	TPH 8015M		<10.0	<10.0	n/a

		Sample ID	SP10 @ SURFACE	SP10 @ 1'	SP10 @ 2'
Analyte	Method	Date	6/20/19	6/20/19	6/20/19
			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	SM4500Cl-B		64	48	80
GRO	TPH 8015M		<10.0	<10.0	n/a
DRO	TPH 8015M		<10.0	<10.0	n/a
EXT DRO	TPH 8015M		<10.0	<10.0	n/a

		Sample ID	SP11 @ SURFACE	SP11 @ 1'	SP11 @ 2'	SP11 @ 3'	SP11 @ 4'	SP11 @ 5'	SP11 @ 6'	SP11 @ 7'	SP11 @ 8'	SP11 @ 9'
Analyte	Method	Date	6/20/19	6/20/19	6/20/19	6/20/19	6/20/19	6/20/19	6/20/19	6/20/19	6/20/19	6/20/19
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Toluene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Chloride	SM4500Cl-B		240	272	720	1120	1680	1680	1140	576	208	32
GRO	TPH 8015M		<10.0	<10.0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
DRO	TPH 8015M		<10.0	<10.0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EXT DRO	TPH 8015M		<10.0	<10.0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

		Sample ID	NORTH @ SURFACE	EAST @ SURFACE	WEST @ SURFACE	SOUTH @ SURFACE
Analyte	Method	Date	6/20/19	6/20/19	6/20/19	6/20/19
			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	SM4500Cl-B		80	80	64	64
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

June 27, 2019

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: SUNDANCE 4-32 SWD FACILITY

Enclosed are the results of analyses for samples received by the laboratory on 06/21/19 16:55.

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

Analytical Results For:

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

Received:	06/21/2019	Sampling Date:	06/18/2019
Reported:	06/27/2019	Sampling Type:	Soil
Project Name:	SUNDANCE 4-32 SWD FACILITY	Sampling Condition:	Cool & Intact
Project Number:	(4/1/19) AND (5/2/19)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY CO NM		

Sample ID: SP 1 @ SURFACE (H902151-01)

BTX 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	06/25/2019	ND	1.82	91.2	2.00	2.62	
Toluene*	<0.050	0.050	06/25/2019	ND	1.80	90.0	2.00	2.61	
Ethylbenzene*	<0.050	0.050	06/25/2019	ND	1.75	87.3	2.00	2.18	
Total Xylenes*	<0.150	0.150	06/25/2019	ND	5.29	88.2	6.00	2.67	
Total BTX	<0.300	0.300	06/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 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	688	16.0	06/25/2019	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/25/2019	ND	200	100	200	7.05	
DRO >C10-C28*	<10.0	10.0	06/25/2019	ND	201	100	200	7.41	
EXT DRO >C28-C36	<10.0	10.0	06/25/2019	ND					

Surrogate: 1-Chlorooctane 87.9 % 41-142

Surrogate: 1-Chlorooctadecane 89.6 % 37.6-147

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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:	06/21/2019	Sampling Date:	06/18/2019
Reported:	06/27/2019	Sampling Type:	Soil
Project Name:	SUNDANCE 4-32 SWD FACILITY	Sampling Condition:	Cool & Intact
Project Number:	(4/1/19) AND (5/2/19)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY CO NM		

Sample ID: SP 1 @ 1' (H902151-02)

BTEX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/25/2019	ND	1.98	99.2	2.00	0.998		
Toluene*	<0.050	0.050	06/25/2019	ND	2.00	100	2.00	1.47		
Ethylbenzene*	<0.050	0.050	06/25/2019	ND	1.88	94.2	2.00	1.65		
Total Xylenes*	<0.150	0.150	06/25/2019	ND	5.71	95.1	6.00	1.94		
Total BTEX	<0.300	0.300	06/25/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	512	16.0	06/25/2019	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/25/2019	ND	200	100	200	7.05	
DRO >C10-C28*	<10.0	10.0	06/25/2019	ND	201	100	200	7.41	
EXT DRO >C28-C36	<10.0	10.0	06/25/2019	ND					

Surrogate: 1-Chlorooctane 97.7 % 41-142

Surrogate: 1-Chlorooctadecane 96.1 % 37.6-147

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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:	06/21/2019	Sampling Date:	06/18/2019
Reported:	06/27/2019	Sampling Type:	Soil
Project Name:	SUNDANCE 4-32 SWD FACILITY	Sampling Condition:	Cool & Intact
Project Number:	(4/1/19) AND (5/2/19)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY CO NM		

Sample ID: SP 1 @ 2' (H902151-03)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2720	16.0	06/25/2019	ND	416	104	400	0.00		

Sample ID: SP 1 @ 3' (H902151-04)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3280	16.0	06/25/2019	ND	416	104	400	0.00	

Sample ID: SP 1 @ 4' (H902151-05)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	992	16.0	06/25/2019	ND	416	104	400	0.00	

Sample ID: SP 1 @ 5' (H902151-06)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	768	16.0	06/25/2019	ND	416	104	400	0.00	

Sample ID: SP 1 @ 6' (H902151-07)

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	06/25/2019	ND	416	104	400	0.00		

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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Cliff Brunson
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Hobbs NM, 88241
Fax To: (575) 397-0397

Received:	06/21/2019	Sampling Date:	06/18/2019
Reported:	06/27/2019	Sampling Type:	Soil
Project Name:	SUNDANCE 4-32 SWD FACILITY	Sampling Condition:	Cool & Intact
Project Number:	(4/1/19) AND (5/2/19)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY CO NM		

Sample ID: SP 1 @ 7' (H902151-08)

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	06/25/2019	ND	416	104	400	0.00		

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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Received:	06/21/2019	Sampling Date:	06/18/2019
Reported:	06/27/2019	Sampling Type:	Soil
Project Name:	SUNDANCE 4-32 SWD FACILITY	Sampling Condition:	Cool & Intact
Project Number:	(4/1/19) AND (5/2/19)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY CO NM		

Sample ID: SP 2 @ SURFACE (H902151-09)

BTEx 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/25/2019	ND	1.98	99.2	2.00	0.998		
Toluene*	<0.050	0.050	06/25/2019	ND	2.00	100	2.00	1.47		
Ethylbenzene*	<0.050	0.050	06/25/2019	ND	1.88	94.2	2.00	1.65		
Total Xylenes*	<0.150	0.150	06/25/2019	ND	5.71	95.1	6.00	1.94		
Total BTEX	<0.300	0.300	06/25/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	640	16.0	06/25/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/25/2019	ND	200	100	200	7.05	
DRO >C10-C28*	<10.0	10.0	06/25/2019	ND	201	100	200	7.41	
EXT DRO >C28-C36	<10.0	10.0	06/25/2019	ND					

Surrogate: 1-Chlorooctane 93.0 % 41-142

Surrogate: 1-Chlorooctadecane 92.6 % 37.6-147

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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:	06/21/2019	Sampling Date:	06/18/2019
Reported:	06/27/2019	Sampling Type:	Soil
Project Name:	SUNDANCE 4-32 SWD FACILITY	Sampling Condition:	Cool & Intact
Project Number:	(4/1/19) AND (5/2/19)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY CO NM		

Sample ID: SP 2 @ 1' (H902151-10)

BTEx 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/25/2019	ND	1.98	99.2	2.00	0.998	
Toluene*	<0.050	0.050	06/25/2019	ND	2.00	100	2.00	1.47	
Ethylbenzene*	<0.050	0.050	06/25/2019	ND	1.88	94.2	2.00	1.65	
Total Xylenes*	<0.150	0.150	06/25/2019	ND	5.71	95.1	6.00	1.94	
Total BTEx	<0.300	0.300	06/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	2720	16.0	06/25/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/25/2019	ND	200	100	200	7.05	
DRO >C10-C28*	<10.0	10.0	06/25/2019	ND	201	100	200	7.41	
EXT DRO >C28-C36	<10.0	10.0	06/25/2019	ND					

Surrogate: 1-Chlorooctane 93.8 % 41-142

Surrogate: 1-Chlorooctadecane 93.6 % 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:	06/21/2019	Sampling Date:	06/18/2019
Reported:	06/27/2019	Sampling Type:	Soil
Project Name:	SUNDANCE 4-32 SWD FACILITY	Sampling Condition:	Cool & Intact
Project Number:	(4/1/19) AND (5/2/19)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY CO NM		

Sample ID: SP 2 @ 2' (H902151-11)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	256	16.0	06/25/2019	ND	416	104	400	0.00		

Sample ID: SP 2 @ 3' (H902151-12)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	928	16.0	06/25/2019	ND	416	104	400	0.00	

Sample ID: SP 2 @ 4' (H902151-13)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	06/25/2019	ND	416	104	400	0.00		

Sample ID: SP 2 @ 5' (H902151-14)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	432	16.0	06/25/2019	ND	416	104	400	0.00	

Sample ID: SP 2 @ 6' (H902151-15)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	06/25/2019	ND	416	104	400	0.00	

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Hobbs NM, 88241
Fax To: (575) 397-0397

Received:	06/21/2019	Sampling Date:	06/18/2019
Reported:	06/27/2019	Sampling Type:	Soil
Project Name:	SUNDANCE 4-32 SWD FACILITY	Sampling Condition:	Cool & Intact
Project Number:	(4/1/19) AND (5/2/19)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY CO NM		

Sample ID: SP 3 @ SURFACE (H902151-16)

BTEx 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/25/2019	ND	1.98	99.2	2.00	0.998		
Toluene*	<0.050	0.050	06/25/2019	ND	2.00	100	2.00	1.47		
Ethylbenzene*	<0.050	0.050	06/25/2019	ND	1.88	94.2	2.00	1.65		
Total Xylenes*	<0.150	0.150	06/25/2019	ND	5.71	95.1	6.00	1.94		
Total BTEX	<0.300	0.300	06/25/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 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	1230	16.0	06/26/2019	ND	416	104	400	0.00	QM-07	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/25/2019	ND	196	98.2	200	5.16	
DRO >C10-C28*	<10.0	10.0	06/25/2019	ND	202	101	200	5.13	
EXT DRO >C28-C36	<10.0	10.0	06/25/2019	ND					

Surrogate: 1-Chlorooctane 91.5 % 41-142

Surrogate: 1-Chlorooctadecane 96.4 % 37.6-147

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Received:	06/21/2019	Sampling Date:	06/18/2019
Reported:	06/27/2019	Sampling Type:	Soil
Project Name:	SUNDANCE 4-32 SWD FACILITY	Sampling Condition:	Cool & Intact
Project Number:	(4/1/19) AND (5/2/19)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY CO NM		

Sample ID: SP 3 @ 1' (H902151-17)

BTX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/25/2019	ND	1.98	99.2	2.00	0.998		
Toluene*	<0.050	0.050	06/25/2019	ND	2.00	100	2.00	1.47		
Ethylbenzene*	<0.050	0.050	06/25/2019	ND	1.88	94.2	2.00	1.65		
Total Xylenes*	<0.150	0.150	06/25/2019	ND	5.71	95.1	6.00	1.94		
Total BTX	<0.300	0.300	06/25/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	752	16.0	06/26/2019	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	06/25/2019	ND	196	98.2	200	5.16		
DRO >C10-C28*	<10.0	10.0	06/25/2019	ND	202	101	200	5.13		
EXT DRO >C28-C36	<10.0	10.0	06/25/2019	ND						

Surrogate: 1-Chlorooctane 89.9 % 41-142

Surrogate: 1-Chlorooctadecane 94.9 % 37.6-147

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Received:	06/21/2019	Sampling Date:	06/18/2019
Reported:	06/27/2019	Sampling Type:	Soil
Project Name:	SUNDANCE 4-32 SWD FACILITY	Sampling Condition:	Cool & Intact
Project Number:	(4/1/19) AND (5/2/19)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY CO NM		

Sample ID: SP 3 @ 2' (H902151-18)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	448	16.0	06/26/2019	ND	416	104	400	0.00	

Sample ID: SP 3 @ 3' (H902151-19)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	352	16.0	06/26/2019	ND	416	104	400	0.00	

Sample ID: SP 3 @ 4' (H902151-20)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	432	16.0	06/26/2019	ND	416	104	400	0.00		

Sample ID: SP 3 @ 5' (H902151-21)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	06/26/2019	ND	416	104	400	0.00	

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Received:	06/21/2019	Sampling Date:	06/19/2019
Reported:	06/27/2019	Sampling Type:	Soil
Project Name:	SUNDANCE 4-32 SWD FACILITY	Sampling Condition:	Cool & Intact
Project Number:	(4/1/19) AND (5/2/19)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY CO NM		

Sample ID: SP 4 @ SURFACE (H902151-22)

BTEx 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/25/2019	ND	1.98	99.2	2.00	0.998		
Toluene*	<0.050	0.050	06/25/2019	ND	2.00	100	2.00	1.47		
Ethylbenzene*	<0.050	0.050	06/25/2019	ND	1.88	94.2	2.00	1.65		
Total Xylenes*	<0.150	0.150	06/25/2019	ND	5.71	95.1	6.00	1.94		
Total BTEX	<0.300	0.300	06/25/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	42400	16.0	06/26/2019	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/25/2019	ND	196	98.2	200	5.16	
DRO >C10-C28*	<10.0	10.0	06/25/2019	ND	202	101	200	5.13	
EXT DRO >C28-C36	<10.0	10.0	06/25/2019	ND					

Surrogate: 1-Chlorooctane 90.1 % 41-142

Surrogate: 1-Chlorooctadecane 93.9 % 37.6-147

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Fax To: (575) 397-0397

Received:	06/21/2019	Sampling Date:	06/19/2019
Reported:	06/27/2019	Sampling Type:	Soil
Project Name:	SUNDANCE 4-32 SWD FACILITY	Sampling Condition:	Cool & Intact
Project Number:	(4/1/19) AND (5/2/19)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY CO NM		

Sample ID: SP 4 @ 1' (H902151-23)

BTEx 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/25/2019	ND	1.98	99.2	2.00	0.998		
Toluene*	<0.050	0.050	06/25/2019	ND	2.00	100	2.00	1.47		
Ethylbenzene*	<0.050	0.050	06/25/2019	ND	1.88	94.2	2.00	1.65		
Total Xylenes*	<0.150	0.150	06/25/2019	ND	5.71	95.1	6.00	1.94		
Total BTEX	<0.300	0.300	06/25/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	2030	16.0	06/26/2019	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/25/2019	ND	196	98.2	200	5.16	
DRO >C10-C28*	<10.0	10.0	06/25/2019	ND	202	101	200	5.13	
EXT DRO >C28-C36	<10.0	10.0	06/25/2019	ND					

Surrogate: 1-Chlorooctane 95.7 % 41-142

Surrogate: 1-Chlorooctadecane 101 % 37.6-147

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Fax To: (575) 397-0397

Received:	06/21/2019	Sampling Date:	06/19/2019
Reported:	06/27/2019	Sampling Type:	Soil
Project Name:	SUNDANCE 4-32 SWD FACILITY	Sampling Condition:	Cool & Intact
Project Number:	(4/1/19) AND (5/2/19)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY CO NM		

Sample ID: SP 4 @ 2' (H902151-24)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	416	16.0	06/26/2019	ND	416	104	400	0.00		

Sample ID: SP 4 @ 3' (H902151-25)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	512	16.0	06/26/2019	ND	416	104	400	0.00	

Sample ID: SP 4 @ 4' (H902151-26)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	528	16.0	06/26/2019	ND	416	104	400	0.00	

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Received:	06/21/2019	Sampling Date:	06/19/2019
Reported:	06/27/2019	Sampling Type:	Soil
Project Name:	SUNDANCE 4-32 SWD FACILITY	Sampling Condition:	Cool & Intact
Project Number:	(4/1/19) AND (5/2/19)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY CO NM		

Sample ID: SP 5 @ SURFACE (H902151-27)

BTEx 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/25/2019	ND	1.98	99.2	2.00	0.998	
Toluene*	<0.050	0.050	06/25/2019	ND	2.00	100	2.00	1.47	
Ethylbenzene*	<0.050	0.050	06/25/2019	ND	1.88	94.2	2.00	1.65	
Total Xylenes*	<0.150	0.150	06/25/2019	ND	5.71	95.1	6.00	1.94	
Total BTEx	<0.300	0.300	06/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	42000	16.0	06/26/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/25/2019	ND	196	98.2	200	5.16	
DRO >C10-C28*	10.3	10.0	06/25/2019	ND	202	101	200	5.13	
EXT DRO >C28-C36	<10.0	10.0	06/25/2019	ND					

Surrogate: 1-Chlorooctane 94.9 % 41-142

Surrogate: 1-Chlorooctadecane 98.7 % 37.6-147

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Received:	06/21/2019	Sampling Date:	06/19/2019
Reported:	06/27/2019	Sampling Type:	Soil
Project Name:	SUNDANCE 4-32 SWD FACILITY	Sampling Condition:	Cool & Intact
Project Number:	(4/1/19) AND (5/2/19)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY CO NM		

Sample ID: SP 5 @ 1' (H902151-28)

BTX 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/25/2019	ND	1.98	99.2	2.00	0.998		
Toluene*	<0.050	0.050	06/25/2019	ND	2.00	100	2.00	1.47		
Ethylbenzene*	<0.050	0.050	06/25/2019	ND	1.88	94.2	2.00	1.65		
Total Xylenes*	<0.150	0.150	06/25/2019	ND	5.71	95.1	6.00	1.94		
Total BTX	<0.300	0.300	06/25/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	1840	16.0	06/26/2019	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/25/2019	ND	196	98.2	200	5.16	
DRO >C10-C28*	<10.0	10.0	06/25/2019	ND	202	101	200	5.13	
EXT DRO >C28-C36	<10.0	10.0	06/25/2019	ND					

Surrogate: 1-Chlorooctane 99.4 % 41-142

Surrogate: 1-Chlorooctadecane 102 % 37.6-147

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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:	06/21/2019	Sampling Date:	06/19/2019
Reported:	06/27/2019	Sampling Type:	Soil
Project Name:	SUNDANCE 4-32 SWD FACILITY	Sampling Condition:	Cool & Intact
Project Number:	(4/1/19) AND (5/2/19)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY CO NM		

Sample ID: SP 5 @ 2' (H902151-29)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	304	16.0	06/26/2019	ND	416	104	400	0.00		

Sample ID: SP 5 @ 3' (H902151-30)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	06/26/2019	ND	416	104	400	0.00	

Sample ID: SP 5 @ 4' (H902151-31)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	06/26/2019	ND	416	104	400	0.00	

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Fax To: (575) 397-0397

Received:	06/21/2019	Sampling Date:	06/19/2019
Reported:	06/27/2019	Sampling Type:	Soil
Project Name:	SUNDANCE 4-32 SWD FACILITY	Sampling Condition:	Cool & Intact
Project Number:	(4/1/19) AND (5/2/19)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY CO NM		

Sample ID: SP 6 @ SURFACE (H902151-32)

BTEx 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/25/2019	ND	1.98	99.2	2.00	0.998		
Toluene*	<0.050	0.050	06/25/2019	ND	2.00	100	2.00	1.47		
Ethylbenzene*	<0.050	0.050	06/25/2019	ND	1.88	94.2	2.00	1.65		
Total Xylenes*	<0.150	0.150	06/25/2019	ND	5.71	95.1	6.00	1.94		
Total BTEX	<0.300	0.300	06/25/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	36000	16.0	06/26/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/25/2019	ND	196	98.2	200	5.16	
DRO >C10-C28*	<10.0	10.0	06/25/2019	ND	202	101	200	5.13	
EXT DRO >C28-C36	<10.0	10.0	06/25/2019	ND					

Surrogate: 1-Chlorooctane 93.5 % 41-142

Surrogate: 1-Chlorooctadecane 94.7 % 37.6-147

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Fax To: (575) 397-0397

Received:	06/21/2019	Sampling Date:	06/19/2019
Reported:	06/27/2019	Sampling Type:	Soil
Project Name:	SUNDANCE 4-32 SWD FACILITY	Sampling Condition:	Cool & Intact
Project Number:	(4/1/19) AND (5/2/19)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY CO NM		

Sample ID: SP 6 @ 1' (H902151-33)

BTEx 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/25/2019	ND	1.98	99.2	2.00	0.998		
Toluene*	<0.050	0.050	06/25/2019	ND	2.00	100	2.00	1.47		
Ethylbenzene*	<0.050	0.050	06/25/2019	ND	1.88	94.2	2.00	1.65		
Total Xylenes*	<0.150	0.150	06/25/2019	ND	5.71	95.1	6.00	1.94		
Total BTEX	<0.300	0.300	06/25/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	3480	16.0	06/26/2019	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/25/2019	ND	196	98.2	200	5.16	
DRO >C10-C28*	<10.0	10.0	06/25/2019	ND	202	101	200	5.13	
EXT DRO >C28-C36	<10.0	10.0	06/25/2019	ND					

Surrogate: 1-Chlorooctane 96.6 % 41-142

Surrogate: 1-Chlorooctadecane 98.6 % 37.6-147

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Received:	06/21/2019	Sampling Date:	06/19/2019
Reported:	06/27/2019	Sampling Type:	Soil
Project Name:	SUNDANCE 4-32 SWD FACILITY	Sampling Condition:	Cool & Intact
Project Number:	(4/1/19) AND (5/2/19)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY CO NM		

Sample ID: SP 6 @ 2' (H902151-34)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2920	16.0	06/26/2019	ND	416	104	400	0.00		

Sample ID: SP 6 @ 3' (H902151-35)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1500	16.0	06/26/2019	ND	400	100	400	0.00	

Sample ID: SP 6 @ 4' (H902151-36)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	384	16.0	06/26/2019	ND	400	100	400	0.00		

Sample ID: SP 6 @ 5' (H902151-37)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	336	16.0	06/26/2019	ND	400	100	400	0.00	

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Received:	06/21/2019	Sampling Date:	06/19/2019
Reported:	06/27/2019	Sampling Type:	Soil
Project Name:	SUNDANCE 4-32 SWD FACILITY	Sampling Condition:	Cool & Intact
Project Number:	(4/1/19) AND (5/2/19)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY CO NM		

Sample ID: SP 7 @ SURFACE (H902151-38)

BTEx 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/25/2019	ND	1.98	99.2	2.00	0.998		
Toluene*	<0.050	0.050	06/25/2019	ND	2.00	100	2.00	1.47		
Ethylbenzene*	<0.050	0.050	06/25/2019	ND	1.88	94.2	2.00	1.65		
Total Xylenes*	<0.150	0.150	06/25/2019	ND	5.71	95.1	6.00	1.94		
Total BTEX	<0.300	0.300	06/25/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	8320	16.0	06/26/2019	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/25/2019	ND	196	98.2	200	5.16	
DRO >C10-C28*	<10.0	10.0	06/25/2019	ND	202	101	200	5.13	
EXT DRO >C28-C36	<10.0	10.0	06/25/2019	ND					

Surrogate: 1-Chlorooctane 94.6 % 41-142

Surrogate: 1-Chlorooctadecane 94.5 % 37.6-147

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Received:	06/21/2019	Sampling Date:	06/19/2019
Reported:	06/27/2019	Sampling Type:	Soil
Project Name:	SUNDANCE 4-32 SWD FACILITY	Sampling Condition:	Cool & Intact
Project Number:	(4/1/19) AND (5/2/19)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY CO NM		

Sample ID: SP 7 @ 1' (H902151-39)

BTEx 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/25/2019	ND	1.98	99.2	2.00	0.998		
Toluene*	<0.050	0.050	06/25/2019	ND	2.00	100	2.00	1.47		
Ethylbenzene*	<0.050	0.050	06/25/2019	ND	1.88	94.2	2.00	1.65		
Total Xylenes*	<0.150	0.150	06/25/2019	ND	5.71	95.1	6.00	1.94		
Total BTEX	<0.300	0.300	06/25/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	640	16.0	06/26/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/25/2019	ND	196	98.2	200	5.16	
DRO >C10-C28*	<10.0	10.0	06/25/2019	ND	202	101	200	5.13	
EXT DRO >C28-C36	<10.0	10.0	06/25/2019	ND					

Surrogate: 1-Chlorooctane 96.8 % 41-142

Surrogate: 1-Chlorooctadecane 98.4 % 37.6-147

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Analytical Results For:

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

Received:	06/21/2019	Sampling Date:	06/18/2019
Reported:	06/27/2019	Sampling Type:	Soil
Project Name:	SUNDANCE 4-32 SWD FACILITY	Sampling Condition:	Cool & Intact
Project Number:	(4/1/19) AND (5/2/19)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY CO NM		

Sample ID: SP 7 @ 2' (H902151-40)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2720	16.0	06/26/2019	ND	400	100	400	0.00	

Sample ID: SP 7 @ 3' (H902151-41)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1420	16.0	06/26/2019	ND	400	100	400	0.00	

Sample ID: SP 7 @ 4' (H902151-42)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	06/26/2019	ND	400	100	400	0.00	

Sample ID: SP 7 @ 5' (H902151-43)

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	06/26/2019	ND	400	100	400	0.00	

Sample ID: SP 7 @ 6' (H902151-44)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	06/26/2019	ND	400	100	400	0.00	

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Received:	06/21/2019	Sampling Date:	06/20/2019
Reported:	06/27/2019	Sampling Type:	Soil
Project Name:	SUNDANCE 4-32 SWD FACILITY	Sampling Condition:	Cool & Intact
Project Number:	(4/1/19) AND (5/2/19)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY CO NM		

Sample ID: SP 8 @ SURFACE (H902151-45)

BTEx 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/25/2019	ND	1.98	99.2	2.00	0.998	
Toluene*	<0.050	0.050	06/25/2019	ND	2.00	100	2.00	1.47	
Ethylbenzene*	<0.050	0.050	06/25/2019	ND	1.88	94.2	2.00	1.65	
Total Xylenes*	<0.150	0.150	06/25/2019	ND	5.71	95.1	6.00	1.94	
Total BTEx	<0.300	0.300	06/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	06/26/2019	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/25/2019	ND	196	98.2	200	5.16	
DRO >C10-C28*	<10.0	10.0	06/25/2019	ND	202	101	200	5.13	
EXT DRO >C28-C36	<10.0	10.0	06/25/2019	ND					

Surrogate: 1-Chlorooctane 93.7 % 41-142

Surrogate: 1-Chlorooctadecane 94.1 % 37.6-147

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Received:	06/21/2019	Sampling Date:	06/20/2019
Reported:	06/27/2019	Sampling Type:	Soil
Project Name:	SUNDANCE 4-32 SWD FACILITY	Sampling Condition:	Cool & Intact
Project Number:	(4/1/19) AND (5/2/19)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY CO NM		

Sample ID: SP 8 @ 1' (H902151-46)

BTEx 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/25/2019	ND	1.98	99.2	2.00	0.998		
Toluene*	<0.050	0.050	06/25/2019	ND	2.00	100	2.00	1.47		
Ethylbenzene*	<0.050	0.050	06/25/2019	ND	1.88	94.2	2.00	1.65		
Total Xylenes*	<0.150	0.150	06/25/2019	ND	5.71	95.1	6.00	1.94		
Total BTEX	<0.300	0.300	06/25/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	48.0	16.0	06/26/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/25/2019	ND	196	98.2	200	5.16	
DRO >C10-C28*	<10.0	10.0	06/25/2019	ND	202	101	200	5.13	
EXT DRO >C28-C36	<10.0	10.0	06/25/2019	ND					

Surrogate: 1-Chlorooctane 95.2 % 41-142

Surrogate: 1-Chlorooctadecane 94.9 % 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:	06/21/2019	Sampling Date:	06/20/2019
Reported:	06/27/2019	Sampling Type:	Soil
Project Name:	SUNDANCE 4-32 SWD FACILITY	Sampling Condition:	Cool & Intact
Project Number:	(4/1/19) AND (5/2/19)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY CO NM		

Sample ID: SP 8 @ 2' (H902151-47)

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	06/26/2019	ND	400	100	400	0.00		

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Received:	06/21/2019	Sampling Date:	06/20/2019
Reported:	06/27/2019	Sampling Type:	Soil
Project Name:	SUNDANCE 4-32 SWD FACILITY	Sampling Condition:	Cool & Intact
Project Number:	(4/1/19) AND (5/2/19)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY CO NM		

Sample ID: SP 9 @ SURFACE (H902151-48)

BTEx 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/25/2019	ND	1.98	99.2	2.00	0.998		
Toluene*	<0.050	0.050	06/25/2019	ND	2.00	100	2.00	1.47		
Ethylbenzene*	<0.050	0.050	06/25/2019	ND	1.88	94.2	2.00	1.65		
Total Xylenes*	<0.150	0.150	06/25/2019	ND	5.71	95.1	6.00	1.94		
Total BTEx	<0.300	0.300	06/25/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	06/26/2019	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/25/2019	ND	196	98.2	200	5.16	
DRO >C10-C28*	<10.0	10.0	06/25/2019	ND	202	101	200	5.13	
EXT DRO >C28-C36	<10.0	10.0	06/25/2019	ND					

Surrogate: 1-Chlorooctane 78.5 % 41-142

Surrogate: 1-Chlorooctadecane 78.1 % 37.6-147

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Received:	06/21/2019	Sampling Date:	06/20/2019
Reported:	06/27/2019	Sampling Type:	Soil
Project Name:	SUNDANCE 4-32 SWD FACILITY	Sampling Condition:	Cool & Intact
Project Number:	(4/1/19) AND (5/2/19)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY CO NM		

Sample ID: SP 9 @ 1' (H902151-49)

BTX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/25/2019	ND	1.98	99.2	2.00	0.998	
Toluene*	<0.050	0.050	06/25/2019	ND	2.00	100	2.00	1.47	
Ethylbenzene*	<0.050	0.050	06/25/2019	ND	1.88	94.2	2.00	1.65	
Total Xylenes*	<0.150	0.150	06/25/2019	ND	5.71	95.1	6.00	1.94	
Total BTX	<0.300	0.300	06/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	06/26/2019	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/25/2019	ND	196	98.2	200	5.16	
DRO >C10-C28*	<10.0	10.0	06/25/2019	ND	202	101	200	5.13	
EXT DRO >C28-C36	<10.0	10.0	06/25/2019	ND					

Surrogate: 1-Chlorooctane 102 % 41-142

Surrogate: 1-Chlorooctadecane 105 % 37.6-147

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Received: 06/21/2019
Reported: 06/27/2019
Project Name: SUNDANCE 4-32 SWD FACILITY
Project Number: (4/1/19) AND (5/2/19)
Project Location: OXY - EDDY CO NM

Sampling Date: 06/20/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP 9 @ 2' (H902151-50)**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	06/26/2019	ND	400	100	400	0.00	

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Received:	06/21/2019	Sampling Date:	06/20/2019
Reported:	06/27/2019	Sampling Type:	Soil
Project Name:	SUNDANCE 4-32 SWD FACILITY	Sampling Condition:	Cool & Intact
Project Number:	(4/1/19) AND (5/2/19)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY CO NM		

Sample ID: SP 10 @ SURFACE (H902151-51)

BTEx 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/25/2019	ND	1.98	99.2	2.00	0.998		
Toluene*	<0.050	0.050	06/25/2019	ND	2.00	100	2.00	1.47		
Ethylbenzene*	<0.050	0.050	06/25/2019	ND	1.88	94.2	2.00	1.65		
Total Xylenes*	<0.150	0.150	06/25/2019	ND	5.71	95.1	6.00	1.94		
Total BTEx	<0.300	0.300	06/25/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 102 % 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	06/26/2019	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/25/2019	ND	196	98.2	200	5.16	
DRO >C10-C28*	<10.0	10.0	06/25/2019	ND	202	101	200	5.13	
EXT DRO >C28-C36	<10.0	10.0	06/25/2019	ND					

Surrogate: 1-Chlorooctane 85.0 % 41-142

Surrogate: 1-Chlorooctadecane 84.9 % 37.6-147

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Received:	06/21/2019	Sampling Date:	06/20/2019
Reported:	06/27/2019	Sampling Type:	Soil
Project Name:	SUNDANCE 4-32 SWD FACILITY	Sampling Condition:	Cool & Intact
Project Number:	(4/1/19) AND (5/2/19)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY CO NM		

Sample ID: SP 10 @ 1' (H902151-52)

BTEx 8021B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	06/25/2019	ND	1.98	99.2	2.00	0.998		
Toluene*	<0.050	0.050	06/25/2019	ND	2.00	100	2.00	1.47		
Ethylbenzene*	<0.050	0.050	06/25/2019	ND	1.88	94.2	2.00	1.65		
Total Xylenes*	<0.150	0.150	06/25/2019	ND	5.71	95.1	6.00	1.94		
Total BTEx	<0.300	0.300	06/25/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 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	48.0	16.0	06/26/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/25/2019	ND	196	98.2	200	5.16	
DRO >C10-C28*	<10.0	10.0	06/25/2019	ND	202	101	200	5.13	
EXT DRO >C28-C36	<10.0	10.0	06/25/2019	ND					

Surrogate: 1-Chlorooctane 91.8 % 41-142

Surrogate: 1-Chlorooctadecane 94.9 % 37.6-147

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Fax To: (575) 397-0397

Received: 06/21/2019
Reported: 06/27/2019
Project Name: SUNDANCE 4-32 SWD FACILITY
Project Number: (4/1/19) AND (5/2/19)
Project Location: OXY - EDDY CO NM

Sampling Date: 06/20/2019
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP 10 @ 2' (H902151-53)**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	06/26/2019	ND	400	100	400	0.00	

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Fax To: (575) 397-0397

Received:	06/21/2019	Sampling Date:	06/20/2019
Reported:	06/27/2019	Sampling Type:	Soil
Project Name:	SUNDANCE 4-32 SWD FACILITY	Sampling Condition:	Cool & Intact
Project Number:	(4/1/19) AND (5/2/19)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY CO NM		

Sample ID: SP 11 @ SURFACE (H902151-54)

BTEx 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/25/2019	ND	1.98	99.2	2.00	0.998	
Toluene*	<0.050	0.050	06/25/2019	ND	2.00	100	2.00	1.47	
Ethylbenzene*	<0.050	0.050	06/25/2019	ND	1.88	94.2	2.00	1.65	
Total Xylenes*	<0.150	0.150	06/25/2019	ND	5.71	95.1	6.00	1.94	
Total BTEx	<0.300	0.300	06/25/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 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	240	16.0	06/26/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/25/2019	ND	196	98.2	200	5.16	
DRO >C10-C28*	<10.0	10.0	06/25/2019	ND	202	101	200	5.13	
EXT DRO >C28-C36	<10.0	10.0	06/25/2019	ND					

Surrogate: 1-Chlorooctane 81.8 % 41-142

Surrogate: 1-Chlorooctadecane 79.7 % 37.6-147

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Received:	06/21/2019	Sampling Date:	06/20/2019
Reported:	06/27/2019	Sampling Type:	Soil
Project Name:	SUNDANCE 4-32 SWD FACILITY	Sampling Condition:	Cool & Intact
Project Number:	(4/1/19) AND (5/2/19)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY CO NM		

Sample ID: SP 11 @ 1' (H902151-55)

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	06/25/2019	ND	1.87	93.3	2.00	12.4	QR-02	
Toluene*	<0.050	0.050	06/25/2019	ND	1.86	93.2	2.00	4.22		
Ethylbenzene*	<0.050	0.050	06/25/2019	ND	1.80	90.1	2.00	1.76		
Total Xylenes*	<0.150	0.150	06/25/2019	ND	5.47	91.2	6.00	3.92		
Total BTEX	<0.300	0.300	06/25/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 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	272	16.0	06/26/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/25/2019	ND	196	98.2	200	5.16	
DRO >C10-C28*	<10.0	10.0	06/25/2019	ND	202	101	200	5.13	
EXT DRO >C28-C36	<10.0	10.0	06/25/2019	ND					

Surrogate: 1-Chlorooctane 95.7 % 41-142

Surrogate: 1-Chlorooctadecane 95.9 % 37.6-147

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Received:	06/21/2019	Sampling Date:	06/20/2019
Reported:	06/27/2019	Sampling Type:	Soil
Project Name:	SUNDANCE 4-32 SWD FACILITY	Sampling Condition:	Cool & Intact
Project Number:	(4/1/19) AND (5/2/19)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY CO NM		

Sample ID: SP 11 @ 2' (H902151-56)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	720	16.0	06/26/2019	ND	400	100	400	0.00	

Sample ID: SP 11 @ 3' (H902151-57)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1120	16.0	06/26/2019	ND	400	100	400	0.00	

Sample ID: SP 11 @ 4' (H902151-58)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1680	16.0	06/26/2019	ND	400	100	400	0.00	

Sample ID: SP 11 @ 5' (H902151-59)

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1680	16.0	06/26/2019	ND	400	100	400	0.00	

Sample ID: SP 11 @ 6' (H902151-60)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1140	16.0	06/26/2019	ND	400	100	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:	06/21/2019	Sampling Date:	06/20/2019
Reported:	06/27/2019	Sampling Type:	Soil
Project Name:	SUNDANCE 4-32 SWD FACILITY	Sampling Condition:	Cool & Intact
Project Number:	(4/1/19) AND (5/2/19)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY CO NM		

Sample ID: SP 11 @ 7' (H902151-61)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	576	16.0	06/26/2019	ND	400	100	400	0.00	

Sample ID: SP 11 @ 8' (H902151-62)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	06/26/2019	ND	400	100	400	0.00	

Sample ID: SP 11 @ 9' (H902151-63)

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	06/26/2019	ND	400	100	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:	06/21/2019	Sampling Date:	06/20/2019
Reported:	06/27/2019	Sampling Type:	Soil
Project Name:	SUNDANCE 4-32 SWD FACILITY	Sampling Condition:	Cool & Intact
Project Number:	(4/1/19) AND (5/2/19)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY CO NM		

Sample ID: NORTH @ SURFACE (H902151-64)

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	06/25/2019	ND	1.87	93.3	2.00	12.4		
Toluene*	<0.050	0.050	06/25/2019	ND	1.86	93.2	2.00	4.22		
Ethylbenzene*	<0.050	0.050	06/25/2019	ND	1.80	90.1	2.00	1.76		
Total Xylenes*	<0.150	0.150	06/25/2019	ND	5.47	91.2	6.00	3.92		
Total BTEX	<0.300	0.300	06/25/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 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	80.0	16.0	06/26/2019	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/25/2019	ND	196	98.2	200	5.16	
DRO >C10-C28*	<10.0	10.0	06/25/2019	ND	202	101	200	5.13	
EXT DRO >C28-C36	<10.0	10.0	06/25/2019	ND					

Surrogate: 1-Chlorooctane 84.8 % 41-142

Surrogate: 1-Chlorooctadecane 83.6 % 37.6-147

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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:	06/21/2019	Sampling Date:	06/20/2019
Reported:	06/27/2019	Sampling Type:	Soil
Project Name:	SUNDANCE 4-32 SWD FACILITY	Sampling Condition:	Cool & Intact
Project Number:	(4/1/19) AND (5/2/19)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY CO NM		

Sample ID: EAST @ SURFACE (H902151-65)

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	06/25/2019	ND	1.87	93.3	2.00	12.4		
Toluene*	<0.050	0.050	06/25/2019	ND	1.86	93.2	2.00	4.22		
Ethylbenzene*	<0.050	0.050	06/25/2019	ND	1.80	90.1	2.00	1.76		
Total Xylenes*	<0.150	0.150	06/25/2019	ND	5.47	91.2	6.00	3.92		
Total BTEX	<0.300	0.300	06/25/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 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	80.0	16.0	06/26/2019	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/26/2019	ND	196	98.2	200	5.16	
DRO >C10-C28*	<10.0	10.0	06/26/2019	ND	202	101	200	5.13	
EXT DRO >C28-C36	<10.0	10.0	06/26/2019	ND					

Surrogate: 1-Chlorooctane 96.2 % 41-142

Surrogate: 1-Chlorooctadecane 95.5 % 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:	06/21/2019	Sampling Date:	06/20/2019
Reported:	06/27/2019	Sampling Type:	Soil
Project Name:	SUNDANCE 4-32 SWD FACILITY	Sampling Condition:	Cool & Intact
Project Number:	(4/1/19) AND (5/2/19)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY CO NM		

Sample ID: WEST @ SURFACE (H902151-66)

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	06/25/2019	ND	1.87	93.3	2.00	12.4		
Toluene*	<0.050	0.050	06/25/2019	ND	1.86	93.2	2.00	4.22		
Ethylbenzene*	<0.050	0.050	06/25/2019	ND	1.80	90.1	2.00	1.76		
Total Xylenes*	<0.150	0.150	06/25/2019	ND	5.47	91.2	6.00	3.92		
Total BTEX	<0.300	0.300	06/25/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 107 % 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	06/26/2019	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/25/2019	ND	198	98.9	200	5.56	
DRO >C10-C28*	<10.0	10.0	06/25/2019	ND	196	97.9	200	5.55	
EXT DRO >C28-C36	<10.0	10.0	06/25/2019	ND					

Surrogate: 1-Chlorooctane 116 % 41-142

Surrogate: 1-Chlorooctadecane 122 % 37.6-147

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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:	06/21/2019	Sampling Date:	06/20/2019
Reported:	06/27/2019	Sampling Type:	Soil
Project Name:	SUNDANCE 4-32 SWD FACILITY	Sampling Condition:	Cool & Intact
Project Number:	(4/1/19) AND (5/2/19)	Sample Received By:	Tamara Oldaker
Project Location:	OXY - EDDY CO NM		

Sample ID: SOUTH @ SURFACE (H902151-67)

BTX 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	06/25/2019	ND	1.87	93.3	2.00	12.4		
Toluene*	<0.050	0.050	06/25/2019	ND	1.86	93.2	2.00	4.22		
Ethylbenzene*	<0.050	0.050	06/25/2019	ND	1.80	90.1	2.00	1.76		
Total Xylenes*	<0.150	0.150	06/25/2019	ND	5.47	91.2	6.00	3.92		
Total BTX	<0.300	0.300	06/25/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 109 % 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	64.0	16.0	06/26/2019	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/25/2019	ND	198	98.9	200	5.56	
DRO >C10-C28*	<10.0	10.0	06/25/2019	ND	196	97.9	200	5.55	
EXT DRO >C28-C36	<10.0	10.0	06/25/2019	ND					

Surrogate: 1-Chlorooctane 122 % 41-142

Surrogate: 1-Chlorooctadecane 126 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

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.
QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
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



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.				BILL TO												ANALYSIS REQUEST													
Project Manager: Cliff Brunson				P.O. #:				CI BTEX TPH+EXT																					
Address: P.O. Box 805				Company: <i>Oxy</i>																									
City: Hobbs State: NM Zip: 88241				Attn: <i>D. H. H. H. H.</i>																									
Phone #: 575-397-6388 Fax #: 575-397-0397				Address:																									
Project #: Project Owner: Oxy				City:																									
Project Name: Sundance 4-32 SWD Facility (4/1/19) and (5/2/19)				State: Zip:																									
Project Location: Eddy County, NM				Phone #:																									
Sampler Name: Jeff Ornelas				Fax #:																									
FOR LAB USE ONLY																													
Lab I.D.		Sample I.D.		(GRAB OR (COMP. # CONTAINERS		MATRIX				PRESERV.				SAMPLING															
						GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER :				ACID/BASE: ICE / COOL OTHER :				DATE TIME															
<i>H902151</i>																													
<i>1</i>		SP1 @ SURFACE		<i>6</i>										<i>6/18/19</i> <i>12:01 PM</i>															
<i>2</i>		SP1 @ 1'												<i>6/18/19</i> <i>12:55 PM</i>															
<i>3</i>		SP1 @ 2'												<i>6/18/19</i> <i>1:11 PM</i>															
<i>4</i>		SP1 @ 3'												<i>6/18/19</i> <i>1:22 PM</i>															
<i>5</i>		SP1 @ 4'												<i>6/18/19</i> <i>1:35 PM</i>															
<i>6</i>		SP1 @ 5'												<i>6/18/19</i> <i>1:49 PM</i>															
<i>7</i>		SP1 @ 6'												<i>6/18/19</i> <i>2:19 PM</i>															
<i>8</i>		SP1 @ 7'												<i>6/18/19</i> <i>2:33 PM</i>															
<i>9</i>		SP2 @ SURFACE												<i>6/18/19</i> <i>2:35 PM</i>															
<i>10</i>		SP2 @ 1'												<i>6/18/19</i> <i>2:40 PM</i>															

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Relinquished By: <i>Jeff Ornelas</i>		Date: <i>6/20/19</i>		Received By:		Phone Result: ☐ Yes ☐ No		Add'l Phone #:	
		Time: <i>5:00pm</i>				Fax Result: ☐ Yes ☐ No		Add'l Fax #:	
Relinquished By: <i>[Signature]</i>		Date: <i>6-21-19</i>		Received By: <i>Jamara Oldaker</i>		REMARKS:			
		Time: <i>16:55</i>							
Delivered By: (Circle One)									
Sampler - UPS - Bus - Other:		<i>5.0% #97</i>		Sample Condition					
				Cool Intact					
				☐ Yes ☐ No		CHECKED BY: (Initials)			
				☐ No ☐ No		<i>TO</i>			

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

**CARDINAL LABORATORIES**

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

2

Company Name: BBC International, Inc.				BILL TO				ANALYSIS REQUEST											
Project Manager: Cliff Brunson				P.O. #:															
Address: P.O. Box 805				Company: <i>Oxy</i>															
City: Hobbs		State: NM Zip: 88241		Attn: <i>Derrick</i>															
Phone #: 575-397-6388		Fax #: 575-397-0397		Address:															
Project #:		Project Owner: Oxy		City:															
Project Name: Sundance 4-32 SWD Facility (4/1/19) and (5/2/19)				State: Zip:															
Project Location: Eddy County, NM				Phone #:															
Sampler Name: Jeff Ornelas				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					
<i>H902151</i>																			
<i>11</i>	SP2 @ 2'	<i>G</i>	<i>1</i>			<i>✓</i>				<i>✓</i>			6/18/19	2:50 PM	<i>✓</i>				
<i>12</i>	SP2 @ 3'												6/18/19	3:06 PM	<i>✓</i>				
<i>13</i>	SP2 @ 4'												6/18/19	3:19 PM	<i>✓</i>				
<i>14</i>	SP2 @ 5'												6/18/19	3:29 PM	<i>✓</i>				
<i>15</i>	SP2 @ 6'												6/18/19	3:40 PM	<i>✓</i>				
<i>16</i>	SP3 @ SURFACE												6/18/19	3:42 PM	<i>✓</i>	<i>✓</i>			
<i>17</i>	SP3 @ 1'												6/18/19	3:45 PM	<i>✓</i>	<i>✓</i>			
<i>18</i>	SP3 @ 2'												6/18/19	3:53 PM	<i>✓</i>	<i>✓</i>			
<i>19</i>	SP3 @ 3'												6/19/19	8:59 AM	<i>✓</i>				
<i>20</i>	SP3 @ 4'												6/18/19	9:20 AM	<i>✓</i>				

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Relinquished By: <i>Jeff Ornelas</i>	Date: <i>6/20/19</i>	Received By:	Phone Result: ☐ Yes ☐ No	Add'l Phone #:
	Time: <i>5:00</i>		Fax Result: ☐ Yes ☐ No	Add'l Fax #:
Relinquished By:	Date: <i>6-21-19</i>	Received By: <i>Samara Oldat</i>	REMARKS:	
	Time: <i>16:55</i>			
Delivered By: (Circle One)	Sample Condition	CHECKED BY: (Initials)		
Sampler - UPS - Bus - Other: <i>5.0°C H97</i>	Cool Intact ☐ Yes ☐ No	<i>TO</i>		

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Relinquished By: 		Date: 6/20/19	Received By:	Phone Result: ☐ Yes ☐ No	Add'l Phone #:
		Time: 5:00p		Fax Result: ☐ Yes ☐ No	Add'l Fax #:
Relinquished By: 		Date: 6-21-19	Received By: 	REMARKS:	
		Time: 10:55			
Delivered By: (Circle One)					
Sampler - UPS - Bus - Other:		5.0° #97	Sample Condition Cool ☒ Yes ☐ No Intact ☒ Yes ☐ No	CHECKED BY: (Initials) TO	

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

4

Company Name: BBC International, Inc.				BILL TO												ANALYSIS REQUEST													
Project Manager: Cliff Brunson				P.O. #:				Company: <u>Oxy</u> Attn: <u>Derrick</u> Address: City: State: Zip: Phone #: Fax #:																					
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: Oxy				City:																									
Project Name: Sundance 4-32 SWD Facility (4/1/19) and (5/2/19)				State: Zip:																									
Project Location: Eddy County, NM				Phone #:																									
Sampler Name: Jeff Ornelas				Fax #:																									
FOR LAB USE ONLY:																													
Lab I.D.		Sample I.D.		GRAB OR (COMP. # CONTAINERS)		MATRIX				PRESERV.				SAMPLING															
						GROUNDWATER WASTEWATER SOIL OIL SLUDGE OTHER :				ACID/BASE: ICE / COOL OTHER :				DATE TIME															
14902151				6																									
31		SP5 @ 4'		6										6/19/19 12:01 PM															
32		SP6 @ SURFACE		6										6/19/19 12:05 PM															
33		SP6 @ 1'		6										6/19/19 12:55 PM															
34		SP6 @ 2'		6										6/19/19 1:11 PM															
35		SP6 @ 3'		6										6/19/19 1:25 PM															
36		SP6 @ 4'		6										6/19/19 1:37 PM															
37		SP6 @ 5'		6										6/19/19 1:49 PM															
38		SP7 @ SURFACE		6										6/19/19 1:55 PM															
39		SP7 @ 1'		6										6/19/19 2:05 PM															
40		SP7 @ 2'		6										6/18/19 2:20 PM															

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Relinquished By: <u>Jeff Ornelas</u>		Date: <u>6/20/19</u> Time: <u>5:00pm</u>		Received By: <u>Jamara Olden</u>		Phone Result: ☐ Yes ☐ No Add'l Phone #:	
Relinquished By: <u>[Signature]</u>		Date: <u>6-21-19</u> Time: <u>16:55</u>		Received By: <u>[Signature]</u>		Fax Result: ☐ Yes ☐ No Add'l Fax #:	
Delivered By: (Circle One) Sampler - UPS - Bus - Other: <u>5.0°C #97</u>		Sample Condition Cool Intact ☐ Yes ☐ No ☐ Yes ☐ No		CHECKED BY: (Initials) <u>TO</u>		REMARKS:	

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



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

BILL TO

ANALYSIS REQUEST

Company Name: BBC International, Inc.				BILL TO				ANALYSIS REQUEST															
Project Manager: Cliff Brunson				P.O. #:																			
Address: P.O. Box 805				Company: <i>Oxy</i>																			
City: Hobbs		State: NM Zip: 88241		Attn: <i>Ditrich</i>																			
Phone #: 575-397-6388		Fax #: 575-397-0397		Address:																			
Project #:		Project Owner: Oxy		City:																			
Project Name: Sundance 4-32 SWD Facility (4/1/19) and (5/2/19)				State: Zip:																			
Project Location: Eddy County, NM				Phone #:																			
Sampler Name: Jeff Ornelas				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													
<i>H902151</i>				<i>6</i>				<i>✓</i>		<i>6/19/19 2:33 PM</i>		<i>✓</i>											
<i>41</i>		SP7 @ 3'						<i>✓</i>		<i>6/19/19 2:44 PM</i>		<i>✓</i>											
<i>42</i>		SP7 @ 4'						<i>✓</i>		<i>6/19/19 2:59 PM</i>		<i>✓</i>											
<i>43</i>		SP7 @ 5'						<i>✓</i>		<i>6/19/19 3:11 PM</i>		<i>✓</i>											
<i>44</i>		SP7 @ 6'						<i>✓</i>		<i>6/20/19 8:59 AM</i>		<i>✓ ✓ ✓</i>											
<i>45</i>		SP8 @ SURFACE						<i>✓</i>		<i>6/20/19 9:15 AM</i>		<i>✓ ✓ ✓</i>											
<i>46</i>		SP8 @ 1'						<i>✓</i>		<i>6/20/19 9:31 AM</i>		<i>✓ ✓ ✓</i>											
<i>47</i>		SP8 @ 2'						<i>✓</i>		<i>6/20/19 9:55 AM</i>		<i>✓ ✓ ✓</i>											
<i>48</i>		SP9 @ SURFACE						<i>✓</i>		<i>6/20/19 10:01 AM</i>		<i>✓ ✓ ✓</i>											
<i>49</i>		SP9 @ 1'						<i>✓</i>		<i>6/20/19 10:21 AM</i>		<i>✓</i>											
<i>50</i>		SP9 @ 2'						<i>✓</i>															

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Relinquished By: <i>V. H. Ornelas</i>		Date: <i>6-20-19</i>	Received By:	Phone Result: ☐ Yes ☐ No	Add'l Phone #:
		Time: <i>5:00pm</i>		Fax Result: ☐ Yes ☐ No	Add'l Fax #:
Relinquished By:		Date: <i>6-21-19</i>	Received By: <i>Jamarc Aldabero</i>	REMARKS:	
		Time: <i>10:55</i>			
Delivered By: (Circle One)					
Sampler - UPS - Bus - Other: <i>5.0c #97</i>		Sample Condition	CHECKED BY:		
		Cool ☒ Yes ☐ No	Intact ☒ Yes ☐ No	(Initials)	
				<i>JO.</i>	

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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Relinquished By: 		Date: 6/20/19 Time: 5:00pm		Received By: _____		Phone Result: ☐ Yes ☐ No Add'l Phone #: _____	
Relinquished By: 		Date: 6-21-19 Time: 16:55		Received By: 		Fax Result: ☐ Yes ☐ No Add'l Fax #: _____	
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Sample Condition Cool Intact ☒ Yes ☐ Yes ☐ No ☐ No		CHECKED BY: (Initials) TO		REMARKS:	

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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[illegible]

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Relinquished By: <i>V. H. Jones</i>		Date: <i>6/20/19</i>	Received By:	Phone Result: ☐ Yes ☐ No	Add'l Phone #:
		Time: <i>5:00pm</i>		Fax Result: ☐ Yes ☐ No	Add'l Fax #:
Relinquished By: <i>[Signature]</i>		Date: <i>6/21/19</i>	Received By: <i>Jamara Aldaker</i>	REMARKS:	
		Time: <i>10:55</i>			
Delivered By: (Circle One)			Sample Condition	CHECKED BY: (Initials)	
Sampler - UPS - Bus - Other:		<i>5.0°C #97</i>	Cool ☒ Yes ☐ No Intact ☐ Yes ☒ No	<i>T.O.</i>	

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