



## DELINEATION WORKPLAN

### CHEVRON – ROSS RANCH 6 FEDERAL #1H (Leak Date: 12/5/16)

**RP # 2RP-4039**  
**API # 30-015-36883**

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This delineation workplan and remediation proposal addresses the release associated with RP # 2RP-4039.

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 excavate the spill area as depicted on the following site diagram. The leak area near SP4 will be raked or surface scraped. The leak area near SP5, SP7-SP9 will be excavated to a depth of 1 foot. The leak area near SP10 and SP11 will be excavated to a depth of 3 feet. No impact was discovered near SP1-SP3, therefore, no remediation activities are warranted.***

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.

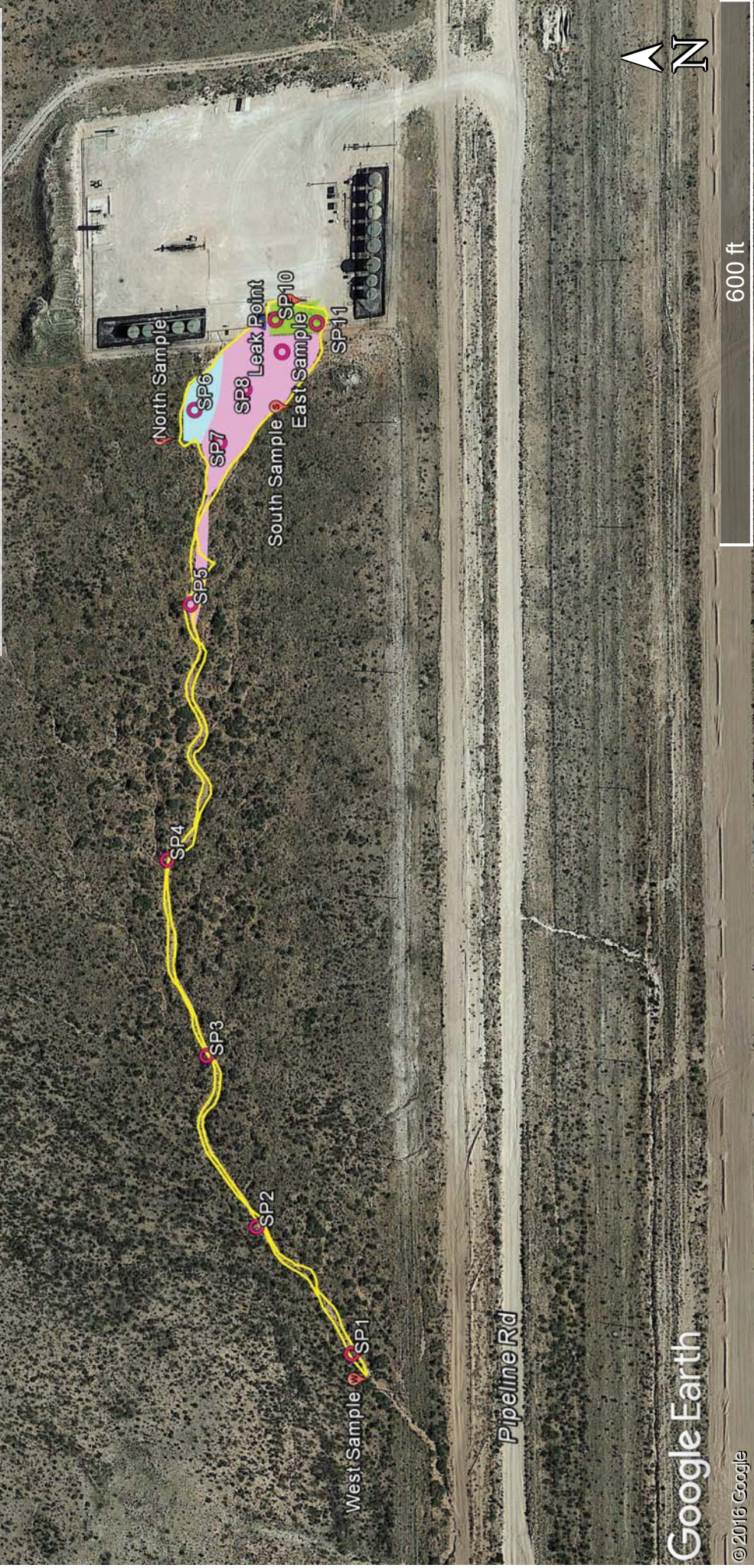


# Chevron, Ross Ranch 6 Federal #1H

Leak Date: 12/05/2016 2RP-4039, API # 30-015-36883

## Legend

- 1' Excavation
- 3' Excavation
- East Sample
- Spill Area
- Leak Point
- North Sample
- Sample points, Hand auger
- South Sample
- Surface scrape, Overspray Area
- West Sample



Google Earth

© 2016 Google



## Chevron, Ross Ranch 6 Federal #1H

### Samples, Hand Auger

SP1, GPS POINT: N 32.06487 W-103.92241

SP2, GPS POINT: N 32.06519 W-103.92195

SP3, GPS POINT: N 32.06536 W-103.92129

SP4, GPS POINT: N 32.06550 W-103.92051

SP5, GPS POINT: N 32.06541 W-103.91950

SP6, GPS POINT: N 32.06539 W-103.91873

SP7, GPS POINT: N 32.06531 W-103.91886

SP8, GPS POINT: N 32.06522 W-103.91866

SP9, GPS POINT: N 32.06509 W-103.91853

SP10, GPS POINT: N 32.06511 W-103.91840

SP11, GPS POINT: N 32.06497 W-103.91843

NORTH SAMPLE, GPS POINT: N 32.06547 W-103.91884

SOUTH SAMPLE, GPS POINT: N 32.06507 W-103.91875

EAST SAMPLE, GPS POINT: N 32.06502 W-103.91834

WEST SAMPLE, GPS POINT: N 32.06482 W-103.92250





# 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 water right file.)

(R=POD has been replaced,  
O=orphaned,  
C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	DepthWell	DepthWater	Water Column
<a href="#">C_01360</a>		C	ED	4	3	3	05	26S	30E	602997	3548152	<input type="text"/>	915	770	173 597
<a href="#">C_01361</a>			ED	3	4	3	05	26S	30E	603240	3548157	<input type="text"/>	1156	775	184 591

Average Depth to Water: **178 feet**

Minimum Depth: **173 feet**

Maximum Depth: **184 feet**

**Record Count: 2**

**UTMNAD83 Radius Search (in meters):**

**Easting (X):** 602091

**Northing (Y):** 3548286

**Radius:** 1700

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.

3/8/17 2:58 PM

WATER COLUMN/ AVERAGE DEPTH TO  
WATER

Public Land Survey System (PLSS)

☐

Q64:

Q16:

SW

Q4:

SE

Sec:

06

Tws:

26S

Rng:

30E

State Plane Coordinate System - NAD27

☐

X:

0

ft

Y:

0

ft

Zone:

State Plane Coordinate System - NAD83

☐

X:

0

ft

Y:

0

ft

Zone:

Degrees/Minutes/Seconds

☐

Longitude (X):

Degrees:

0

°

Minutes:

0

'

Seconds:

0

"

Latitude (Y):

Degrees:

0

°

Minutes:

0

'

Seconds:

0

"

UTM - NAD27

☐

Easting (X):

0

mtrs

Northing (Y):

0

mtrs

Zone:

SUBMIT

All Conversion Results are displayed as NAD 1983 UTM Zone 13

Easting (X):

602091.0

mtrs

Northing (Y):

3548286.0

mtrs

~~ Please keep screen open to copy UTM values for Reports. ~~



# Groundwater Plot

## Chevron Ross Ranch 6 Federal #1H

County  
Eddy

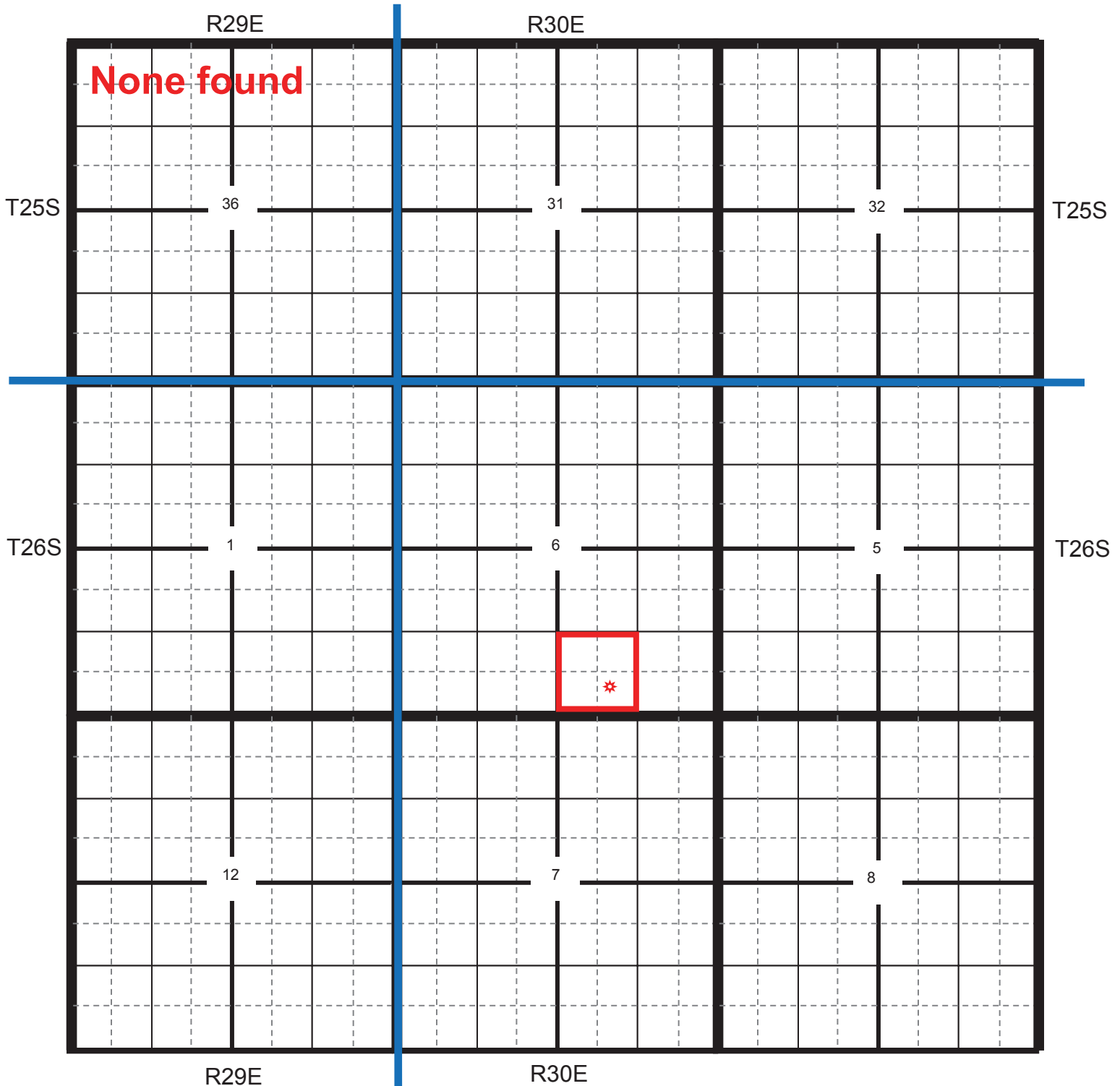
Unit Letter  
O

Section  
6

Township  
26S

Range  
30E

Trend Map 175'



★ Location

● OCD

● USGS

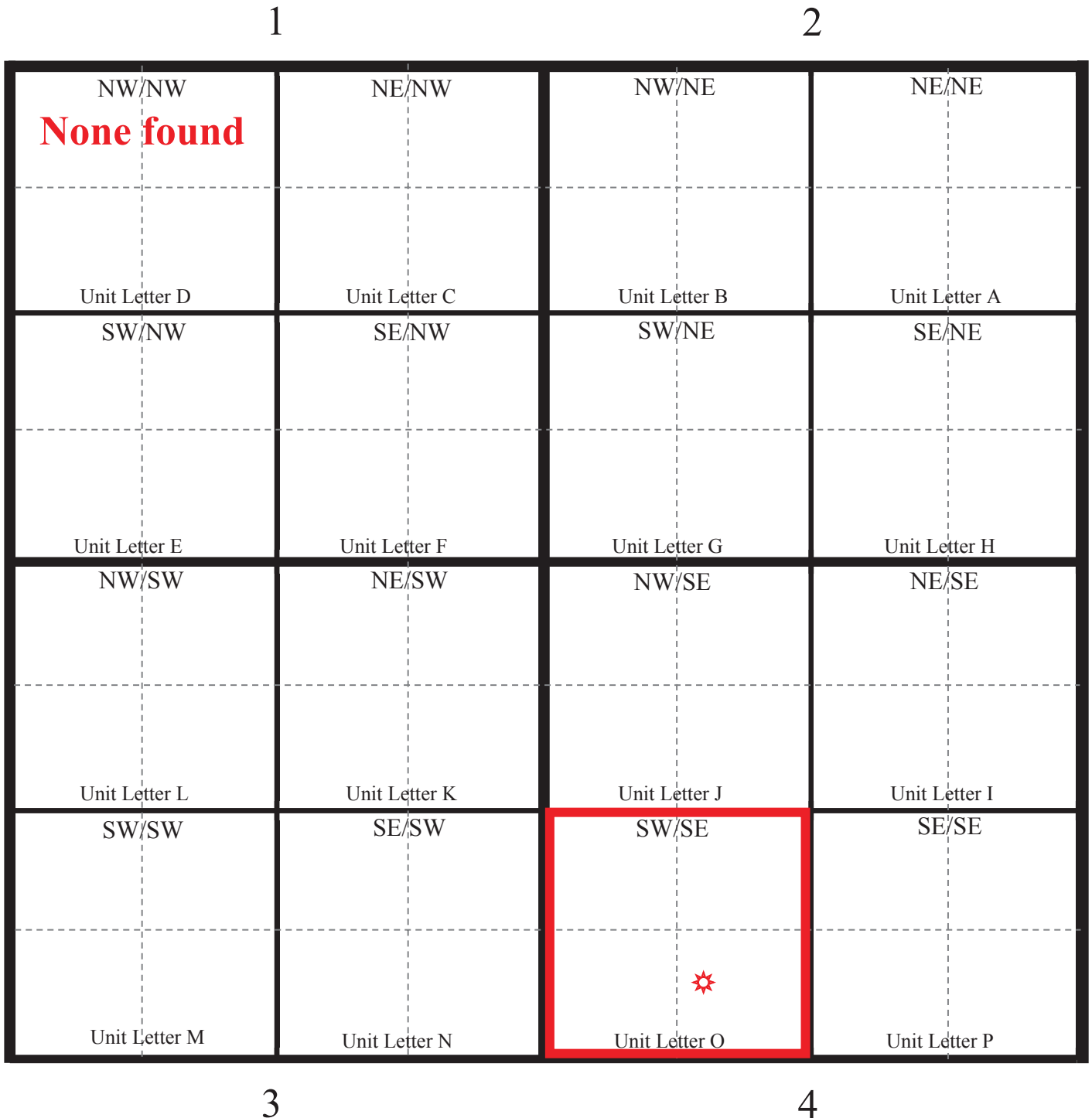
● SEO

● All Databases

## Chevron Ross Ranch 6 Federal #1H

<b>County</b> Eddy	<b>Unit Letter</b> O	<b>Section</b> 6	<b>Township</b> 26S	<b>Range</b> 30E
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Trend Map 175'





Laboratory Analytical Results Summary  
Ross Ranch 6 Federal #1H

Analyte	Method	SP1 @ SURFACE	
		Sample Date	2/14/17 mg/Kg
Chloride	SM4500C1-B		240

Analyte	Method	SP5 @ 1'		SP5 @ 2'	
		Sample Date	2/14/17 mg/Kg	Sample Date	2/14/17 mg/Kg
Chloride	SM4500C1-B		672		1310
					64

Analyte	Method	SP7 @ 1'		SP7 @ 2'	
		Sample Date	2/14/17 mg/Kg	Sample Date	2/14/17 mg/Kg
Benzene	BTEX 8021B		<0.050		<0.050
Toluene	BTEX 8021B		<0.050		<0.050
Ethylbenzene	BTEX 8021B		<0.050		<0.050
Total Xylenes	BTEX 8021B		<0.150		<0.150
Total BTEX	BTEX 8021B		<0.300		<0.300
Chloride	SM4500C1-B		2560		256
GRO	TPH 8015M		<10.0		<10.0
DRO	TPH 8015M		421		32.7

Analyte	Method	SP8 @ 1'		SP8 @ 2'	
		Sample Date	2/14/17 mg/Kg	Sample Date	2/14/17 mg/Kg
Benzene	BTEX 8021B		<0.050		<0.050
Toluene	BTEX 8021B		<0.050		<0.050
Ethylbenzene	BTEX 8021B		<0.050		<0.050
Total Xylenes	BTEX 8021B		<0.150		<0.150
Total BTEX	BTEX 8021B		<0.300		<0.300
Chloride	SM4500C1-B		2360		208
GRO	TPH 8015M		<10.0		<10.0
DRO	TPH 8015M		459		72.5

Analyte	Method	SP9 @ 1'		SP9 @ 2'	
		Sample Date	2/14/17 mg/Kg	Sample Date	2/14/17 mg/Kg
Benzene	BTEX 8021B		<0.050		<0.050
Toluene	BTEX 8021B		<0.050		<0.050
Ethylbenzene	BTEX 8021B		<0.050		<0.050
Total Xylenes	BTEX 8021B		<0.150		<0.150
Total BTEX	BTEX 8021B		<0.300		<0.300
Chloride	SM4500C1-B		2480		192
GRO	TPH 8015M		<10.0		<10.0
DRO	TPH 8015M		80.4		45.4

Analyte	Method	SP2 @ SURFACE	
		Sample Date	2/14/17 mg/Kg
Chloride	SM4500C1-B		32

Analyte	Method	SP6 @ SURFACE	
		Sample Date	2/14/17 mg/Kg
Chloride	SM4500C1-B		224

Analyte	Method	SP10 @ 1'		SP10 @ 3'		SP10 @ 3.5'	
		Sample Date	2/14/17 mg/Kg	Sample Date	2/14/17 mg/Kg	Sample Date	2/14/17 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		0.262		<0.150		<0.150
Total BTEX	BTEX 8021B		<0.300		<0.300		<0.300
Chloride	SM4500C1-B		6260		2120		80
GRO	TPH 8015M		<10.0		<10.0		<10.0
DRO	TPH 8015M		238		122		24.7

Analyte	Method	SP11 @ 1'		SP11 @ 3'		SP11 @ 3.5'	
		Sample Date	2/14/17 mg/Kg	Sample Date	2/14/17 mg/Kg	Sample Date	2/14/17 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	SM4500C1-B		6530		1960		64
GRO	TPH 8015M		<10.0		<10.0		<10.0
DRO	TPH 8015M		211		144		38

Analyte	Method	SP3 @ SURFACE	
		Sample Date	2/14/17 mg/Kg
Chloride	SM4500C1-B		80

Analyte	Method	NORTH @ SURFACE	
		Sample Date	2/14/17 mg/Kg
Chloride	SM4500C1-B		16

Analyte	Method	EAST @ SURFACE	
		Sample Date	2/14/17 mg/Kg
Chloride	SM4500C1-B		<16.0

Analyte	Method	SP4 @ SURFACE	
		Sample Date	2/14/17 mg/Kg
Chloride	SM4500C1-B		640

Analyte	Method	SOUTH @ SURFACE	
		Sample Date	2/14/17 mg/Kg
Chloride	SM4500C1-B		16

Analyte	Method	WEST @ SURFACE	
		Sample Date	2/14/17 mg/Kg
Chloride	SM4500C1-B		16

February 28, 2017

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: ROSS RANCH 6 FED#1H

Enclosed are the results of analyses for samples received by the laboratory on 02/24/17 13:40.

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

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	02/24/2017	Sampling Date:	02/14/2017
Reported:	02/28/2017	Sampling Type:	Soil
Project Name:	ROSS RANCH 6 FED#1H	Sampling Condition:	Cool & Intact
Project Number:	CHEVRON	Sample Received By:	Jodi Henson
Project Location:	MALAGA, NEW MEXICO		

**Sample ID: SP1 @ SURFACE (H700470-01)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	02/27/2017	ND	432	108	400	3.77	

**Sample ID: SP2 @ SURFACE (H700470-02)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	02/27/2017	ND	432	108	400	3.77	

**Sample ID: SP3 @ SURFACE (H700470-03)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	02/27/2017	ND	432	108	400	3.77	

**Sample ID: SP4 @ SURFACE (H700470-04)**

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	640	16.0	02/27/2017	ND	432	108	400	3.77	

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

Received:	02/24/2017	Sampling Date:	02/14/2017
Reported:	02/28/2017	Sampling Type:	Soil
Project Name:	ROSS RANCH 6 FED#1H	Sampling Condition:	Cool & Intact
Project Number:	CHEVRON	Sample Received By:	Jodi Henson
Project Location:	MALAGA, NEW MEXICO		

**Sample ID: SP5 @ SURFACE (H700470-05)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	672	16.0	02/27/2017	ND	432	108	400	3.77		

**Sample ID: SP5 @ 1' (H700470-06)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1310	16.0	02/27/2017	ND	432	108	400	3.77		

**Sample ID: SP5 @ 2' (H700470-07)**

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	02/27/2017	ND	432	108	400	3.77		

**Sample ID: SP6 @ SURFACE (H700470-08)**

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	224	16.0	02/27/2017	ND	432	108	400	3.77		

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\*=Accredited Analyte

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

Received:	02/24/2017	Sampling Date:	02/14/2017
Reported:	02/28/2017	Sampling Type:	Soil
Project Name:	ROSS RANCH 6 FED#1H	Sampling Condition:	Cool & Intact
Project Number:	CHEVRON	Sample Received By:	Jodi Henson
Project Location:	MALAGA, NEW MEXICO		

**Sample ID: SP7 @ 1' (H700470-09)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/25/2017	ND	1.89	94.4	2.00	1.81	
Toluene*	<0.050	0.050	02/25/2017	ND	1.76	88.2	2.00	2.17	
Ethylbenzene*	<0.050	0.050	02/25/2017	ND	1.75	87.3	2.00	2.30	
Total Xylenes*	<0.150	0.150	02/25/2017	ND	4.96	82.7	6.00	2.29	
Total BTEX	<0.300	0.300	02/25/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.7 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2560	16.0	02/27/2017	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/25/2017	ND	175	87.4	200	3.72	QR-03
DRO >C10-C28	421	10.0	02/25/2017	ND	177	88.6	200	4.87	QM-07

Surrogate: 1-Chlorooctane 90.6 % 35-147

Surrogate: 1-Chlorooctadecane 94.9 % 28-171

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\*=Accredited Analyte

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Reported:	02/28/2017	Sampling Type:	Soil
Project Name:	ROSS RANCH 6 FED#1H	Sampling Condition:	Cool & Intact
Project Number:	CHEVRON	Sample Received By:	Jodi Henson
Project Location:	MALAGA, NEW MEXICO		

**Sample ID: SP7 @ 2' (H700470-10)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/25/2017	ND	1.89	94.4	2.00	1.81	
Toluene*	<0.050	0.050	02/25/2017	ND	1.76	88.2	2.00	2.17	
Ethylbenzene*	<0.050	0.050	02/25/2017	ND	1.75	87.3	2.00	2.30	
Total Xylenes*	<0.150	0.150	02/25/2017	ND	4.96	82.7	6.00	2.29	
Total BTEX	<0.300	0.300	02/25/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.1 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	256	16.0	02/27/2017	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/25/2017	ND	175	87.4	200	3.72	
DRO >C10-C28	32.7	10.0	02/25/2017	ND	177	88.6	200	4.87	

Surrogate: 1-Chlorooctane 85.3 % 35-147

Surrogate: 1-Chlorooctadecane 85.4 % 28-171

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Reported:	02/28/2017	Sampling Type:	Soil
Project Name:	ROSS RANCH 6 FED#1H	Sampling Condition:	Cool & Intact
Project Number:	CHEVRON	Sample Received By:	Jodi Henson
Project Location:	MALAGA, NEW MEXICO		

**Sample ID: SP8 @ 1' (H700470-11)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/25/2017	ND	1.89	94.4	2.00	1.81	
Toluene*	<0.050	0.050	02/25/2017	ND	1.76	88.2	2.00	2.17	
Ethylbenzene*	<0.050	0.050	02/25/2017	ND	1.75	87.3	2.00	2.30	
Total Xylenes*	<0.150	0.150	02/25/2017	ND	4.96	82.7	6.00	2.29	
Total BTX	<0.300	0.300	02/25/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.9 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2360	16.0	02/27/2017	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/25/2017	ND	175	87.4	200	3.72	
DRO >C10-C28	459	10.0	02/25/2017	ND	177	88.6	200	4.87	

Surrogate: 1-Chlorooctane 92.0 % 35-147

Surrogate: 1-Chlorooctadecane 97.6 % 28-171

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	02/24/2017	Sampling Date:	02/14/2017
Reported:	02/28/2017	Sampling Type:	Soil
Project Name:	ROSS RANCH 6 FED#1H	Sampling Condition:	Cool & Intact
Project Number:	CHEVRON	Sample Received By:	Jodi Henson
Project Location:	MALAGA, NEW MEXICO		

**Sample ID: SP8 @ 2' (H700470-12)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/25/2017	ND	1.89	94.4	2.00	1.81	
Toluene*	<0.050	0.050	02/25/2017	ND	1.76	88.2	2.00	2.17	
Ethylbenzene*	<0.050	0.050	02/25/2017	ND	1.75	87.3	2.00	2.30	
Total Xylenes*	<0.150	0.150	02/25/2017	ND	4.96	82.7	6.00	2.29	
Total BTX	<0.300	0.300	02/25/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.3 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	02/27/2017	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/25/2017	ND	175	87.4	200	3.72	
DRO >C10-C28	72.5	10.0	02/25/2017	ND	177	88.6	200	4.87	

Surrogate: 1-Chlorooctane 88.4 % 35-147

Surrogate: 1-Chlorooctadecane 95.0 % 28-171

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P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received:	02/24/2017	Sampling Date:	02/14/2017
Reported:	02/28/2017	Sampling Type:	Soil
Project Name:	ROSS RANCH 6 FED#1H	Sampling Condition:	Cool & Intact
Project Number:	CHEVRON	Sample Received By:	Jodi Henson
Project Location:	MALAGA, NEW MEXICO		

**Sample ID: SP9 @ 1' (H700470-13)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/25/2017	ND	1.89	94.4	2.00	1.81	
Toluene*	<0.050	0.050	02/25/2017	ND	1.76	88.2	2.00	2.17	
Ethylbenzene*	<0.050	0.050	02/25/2017	ND	1.75	87.3	2.00	2.30	
Total Xylenes*	<0.150	0.150	02/25/2017	ND	4.96	82.7	6.00	2.29	
Total BTEX	<0.300	0.300	02/25/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 97.9 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2480	16.0	02/27/2017	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/25/2017	ND	175	87.4	200	3.72	
DRO >C10-C28	80.4	10.0	02/25/2017	ND	177	88.6	200	4.87	

Surrogate: 1-Chlorooctane 84.4 % 35-147

Surrogate: 1-Chlorooctadecane 88.6 % 28-171

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Fax To: (575) 397-0397

Received:	02/24/2017	Sampling Date:	02/14/2017
Reported:	02/28/2017	Sampling Type:	Soil
Project Name:	ROSS RANCH 6 FED#1H	Sampling Condition:	Cool & Intact
Project Number:	CHEVRON	Sample Received By:	Jodi Henson
Project Location:	MALAGA, NEW MEXICO		

**Sample ID: SP9 @ 2' (H700470-14)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/25/2017	ND	1.89	94.4	2.00	1.81	
Toluene*	<0.050	0.050	02/25/2017	ND	1.76	88.2	2.00	2.17	
Ethylbenzene*	<0.050	0.050	02/25/2017	ND	1.75	87.3	2.00	2.30	
Total Xylenes*	<0.150	0.150	02/25/2017	ND	4.96	82.7	6.00	2.29	
Total BTX	<0.300	0.300	02/25/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.0 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	192	16.0	02/27/2017	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/25/2017	ND	175	87.4	200	3.72	
DRO >C10-C28	45.4	10.0	02/25/2017	ND	177	88.6	200	4.87	

Surrogate: 1-Chlorooctane 86.7 % 35-147

Surrogate: 1-Chlorooctadecane 83.2 % 28-171

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Received:	02/24/2017	Sampling Date:	02/14/2017
Reported:	02/28/2017	Sampling Type:	Soil
Project Name:	ROSS RANCH 6 FED#1H	Sampling Condition:	Cool & Intact
Project Number:	CHEVRON	Sample Received By:	Jodi Henson
Project Location:	MALAGA, NEW MEXICO		

**Sample ID: SP10 @ 1' (H700470-15)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	02/25/2017	ND	1.89	94.4	2.00	1.81	
Toluene*	<0.050	0.050	02/25/2017	ND	1.76	88.2	2.00	2.17	
Ethylbenzene*	<0.050	0.050	02/25/2017	ND	1.75	87.3	2.00	2.30	
<b>Total Xylenes*</b>	<b>0.262</b>	0.150	02/25/2017	ND	4.96	82.7	6.00	2.29	
Total BTEX	<0.300	0.300	02/25/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	6260	16.0	02/27/2017	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/25/2017	ND	175	87.4	200	3.72	
DRO >C10-C28	238	10.0	02/25/2017	ND	177	88.6	200	4.87	

Surrogate: 1-Chlorooctane 89.5 % 35-147

Surrogate: 1-Chlorooctadecane 92.9 % 28-171

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Received:	02/24/2017	Sampling Date:	02/14/2017
Reported:	02/28/2017	Sampling Type:	Soil
Project Name:	ROSS RANCH 6 FED#1H	Sampling Condition:	Cool & Intact
Project Number:	CHEVRON	Sample Received By:	Jodi Henson
Project Location:	MALAGA, NEW MEXICO		

**Sample ID: SP10 @ 3' (H700470-16)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/25/2017	ND	1.89	94.4	2.00	1.81		
Toluene*	<0.050	0.050	02/25/2017	ND	1.76	88.2	2.00	2.17		
Ethylbenzene*	<0.050	0.050	02/25/2017	ND	1.75	87.3	2.00	2.30		
Total Xylenes*	<0.150	0.150	02/25/2017	ND	4.96	82.7	6.00	2.29		
Total BTX	<0.300	0.300	02/25/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2120	16.0	02/27/2017	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/25/2017	ND	175	87.4	200	3.72	
DRO >C10-C28	122	10.0	02/25/2017	ND	177	88.6	200	4.87	

Surrogate: 1-Chlorooctane 80.5 % 35-147

Surrogate: 1-Chlorooctadecane 90.2 % 28-171

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P.O. Box 805  
Hobbs NM, 88241  
Fax To: (575) 397-0397

Received:	02/24/2017	Sampling Date:	02/14/2017
Reported:	02/28/2017	Sampling Type:	Soil
Project Name:	ROSS RANCH 6 FED#1H	Sampling Condition:	Cool & Intact
Project Number:	CHEVRON	Sample Received By:	Jodi Henson
Project Location:	MALAGA, NEW MEXICO		

**Sample ID: SP10 @ 3.5' (H700470-17)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/25/2017	ND	1.89	94.4	2.00	1.81		
Toluene*	<0.050	0.050	02/25/2017	ND	1.76	88.2	2.00	2.17		
Ethylbenzene*	<0.050	0.050	02/25/2017	ND	1.75	87.3	2.00	2.30		
Total Xylenes*	<0.150	0.150	02/25/2017	ND	4.96	82.7	6.00	2.29		
Total BTX	<0.300	0.300	02/25/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.2 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	02/27/2017	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/25/2017	ND	175	87.4	200	3.72	
DRO >C10-C28	24.7	10.0	02/25/2017	ND	177	88.6	200	4.87	

Surrogate: 1-Chlorooctane 85.0 % 35-147

Surrogate: 1-Chlorooctadecane 85.3 % 28-171

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**Analytical Results For:**

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

Received:	02/24/2017	Sampling Date:	02/14/2017
Reported:	02/28/2017	Sampling Type:	Soil
Project Name:	ROSS RANCH 6 FED#1H	Sampling Condition:	Cool & Intact
Project Number:	CHEVRON	Sample Received By:	Jodi Henson
Project Location:	MALAGA, NEW MEXICO		

**Sample ID: SP11 @ 1' (H700470-18)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/25/2017	ND	1.89	94.4	2.00	1.81		
Toluene*	<0.050	0.050	02/25/2017	ND	1.76	88.2	2.00	2.17		
Ethylbenzene*	<0.050	0.050	02/25/2017	ND	1.75	87.3	2.00	2.30		
Total Xylenes*	<0.150	0.150	02/25/2017	ND	4.96	82.7	6.00	2.29		
Total BTX	<0.300	0.300	02/25/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	6530	16.0	02/27/2017	ND	432	108	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/25/2017	ND	175	87.4	200	3.72	
DRO >C10-C28	211	10.0	02/25/2017	ND	177	88.6	200	4.87	

Surrogate: 1-Chlorooctane 91.8 % 35-147

Surrogate: 1-Chlorooctadecane 98.3 % 28-171

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Fax To: (575) 397-0397

Received:	02/24/2017	Sampling Date:	02/14/2017
Reported:	02/28/2017	Sampling Type:	Soil
Project Name:	ROSS RANCH 6 FED#1H	Sampling Condition:	Cool & Intact
Project Number:	CHEVRON	Sample Received By:	Jodi Henson
Project Location:	MALAGA, NEW MEXICO		

**Sample ID: SP11 @ 3' (H700470-19)**

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/25/2017	ND	1.89	94.4	2.00	1.81		
Toluene*	<0.050	0.050	02/25/2017	ND	1.76	88.2	2.00	2.17		
Ethylbenzene*	<0.050	0.050	02/25/2017	ND	1.75	87.3	2.00	2.30		
Total Xylenes*	<0.150	0.150	02/25/2017	ND	4.96	82.7	6.00	2.29		
Total BTEX	<0.300	0.300	02/25/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 99.5 % 73.6-140

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1960	16.0	02/27/2017	ND	432	108	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/25/2017	ND	175	87.4	200	3.72	
DRO >C10-C28	144	10.0	02/25/2017	ND	177	88.6	200	4.87	

Surrogate: 1-Chlorooctane 91.4 % 35-147

Surrogate: 1-Chlorooctadecane 101 % 28-171

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Fax To: (575) 397-0397

Received:	02/24/2017	Sampling Date:	02/14/2017
Reported:	02/28/2017	Sampling Type:	Soil
Project Name:	ROSS RANCH 6 FED#1H	Sampling Condition:	Cool & Intact
Project Number:	CHEVRON	Sample Received By:	Jodi Henson
Project Location:	MALAGA, NEW MEXICO		

**Sample ID: SP11 @ 3.5' (H700470-20)**

BTX 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	02/25/2017	ND	1.89	94.4	2.00	1.81		
Toluene*	<0.050	0.050	02/25/2017	ND	1.76	88.2	2.00	2.17		
Ethylbenzene*	<0.050	0.050	02/25/2017	ND	1.75	87.3	2.00	2.30		
Total Xylenes*	<0.150	0.150	02/25/2017	ND	4.96	82.7	6.00	2.29		
Total BTX	<0.300	0.300	02/25/2017	ND						

Surrogate: 4-Bromofluorobenzene (PID) 98.5 % 73.6-140

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	02/27/2017	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/25/2017	ND	175	87.4	200	3.72	
DRO >C10-C28	38.0	10.0	02/25/2017	ND	177	88.6	200	4.87	

Surrogate: 1-Chlorooctane 98.4 % 35-147

Surrogate: 1-Chlorooctadecane 92.7 % 28-171

**Sample ID: NORTH SURFACE (H700470-21)**

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	02/27/2017	ND	432	108	400	0.00		

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

**Analytical Results For:**

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

Received:	02/24/2017	Sampling Date:	02/14/2017
Reported:	02/28/2017	Sampling Type:	Soil
Project Name:	ROSS RANCH 6 FED#1H	Sampling Condition:	Cool & Intact
Project Number:	CHEVRON	Sample Received By:	Jodi Henson
Project Location:	MALAGA, NEW MEXICO		

**Sample ID: SOUTH SURFACE (H700470-22)**

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	02/27/2017	ND	432	108	400	0.00	

**Sample ID: EAST SURFACE (H700470-23)**

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	02/27/2017	ND	432	108	400	0.00		

**Sample ID: WEST SURFACE (H700470-24)**

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	02/27/2017	ND	432	108	400	0.00		

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



### Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager





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

### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Phone Result:	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Add'l Phone #
Fax Result:	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Add'l Fax #:
REMARKS:			

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



## ORDINAL LABORATORIES

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

### CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

<b>Company Name:</b> BBC International, Inc.				<b>BILL TO</b>				<b>ANALYSIS REQUEST</b>				
<b>Project Manager:</b> Cliff Brunson				<b>P.O. #:</b>								
<b>Address:</b> P.O. Box 805				<b>Company:</b>								
<b>City:</b> Hobbs				<b>Attn:</b>								
<b>State:</b> NM <b>Zip:</b> 88241				<b>Address:</b>								
<b>Phone #:</b> 575-397-6388				<b>Fax #:</b> 575-397-0397								
<b>Project #:</b>				<b>City:</b>								
<b>Project Name:</b> Ross Pad 6 Fed #11				<b>State:</b>				<b>Zip:</b>				
<b>Project Location:</b>				<b>Phone #:</b>								
<b>Sample Name:</b> POE Hanson				<b>Fax #:</b>								
<small>FOR LAB USE ONLY</small>												
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX			PRESERV	SAMPLING				
				GROUNDWATER								
				WASTEWATER								
				SOIL								
				OIL								
				SLUDGE								
				OTHER :								
				ACID/BASE:								
				ICE / COOL								
				OTHER :								
					DATE	TIME						
H10047C	NORTH A SURFACE	X	6		2-14-17	240			CL-			
	SOUTH A SURFACE	X	6		2-14-17	300						
	EAST A SURFACE	X	6		2-14-17	310						
	WEST A SURFACE	X	6		2-14-17	320						

**PLEASE NOTE:** Liability and Damages. Customer'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 analysis. All claims, including those for negligence and any other cause whatsoever shall be deemed waived 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 consequential damages, including without limitation, business interruption, 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 provided by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

<b>Reinquished By:</b>	<b>Date:</b> 2/23/17	<b>Received By:</b>	<b>Date:</b> 2/23/17	<b>Time:</b> 2:00pm	<b>REMARKS:</b>
<b>Reinquished By:</b>	<b>Date:</b> 2/23/17	<b>Received By:</b>	<b>Date:</b> 2/23/17	<b>Time:</b> 1:40	
<b>Delivered By:</b> (Circle One)	<b>Sample Condition</b>	<b>Cool</b>	<b>Intact</b>	<b>CHECKED BY:</b>	
<b>Sampler - UPS - Bus - Other:</b>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>Phone Result:</b>	
				<b>Add'l Phone #:</b>	
				<b>Add'l Fax #:</b>	

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

**NM OIL CONSERVATION**  
State of New Mexico  
Energy Minerals and Natural Resources  
ARTESIA DISTRICT  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-141  
Revised August 8, 2011

DEC 19 2016

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

RECEIVED

**Release Notification and Corrective Action**

**NAB1035551037**

**OPERATOR**

☒ Initial Report ☐ Final Report

Name of Company: Chevron USA Inc. <b>4323</b>	Contact: Josepha DeLeon
Address: 6301 Deauville Blvd., Midland, TX 79706	Telephone No.: 432-425-1528
Facility Name: Ross Ranch 6 Fed 1H	Facility Type: Pipeline

Surface Owner: BLM	Mineral Owner	API No.: 30-015-36883
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**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
O	06	26S	30E	350	South	1330	East	Eddy

**Latitude: N32W 03' 55.15" Longitude: W 103° 55' 08.57"**

**NATURE OF RELEASE**

Type of Release: Spill	Volume of Release: 6.6 BW	Volume Recovered: 6 BW
Source of Release: Gas Meter Pressure up	Date and Hour of Occurrence: 12/5/2016: 09:00 AM	Date and Hour of Discovery: 12/5/2016: 09:00 AM
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Jim Amos - BLM; Heather Patterson - NMOCD via phone message and follow up with email	
By Whom? Josepha DeLeon	Date and Hour: 12/06/2016 11:00 AM via phone call	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.\*

N/A

Describe Cause of Problem and Remedial Action Taken.\*


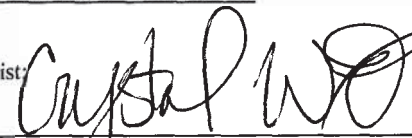
3<sup>rd</sup> Party shut in gas meter without notifying Chevron, lead to a PSV activation.  
Shut and secure well.

Describe Area Affected and Cleanup Action Taken.\*

Spill to bermed, unlined containment. Called a vacuum truck and removed all water from containment.

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.

**OIL CONSERVATION DIVISION**

Signature: 	Approved by Environmental Specialist: 	
Printed Name: Josepha DeLeon		
Title: HES Compliance Support - Environmental Specialist	Approval Date: 12/19/16	Expiration Date:
E-mail Address: jdx@chevron.com	Conditions of Approval: see attached	Attached <input checked="" type="checkbox"/>
Date: 12/16/2016	Phone: 432-425-1528	

\* Attach Additional Sheets If Necessary

2RP-4039



Operator/Responsible Party,

The OCD has received the form C-141 you provided on **12/19/16** regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 2RP-4039 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 division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC. [emphasis added]*

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District II office in Artesia on or before 1/29/16. 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