APPROVED
By CHernandez at 2:11 pm, Oct 01, 2018

NMOCD will grant approval for the delineation as completed for 1RP-5098. See email correspondence regarding conditions for proposed remediation plan.

WORLD-WIDE ENVIRONMENTAL SPECIALISTS

BBC INTERNATIONAL INCORPORATED

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E-MAIL: cbrunson@bbcinternational.com

DELINEATION WORKPLAN

COG – LUSK DEEP UNIT A #019 SWD
(Leak Date: 6/14/18)

RP # 1RP-5098

This delineation workplan and remediation proposal addresses the release associated with RP # 1RP-5098.

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.

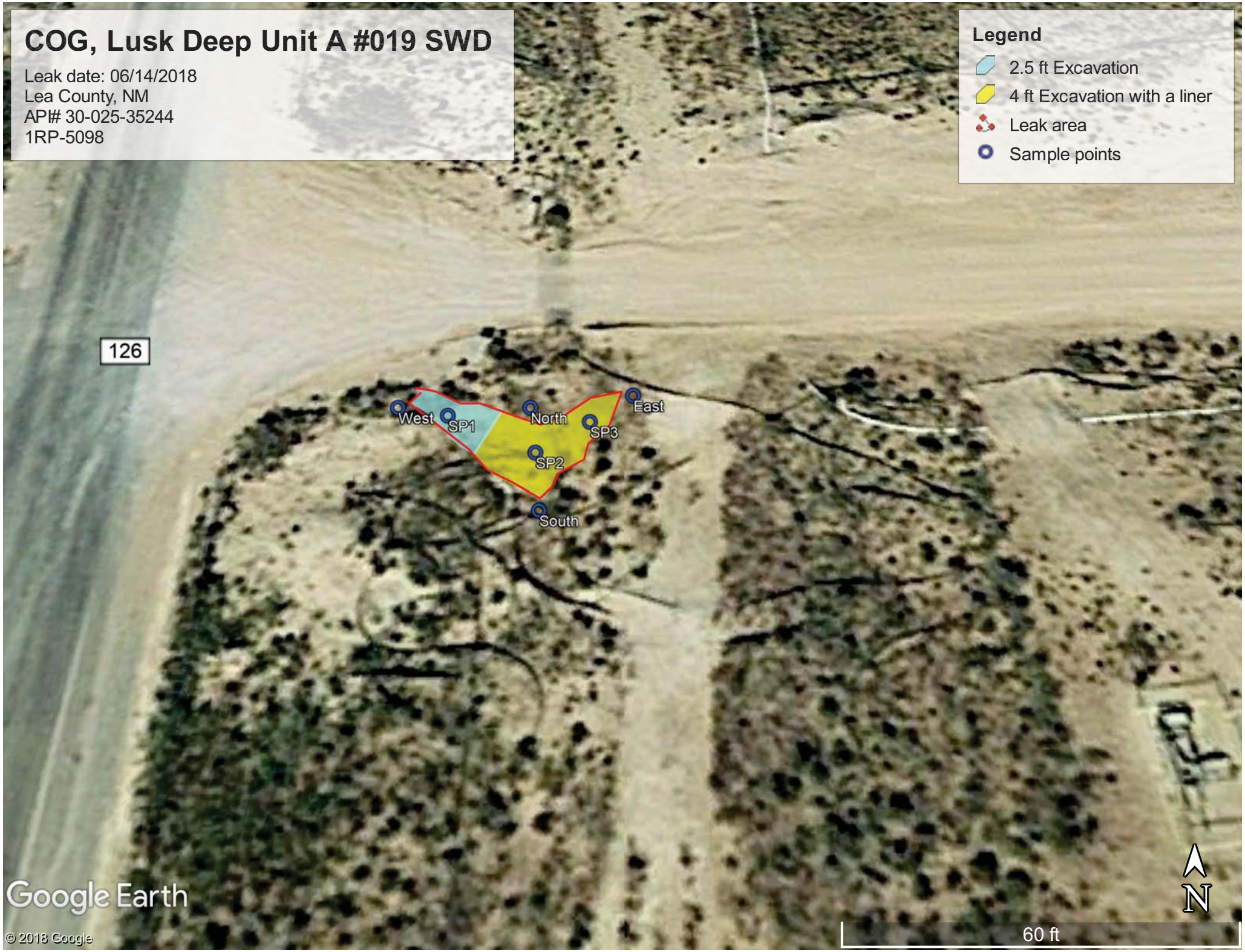
Based on the information included in this package and the NMOCD guidelines, the following remediation is proposed:

COG will excavate the spill area as depicted on the following site diagram. The leak area near SP1 (BLUE shade on diagram) will be excavated to a depth of 2.5 feet. The leak area near SP2 and SP3 (YELLOW shade on diagram) will be excavated to a depth of 4 feet with an impermeable liner placed in the excavation.

One bottom confirmation sample at SP1 will be collected and sidewall samples will be collected at no greater than 50 ft. intervals.

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.


COG, Lusk Deep Unit A #019 SWD
Leak date: 06/14/2018
Lea County, NM
API# 30-025-35244
1RP-5098
Legend
2.5 ft Excavation
4 ft Excavation with a liner
Leak area
Sample points
126
West
SP1
North
East
SP3
SP2
South
Google Earth
© 2018 Google
N
60 ft

COG, Lusk Deep Unit A #019 SWD

Sample points

SP1, N 32.65547 W-103.79618

SP2, N 32.65545 W-103.79613

SP3, N 32.65547 W-103.79610

NORTH, N 32.65548 W-103.79613

SOUTH, N 32.65541 W-103.79613

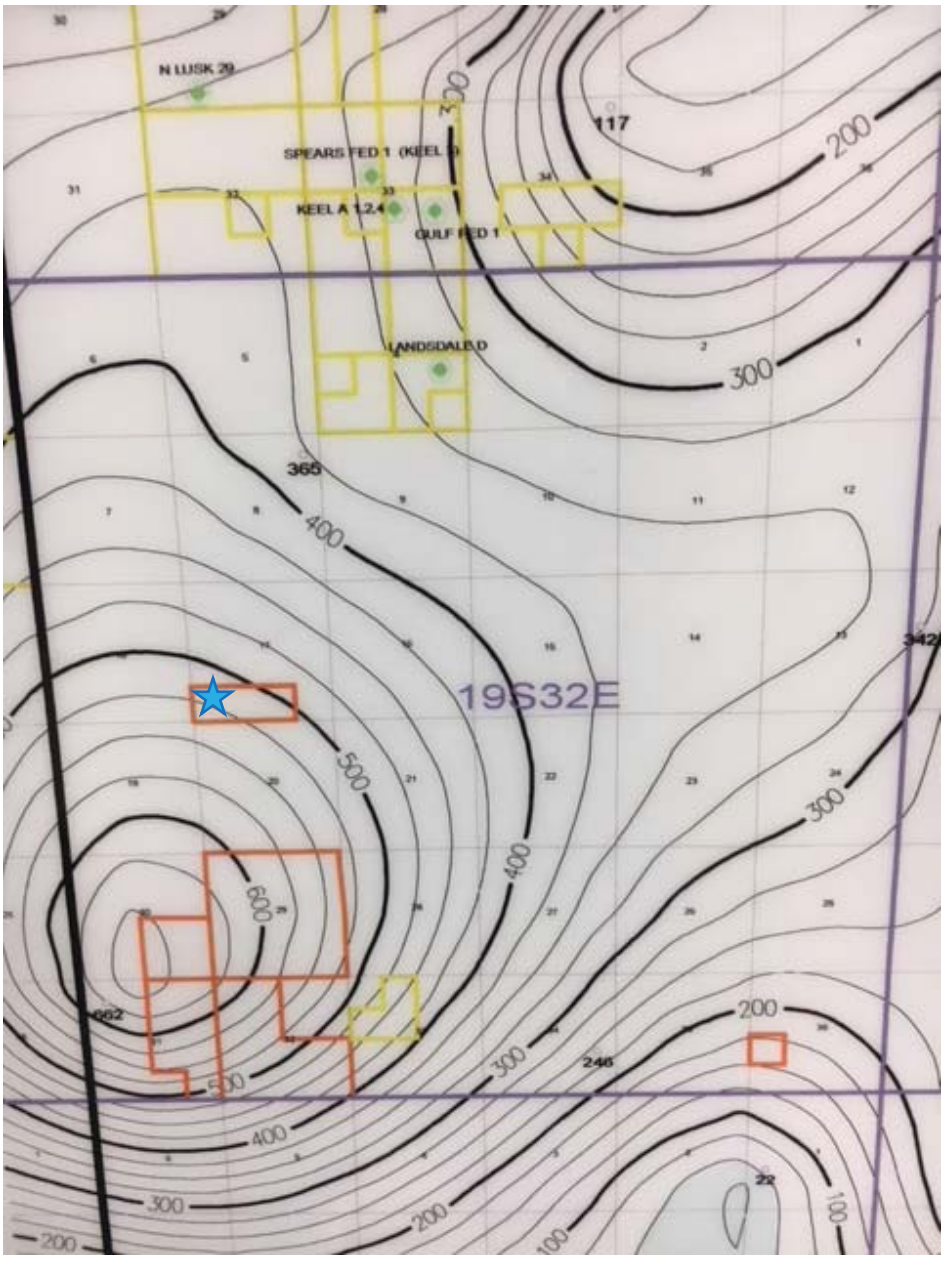
EAST, N 32.65548 W-103.79607

WEST, N 32.65548 W-103.79622

COG, Lusk Deep Unit A #019 SWD

U/L M, Section 17, T19S, R32E

Groundwater: 525’



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	POD Sub-basin Code	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
CP 01656 POD1	CP	LE	3	4	3	17	19S	32E	613368	3613646	352	70		
CP 00640 POD1	CP	LE		2	2	19	19S	32E	612621	3613280*	566	260	102	158
CP 00639 POD1	CP	LE		3	1	20	19S	32E	613029	3612880*	804	350	345	5
CP 00563 POD1	CP	LE	1	1	2	19	19S	32E	612118	3613376*	951	300		

Average Depth to Water: **223 feet**

Minimum Depth: **102 feet**

Maximum Depth: **345 feet**

Record Count: 4

UTMNAD83 Radius Search (in meters):

Easting (X): 613018 **Northing (Y):** 3613684 **Radius:** 1700

***UTM location was derived from PLSS - see Help**

USGS Home
Contact USGS
Search USGS

National Water Information System: Web Interface

USGS Water Resources

Data Category: Groundwater | Geographic Area: New Mexico | GO

Click to hideNews Bulletins

- Please see news on new formats
- Full News

Groundwater levels for New Mexico

Click to hide state-specific text

Site Selection Results -- 3591 sites found

County = Lea
Minimum number of levels = 1

Save file of selected sites to local disk for future upload

Data for individual sites can be obtained by selecting the site number below

Agency	Site Number	Site Name	Period of Record		
			Begin Date	End Date	Levels
		19S.32E.17			

Questions about sites/data?
Feedback on this web site
Automated retrievals
Help

Data Tips
Explanation of terms
Subscribe for system changes
News

Title: Groundwater levels -- 3591 sites found
URL: https://nwis.waterdata.usgs.gov/nm/nwis/gwlevels?

Page Contact Information: New Mexico Water Data Maintainer
Page Last Modified: 2018-08-31 13:32:55 EDT
2.41 1.2 nadww01

Laboratory Analytical Results Summary
Lusk Deep Unit A #019 SWD (6/14/18)

		Sample ID	SP1 @ SURFACE	SP1 @ 1'	SP1 @ 2'	SP1 @ 3'
Analyte	**Method**	**Date**	8/23/18	8/23/18	8/23/18	8/23/18
			mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	n/a	n/a
Toluene	BTEX 8021B		<0.050	<0.050	n/a	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	n/a	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	n/a	n/a
Chloride	SM4500Cl-B		**17000**	**11800**	**1600**	**208**
GRO	TPH 8015M		<10.0	<10.0	n/a	n/a
DRO	TPH 8015M		**41.3**	<10.0	n/a	n/a
EXT DRO	TPH 8015M		**11.3**	<10.0	n/a	n/a

		Sample ID	SP2 @ SURFACE	SP2 @ 1'	SP2 @ 2'	SP2 @ 3'	SP2 @ 4'	SP2 @ 6'	SP2 @ 9'	SP2 @ 11'	SP2 @ 12'
Analyte	**Method**	**Date**	8/23/18	8/23/18	8/23/18	8/23/18	8/23/18	8/23/18	8/23/18	8/23/18	8/23/18
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Toluene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Chloride	SM4500Cl-B		**14600**	**5200**	**7800**	**10600**	**12800**	**8080**	**2200**	**224**	<16.0
GRO	TPH 8015M		<10.0	<10.0	n/a	n/a	n/a	n/a	n/a	n/a	n/a
DRO	TPH 8015M		<10.0	<10.0	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EXT DRO	TPH 8015M		<10.0	<10.0	n/a	n/a	n/a	n/a	n/a	n/a	n/a

		Sample ID	SP3 @ SURFACE	SP3 @ 1'	SP3 @ 2'	SP3 @ 3'	SP3 @ 4'	SP3 @ 7'	SP3 @ 9'	SP3 @ 10'	SP3 @ 11'
Analyte	**Method**	**Date**	8/23/18	8/23/18	8/23/18	8/23/18	8/23/18	8/24/18	8/24/18	8/24/18	8/24/18
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Benzene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Toluene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Ethylbenzene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total Xylenes	BTEX 8021B		<0.150	<0.150	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Chloride	SM4500Cl-B		**816**	**10200**	**10800**	**12800**	**13200**	**13200**	**1600**	<16.0	<16.0
GRO	TPH 8015M		<10.0	<10.0	n/a	n/a	n/a	n/a	n/a	n/a	n/a
DRO	TPH 8015M		<10.0	<10.0	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EXT DRO	TPH 8015M		<10.0	<10.0	n/a	n/a	n/a	n/a	n/a	n/a	n/a

		Sample ID	NORTH @ SURFACE	EAST @ SURFACE	WEST @ SURFACE	SOUTH @ SURFACE
Analyte	**Method**	**Date**	8/24/18	8/24/18	8/24/18	8/24/18
			mg/kg	mg/kg	mg/kg	mg/kg
Chloride	SM4500Cl-B		**80**	**256**	**256**	<16.0

CARDINAL Laboratories

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

August 30, 2018

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: LUSK DEEP UNIT A #019 SWD

Enclosed are the results of analyses for samples received by the laboratory on 08/27/18 10:50.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is 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. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	08/27/2018	Sampling Date:	08/23/2018
Reported:	08/30/2018	Sampling Type:	Soil
Project Name:	LUSK DEEP UNIT A #019 SWD	Sampling Condition:	Cool & Intact
Project Number:	06/14/18	Sample Received By:	Celey D. Keene
Project Location:	LEA COUNTY, NM		

Sample ID: SP 1 @ SURFACE (H802386-01)

BTEX 8021B mg/kg Analyzed By: ms

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/28/2018	ND	1.86	93.0	2.00	0.672	
Toluene*	<0.050	0.050	08/28/2018	ND	1.80	90.0	2.00	1.12	
Ethylbenzene*	<0.050	0.050	08/28/2018	ND	1.83	91.5	2.00	1.18	
Total Xylenes*	<0.150	0.150	08/28/2018	ND	5.56	92.6	6.00	1.13	
Total BTEX	<0.300	0.300	08/28/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *94.7 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**17000**	16.0	08/29/2018	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	08/27/2018	ND	203	102	200	0.0423	
DRO >C10-C28*	**41.3**	10.0	08/27/2018	ND	240	120	200	14.1	
EXT DRO >C28-C36	**11.3**	10.0	08/27/2018	ND					

Surrogate: 1-Chlorooctane *99.1 %* *41-142*

Surrogate: 1-Chlorooctadecane *104 %* *37.6-147*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Analytical Results For:

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

Received:	08/27/2018	Sampling Date:	08/23/2018
Reported:	08/30/2018	Sampling Type:	Soil
Project Name:	LUSK DEEP UNIT A #019 SWD	Sampling Condition:	Cool & Intact
Project Number:	06/14/18	Sample Received By:	Celey D. Keene
Project Location:	LEA COUNTY, NM		

Sample ID: SP 1 @ 1' (H802386-02)

BTEX 8021B mg/kg **Analyzed By: ms**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/28/2018	ND	1.86	93.0	2.00	0.672	
Toluene*	<0.050	0.050	08/28/2018	ND	1.80	90.0	2.00	1.12	
Ethylbenzene*	<0.050	0.050	08/28/2018	ND	1.83	91.5	2.00	1.18	
Total Xylenes*	<0.150	0.150	08/28/2018	ND	5.56	92.6	6.00	1.13	
Total BTEX	<0.300	0.300	08/28/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.3 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**11800**	16.0	08/29/2018	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	08/27/2018	ND	203	102	200	0.0423	
DRO >C10-C28*	<10.0	10.0	08/27/2018	ND	240	120	200	14.1	
EXT DRO >C28-C36	<10.0	10.0	08/27/2018	ND					

Surrogate: 1-Chlorooctane *94.8 %* *41-142*

Surrogate: 1-Chlorooctadecane *94.1 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Received:	08/27/2018	Sampling Date:	08/23/2018
Reported:	08/30/2018	Sampling Type:	Soil
Project Name:	LUSK DEEP UNIT A #019 SWD	Sampling Condition:	Cool & Intact
Project Number:	06/14/18	Sample Received By:	Celey D. Keene
Project Location:	LEA COUNTY, NM		

Sample ID: SP 1 @ 2' (H802386-03)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1600**	16.0	08/29/2018	ND	432	108	400	3.77	

Sample ID: SP 1 @ 3' (H802386-04)

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	08/29/2018	ND	432	108	400	3.77	

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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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:	08/27/2018	Sampling Date:	08/23/2018
Reported:	08/30/2018	Sampling Type:	Soil
Project Name:	LUSK DEEP UNIT A #019 SWD	Sampling Condition:	Cool & Intact
Project Number:	06/14/18	Sample Received By:	Celey D. Keene
Project Location:	LEA COUNTY, NM		

Sample ID: SP 2 @ SURFACE (H802386-05)

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	08/28/2018	ND	1.86	93.0	2.00	0.672	
Toluene*	<0.050	0.050	08/28/2018	ND	1.80	90.0	2.00	1.12	
Ethylbenzene*	<0.050	0.050	08/28/2018	ND	1.83	91.5	2.00	1.18	
Total Xylenes*	<0.150	0.150	08/28/2018	ND	5.56	92.6	6.00	1.13	
Total BTEX	<0.300	0.300	08/28/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.2 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**14600**	16.0	08/29/2018	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	08/28/2018	ND	206	103	200	1.84	
DRO >C10-C28*	<10.0	10.0	08/28/2018	ND	196	98.0	200	10.7	
EXT DRO >C28-C36	<10.0	10.0	08/28/2018	ND					

Surrogate: 1-Chlorooctane *86.5 %* *41-142*

Surrogate: 1-Chlorooctadecane *83.5 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

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:	08/27/2018	Sampling Date:	08/23/2018
Reported:	08/30/2018	Sampling Type:	Soil
Project Name:	LUSK DEEP UNIT A #019 SWD	Sampling Condition:	Cool & Intact
Project Number:	06/14/18	Sample Received By:	Celey D. Keene
Project Location:	LEA COUNTY, NM		

Sample ID: SP 2 @ 1' (H802386-06)

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	08/28/2018	ND	1.86	93.0	2.00	0.672	
Toluene*	<0.050	0.050	08/28/2018	ND	1.80	90.0	2.00	1.12	
Ethylbenzene*	<0.050	0.050	08/28/2018	ND	1.83	91.5	2.00	1.18	
Total Xylenes*	<0.150	0.150	08/28/2018	ND	5.56	92.6	6.00	1.13	
Total BTEX	<0.300	0.300	08/28/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.3 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**5200**	16.0	08/29/2018	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	08/28/2018	ND	206	103	200	1.84	
DRO >C10-C28*	<10.0	10.0	08/28/2018	ND	196	98.0	200	10.7	
EXT DRO >C28-C36	<10.0	10.0	08/28/2018	ND					

Surrogate: 1-Chlorooctane *83.9 %* *41-142*

Surrogate: 1-Chlorooctadecane *79.6 %* *37.6-147*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

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Received:	08/27/2018	Sampling Date:	08/23/2018
Reported:	08/30/2018	Sampling Type:	Soil
Project Name:	LUSK DEEP UNIT A #019 SWD	Sampling Condition:	Cool & Intact
Project Number:	06/14/18	Sample Received By:	Celey D. Keene
Project Location:	LEA COUNTY, NM		

Sample ID: SP 2 @ 2' (H802386-07)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**7800**	16.0	08/29/2018	ND	432	108	400	3.77	

Sample ID: SP 2 @ 3' (H802386-08)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**10600**	16.0	08/29/2018	ND	432	108	400	3.77	

Sample ID: SP 2 @ 4' (H802386-09)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**12800**	16.0	08/29/2018	ND	432	108	400	3.77	

Sample ID: SP 2 @ 6' (H802386-10)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**8080**	16.0	08/29/2018	ND	432	108	400	3.77	

Sample ID: SP 2 @ 9' (H802386-11)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2200**	16.0	08/29/2018	ND	432	108	400	3.77	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	08/27/2018	Sampling Date:	08/23/2018
Reported:	08/30/2018	Sampling Type:	Soil
Project Name:	LUSK DEEP UNIT A #019 SWD	Sampling Condition:	Cool & Intact
Project Number:	06/14/18	Sample Received By:	Celey D. Keene
Project Location:	LEA COUNTY, NM		

Sample ID: SP 2 @ 11' (H802386-12)

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	08/29/2018	ND	432	108	400	3.77	

Sample ID: SP 2 @ 12' (H802386-13)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	08/29/2018	ND	432	108	400	3.77	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	08/27/2018	Sampling Date:	08/23/2018
Reported:	08/30/2018	Sampling Type:	Soil
Project Name:	LUSK DEEP UNIT A #019 SWD	Sampling Condition:	Cool & Intact
Project Number:	06/14/18	Sample Received By:	Celey D. Keene
Project Location:	LEA COUNTY, NM		

Sample ID: SP 3 @ SURFACE (H802386-14)

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	08/28/2018	ND	1.86	93.0	2.00	0.672	
Toluene*	<0.050	0.050	08/28/2018	ND	1.80	90.0	2.00	1.12	
Ethylbenzene*	<0.050	0.050	08/28/2018	ND	1.83	91.5	2.00	1.18	
Total Xylenes*	<0.150	0.150	08/28/2018	ND	5.56	92.6	6.00	1.13	
Total BTEX	<0.300	0.300	08/28/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *96.8 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**816**	16.0	08/29/2018	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	08/28/2018	ND	206	103	200	1.84	
DRO >C10-C28*	<10.0	10.0	08/28/2018	ND	196	98.0	200	10.7	
EXT DRO >C28-C36	<10.0	10.0	08/28/2018	ND					

Surrogate: 1-Chlorooctane *86.3 %* *41-142*

Surrogate: 1-Chlorooctadecane *82.6 %* *37.6-147*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Analytical Results For:

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

Received:	08/27/2018	Sampling Date:	08/23/2018
Reported:	08/30/2018	Sampling Type:	Soil
Project Name:	LUSK DEEP UNIT A #019 SWD	Sampling Condition:	Cool & Intact
Project Number:	06/14/18	Sample Received By:	Celey D. Keene
Project Location:	LEA COUNTY, NM		

Sample ID: SP 3 @ 1' (H802386-15)

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	08/28/2018	ND	1.86	93.0	2.00	0.672	
Toluene*	<0.050	0.050	08/28/2018	ND	1.80	90.0	2.00	1.12	
Ethylbenzene*	<0.050	0.050	08/28/2018	ND	1.83	91.5	2.00	1.18	
Total Xylenes*	<0.150	0.150	08/28/2018	ND	5.56	92.6	6.00	1.13	
Total BTEX	<0.300	0.300	08/28/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.6 %* *69.8-142*

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**10200**	16.0	08/29/2018	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	08/28/2018	ND	206	103	200	1.84	
DRO >C10-C28*	<10.0	10.0	08/28/2018	ND	196	98.0	200	10.7	
EXT DRO >C28-C36	<10.0	10.0	08/28/2018	ND					

Surrogate: 1-Chlorooctane *89.4 %* *41-142*

Surrogate: 1-Chlorooctadecane *87.7 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	08/27/2018	Sampling Date:	08/23/2018
Reported:	08/30/2018	Sampling Type:	Soil
Project Name:	LUSK DEEP UNIT A #019 SWD	Sampling Condition:	Cool & Intact
Project Number:	06/14/18	Sample Received By:	Celey D. Keene
Project Location:	LEA COUNTY, NM		

Sample ID: SP 3 @ 2' (H802386-16)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**10800**	16.0	08/29/2018	ND	432	108	400	3.77	

Sample ID: SP 3 @ 3' (H802386-17)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**12800**	16.0	08/29/2018	ND	432	108	400	3.77	

Sample ID: SP 3 @ 4' (H802386-18)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**13200**	16.0	08/29/2018	ND	432	108	400	3.77	

Sample ID: SP 3 @ 7' (H802386-19)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**13200**	16.0	08/29/2018	ND	432	108	400	0.00	

Sample ID: SP 3 @ 9' (H802386-20)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1600**	16.0	08/29/2018	ND	432	108	400	0.00	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	08/27/2018	Sampling Date:	08/24/2018
Reported:	08/30/2018	Sampling Type:	Soil
Project Name:	LUSK DEEP UNIT A #019 SWD	Sampling Condition:	Cool & Intact
Project Number:	06/14/18	Sample Received By:	Celey D. Keene
Project Location:	LEA COUNTY, NM		

Sample ID: SP 3 @ 10' (H802386-21)

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	08/29/2018	ND	432	108	400	0.00	

Sample ID: SP 3 @ 11' (H802386-22)

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	08/29/2018	ND	432	108	400	0.00	

Sample ID: NORTH @ SURFACE (H802386-23)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**80.0**	16.0	08/29/2018	ND	432	108	400	0.00	

Sample ID: EAST @ SURFACE (H802386-24)

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	08/29/2018	ND	432	108	400	0.00	

Sample ID: WEST @ SURFACE (H802386-25)

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	08/29/2018	ND	432	108	400	0.00	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	08/27/2018	Sampling Date:	08/24/2018
Reported:	08/30/2018	Sampling Type:	Soil
Project Name:	LUSK DEEP UNIT A #019 SWD	Sampling Condition:	Cool & Intact
Project Number:	06/14/18	Sample Received By:	Celey D. Keene
Project Location:	LEA COUNTY, NM		

Sample ID: SOUTH @ SURFACE (H802386-26)

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	08/29/2018	ND	432	108	400	0.00	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

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

Celey D. Keene, Lab Director/Quality Manager

1 of 3

CARDINAL LABORATORIES

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	BBC International, Inc.	**BILL TO**	
Project Manager:	Cliff Brunson	**P.O. #:**	
Address:	P.O. Box 805	**Company:**	COG
City:	Hobbs **State:** NM **Zip:** 88241	**Attn:**	Haskell
Phone #:	575-397-6388 **Fax #:** 575-397-0397	**Address:**	
Project #:	**Project Owner:** COG	**City:**	
Project Name:	Lusk Deep Unit A #019 SWD (6/14/18)	**State:** **Zip:**	
Project Location:	Lea County, NM	**Phone #:**	
Sampler Name:	Jeff Ornelas	**Fax #:**	

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	CL	BTEX	TPH EXT									
H202386-																										
01	SP1 @ SURFACE	G	1			✓					✓		8/23/18	8:33 AM	✓	✓	✓									
02	SP1 @ 1'	G	1			✓					✓		8/23/18	8:45 AM	✓	✓	✓									
03	SP1 @ 2'	G	1			✓					✓		8/23/18	9:11 AM	✓											
04	SP1 @ 3'	G	1			✓					✓		8/23/18	9:30 AM	✓											
05	SP2 @ SURFACE	G	1			✓					✓		8/23/18	9:41 AM	✓	✓	✓									
06	SP2 @ 1'	G	1			✓					✓		8/23/18	10:01 AM	✓	✓	✓									
07	SP2 @ 2'	G	1			✓					✓		8/23/18	10:15 AM	✓											
08	SP2 @ 3'	G	1			✓					✓		8/23/18	10:39 AM	✓											
09	SP2 @ 4'	G	1			✓					✓		8/23/18	10:59 AM	✓											
10	SP2 @ 6'	G	1			✓					✓		8/23/18	12:15 PM	✓											

Relinquished By: Jeff Ornelas	**Date:** 8/24/18 **Time:** 5:00pm	**Received By:**	
Relinquished By:	**Date:** 8/27/18 **Time:** 10:50	**Received By:**	
Delivered By: (Circle One) Sampler - UPS - Bus - Other: 5.2°C	**Sample Condition** Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No	**CHECKED BY: (Initials)**	Cell #97

Phone Result: ☐ Yes ☐ No **Add'l Phone #:**
Fax Result: ☐ Yes ☐ No **Add'l Fax #:**
REMARKS:

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

2 of 3

CARDINAL LABORATORIES

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name:	BBC International, Inc.	**BILL TO**	
Project Manager:	Cliff Brunson	**P.O. #:**	
Address:	P.O. Box 805	**Company:**	COG
City:	Hobbs **State:** NM **Zip:** 88241	**Attn:**	Haskell
Phone #:	575-397-6388 **Fax #:** 575-397-0397	**Address:**	
Project #:	**Project Owner:** COG	**City:**	
Project Name:	Lusk Deep Unit A #019 SWD (6/14/18)	**State:**	**Zip:**
Project Location:	Lea County, NM	**Phone #:**	
Sampler Name:	Jeff Ornelas	**Fax #:**	

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST										
Lab I.D.	**Sample I.D.**	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	**DATE**	**TIME**	Cl	BTEX	TPH EXT									
H302386-																									
11	SP2 @ 9'	G	1			✓					✓		8/23/18	1:51 PM	✓										
12	SP2 @ 11'	G	1			✓					✓		8/23/18	2:37 PM	✓										
13	SP2 @ 12'	G	1			✓					✓		8/23/18	2:44 PM	✓										
14	SP3 @ SURFACE	G	1			✓					✓		8/23/18	2:45 PM	✓	✓	✓								
15	SP3 @ 1'	G	1			✓					✓		8/23/18	2:55 PM	✓	✓	✓								
16	SP3 @ 2'	G	1			✓					✓		8/23/18	3:15 PM	✓										
17	SP3 @ 3'	G	1			✓					✓		8/23/18	3:29 PM	✓										
18	SP3 @ 4'	G	1			✓					✓		8/23/18	3:45 PM	✓										
19	SP3 @ 7'	G	1			✓					✓		8/24/18	9:40 AM	✓										
20	SP3 @ 9'	G	1			✓					✓		8/24/18	10:44 AM	✓										

Relinquished By:	Jeff Ornelas	**Date:** 8/24/18 **Time:** 5:00pm	**Received By:**	**Phone Result:** ☐ Yes ☐ No	**Add'l Phone #:**
Relinquished By:		**Date:** 8/27/18 **Time:** 10:50	**Received By:** Cindy Keene	**Fax Result:** ☐ Yes ☐ No	**Add'l Fax #:**
Delivered By: (Circle One) Sampler - UPS - Bus - Other: 5.2°C		**Sample Condition** Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No	**CHECKED BY:** (Initials) CK #97	**REMARKS:**	

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

3 of 3

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	BBC International, Inc.
Project Manager:	Cliff Brunson
Address:	P.O. Box 805
City:	Hobbs **State:** NM **Zip:** 88241
Phone #:	575-397-6388 **Fax #:** 575-397-0397
Project #:	**Project Owner:** COG
Project Name:	Lusk Deep Unit A #019 SWD (6/14/18)
Project Location:	Lea County, NM
Sampler Name:	Jeff Ornelas

BILL TO

P.O. #:	
Company:	COG
Attn:	Haskell
Address:	
City:	
State:	**Zip:**
Phone #:	
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	CL
H802386-															
21	SP3 @ 10'	G	1			✓					✓		8/24/18	11:11 AM	✓
22	SP3 @ 11'	G	1			✓					✓		8/24/18	11:33 AM	✓
23	NORTH @ SURFACE	G	1			✓					✓		8/24/18	12:59 PM	✓
24	EAST @ SURFACE	G	1			✓					✓		8/24/18	1:11 PM	✓
25	WEST @ SURFACE	G	1			✓					✓		8/24/18	1:30 PM	✓
26	SOUTH @ SURFACE	G	1			✓					✓		8/24/18	1:55 PM	✓

KAD 5/25/18

Relinquished By:	Jeff Ornelas	**Date:**	8/24/18
		Time:	5:00pm
Received By:			
Relinquished By:		**Date:**	8/24/18
		Time:	10:50
Received By:			

Delivered By: (Circle One) Sampler - UPS - Bus - Other: 5.2°C

Sample Condition Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No

CHECKED BY: (Initials) CM #97

Phone Result: ☐ Yes ☐ No **Add'l Phone #:**
Fax Result: ☐ Yes ☐ No **Add'l Fax #:**
REMARKS:

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

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised April 3, 2017

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: COG Operating LLC (OGRID #)	Contact: Robert McNeill
Address: 600 West Illinois Avenue, Midland TX 79701	Telephone No. 432-683-7443
Facility Name: **Lusk Deep Unit A #019 SWD**	Facility Type: Flowline

Surface Owner: Federal	Mineral Owner: Federal	API No. 30-025-35244

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
M	17	19S	32E					Lea

Latitude 32.655478 **Longitude** -103.795820 NAD83

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 6 bbl.	Volume Recovered: 3 bbl.
Source of Release: Flowline Leak	Date and Hour of Occurrence: June 14, 2018 9:00am	Date and Hour of Discovery: June 14, 2018 9:00am
Was Immediate Notice Given? ☐ Yes ☒ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour:	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

RECEIVED
By CHernandez at 11:22 am, Jun 15, 2018

Describe Cause of Problem and Remedial Action Taken.*

The release was caused by a flowline leak. The flowline has been repaired.

Describe Area Affected and Cleanup Action Taken.*

The release was in the pasture. A vacuum truck was dispatched to remove all freestanding fluids. Concho will have the spill area sampled to delineate any possible impact from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation activities.

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

Signature: DeAnn Grant	OIL CONSERVATION DIVISION
Printed Name: DeAnn Grant	Approved by Environmental Specialist: CH
Title: HSE Administrative Assistant	Approval Date: 6/15/2018 Expiration Date:
E-mail Address: agrant@concho.com	Conditions of Approval: See attached directive Attached ☑
Date: June 15, 2018 Phone: 432-253-4513	

* Attach Additional Sheets If Necessary

1RP-5098 pCH1816642106
nCH1816641500

Operator/Responsible Party,

The OCD has received the form C-141 you provided on _6/15/2018_ regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number _1RP-5098__ 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 _1_ office in __Hobbs____ on or before _7/15/2018_. 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_6 thru C_{36}), 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_6 thru C_{36}), 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
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State of New Mexico
Oil Conservation Division

Incident ID	
District RP	1RP-5098
Facility ID	
Application ID	

Remediation Plan

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

- ■ Detailed description of proposed remediation technique
- ■ Scaled sitemap with GPS coordinates showing delineation points
- ■ Estimated volume of material to be remediated
- ■ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ■ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: ***Each of the following items must be confirmed as part of any request for deferral of remediation.***

☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.

☐ Extents of contamination must be fully delineated.

☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: Cliff P. Brunson for COG Title: President

Signature: Cliff P. Brunson Date: 9/5/18

email: cbrunson@bbcinternational.com Telephone: 575-397-6388

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____