Received by OCD: 4/1/2020/12:00:08 AM

Page 3

Oil Conservation Division

Incident ID

District RP 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?	<u>105</u> (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?	X 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 X No
Are the lateral extents of the release overlying a subsurface mine?	Yes X No
Are the lateral extents of the release overlying an unstable area such as karst geology?	Yes X No
Are the lateral extents of the release within a 100-year floodplain?	Yes X No
Did the release impact areas <b>not</b> 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.

- $\underline{X}$  Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- X Field data
- X Data table of soil contaminant concentration data
- x Depth to water determination
- X Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- X Boring or excavation logs
- X Photographs including date and GIS information
- X Topographic/Aerial maps
- X 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.

Received by OCD: 4/1/	2020/12:00:08 AM State of New Mexico			Page 2 of 90
101111 C-141			Incident ID	
Page 4	Oil Conservation Division		District RP	1RP-4930
			Facility ID	
			Application ID	
regulations all operators public health or the envi failed to adequately inve addition, OCD acceptane and/or regulations. Printed Name: Amy E Signature: email: <u>ABarnhill@ch</u>	J.J.C.	tifications and perform co OCD does not relieve the reat to groundwater, surfa	prrective actions for rele operator of liability sh- ce water, human health iance with any other fe ater Specialist	eases which may endanger ould their operations have or the environment. In
OCD Only				
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Oil Conservation Division

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

Incident ID	nOY1801256310
District RP	1RP-4930
Facility ID	
Application ID	

# **Remediation Plan**

X Detailed description of proposed remediation technique X Scaled sitemap with GPS coordinates showing delineation points X Estimated volume of material to be remediated X Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC X 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. Title: Waste and Water Specialist Printed Name: Amy Barnhill Date: 3/26/2020 Signature: email: ABarnhill@chevron.com Telephone: 432-687-7108 **OCD Only** Received by: Date: Approved Approved with Attached Conditions of Approval Denied Deferral Approved Bradford Billings 09/13/2021 Signature: Date:

. Released to Imaging: 9/13/2021 2:03:38 PM

## 1RP-4930

# Delineation Report and Remediation Plan Northwest Abo Unit Battery (NWAUB) Crude Oil and Produced Water Release

Eddy County, New Mexico

Latitude: N 32.81466° Longitude: W 103.56470°

LAI Project No. 20-0107-02

March 25, 2020

Prepared for: Chevron USA Inc. 6301 Deauville Blvd. Midland, Texas 79706

3

Prepared by: Larson & Associates, Inc. 507 North Marienfeld Street, Suite 205 Midland, Texas 79701

Mark J. Larson, P.G. Certified Professional Geologist #10490

Rachel E. Owen Sr. Geoscientist

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Appendix B	BBC Report
Appendix C	<b>Regulatory Communications</b>
Appendix D	Laboratory Reports
Appendix E	Photographs

1RP-4930 Delineation Report and Remediation Plan Chevron USA, Inc., NWAUB Crude Oil and Produced Water Release March 25, 2020

# 1.0 INTRODUCTION

Larson & Associates, Inc. (LAI), has prepared this delineation report and remediation plan on behalf of Chevron USA Inc. (Chevron) for submittal to the New Mexico Oil Conservation Division (OCD) District 1 for a crude oil and produced water release at the Northwest Abo Unit Battery (Site) located in Unit O (SW/4, SE/4), Section 21, Township 17 South, Range 34 East in Lea County New Mexico. The geodetic position is North 32.81466° and West -103.56470°. Figure 1 presents a topographic map. Figure 2 presents an aerial map.

## 1.1 Background

The release occurred on December 28, 2017, due to a water pump failure. Approximately 1.52 barrels (bbls) of crude oil were released and approximately 1 bbl was recovered. Approximately 11.06 bbls of produced water were released and 10 bbls were recovered. The affected area measures approximately 4,342 square feet. Appendix A presents the Chevron spill volume calculation and documentation. The initial C-141 was submitted on January 11, 2018 and assigned a Remediation Permit number of 1RP-4930.

Between March 25 and 31, 2018, BBC International, Inc. (BBC) personnel collected soil samples inside the spill area and in each cardinal direction outside of the spill for horizontal and vertical delineation. The soil samples were delivered to Cardinal Laboratories in Hobbs, New Mexico and were analyzed for benzene, toluene, ethylbenzene and xylenes (BTEX) and total petroleum hydrocarbons (TPH), including gasoline range organics (C6-C12), diesel range organics (>C12-C28) and oil range organics (>C28-C35) by EPA SW-846 Methods 8021B and 8015M, respectively, and chloride by Method SM4500CL-B. Benzene and BTEX were reported below method reporting limits in all samples. TPH was reported above the OCD delineation limit of 100 mg/Kg in the following samples:

Chloride was reported above the OCD delineation limit of 600 milligrams per kilogram (mg/Kg) in samples SP-6, 1 foot below ground surface (bgs) (2,080 mg/Kg) and SP-6, 2 feet bgs (656 mg/Kg).

BBC submitted the data to OCD on June 20, 2018, in a report titled, "Delineation Workplan". OCD denied approval of the work plan on July 19, 2018, because the plan would leave TPH in soil at concentrations above the OCD remediation limit of 100 mg/Kg and TPH at sample location SP-7 was not delineated below the OCD delineation limit of 100 mg/Kg. OCD requested Chevron to complete the TPH delineation for SP-7 and to resubmit an appropriate remediation plan for the release. Appendix B presents the BBC Delineation Workplan. Appendix C presents regulatory communications.

1RP-4930 Delineation Report and Remediation Plan Chevron USA, Inc., NWAUB Crude Oil and Produced Water Release March 25, 2020

## 1.2 Physical Setting

The physical setting is as follows:

- The surface elevation is approximately 4,073 feet above mean sea level (msl);
- The surface topography gradually decreases to the southeast;
- Surface water is present approximately 928 feet northwest of the site;
- The soils are designated as "Kimbrough-Lea complex, dry, 0 to 3 percent slopes", consisting of 0 to 3 inches of gravely loam, underlain by 3 to 10 inches of loam, and 10 to 80 inches of cemented material (caliche);
- The geology consists of alluvial and eolian deposits of the Ogallala Formation (Lower Pliocene to middle Miocene);
- Groundwater was reported in a well at approximately 105 feet below ground surface (bgs) in 1974;
- According to the New Mexico Office of the State Engineer (OSE) website the nearest freshwater well (L-03616-S6) is located in Unit N (SE/4, SW/4) in Section 21, Township 17 South, Range 34 East approximately 0.12 miles or 608 feet southwest of the Site.

## **1.3** Remediation Action Levels

The following remediation standards are based on closure criteria for soils impacted by a release as presented in Table 1 of 19.15.29 NMAC:

- Benzene 10 mg/Kg
- BTEX 50 mg/Kg
- TPH 100 mg/Kg
- Chloride 600 mg/Kg

Further, 19.15.29.13 NMAC (Restoration, Reclamation and Re-Vegetation) requires the operator to restore the impacted surface area that existed prior to the release or their final land use.

# 2.0 DELINEATION

On February 10, 2020, LAI personnel used direct push technology (DPT) to collect additional soil samples from SP-7 to complete delineation for TPH. Samples were collected at 6, 10, 15, and 20 feet bgs. The soil samples were delivered under chain of custody and preservation to Permian Basin Environmental Laboratory (PBEL) in Midland, Texas. The laboratory analyzed the samples for TPH, including gasoline range organics (C6-C12), diesel range organics (>C12-C28) and oil range organics (>C28-C35) by EPA SW-846 Method 8015M. Figure 2 presents an aerial map showing the delineation soil sample location. The laboratory reported TPH below the delineation limit of 100 milligrams per kilogram (mg/Kg) all samples. Table 1 presents the soil sample analytical data summary. Appendix D presents the laboratory reports.

## 3.0 Remediation Plan

Chevron proposes the following remedial actions:

Excavate soil from an area measuring approximately 492 square feet, encompassing SP-1 to 4.1 feet bgs,

1RP-4930 Delineation Report and Remediation Plan Chevron USA, Inc., NWAUB Crude Oil and Produced Water Release March 25, 2020

- Excavate soil from an area measuring approximately 3,062 square feet encompassing SP-2, SP-3, SP-4, and SP-5 to 3 feet bgs;
- Excavate soil from an area measuring approximately 487 square feet encompassing SP-6 to 4.1 feet bgs, and 301 square feet encompassing SP-7 to 6 feet bgs;
- Collect five (5) point composite bottom and sidewall confirmation soil samples for every 200 square feet of excavation and analyze for BTEX, TPH and chloride;
- Backfill excavations with clean topsoil up to 2 feet bgs and up to surface with clean caliche on the pad assuming achievement of OCD remediation levels; and
- > Prepare report with photographs for submittal to OCD District 1.

Figure 3 presents the proposed excavation areas.

Tables

## Table 1 Soil Sample Analytical Data Summary NWAUB Lea County, New Mexico

## North 32 48' 52.78", West 103 33' 52.84"

Page 1 of 1

Sample	Depth	Collection	Status	C6 - C12	C12 - C28	C28 - C35	ТРН
	(Feet)	Date		(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
Remediation Level:				100 / 2,500			
SP-7	6	2/10/2020	In-Situ	<50.0	<50.0	<50.0	<50.0
	10	2/10/2020	In-Situ	<49.9	<49.9	<49.9	<49.9
	15	2/10/2020	In-Situ	<49.9	<49.9	<49.9	<49.9
	20	2/10/2020	In-Situ	<49.9	<49.9	<49.9	<49.9

Notes: Analysis performed by Xenco Laboratories

Depth in feet below ground surface (bgs)

mg/Kg: milligrams per kilogram equivalent to parts per million (ppm)

<: denotes concentration less than analytical method reporting limit

Bold and Highlighted exceeds OCD remediation action limits

Figures



Figure 1 - Topographic Map



Figure 2 - Aerial Map



Figure 3 - Aerial Map Showing Proposed Excavations

Appendix A

Initial C-141

State of New Mexico **Energy Minerals and Natural Resources** 

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

Form C-141 Revised August 8, 2011

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

		OPERATOR	$\geq$	Initial Report		Final Report
Name of Company Chevron USA Inc.		Contact Josepha DeLeon				
Address 6301 Deauville Blvd., Midland, T	X 79706	Telephone No. wk: 575-263-0424 cell: 432-425-1528				
Facility Name North West Abo Unit Battery Facility Type: Battery						
Surface Owner State	Mineral Owner	State of New Mexico		API No. See atta	ached	

LOCATION	OF	DFI	ГA	CL
LUCATION	Ur.	KEL	ιĽΑ	. <b>S</b> E

Jnit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
	21	170	21E					Lea

Latitude 32.814740 Longitude; -103.564660

## NATURE OF RELEASE

Type of Release Spill	Volume of Release:	Volume Recovered:
	1.52 barrels oil;	1 barrels oil
	11.06 barrels produced water	10 barrels produced water
Source of Release Water pump failure	Date and Hour of Occurrence	Date and Hour of Discovery
	12/28/2017; 05:12 AM	12/28/2017; 08:00 AM
Was Immediate Notice Given?	If YES, To Whom?	
🛛 Yes 🗌 No 🗌 Not Required	Olivia Yu / Maxey Brown - email	
By Whom? Josepha DeLeon	Date and Hour: 12/28/2017; 10:08	AM
Was a Watercourse Reached?	If YES, Volume Impacting the Wat	ercourse.
🗌 Yes 🖾 No		
If a Watercourse was Impacted, Describe Fully.*	RECEIVED	
	RECEIVED	
N/A	By Olivia Vu at 3.	16 pm, Jan 12, 2018
	By Sirvia Tu at 5.	10 pm, 3411 12, 2010

Describe Cause of Problem and Remedial Action Taken.\*

Loss of power causing an interruption in instrument air supply, water pump failure and resulting in a release of 1.52 barrels oil and 11.06 barrels produced water to caliche pad. Recovered 1 barrel of oil and 10 barrels produced water.

Describe Area Affected and Cleanup Action Taken.\*

Spill within Tank Battery's caliche pad. None of the material went off the pad. Remediation to follow. Shut lease in. Vacuum truck extracted liquid. Manually opened valve to equalize to other tanks.

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.

Olden	OIL CONSERVATION DIVISION
Signature:	Approved by Environmental Specialist:
Printed Name: Josepha DeLeon	
Title: HES Compliance Support - Environmental	Approval Date: 1/12/2018 Expiration Date:
E-mail Address: jdxd@chevron.com	Conditions of Approval:
Date 01/11/2018 Phone: 432-425-1528	see attached directive
* Attach Additional Sheets If Necessary	
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NVAWU 09	3002524064
NVAWU 10H	3002524062
NVAWU 13	3002524046
NVAWU 14	3002523944
NVAWU 19	3002523880
NVAWU 29H	3002534668
NVAWU 20H	3002523915
NVAWU 23	3002524050
NVAWU 24H	3002524087
NVAWU 26	3002533637
NVAWU 27	3002533638
NVAWU 28H	3002533926
NVAWU 32	3002534094

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## Operator/Responsible Party,

The OCD has received the form C-141 you provided on \_1/11/2018\_ regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number \_1RP-4930\_ has been assigned. Please refer to this case number in all future correspondence.

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 <u>division-approved corrective action</u> 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 \_1\_ office in \_\_Hobbs\_\_\_\_ on or before \_2/12/2018\_. If 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 for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C<sub>6</sub> thru C<sub>36</sub>), and for chloride by Method 300. 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 for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C<sub>6</sub> thru C<sub>36</sub>), and for chloride by Method 300. 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.

• 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 protectable 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 protectable 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 Appendix B

# **BBC Report**



PHONE (575) 397-6388 • FAX (575) 397- 0397 • 1324 W. MARLAND • P.O. BOX 805 • HOBBS, NM 88241-0805 E-MAIL: cbrunson@bbcinternational.com

# **DELINEATION WORKPLAN**

# CHEVRON – NORTH WEST ABO UNIT BATTERY

(Leak Date: 12/28/17)

**RP # 1RP-4930** 

This delineation workplan and remediation proposal addresses the release associated with RP # 1RP-4930.

The following information includes:

- 1. Scaled digital site map with spill area demarcated and leak point identified along with sample point locations and areas of remediation at appropriate depths.
- 2. GPS information for sample points and sample methodology
- 3. Depth to groundwater information (i.e., pdf of OSE search results and/or copy of Chevron groundwater trend map).
- 4. Laboratory analysis results summary table and original laboratory analysis reports
- 5. A copy of the initial C-141
- 6. Potentially other pertinent information as necessary for site specific purposes.

# Based on the information included in this package and the NMOCD guidelines, the following remediation is proposed:

Chevron will remediate the spill area as depicted on the following site diagram. The leak area near SP1 – SP5 and SP7 (pink shade on diagram) will be excavated to a depth of 6 inches. The leak area near SP6 (green shade on diagram) will be excavated to a depth of 2 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.



Chevron, North West Abo Unit Battery

Sample points SP1, N 32.81484 W-103.56479 SP2, N 32.81478 W-103.56463

SP3, N 32.81475 W-103.56453 SP4, N 32.81468 W-103.56450

SP5, N 32.81468 W-103.56463

SP6, N 32.81466 W-103.56468

SP7, N 32.81474 W-103.56467

NORTH, N 32.81486 W-103.56470

SOUTH, N 32.81463 W-103.56464

EAST, N 32.81472 W-103.56443

WEST, N 32.81483 W-103.56484

# Chevron N Vacuum Abo W TB U/L O, Section 21, T17S, R34E Lea County, NM Groundwater: 50'-75'



# New Mexico Office of the State Engineer Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a	(R=POD has been replaced O=orphaned, C=the file is		qua	rters	s a	re 1:	=NW :	2=NE (	3=SW 4=	=SE]	)				
water right file.)	closed)	(	qua	rters	s a	re sr	malles	st to lar	rgest)	(NA	AD83 UTM in me	ters)	(	In feet)	
	POD Sub-		Q	Q	ი								Denth	Depth	Water
POD Number	Code basin C	County				Sec	Tws	Rng		x	Y				Column
L 03616 S6	L	LE	4	4	3	21	17S	34E	6341	77	3631573* 🌍	321	232	105	127
L 03398	L	LE		2	2	28	17S	34E	6348	88	3631285* 🌍	568	242	125	117
L 03616 S3	L	LE	2	2	4	21	17S	34E	6349	74	3632189* 🌍	708	242	121	121
L 06897	L	LE	3	4	2	21	17S	34E	6347	68	3632392* 🌍	767	176	118	58
L 03616 S5	L	LE	4	3	1	22	17S	34E	6353	70	3632398* 🌍	1142	245	138	107
L 02724 S	L	LE	4	4	3	22	17S	34E	6357	39	3631673 🌍	1258	242	110	132
L 02724 POD9	L	LE	4	4	3	22	17S	34E	6357	85	3631601* 🌍	1307	240	170	70
L 04624	L	LE		1	1	21	17S	34E	6336	59	3632876* 🌍	1449	186	170	16
L 03616 S4	L	LE		4	1	22	17S	34E	6356	74	3632507* 🌍	1451	244	105	139
L 06760	L	LE	1	1	1	22	17S	34E	6351	63	3633000* 🌍	1485	162	98	64
L 02724 POD10	L	LE	1	4	4	27	17S	34E	6358	84	3630725 🌍	1698	250	164	86
											Avera	ge Depth to	Water:	129	feet
												Minimum	Depth:	<b>98</b> 1	feet
												Maximum	Depth:	<b>170</b> 1	feet
Record Count: 11															
LITMNA DO2 Dodino	Coorah (in moto														

UTMNAD83 Radius Search (in meters):

Easting (X): 634480

Northing (Y): 3631681

Radius: 1700

\*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

1/17/18 11:27 AM

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		Publ	ic Land Surv	vey System (PLS	is)	
۲	Q64: 🗸	Q16: SW 🗸	<b>Q4:</b> SE 🗸	Sec: 21 🗸 Tws	17S 🗸	Rng: 34E 🗸
		State P	Plane Coordi	nate System - N	AD27	
0	X: 0 f	<b>Y</b> : 0	ft	Zone:		$\checkmark$
		State P	Plane Coordi	nate System - N	AD83	
0	<b>X:</b> 0 f	<b>Y</b> : 0	ft	Zone:		$\checkmark$
				utes/Seconds		
0	Longitude (X):	Deg	• • • • •	Minutes: 0	•	<b>Seconds:</b> 0 "
	Latitude (Y):	Deg	<b>Jrees:</b> 0 •	Minutes: 0	•	Seconds: 0 "
			UTM -	NAD27		
0	Easting (X	<b>():</b> 0	mtrs	Northing (Y):	0	mtrs Zone:
			ิรเ	ЈВМІТ		
	All Con	version Res	ults are disp	layed as <u>NAD 1</u>	983 UTM :	Zone 13
	Easting (X):	634480.0	mtrs	Northing (Y):	3631681.0	mtrs
	~~	Please keep s	creen open to	copy UTM values	for Reports	. ~~

•

## Laboratory Analytical Results Summary North Vacuum Abo West Battery

	1						
		Sample ID	SP1 @ 1'	SP1 @ 2'	SP1 @ 3'	SP1 @ 4'	SP1 @ 5'
Analyte	Method	Date	5/25/18	5/25/18	5/25/18	5/25/18	5/25/18
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	<0.050
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	<0.300	<0.300
Chloride	SM4500CI-B		64	32	16	16	64
GRO	TPH 8015M		<10.0	<10.0	<10.0	<10.0	<10.0
DRO	TPH 8015M		1120	1810	174	451	11.8
EXT DRO	TPH 8015M		292	456	63	153	<10.0

		Sample ID	SP2 @ 1'	SP2 @ 2'	SP2 @ 3'	SP2 @ 4'	SP2 @ 5'
Analyte	Method	Date	5/25/18	5/25/18	5/25/18	5/25/18	5/25/18
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	<0.050
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	<0.300	<0.300
Chloride	SM4500CI-B		144	16	48	16	80
GRO	TPH 8015M		<50.0	<10.0	<10.0	<10.0	<10.0
DRO	TPH 8015M		2490	310	69.1	<10.0	16.4
EXT DRO	TPH 8015M		587	93.9	32.2	<10.0	<10.0

		Sample ID	SP3 @ 1'	SP3 @ 2'	SP3 @ 3'	SP3 @ 4'
Analyte	Method	Date	5/29/18	5/29/18	5/29/18	5/29/18
			mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	<0.300
Chloride	SM4500CI-B		32	48	48	64
GRO	TPH 8015M		<10.0	<10.0	<10.0	<10.0
DRO	TPH 8015M		1060	473	24.6	16.7
EXT DRO	TPH 8015M		280	117	<10.0	<10.0

		Sample ID	SP4 @ 1'	SP4 @ 2'	SP4 @ 3'	SP4 @ 4'
Analyte	Method	Date	5/29/18	5/29/18	5/29/18	5/29/18
			mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	<0.300
Chloride	SM4500CI-B		144	64	48	48
GRO	TPH 8015M		<50.0	<10.0	<10.0	<10.0
DRO	TPH 8015M		2780	466	<10.0	<10.0
EXT DRO	TPH 8015M		674	82	<10.0	<10.0

		Sample ID	SP5 @ 1'	SP5 @ 2'	SP5 @ 3'
Analyte	Method	Date	5/29/18	5/30/18	5/30/18
			mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050
Toluene	BTEX 8021B		<0.050	<0.050	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300
Chloride	SM4500CI-B		112	528	480
GRO	TPH 8015M		<10.0	<10.0	<10.0
DRO	TPH 8015M		183	101	21.6
EXT DRO	TPH 8015M		96.9	30.8	<10.0

		Sample ID	SP6 @ 1'	SP6 @ 2'	SP6 @ 3'	SP6 @ 4'
Analyte	Method	Date	5/30/18	5/30/18	5/30/18	5/30/18
			mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	<0.300
Chloride	SM4500CI-B		2080	656	576	160
GRO	TPH 8015M		<50.0	<10.0	<10.0	<10.0
DRO	TPH 8015M		2460	12.1	<10.0	<10.0
EXT DRO	TPH 8015M		674	<10.0	<10.0	<10.0

		Sample ID	SP7 @ 1'	SP7 @ 2'	SP7 @ 3'	SP7 @ 4'	SP7 @ 5'
Analyte	Method	Date	5/31/18	5/31/18	5/31/18	5/31/18	5/31/18
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	<0.050
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	<0.300	<0.300
Chloride	SM4500CI-B		32	64	32	64	368
GRO	TPH 8015M		<10.0	<10.0	<10.0	<10.0	<10.0
DRO	TPH 8015M		411	182	<10.0	38.9	421
EXT DRO	TPH 8015M		53.6	30.6	<10.0	<10.0	119

Cardinal		Sample ID	NORTH	EAST	WEST	SOUTH
Analyte	Method	Date	5/31/18	5/31/18	5/31/18	5/31/18
			mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Ethylbenzene	BTEX 8021B		<0.050	<0.050	<0.050	<0.050
Total Xylenes	BTEX 8021B		<0.150	<0.150	<0.150	<0.150
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	<0.300
Chloride	SM4500CI-B		32	80	64	48
GRO	TPH 8015M		<10.0	<10.0	<10.0	<10.0
DRO	TPH 8015M		14.2	11.8	<10.0	<10.0
EXT DRO	TPH 8015M		<10.0	<10.0	<10.0	<10.0

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June 11, 2018

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

**RE: NORTH VACUUM ABO** 

Enclosed are the results of analyses for samples received by the laboratory on 06/04/18 15:10.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-17-10. 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 <a href="https://www.tceq.texas.gov/field/qa/lab\_accred\_certif.html">www.tceq.texas.gov/field/qa/lab\_accred\_certif.html</a>.

Cardinal Laboratories is accreditated 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. Keine

Celey D. Keene Lab Director/Quality Manager



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

Received:	06/04/2018	Sampling Date:	05/25/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

## Sample ID: 1 @ 1' (H801507-01)

BTEX 8021B	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.79	89.7	2.00	3.74	
Toluene*	<0.050	0.050	06/05/2018	ND	1.77	88.7	2.00	4.11	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	1.83	91.5	2.00	2.67	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.59	93.2	6.00	2.32	
Total BTEX	<0.300	0.300	06/05/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	106	% 69.8-14	2						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	06/06/2018	ND	432	108	400	0.00	
TPH 8015M	mg/	/kg	Analyze	d By: MS					S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/04/2018	ND	187	93.3	200	2.57	
DRO >C10-C28*	1120	10.0	06/04/2018	ND	194	97.1	200	3.45	
EXT DRO >C28-C36	292	10.0	06/04/2018	ND					
Surrogate: 1-Chlorooctane	92.2	% 41-142	,						
Surrogate: 1-Chlorooctadecane	156	% 37.6-14	7						

#### Cardinal Laboratories

\*=Accredited Analyte

Celeg D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

Received:	06/04/2018	Sampling Date:	05/25/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

### Sample ID: 1 @ 2' (H801507-02)

BTEX 8021B	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.79	89.7	2.00	3.74	
Toluene*	<0.050	0.050	06/05/2018	ND	1.77	88.7	2.00	4.11	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	1.83	91.5	2.00	2.67	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.59	93.2	6.00	2.32	
Total BTEX	<0.300	0.300	06/05/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	107	% 69.8-14	2						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	06/06/2018	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					S-04
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/04/2018	ND	187	93.3	200	2.57	
DRO >C10-C28*	1810	10.0	06/04/2018	ND	194	97.1	200	3.45	
EXT DRO >C28-C36	456	10.0	06/04/2018	ND					
Surrogate: 1-Chlorooctane	91.0	% 41-142	2						
Surrogate: 1-Chlorooctadecane	210	% 37.6-14	7						

#### Cardinal Laboratories

#### \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



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

Received:	06/04/2018	Sampling Date:	05/25/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

### Sample ID: 1 @ 3' (H801507-03)

BTEX 8021B	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.79	89.7	2.00	3.74	
Toluene*	<0.050	0.050	06/05/2018	ND	1.77	88.7	2.00	4.11	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	1.83	91.5	2.00	2.67	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.59	93.2	6.00	2.32	
Total BTEX	<0.300	0.300	06/05/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	111 9	69.8-14	2						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	06/06/2018	ND	432	108	400	0.00	
TPH 8015M	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/04/2018	ND	187	93.3	200	2.57	
DRO >C10-C28*	174	10.0	06/04/2018	ND	194	97.1	200	3.45	
EXT DRO >C28-C36	63.0	10.0	06/04/2018	ND					
Surrogate: 1-Chlorooctane	95.8	% 41-142							
Surrogate: 1-Chlorooctadecane	103	% 37.6-14	7						

#### Cardinal Laboratories

#### \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



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

Received:	06/04/2018	Sampling Date:	05/25/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

### Sample ID: 1 @ 4' (H801507-04)

BTEX 8021B	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.79	89.7	2.00	3.74	
Toluene*	<0.050	0.050	06/05/2018	ND	1.77	88.7	2.00	4.11	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	1.83	91.5	2.00	2.67	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.59	93.2	6.00	2.32	
Total BTEX	<0.300	0.300	06/05/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	115 9	% 69.8-14	2						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	06/06/2018	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/04/2018	ND	187	93.3	200	2.57	
DRO >C10-C28*	451	10.0	06/04/2018	ND	194	97.1	200	3.45	
EXT DRO >C28-C36	153	10.0	06/04/2018	ND					
Surrogate: 1-Chlorooctane	85.3	% 41-142	2						
Surrogate: 1-Chlorooctadecane	109	% 37.6-14	7						

#### Cardinal Laboratories

#### \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



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

Received:	06/04/2018	Sampling Date:	05/25/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

### Sample ID: 1 @ 5' (H801507-05)

BTEX 8021B	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.79	89.7	2.00	3.74	
Toluene*	<0.050	0.050	06/05/2018	ND	1.77	88.7	2.00	4.11	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	1.83	91.5	2.00	2.67	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.59	93.2	6.00	2.32	
Total BTEX	<0.300	0.300	06/05/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	115 9	69.8-14	2						
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	06/06/2018	ND	432	108	400	0.00	
TPH 8015M	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/04/2018	ND	187	93.3	200	2.57	
DRO >C10-C28*	11.8	10.0	06/04/2018	ND	194	97.1	200	3.45	
EXT DRO >C28-C36	<10.0	10.0	06/04/2018	ND					
Surrogate: 1-Chlorooctane	79.9	% 41-142	,						
Surrogate: 1-Chlorooctadecane	76.7	% 37.6-14	7						

#### Cardinal Laboratories

#### \*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



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

Received:	06/04/2018	Sampling Date:	05/25/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

## Sample ID: 2 @ 1' (H801507-06)

BTEX 8021B	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.79	89.7	2.00	3.74	
Toluene*	<0.050	0.050	06/05/2018	ND	1.77	88.7	2.00	4.11	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	1.83	91.5	2.00	2.67	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.59	93.2	6.00	2.32	
Total BTEX	<0.300	0.300	06/05/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	111 9	% 69.8-14	2						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	06/06/2018	ND	432	108	400	0.00	
TPH 8015M	mg/	/kg	Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<50.0	50.0	06/04/2018	ND	187	93.3	200	2.57	
DRO >C10-C28*	2490	50.0	06/04/2018	ND	194	97.1	200	3.45	
EXT DRO >C28-C36	587	50.0	06/04/2018	ND					
Surrogate: 1-Chlorooctane	69.2	% 41-142							
Surrogate: 1-Chlorooctadecane	201	% 37.6-14	7						

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



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

Received:	06/04/2018	Sampling Date:	05/25/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

## Sample ID: 2 @ 2' (H801507-07)

BTEX 8021B	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.79	89.7	2.00	3.74	
Toluene*	<0.050	0.050	06/05/2018	ND	1.77	88.7	2.00	4.11	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	1.83	91.5	2.00	2.67	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.59	93.2	6.00	2.32	
Total BTEX	<0.300	0.300	06/05/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	113 9	69.8-14	2						
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	06/06/2018	ND	432	108	400	0.00	
TPH 8015M	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/04/2018	ND	187	93.3	200	2.57	
DRO >C10-C28*	310	10.0	06/04/2018	ND	194	97.1	200	3.45	
EXT DRO >C28-C36	93.9	10.0	06/04/2018	ND					
Surrogate: 1-Chlorooctane	93.9	% 41-142							
Surrogate: 1-Chlorooctadecane	107 9	37.6-14	7						

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Celey D. Keene, Lab Director/Quality Manager


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

Received:	06/04/2018	Sampling Date:	05/25/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

## Sample ID: 2 @ 3' (H801507-08)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.79	89.7	2.00	3.74	
Toluene*	<0.050	0.050	06/05/2018	ND	1.77	88.7	2.00	4.11	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	1.83	91.5	2.00	2.67	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.59	93.2	6.00	2.32	
Total BTEX	<0.300	0.300	06/05/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	118 9	69.8-14	2						
Chloride, SM4500Cl-B	mg/	'kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	06/06/2018	ND	432	108	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/04/2018	ND	187	93.3	200	2.57	
DRO >C10-C28*	69.1	10.0	06/04/2018	ND	194	97.1	200	3.45	
EXT DRO >C28-C36	32.2	10.0	06/04/2018	ND					
Surrogate: 1-Chlorooctane	88.5	% 41-142							
Surrogate: 1-Chlorooctadecane	88.4	% 37.6-14	7						

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

Received:	06/04/2018	Sampling Date:	05/25/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

## Sample ID: 2 @ 4' (H801507-09)

BTEX 8021B	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.79	89.7	2.00	3.74	
Toluene*	<0.050	0.050	06/05/2018	ND	1.77	88.7	2.00	4.11	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	1.83	91.5	2.00	2.67	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.59	93.2	6.00	2.32	
Total BTEX	<0.300	0.300	06/05/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	118 9	% 69.8-14	2						
Chloride, SM4500Cl-B	mg/	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	06/06/2018	ND	432	108	400	0.00	
TPH 8015M	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/04/2018	ND	187	93.3	200	2.57	
DRO >C10-C28*	<10.0	10.0	06/04/2018	ND	194	97.1	200	3.45	
EXT DRO >C28-C36	<10.0	10.0	06/04/2018	ND					
Surrogate: 1-Chlorooctane	86.5	% 41-142	,						
Surrogate: 1-Chlorooctadecane	83.3	% 37.6-14	7						

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

Received:	06/04/2018	Sampling Date:	05/25/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

## Sample ID: 2 @ 5' (H801507-10)

BTEX 8021B	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.79	89.7	2.00	3.74	
Toluene*	<0.050	0.050	06/05/2018	ND	1.77	88.7	2.00	4.11	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	1.83	91.5	2.00	2.67	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.59	93.2	6.00	2.32	
Total BTEX	<0.300	0.300	06/05/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	115 9	% 69.8-14	2						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	06/06/2018	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/04/2018	ND	187	93.3	200	2.57	
DRO >C10-C28*	16.4	10.0	06/04/2018	ND	194	97.1	200	3.45	
EXT DRO >C28-C36	<10.0	10.0	06/04/2018	ND					
Surrogate: 1-Chlorooctane	87.3	% 41-142	2						
Surrogate: 1-Chlorooctadecane	82.0	% 37.6-14	7						

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Received:	06/04/2018	Sampling Date:	05/29/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

## Sample ID: 3 @ 1' (H801507-11)

BTEX 8021B	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.79	89.7	2.00	3.74	
Toluene*	<0.050	0.050	06/05/2018	ND	1.77	88.7	2.00	4.11	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	1.83	91.5	2.00	2.67	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.59	93.2	6.00	2.32	
Total BTEX	<0.300	0.300	06/05/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	114 9	% 69.8-14	2						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	06/06/2018	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/04/2018	ND	187	93.3	200	2.57	
DRO >C10-C28*	1060	10.0	06/04/2018	ND	194	97.1	200	3.45	
EXT DRO >C28-C36	280	10.0	06/04/2018	ND					
Surrogate: 1-Chlorooctane	89.2	% 41-142	2						
Surrogate: 1-Chlorooctadecane	147 9	% 37.6-14	7						

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

Received:	06/04/2018	Sampling Date:	05/29/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

## Sample ID: 3 @ 2' (H801507-12)

BTEX 8021B	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.79	89.7	2.00	3.74	
Toluene*	<0.050	0.050	06/05/2018	ND	1.77	88.7	2.00	4.11	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	1.83	91.5	2.00	2.67	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.59	93.2	6.00	2.32	
Total BTEX	<0.300	0.300	06/05/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	111 9	69.8-14	2						
Chloride, SM4500Cl-B	mg/	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	06/06/2018	ND	432	108	400	0.00	
TPH 8015M	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/04/2018	ND	187	93.3	200	2.57	
DRO >C10-C28*	473	10.0	06/04/2018	ND	194	97.1	200	3.45	
EXT DRO >C28-C36	117	10.0	06/04/2018	ND					
Surrogate: 1-Chlorooctane	85.2	% 41-142	,						
Surrogate: 1-Chlorooctadecane	113 9	% 37.6-14	7						

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

Received:	06/04/2018	Sampling Date:	05/29/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

## Sample ID: 3 @ 3' (H801507-13)

BTEX 8021B	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.79	89.7	2.00	3.74	
Toluene*	<0.050	0.050	06/05/2018	ND	1.77	88.7	2.00	4.11	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	1.83	91.5	2.00	2.67	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.59	93.2	6.00	2.32	
Total BTEX	<0.300	0.300	06/05/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	112 9	% 69.8-14	2						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	06/06/2018	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/04/2018	ND	187	93.3	200	2.57	
DRO >C10-C28*	24.6	10.0	06/04/2018	ND	194	97.1	200	3.45	
EXT DRO >C28-C36	<10.0	10.0	06/04/2018	ND					
Surrogate: 1-Chlorooctane	83.5	% 41-142	2						
Surrogate: 1-Chlorooctadecane	80.0	% 37.6-14	7						

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

Received:	06/04/2018	Sampling Date:	05/29/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

## Sample ID: 3 @ 4' (H801507-14)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.79	89.7	2.00	3.74	
Toluene*	<0.050	0.050	06/05/2018	ND	1.77	88.7	2.00	4.11	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	1.83	91.5	2.00	2.67	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.59	93.2	6.00	2.32	
Total BTEX	<0.300	0.300	06/05/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	116 9	69.8-14	2						
Chloride, SM4500Cl-B	mg/	'kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	06/06/2018	ND	432	108	400	0.00	
TPH 8015M	mg/	'kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2018	ND	184	91.9	200	4.53	
DRO >C10-C28*	16.7	10.0	06/05/2018	ND	183	91.7	200	6.20	
EXT DRO >C28-C36	<10.0	10.0	06/05/2018	ND					
Surrogate: 1-Chlorooctane	95.5	% 41-142							
Surrogate: 1-Chlorooctadecane	92.7	% 37.6-14	7						

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

Received:	06/04/2018	Sampling Date:	05/29/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

## Sample ID: 4 @ 1' (H801507-15)

BTEX 8021B	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.79	89.7	2.00	3.74	
Toluene*	<0.050	0.050	06/05/2018	ND	1.77	88.7	2.00	4.11	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	1.83	91.5	2.00	2.67	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.59	93.2	6.00	2.32	
Total BTEX	<0.300	0.300	06/05/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	111 9	% 69.8-14	2						
Chloride, SM4500Cl-B	mg/	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	06/06/2018	ND	432	108	400	0.00	
TPH 8015M	mg/	/kg	Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<50.0	50.0	06/05/2018	ND	184	91.9	200	4.53	
DRO >C10-C28*	2780	50.0	06/05/2018	ND	183	91.7	200	6.20	
EXT DRO >C28-C36	674	50.0	06/05/2018	ND					
Surrogate: 1-Chlorooctane	92.0	% 41-142							
Surrogate: 1-Chlorooctadecane	246 9	% 37.6-14	7						

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

Received:	06/04/2018	Sampling Date:	05/29/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

## Sample ID: 4 @ 2' (H801507-16)

BTEX 8021B	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.79	89.7	2.00	3.74	
Toluene*	<0.050	0.050	06/05/2018	ND	1.77	88.7	2.00	4.11	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	1.83	91.5	2.00	2.67	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.59	93.2	6.00	2.32	
Total BTEX	<0.300	0.300	06/05/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	113 9	% 69.8-14	2						
Chloride, SM4500Cl-B	mg/	′kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	06/06/2018	ND	432	108	400	0.00	
TPH 8015M	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2018	ND	184	91.9	200	4.53	
DRO >C10-C28*	466	10.0	06/05/2018	ND	183	91.7	200	6.20	
EXT DRO >C28-C36	82.0	10.0	06/05/2018	ND					
Surrogate: 1-Chlorooctane	94.8	% 41-142	,						
Surrogate: 1-Chlorooctadecane	120 9	37.6-14	7						

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

Received:	06/04/2018	Sampling Date:	05/29/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

## Sample ID: 4 @ 3' (H801507-17)

BTEX 8021B	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.79	89.7	2.00	3.74	
Toluene*	<0.050	0.050	06/05/2018	ND	1.77	88.7	2.00	4.11	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	1.83	91.5	2.00	2.67	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.59	93.2	6.00	2.32	
Total BTEX	<0.300	0.300	06/05/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	116 9	% 69.8-14	2						
Chloride, SM4500Cl-B	mg/	′kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	06/06/2018	ND	432	108	400	0.00	
TPH 8015M	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2018	ND	184	91.9	200	4.53	
DRO >C10-C28*	<10.0	10.0	06/05/2018	ND	183	91.7	200	6.20	
EXT DRO >C28-C36	<10.0	10.0	06/05/2018	ND					
Surrogate: 1-Chlorooctane	82.9	% 41-142							
Surrogate: 1-Chlorooctadecane	79.5	% 37.6-14	7						

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



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

Received:	06/04/2018	Sampling Date:	05/29/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

## Sample ID: 4 @ 4' (H801507-18)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.98	98.8	2.00	5.47	
Toluene*	<0.050	0.050	06/05/2018	ND	2.01	100	2.00	5.67	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	2.03	101	2.00	6.98	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.88	98.0	6.00	6.50	
Total BTEX	<0.300	0.300	06/05/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	114 9	69.8-14	2						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	06/06/2018	ND	432	108	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2018	ND	184	91.9	200	4.53	
DRO >C10-C28*	<10.0	10.0	06/05/2018	ND	183	91.7	200	6.20	
EXT DRO >C28-C36	<10.0	10.0	06/05/2018	ND					
Surrogate: 1-Chlorooctane	87.9	% 41-142							
Surrogate: 1-Chlorooctadecane	84.6	% 37.6-14	7						

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Celey D. Keene, Lab Director/Quality Manager



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

Received:	06/04/2018	Sampling Date:	05/29/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

## Sample ID: 5 @ 1' (H801507-19)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.98	98.8	2.00	5.47	
Toluene*	<0.050	0.050	06/05/2018	ND	2.01	100	2.00	5.67	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	2.03	101	2.00	6.98	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.88	98.0	6.00	6.50	
Total BTEX	<0.300	0.300	06/05/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	109 9	69.8-14	2						
Chloride, SM4500Cl-B	mg/	'kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	06/06/2018	ND	432	108	400	0.00	
TPH 8015M	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2018	ND	184	91.9	200	4.53	
DRO >C10-C28*	183	10.0	06/05/2018	ND	183	91.7	200	6.20	
EXT DRO >C28-C36	96.9	10.0	06/05/2018	ND					
Surrogate: 1-Chlorooctane	90.9	% 41-142	,						
Surrogate: 1-Chlorooctadecane	95.0	% 37.6-14	7						

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Celey D. Keene, Lab Director/Quality Manager



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

Received:	06/04/2018	Sampling Date:	05/30/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

## Sample ID: 5 @ 2' (H801507-20)

BTEX 8021B	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.98	98.8	2.00	5.47	
Toluene*	<0.050	0.050	06/05/2018	ND	2.01	100	2.00	5.67	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	2.03	101	2.00	6.98	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.88	98.0	6.00	6.50	
Total BTEX	<0.300	0.300	06/05/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	110 9	% 69.8-14	2						
Chloride, SM4500Cl-B	mg/	′kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	528	16.0	06/06/2018	ND	432	108	400	0.00	
TPH 8015M	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2018	ND	184	91.9	200	4.53	
DRO >C10-C28*	101	10.0	06/05/2018	ND	183	91.7	200	6.20	
EXT DRO >C28-C36	30.8	10.0	06/05/2018	ND					
Surrogate: 1-Chlorooctane	80.5	% 41-142	2						
Surrogate: 1-Chlorooctadecane	85.1	% 37.6-14	7						

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

Received:	06/04/2018	Sampling Date:	05/30/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

## Sample ID: 5 @ 3' (H801507-21)

BTEX 8021B	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.98	98.8	2.00	5.47	
Toluene*	<0.050	0.050	06/05/2018	ND	2.01	100	2.00	5.67	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	2.03	101	2.00	6.98	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.88	98.0	6.00	6.50	
Total BTEX	<0.300	0.300	06/05/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	111 9	% 69.8-14	2						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	480	16.0	06/06/2018	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2018	ND	184	91.9	200	4.53	
DRO >C10-C28*	21.6	10.0	06/05/2018	ND	183	91.7	200	6.20	
EXT DRO >C28-C36	<10.0	10.0	06/05/2018	ND					
Surrogate: 1-Chlorooctane	78.9	% 41-142	2						
Surrogate: 1-Chlorooctadecane	78.2	% 37.6-14	7						

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

Received:	06/04/2018	Sampling Date:	05/30/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

## Sample ID: 6 @ 1' (H801507-22)

BTEX 8021B	mg	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.98	98.8	2.00	5.47	
Toluene*	<0.050	0.050	06/05/2018	ND	2.01	100	2.00	5.67	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	2.03	101	2.00	6.98	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.88	98.0	6.00	6.50	
Total BTEX	<0.300	0.300	06/05/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	104	% 69.8-14	2						
Chloride, SM4500Cl-B	mg/	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2080	16.0	06/06/2018	ND	432	108	400	0.00	
TPH 8015M	mg/	/kg	Analyze	d By: MS					S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<50.0	50.0	06/05/2018	ND	184	91.9	200	4.53	
DRO >C10-C28*	2460	50.0	06/05/2018	ND	183	91.7	200	6.20	
EXT DRO >C28-C36	674	50.0	06/05/2018	ND					
Surrogate: 1-Chlorooctane	92.5	% 41-142							
Surrogate: 1-Chlorooctadecane	243	% 37.6-14	7						

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

Received:	06/04/2018	Sampling Date:	05/30/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

## Sample ID: 6 @ 2' (H801507-23)

BTEX 8021B	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.98	98.8	2.00	5.47	
Toluene*	<0.050	0.050	06/05/2018	ND	2.01	100	2.00	5.67	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	2.03	101	2.00	6.98	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.88	98.0	6.00	6.50	
Total BTEX	<0.300	0.300	06/05/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	110 9	% 69.8-14	2						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	656	16.0	06/06/2018	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2018	ND	184	91.9	200	4.53	
DRO >C10-C28*	12.1	10.0	06/05/2018	ND	183	91.7	200	6.20	
EXT DRO >C28-C36	<10.0	10.0	06/05/2018	ND					
Surrogate: 1-Chlorooctane	88.4	% 41-142	2						
Surrogate: 1-Chlorooctadecane	86.0	% 37.6-14	7						

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

Received:	06/04/2018	Sampling Date:	05/30/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

## Sample ID: 6 @ 3' (H801507-24)

BTEX 8021B	mg,	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.98	98.8	2.00	5.47	
Toluene*	<0.050	0.050	06/05/2018	ND	2.01	100	2.00	5.67	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	2.03	101	2.00	6.98	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.88	98.0	6.00	6.50	
Total BTEX	<0.300	0.300	06/05/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	110 9	% 69.8-14	2						
Chloride, SM4500Cl-B	mg,	′kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	576	16.0	06/06/2018	ND	432	108	400	0.00	
TPH 8015M	mg,	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2018	ND	184	91.9	200	4.53	
DRO >C10-C28*	<10.0	10.0	06/05/2018	ND	183	91.7	200	6.20	
EXT DRO >C28-C36	<10.0	10.0	06/05/2018	ND					
Surrogate: 1-Chlorooctane	86.3	% 41-142							
Surrogate: 1-Chlorooctadecane	83.3	% 37.6-14	7						

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Received:	06/04/2018	Sampling Date:	05/30/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

## Sample ID: 6 @ 4' (H801507-25)

BTEX 8021B	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.98	98.8	2.00	5.47	
Toluene*	<0.050	0.050	06/05/2018	ND	2.01	100	2.00	5.67	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	2.03	101	2.00	6.98	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.88	98.0	6.00	6.50	
Total BTEX	<0.300	0.300	06/05/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	111 9	% 69.8-14	2						
Chloride, SM4500Cl-B	mg/	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	06/06/2018	ND	432	108	400	0.00	
TPH 8015M	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2018	ND	184	91.9	200	4.53	
DRO >C10-C28*	<10.0	10.0	06/05/2018	ND	183	91.7	200	6.20	
EXT DRO >C28-C36	<10.0	10.0	06/05/2018	ND					
Surrogate: 1-Chlorooctane	90.6	% 41-142	,						
Surrogate: 1-Chlorooctadecane	87.1	% 37.6-14	7						

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Received:	06/04/2018	Sampling Date:	05/31/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

## Sample ID: 7 @ 1' (H801507-26)

BTEX 8021B	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.98	98.8	2.00	5.47	
Toluene*	<0.050	0.050	06/05/2018	ND	2.01	100	2.00	5.67	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	2.03	101	2.00	6.98	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.88	98.0	6.00	6.50	
Total BTEX	<0.300	0.300	06/05/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	111 9	69.8-14	2						
Chloride, SM4500Cl-B	mg/	′kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	06/06/2018	ND	432	108	400	0.00	
TPH 8015M	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2018	ND	184	91.9	200	4.53	
DRO >C10-C28*	411	10.0	06/05/2018	ND	183	91.7	200	6.20	
EXT DRO >C28-C36	53.6	10.0	06/05/2018	ND					
Surrogate: 1-Chlorooctane	90.0	% 41-142	,						
Surrogate: 1-Chlorooctadecane	111 9	37.6-14	7						

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Received:	06/04/2018	Sampling Date:	05/31/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

## Sample ID: 7 @ 2' (H801507-27)

BTEX 8021B	mg,	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.98	98.8	2.00	5.47	
Toluene*	<0.050	0.050	06/05/2018	ND	2.01	100	2.00	5.67	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	2.03	101	2.00	6.98	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.88	98.0	6.00	6.50	
Total BTEX	<0.300	0.300	06/05/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	108	% 69.8-14	2						
Chloride, SM4500Cl-B	mg,	′kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	06/06/2018	ND	432	108	400	0.00	
TPH 8015M	mg,	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2018	ND	184	91.9	200	4.53	
DRO >C10-C28*	182	10.0	06/05/2018	ND	183	91.7	200	6.20	
EXT DRO >C28-C36	30.6	10.0	06/05/2018	ND					
Surrogate: 1-Chlorooctane	95.3	% 41-142	,						
Surrogate: 1-Chlorooctadecane	105 9	37.6-14	7						

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Received:	06/04/2018	Sampling Date:	05/31/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

## Sample ID: 7 @ 3' (H801507-28)

BTEX 8021B	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.98	98.8	2.00	5.47	
Toluene*	<0.050	0.050	06/05/2018	ND	2.01	100	2.00	5.67	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	2.03	101	2.00	6.98	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.88	98.0	6.00	6.50	
Total BTEX	<0.300	0.300	06/05/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	107 9	% 69.8-14	2						
Chloride, SM4500Cl-B	mg/	′kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	06/06/2018	ND	432	108	400	0.00	
TPH 8015M	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2018	ND	184	91.9	200	4.53	
DRO >C10-C28*	<10.0	10.0	06/05/2018	ND	183	91.7	200	6.20	
EXT DRO >C28-C36	<10.0	10.0	06/05/2018	ND					
Surrogate: 1-Chlorooctane	85.5	% 41-142							
Surrogate: 1-Chlorooctadecane	82.2	% 37.6-14	7						

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\*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



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

Received:	06/04/2018	Sampling Date:	05/31/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

## Sample ID: 7 @ 4' (H801507-29)

BTEX 8021B	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.98	98.8	2.00	5.47	
Toluene*	<0.050	0.050	06/05/2018	ND	2.01	100	2.00	5.67	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	2.03	101	2.00	6.98	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.88	98.0	6.00	6.50	
Total BTEX	<0.300	0.300	06/05/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	110 9	% 69.8-14	2						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	06/06/2018	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2018	ND	184	91.9	200	4.53	
DRO >C10-C28*	38.9	10.0	06/05/2018	ND	183	91.7	200	6.20	
EXT DRO >C28-C36	<10.0	10.0	06/05/2018	ND					
Surrogate: 1-Chlorooctane	88.4	% 41-142	,						
Surrogate: 1-Chlorooctadecane	88.6	% 37.6-14	7						

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



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

Received:	06/04/2018	Sampling Date:	05/31/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

## Sample ID: 7 @ 5' (H801507-30)

BTEX 8021B	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.98	98.8	2.00	5.47	
Toluene*	<0.050	0.050	06/05/2018	ND	2.01	100	2.00	5.67	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	2.03	101	2.00	6.98	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.88	98.0	6.00	6.50	
Total BTEX	<0.300	0.300	06/05/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	104 9	% 69.8-14	2						
Chloride, SM4500Cl-B	mg/	′kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	368	16.0	06/06/2018	ND	432	108	400	0.00	
TPH 8015M	mg/	′kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2018	ND	184	91.9	200	4.53	
DRO >C10-C28*	421	10.0	06/05/2018	ND	183	91.7	200	6.20	
EXT DRO >C28-C36	119	10.0	06/05/2018	ND					
Surrogate: 1-Chlorooctane	71.9	% 41-142	,						
Surrogate: 1-Chlorooctadecane	95.6	% 37.6-14	7						

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Celey D. Keene, Lab Director/Quality Manager



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

Received:	06/04/2018	Sampling Date:	05/31/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

### Sample ID: NORTH (H801507-31)

BTEX 8021B	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.98	98.8	2.00	5.47	
Toluene*	<0.050	0.050	06/05/2018	ND	2.01	100	2.00	5.67	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	2.03	101	2.00	6.98	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.88	98.0	6.00	6.50	
Total BTEX	<0.300	0.300	06/05/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	109	% 69.8-14	2						
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	06/06/2018	ND	432	108	400	0.00	
TPH 8015M	mg,	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2018	ND	184	91.9	200	4.53	
DRO >C10-C28*	14.2	10.0	06/05/2018	ND	183	91.7	200	6.20	
EXT DRO >C28-C36	<10.0	10.0	06/05/2018	ND					
Surrogate: 1-Chlorooctane	80.7	% 41-142	2						
Surrogate: 1-Chlorooctadecane	79.8	% 37.6-14	7						

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Celey D. Keene, Lab Director/Quality Manager



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

Received:	06/04/2018	Sampling Date:	05/31/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

## Sample ID: EAST (H801507-32)

BTEX 8021B	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.98	98.8	2.00	5.47	
Toluene*	<0.050	0.050	06/05/2018	ND	2.01	100	2.00	5.67	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	2.03	101	2.00	6.98	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.88	98.0	6.00	6.50	
Total BTEX	<0.300	0.300	06/05/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	106 9	% 69.8-14	2						
Chloride, SM4500Cl-B	mg/	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	06/06/2018	ND	432	108	400	0.00	
TPH 8015M	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2018	ND	184	91.9	200	4.53	
DRO >C10-C28*	11.8	10.0	06/05/2018	ND	183	91.7	200	6.20	
EXT DRO >C28-C36	<10.0	10.0	06/05/2018	ND					
Surrogate: 1-Chlorooctane	78.5	% 41-142	,						
Surrogate: 1-Chlorooctadecane	75.1	% 37.6-14	7						

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Celey D. Keene, Lab Director/Quality Manager



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

Received:	06/04/2018	Sampling Date:	05/31/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

### Sample ID: WEST (H801507-33)

BTEX 8021B	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.98	98.8	2.00	5.47	
Toluene*	<0.050	0.050	06/05/2018	ND	2.01	100	2.00	5.67	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	2.03	101	2.00	6.98	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.88	98.0	6.00	6.50	
Total BTEX	<0.300	0.300	06/05/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	101 9	% 69.8-14	2						
Chloride, SM4500Cl-B	mg/	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	06/06/2018	ND	432	108	400	0.00	
TPH 8015M	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2018	ND	184	91.9	200	4.53	
DRO >C10-C28*	<10.0	10.0	06/05/2018	ND	183	91.7	200	6.20	
EXT DRO >C28-C36	<10.0	10.0	06/05/2018	ND					
Surrogate: 1-Chlorooctane	73.7	% 41-142							
Surrogate: 1-Chlorooctadecane	71.2	% 37.6-14	7						

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Celeg D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

Received:	06/04/2018	Sampling Date:	05/31/2018
Reported:	06/11/2018	Sampling Type:	Soil
Project Name:	NORTH VACUUM ABO	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	CHEVRON		

### Sample ID: SOUTH (H801507-34)

BTEX 8021B	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	06/05/2018	ND	1.98	98.8	2.00	5.47	
Toluene*	<0.050	0.050	06/05/2018	ND	2.01	100	2.00	5.67	
Ethylbenzene*	<0.050	0.050	06/05/2018	ND	2.03	101	2.00	6.98	
Total Xylenes*	<0.150	0.150	06/05/2018	ND	5.88	98.0	6.00	6.50	
Total BTEX	<0.300	0.300	06/05/2018	ND					
Surrogate: 4-Bromofluorobenzene (PID	108 9	% 69.8-14	2						
Chloride, SM4500Cl-B	mg/	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	06/06/2018	ND	432	108	400	0.00	
TPH 8015M	mg/	/kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	06/05/2018	ND	209	105	200	0.669	
DRO >C10-C28*	<10.0	10.0	06/05/2018	ND	226	113	200	0.0120	
EXT DRO >C28-C36	<10.0	10.0	06/05/2018	ND					
Surrogate: 1-Chlorooctane	65.1	% 41-142							
Surrogate: 1-Chlorooctadecane	70.2	% 37.6-14	7						

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Celeg D. Keene

Celey D. Keene, Lab Director/Quality Manager



## **Notes and Definitions**

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
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

#### **Cardinal Laboratories**

#### \*=Accredited Analyte

Celeg D. Keene

Celey D. Keene, Lab Director/Quality Manager

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

ARDINAL LABORATORIES

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

Company Name: BBC International, Inc.		BILL TO	ANALYSIS REQUEST
Project Manager: Cliff Brunson		P.O. #:	
Address: P.O. Box 805		Company:	
City: Hobbs State: NM Zip: 8824	41	Attn:	
Phone #: 575-397-6388 Fax #: 575-397-0397	7	Address:	
Project #: Project Owner: Chev	iran	City:	
Project Name: North Vacuum Abo		State: Zip:	
Project Location:		Phone #:	
Sampler Name: Jeff Ornelas		Fax #:	
FOR LAB USE ONLY	MATRIX	PRESERV. SAMPLING	
(C)OMP ERS		4	
Lab I.D. Sample I.D.	ATER		
Lab I.D. Sample I.D.	GE	RR: COO	明セレ
Lab I.D. Sample I.D. (G) VALEN (CONTAINERS	NAST SOIL DIL	ACID/BASE: OTHER: OTHER: MIL ALVOL	
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2102 61		SI25/18/1038	
3 3 3		\$ 25/18 1050	
4 104 61		578181111	
5 05 61		5 2518 1145	
6 201 GI		S 28 18 1212	
7202 61		5/25/18 1250	
8 2 @ 3 6 1		5/25/18 139	
9264 61		5728/18 2/1	
10 205 61		S/25/18 249	

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Relinguished By:	Date: ////	Received By:	Clased upon any of the above stated re	Phone Result:	□ Yes	D No	Add'l Phone #:	
1	6/1/18	1	111/1/2	Fax Result:	□ Yes		Add'I Fax #:	
all Olarelas	Time: Hoc	Jamara i	LACOK	REMARKS:				
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† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

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Received by OCD: 4/1/2020/12:00:08 AM

ARDINAL LABORATORIES

Company Name: BBC International, Inc.

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

## DRIES IM 88240 93-2476 BILL TO ANALYSIS REQUEST

Project Manage	Cliff Brunson		_					P.0	). #:			فستوط سالارت														
Address: P.O.	Box 805							Co	mpa	any																
city: Hobbs	State: NM	Zip:	88	324	1			Att	n:														1			
Phone #: 575-3	397-6388 Fax #: 575	397	-03	97				Ad	dres	ss:																
Project #:	Project Owner	C: C	her	NON	7			Cit	y:																	
Project Name:	North Vacuum Abo							Sta	te:			Zip:														
Project Location								Ph	one	#:																
Sampler Name:	Jeff Omelas							Fax	<b>c #:</b>						1											
FOR LAB USE ONLY			-		MA	TRIX	(		PRE	SE	RV.	SA	MPLI	NG		7										
Lab I.D. <i>H801507</i>	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER MASTEMATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DA	ŢE	TIME	TPH P	5 110	ULTX	CL-								
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Relinquished By:	Date:	Received By:	Phone Result:	Yes	🗆 No	Add'I Phone #:
0	01/10		Fax Result:	Yes	🗆 No	Add'l Fax #:
Jeff anelas	Time: 100	6	REMARKS:			
Relinquished By:	Date: 1/18	Received By:				
	Time:	Januar d Ildatal				
	3.10	Julling Villes				
Delivered By: (Circle One)	10	Sample Condition CHECKED BY:				
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Sampler - UPS - Bus - Other:	reelled.	-315 TYes TYes TO #75	4	Yas	302	ne allad Space

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

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Page 67 (



## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

RDINAL LABORATORIES 101 East Marland, Hobbs, NM 88240

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

Company Name: BBC International, Inc.								BILL TO						ANALYSIS REQUEST											
Project Manager: Cliff Brunson							P.O. #:																		
Address: P.O. Box 805							Company:					1													
Habba NIM 00044							Attn:																		
Phone #: 575-397-6388 Fax #: 575-397-0397						Address:																			
P							City:																		
Project Name: North Jacuum Hao						State: Zip:																			
Project Location:						Phone #:																			
Ell O I							Fax #:						H								1				
FOR LAB USE ONLY					N	IATRI	X		PRE	SE	RV.	SAMPL	NG	2								6			
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PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed walved unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services herein acc of whathat

Relinquished By:	Date:/1/10	Received By:	poin any of the above stated rea	Phone Result:	□ Yes	□ No	Add'I Phone #:
0	91/10			Fax Result:	Yes	□ No	Add'I Fax #:
Jeff Ornelas	Time:400			REMARKS:			
Relinquished By:	Date: 4-18	Received/By:	MIIA				
	Time: 10	Janara K	dat				
Delivered By: (Circle One)	210	Sample Condition	CHECKED BY:				10.001 11.021
Sampler - UPS - Bus - Other:	Site till	Cool Intact	(Initials)	- /	Na	10	my flad small
	orrected -	J.DC NO NO	Y=-#15	()	, cer	0	and a race Shall

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

3 of 4

Appendix C

# **Regulatory Communications**

From:	Hernandez, Christina, EMNRD
To:	<u>Cliff Brunson; Yu, Olivia, EMNRD; "Mann, Ryan"</u>
Cc:	<u>"Barnhill, Amy D."; "Ken Swinney"; "Jennifer Gilkey"; "Kathy Purvis"</u>
Subject:	RE: Chevron - North West Abo Unit Battery (RP-4930) - Delineation Workplan
Date:	Thursday, July 19, 2018 12:03:19 PM

Dear Mr. Brunson:

Please note that the current RRALs are adjusted accordingly to 30 due to presence of water source < 1000 ft (20 points) and depth to groundwater being between 50-99 ft (10 points).

Based on preliminary laboratory summary results submitted, at this time NMOCD denies the proposed remediation plan due to exceeding TPH RRAL's in sampling locations SP1-SP7. Additionally, delineation is incomplete at sampling location SP7. Please complete delineation and resubmit an appropriate remediation plan for this release.

Thanks,

Christina Hernandez EMNRD-OCD Environmental Specialist 1625 N. French Drive Hobbs, NM 88240 575-393-6161 x111 Christina.Hernandez@state.nm.us

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

From: Cliff Brunson <cbrunson@bbcinternational.com>
Sent: Wednesday, June 20, 2018 6:49 PM
To: Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>; 'Mann, Ryan' <rmann@slo.state.nm.us>
Cc: Hernandez, Christina, EMNRD <Christina.Hernandez@state.nm.us>; 'Barnhill, Amy D.'
<ABarnhill@chevron.com>; 'Ken Swinney' <kswinney@bbcinternational.com>; 'Jennifer Gilkey'
<jgilkey@bbcinternational.com>; 'Kathy Purvis' <kathy@bbcinternational.com>
Subject: Chevron - North West Abo Unit Battery (RP-4930) - Delineation Workplan

Olivia and Ryan,

Please find the attached Delineation Workplan and remediation proposal for the Chevron North West Abo Unit Battery (1RP-4930). Chevron is requesting that you review this plan and is looking forward to the OCD's and SLO's approval.

If you have any questions, please let me know.

## Thanks, Cliff

Cliff P. Brunson, CEI, CRS President BBC International, Inc. World-Wide Environmental Specialists Mailing Address: P. O. Box 805 Hobbs, NM 88241-0805 USA Shipping Address: 1324 W. Marland St. Hobbs, NM 88240 USA Phone: (575) 397-6388 Fax: (575) 397-0397 E-Mail: cbrunson@bbcinternational.com



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From:	Mann, Ryan
To:	"Cliff Brunson"; Yu, Olivia, EMNRD
Cc:	Hernandez, Christina, EMNRD; "Barnhill, Amy D."; "Ken Swinney"; "Jennifer Gilkey"; "Kathy Purvis"
Subject:	RE: Chevron - North West Abo Unit Battery (RP-4930) - Delineation Workplan
Date:	Sunday, July 8, 2018 4:54:55 PM

NMSLO approves of this plan as written. Confirmation samples from the bottom and sidewall, no greater than 50 feet apart are requested. Like approval from NMOCD is also necessary.

Ryan Mann Remediation Specialist Field Operation Division (575) 392-3697 (505) 699-1989 New Mexico State Land Office 2827 N. Dal Paso Suite 117 Hobbs, NM 88240

From: Cliff Brunson [mailto:cbrunson@bbcinternational.com]
Sent: Wednesday, June 20, 2018 6:49 PM
To: 'Olivia Yu' <Olivia.Yu@state.nm.us>; Mann, Ryan <rmann@slo.state.nm.us>
Cc: 'Hernandez, Christina, EMNRD' <Christina.Hernandez@state.nm.us>; 'Barnhill, Amy D.'
<ABarnhill@chevron.com>; 'Ken Swinney' <kswinney@bbcinternational.com>; 'Jennifer Gilkey'
<jgilkey@bbcinternational.com>; 'Kathy Purvis' <kathy@bbcinternational.com>
Subject: Chevron - North West Abo Unit Battery (RP-4930) - Delineation Workplan

Olivia and Ryan,

Please find the attached Delineation Workplan and remediation proposal for the Chevron North West Abo Unit Battery (1RP-4930). Chevron is requesting that you review this plan and is looking forward to the OCD's and SLO's approval.

If you have any questions, please let me know.

Thanks, Cliff

Cliff P. Brunson, CEI, CRS President BBC International, Inc. World-Wide Environmental Specialists Mailing Address: P. O. Box 805 Hobbs, NM 88241-0805 USA Shipping Address: 1324 W. Marland St. Hobbs, NM 88240 USA Phone: (575) 397-6388 Fax: (575) 397-0397





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Appendix D

# Laboratory Reports





Project Id: Contact: Mark Larson Project Location: Certificate of Analysis Summary 651946

Larson and Associates, Inc., Midland, TX

Project Name: Chevron NWAUB



Date Received in Lab:Tue Feb-11-20 10:44 amReport Date:13-FEB-20Project Manager:Holly Taylor

	Lab Id:	651946-0	01	651946-0	02	651946-003		651946-004			
Analysis Requested	Field Id:	SP-7 (6'	)	SP-7 (10	SP-7 (10')		SP-7 (15')		')		
Analysis Kequestea	Depth:	6- ft		10- ft		15- ft		20- ft			
	Matrix:	SOIL	SOIL		SOIL SO			SOIL			
	Sampled:	Feb-10-20 1	eb-10-20 12:31		2:32	Feb-10-20 1	2:36	Feb-10-20 1	2:41		
TPH by SW8015 Mod	Extracted:	Feb-11-20 1	Feb-11-20 14:00		Feb-11-20 14:00		4:00	Feb-11-20 1	4:00		
	Analyzed:	Feb-12-20 0	Feb-12-20 00:42		1:03	Feb-12-20 0	1:24	Feb-12-20 0	1:46		
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<49.9	49.9	<49.9	49.9	<49.9	49.9		
Diesel Range Organics (DRO)		<50.0	50.0	<49.9	49.9	<49.9	49.9	<49.9	49.9		
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<49.9	49.9	<49.9	49.9	<49.9	49.9		
Total TPH		<50.0	50.0	<49.9	49.9	<49.9	49.9	<49.9	49.9		

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Hely Jaylor

Holly Taylor Project Manager

for Larson and Associates, Inc.

**Project Manager: Mark Larson** 

Chevron NWAUB

#### 13-FEB-20

Collected By: Client





#### 1211 W. Florida Ave Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122): Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054) Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

> Xenco-Dallas (EPA Lab Code: TX01468): Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16) Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21) Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19) Xenco-Carlsbad (LELAP): Louisiana (05092) Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5) Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757) Xenco-Tampa: Florida (E87429), North Carolina (483) Received by OCD: 4/1/2020(12:00:08 AM



13-FEB-20

Project Manager: **Mark Larson Larson and Associates, Inc.** P. O. Box 50685 Midland, TX 79710

Reference: XENCO Report No(s): 651946 Chevron NWAUB Project Address:

#### Mark Larson :

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 651946. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 651946 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Holy Taylor

Holly Taylor Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994. Certified and approved by numerous States and Agencies. A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America







# Sample Cross Reference 651946



#### Larson and Associates, Inc., Midland, TX

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SP-7 (6')	S	02-10-20 12:31	6 ft	651946-001
SP-7 (10')	S	02-10-20 12:32	10 ft	651946-002
SP-7 (15')	S	02-10-20 12:36	15 ft	651946-003
SP-7 (20')	S	02-10-20 12:41	20 ft	651946-004





## CASE NARRATIVE

Client Name: Larson and Associates, Inc. Project Name: Chevron NWAUB

Project ID: Work Order Number(s): 651946 Report Date: 13-FEB-20 Date Received: 02/11/2020

#### Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments: Batch: LBA-3116240 TPH by SW8015 Mod Motor Oil Range Hydrocarbons (MRO) recovered below QC limits in the Blank Spike and Duplicate indicating bias low results. Samples in the analytical batch are: 651946-001, -002, -003, -004.



ATORIES

# **Certificate of Analytical Results 651946**



# Larson and Associates, Inc., Midland, TX

Sample Id:	SP-7 (6')		Matrix:	Soil		Date Received	1:02.11.20 10.4	44
Lab Sample Id	: 651946-001		Date Collect	ed: 02.10.20 12.31		Sample Depth: 6 ft		
Analytical Met	thod: TPH by SW8015 M	Aod				Prep Method:	SW8015P	
Tech:	DVM					% Moisture:		
Analyst:	ARM		Date Prep:	02.11.20 14.00		Basis:	Wet Weight	
Seq Number:	3116240							
Parameter		Cas Number	Result	RL	Units	Analysis D	ate Flag	Dil

Parameter	Cas Number	Result RL		Units	Analysis Date	Flag	Dil	
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0		mg/kg	02.12.20 00.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0		mg/kg	02.12.20 00.42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0		mg/kg	02.12.20 00.42	U	1
Total TPH	PHC635	<50.0	50.0		mg/kg	02.12.20 00.42	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	88	%	70-135	02.12.20 00.42		
o-Terphenyl		84-15-1	88	%	70-135	02.12.20 00.42		



# **Certificate of Analytical Results 651946**



# Larson and Associates, Inc., Midland, TX

Sample Id:	SP-7 (10')		Matrix:	Soil	D	ate Received	02.11.20 10.44	ł
Lab Sample Id:	Lab Sample Id: 651946-002			ed: 02.10.20 12.32	Sample Depth: 10 ft			
Analytical Met	hod: TPH by SW8015 M	Iod			P	rep Method:	SW8015P	
Tech:	DVM				%	Moisture:		
Analyst:	ARM		Date Prep:	02.11.20 14.00	В	asis:	Wet Weight	
Seq Number:	3116240							
Parameter		Cas Number	Result F	RL .	Units	Analysis Da	te Flag	Dil

1 al ameter	Cas Mulliou	Ktsuit	KL		Units	Analysis Date	riag	DII	
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9		mg/kg	02.12.20 01.03	U	1	
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9		mg/kg	02.12.20 01.03	U	1	
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9		mg/kg	02.12.20 01.03	U	1	
Total TPH	PHC635	<49.9	49.9		mg/kg	02.12.20 01.03	U	1	
			%						
Surrogate		Cas Number	Recovery	Units	Limits	Analysis Date	Flag		
1-Chlorooctane		111-85-3	86	%	70-135	02.12.20 01.03			
o-Terphenyl		84-15-1	87	%	70-135	02.12.20 01.03			



# **Certificate of Analytical Results 651946**



# Larson and Associates, Inc., Midland, TX

Sample Id: <b>SP-7</b> (15')		Matrix:	Soil	Date Rec	eived:02.11.20 10.4	4	
Lab Sample Id: 651946-003		Date Collecte	d: 02.10.20 12.36	Sample D	Sample Depth: 15 ft		
Analytical Method: TPH by SW	8015 Mod			Prep Met	hod: SW8015P		
Tech: DVM				% Moistu	ire:		
Analyst: ARM		Date Prep:	02.11.20 14.00	Basis:	Wet Weight		
Seq Number: 3116240							
Parameter	Cas Number	Result F	RL	Units Analy	sis Date Flag	Dil	

I ul unicici	Cubittuniber	result	KL		Omts	Analysis Date	Tiag	DI
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9		mg/kg	02.12.20 01.24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9		mg/kg	02.12.20 01.24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9		mg/kg	02.12.20 01.24	U	1
Total TPH	PHC635	<49.9	49.9		mg/kg	02.12.20 01.24	U	1
			%					
Surrogate		Cas Number	Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	86	%	70-135	02.12.20 01.24		
o-Terphenyl		84-15-1	86	%	70-135	02.12.20 01.24		



# **Certificate of Analytical Results 651946**



# Larson and Associates, Inc., Midland, TX

Sample Id: SP-7 (2	0')	Matrix:	Soil	Date	Received:02.11.20 10.	44	
Lab Sample Id: 651946	-004	Date Collecte	ed: 02.10.20 12.41	Sample Depth: 20 ft			
Analytical Method: TF	H by SW8015 Mod			Prep	Method: SW8015P		
Tech: DVM				% M	oisture:		
Analyst: ARM		Date Prep:	02.11.20 14.00	Basis	s: Wet Weight		
Seq Number: 3116240	)						
Parameter	Cas Number	Result I	8L	Units A	nalysis Date Flag	Dil	

r al ameter	Cas Nulliber	Result	KL		Units	Analysis Date	Flag	DII	
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9		mg/kg	02.12.20 01.46	U	1	
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9		mg/kg	02.12.20 01.46	U	1	
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9		mg/kg	02.12.20 01.46	U	1	
Total TPH	PHC635	<49.9	49.9		mg/kg	02.12.20 01.46	U	1	
			%						
Surrogate		Cas Number	Recovery	Units	Limits	Analysis Date	Flag		
1-Chlorooctane		111-85-3	82	%	70-135	02.12.20 01.46			
o-Terphenyl		84-15-1	82	%	70-135	02.12.20 01.46			



# **Flagging Criteria**



Page 83 of 90

- X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- **B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- **D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- **F** RPD exceeded lab control limits.
- J The target analyte was positively identified below the quantitation limit and above the detection limit.
- U Analyte was not detected.
- L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- **H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- **K** Sample analyzed outside of recommended hold time.
- **JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.
- \*\* Surrogate recovered outside laboratory control limit.
- **BRL** Below Reporting Limit.
- RL Reporting Limit
- MDL Method Detection LimitSDLSample Detection LimitLOD Limit of Detection
- PQL Practical Quantitation Limit MQL Method Quantitation Limit LOQ Limit of Quantitation
- DL Method Detection Limit
- NC Non-Calculable

SMP Clie	ent Sample	BLK	Method Blank	
BKS/LCS	S Blank Spike/Laboratory Control Sample	BKSD/LCSD	Blank Spike Duplicate/Labo	ratory Control Sample Duplicate
MD/SD	Method Duplicate/Sample Duplicate	MS	Matrix Spike	MSD: Matrix Spike Duplicate

- + NELAC certification not offered for this compound.
- \* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

#### Received by OCD: 4/1/2020/12:00:08 AM



#### QC Summary 651946

#### Larson and Associates, Inc. Chevron NWAUB

Analytical Method: Seq Number:	<b>TPH by S</b> 3116240	W8015 M	od		Matrix:	Solid			P	rep Methoo Date Prej		8015P 1.20	
MB Sample Id:	7696418-1	-BLK		LCS Sample Id: 7696418-1-BKS			LCSD Sample Id: 7696418-1-BSD						
Parameter		MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarb	ons (GRO)	<15.0	1000	901	90	896	90	70-135	1	20	mg/kg	02.11.20 17:56	
Diesel Range Organics	(DRO)	<15.0	1000	974	97	948	95	70-135	3	20	mg/kg	02.11.20 17:56	
Surrogate		MB %Rec	MB Flag		•••	LCS Flag	LCSI %Re			imits	Units	Analysis Date	
1-Chlorooctane		88		1	02		102		70	0-135	%	02.11.20 17:56	
o-Terphenyl		86		1	01		97		70	0-135	%	02.11.20 17:56	

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8	015P	
Seq Number:	3116240	Matrix:	Solid	Date Prep:	02.11	1.20	
		MB Sample Id:	7696418-1-BLK				
Parameter		MB Result		ι	J <b>nits</b>	Analysis Date	Flag
Motor Oil Range Hydrocarb	ons (MRO)	<50.0		m	ng/kg	02.11.20 17:34	

<b>Analytical Method:</b> Seq Number:	<b>TPH by S</b> 3116240 651910-00		lod		Matrix:	Soil 651910-00	01 <b>S</b>			rep Metho Date Pro	ep: 02.1	8015P 1.20 910-001 SD	
Parent Sample Id:	031910-00	Parent	Spike	MS Sa	MS	MSD	MSD	Limits		RPD Lim		Analysis	
Parameter		Result	Amount	Result	%Rec	Result	%Rec		/0111 2			Date	Flag
Gasoline Range Hydrocarb	ons (GRO)	<15.0	997	920	92	907	91	70-135	1	20	mg/kg	02.11.20 19:00	
Diesel Range Organics	(DRO)	<15.0	997	985	99	978	98	70-135	1	20	mg/kg	02.11.20 19:00	
Motor Oil Range Hydrocar	bons (MRO)	<15.0	997	<49.9	0	<49.9	0	70-135	NC	20	mg/kg	02.11.20 19:00	Х
Surrogate			AS Rec	MS Flag	MSD %Ree			imits	Units	Analysis Date			
1-Chlorooctane				9	<del>)</del> 7		94		70	)-135	%	02.11.20 19:00	
o-Terphenyl				9	91		92		70	)-135	%	02.11.20 19:00	

MS/MSD Percent Recovery Relative Percent Difference LCS/LCSD Recovery Log Difference [D] = 100\*(C-A) / B RPD = 200\* | (C-E) / (C+E) | [D] = 100 \* (C) / [B] Log Diff. = Log(Sample Duplicate) - Log(Original Sample) LCS = Laboratory Control Sample A = Parent Result C = MS/LCS Result E = MSD/LCSD Result MS = Matrix Spike B = Spike Added D = MSD/LCSD % Rec

.



Page 85 of 90

## **XENCO** Laboratories

#### Prelogin/Nonconformance Report- Sample Log-In

Client: Larson and Associates, Inc.	Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient				
Date/ Time Received: 02.11.2020 10.44.00 AM					
Work Order #: 651946	Temperature Measuring device used :				
Sample Recei	pt Checklist Comments				
#1 *Temperature of cooler(s)?	.6				
#2 *Shipping container in good condition?	Yes				
#3 *Samples received on ice?	Yes				
#4 *Custody Seals intact on shipping container/ cooler?	N/A				
#5 Custody Seals intact on sample bottles?	N/A				
#6*Custody Seals Signed and dated?	N/A				
#7 *Chain of Custody present?	Yes				
#8 Any missing/extra samples?	No				
#9 Chain of Custody signed when relinquished/ received?	Yes				
#10 Chain of Custody agrees with sample labels/matrix?	Yes				
#11 Container label(s) legible and intact?	Yes				
#12 Samples in proper container/ bottle?	Yes				
#13 Samples properly preserved?	Yes				
#14 Sample container(s) intact?	Yes				
#15 Sufficient sample amount for indicated test(s)?	Yes				
#16 All samples received within hold time?	Yes				
#17 Subcontract of sample(s)?	N/A				
#18 Water VOC samples have zero headspace?	N/A				

#### \* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Analyst:

PH Device/Lot#: r8

Checklist completed by: Allison Johnson

Date: 02.11.2020

Checklist reviewed by: Jession Whamek

Jessica Kramer

Date: 02.12.2020

Appendix E

# Photographs

1RP-4930 Chevron USA, Inc. Northwest Abo Unit Battery



Northwest Abo Tank Battery Viewing North, March 23, 2020



Spill Area Viewing Northwest, March 23, 2020

1RP-4930 Chevron USA, Inc. Northwest Abo Unit Battery



Spill Area Viewing Southwest, March 23, 2020

District I 1625 N. French Dr., Hobbs, NM 88240 Phone:(575) 393-6161 Fax:(575) 393-0720 District II

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

CONDITIONS

Operator:	OGRID:
CHEVRON U S A INC	4323
6301 Deauville Blvd	Action Number:
Midland, TX 79706	4752
	Action Type:
	[C-141] Release Corrective Action (C-141)

#### CONDITIONS

Created By	Condition	Condition Date
bbillings	None	9/13/2021

CONDITIONS

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Action 4752