Closure Report

	Site Description
Site Name:	COG Operating LLC
Company:	Lusk Deep Unit A #023H
Legal Description:	U/L P, Section 19, T19S, R32E
County:	Lea County, NM
GPS Coordinates:	N 32.63897° W-103.79800°

	Release Data
Date of Release:	06/10/2016
Type of Release:	Produced water
Source of Release:	Poly flow line
Volume of Release:	210 bbls
Volume Recovered:	190 bbls

	Remediatio	n Specifications
Remediation Parameters:	the areas of SP2 SP5 to a depth of	as of SP1 and SP4 to a depth of 5 feet. Excavate and SP3 to a depth of 2 feet. Excavate the area of f 4 feet. Obtain confirmation bottom samples at rs and confirmation sidewall samples. Backfill the il.
Remediation Activities:	06/01/2018 to 0	6/18/2018
Plan Sent to OCD:	10/27/2017	Email from Cliff Brunson to Olivia Yu
OCD Approval of Plan:	12/04/2017	Email from Olivia Yu to Cliff Brunson
Plan Sent to BLM:	10/27/2017	Email from Cliff Brunson to Henryetta Price
BLM Approval of Plan:	11/01/2017	Email from Henryetta Price to Cliff Brunson

	Supporting Documentation
Initial C-141	Signed 06/20/2016
Final C-141	Signed 06/25/2018
Site Diagram	January 2017
Groundwater Plot	600'
TOPO Maps	January 2017
Lab Summary	07/14/16, 01/31/17, 10/31/17, and 6/8/18
Lab Analysis	07/14/16, 01/31/17, 10/31/17, and 6/8/18
Correspondence	Request and approval of remediation plan via email

Request for Closure

Based on the completion of the remediation plan, BBC International requests closure approval from NMOCD.

Cliff Brunson, President, BBC International, Inc.

06/26/2018

<u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 District II 811 S. First St., Artesia, NM 88210 <u>District III</u> 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

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

Form C-141

Revised August 8, 2011

			Rele	ase Notifica	atio	n and Co	orrective A	ctio	1			
						OPERA	ΓOR			al Report		Final Report
Name of Co							bert McNeill					
Address: 600							No. 432-683-74	43				
Facility Nan	ne: LUSK	DEEP UNI	Γ A #023	H		Facility Typ	e: Battery					
Surface Own	ner: Fedei	ral		Mineral Ov	vner:	Federal			API No	. 30-025-40	0260	
				LOCA'	TIO	N OF REI	LEASE					
Unit Letter	Section	Township	Range	Feet from the		South Line	Feet from the	East/	West Line		Cou	nty
P	19	19S	32E	330'		South	380'		East		Le	a
				La	atitud	le Longitu	de					
				NATU	URE	OF REL	EASE					
Type of Relea						Volume of				Recovered:		
Produced Wat Source of Rel						210 bbls P	W Iour of Occurrenc		190 bbls F	PW Hour of Disc		
Poly Flowline						6/10/2016		e:	6/10/2016		cover	y:
Was Immedia		Given?				If YES, To						
			Yes	No Not Rec	luired	·	es – NMOCD / Sł			1		
By Whom? Was a Watero		rujillo Davis					Iour: Friday, June					
was a waterc	ourse Reac	enea?	Yes 🔀	No		If YES, Vo	olume Impacting t	ne wai	ercourse.			
If a Watercou	roo woo Im	nastad Dagar				DE	CEIVED					
ii a watercou	ise was iiii	pacieu, Descri	ibe runy.									
<i>D</i> " C	CD 11	1.0	** * *	TO 1 de		By	Olivia Yu	<u>at 9</u>	:59 am,	<u>, Mar 2</u>	7, 2	2017
Describe Cau	se of Proble	em and Remed	iial Actioi	Taken.*								
This release w	vas cause b	y poly flowlin	e on the b	ackside of the batte	ery. V	acuum trucks	were dispatched to	o recov	er all standi	ng fluid.		
Describe Area	Affected a	and Cleanup A	Action Tak	en.*								
This release o	ccurred bel	hind the batter	v in the n	sture. The weld w	as ren	aired and the t	luids recovered (Conche	will have th	ne spill site s	ampl	ed to delineate
				we will present a r								
work.												
I hereby certif	fy that the i	nformation gi	ven above	is true and comple	ete to t	he best of my	knowledge and u	ndersta	nd that purs	uant to NMO	OCD	rules and
				d/or file certain rel								
				e of a C-141 repor								
				investigate and reat tance of a C-141 re								
federal, state,				tance of a C-141 10	.port c	ioes not renev	e the operator of i	cspons	sibility for co	omphanee w	itii ai	ly other
	1	ando T.	Durin				OIL CONS	SERV	ATION	DIVISIO	N	
Signature:	SZ MA	aries							\mathcal{D}_{Λ}	ı		
Printed Name		Amanda T	ruiillo Day	ric		Approved by	Environmental S ₁	pecialis	st:	7		
							3/27/2017					
Title:	Se	enior Environ	mental Co	ordinator		Approval Dat	e:		Expiration I	Date:		
E-mail Addre	ss:	atrujillo@	concho.co	om		Conditions of	Approval:			Attached	/	/

* Attach Additional Sheets If Necessary

Date: June 20, 2016

1RP-4657

575-748-6940

Phone:

nOY1708636444

see attached directive

pOY1708636781

Operator/Responsible Party,

The OCD has received the form C-141 you provided on _3/20/2017_ regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number __1R-_4657_ 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 _4/27/2017_. 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; C₆ thru C₃₆), 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; C₆ thru C₃₆), 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 <u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 District II 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**

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

Form C-141

Revised April 3, 2017

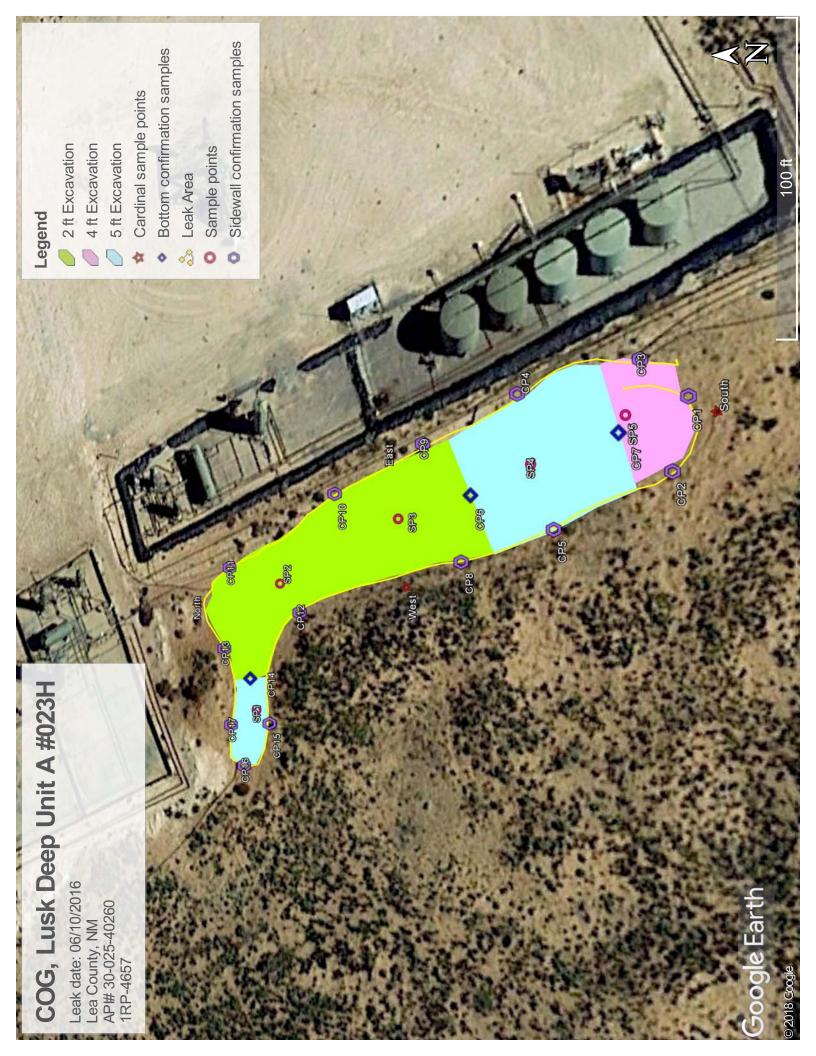
			Rele	ease Notific	atio	n and Co	rrective A	ction				
						OPERA			☐ Initia	al Report	\boxtimes	Final Report
Name of Co		COG Operat					obert McNeill					
Address 6 Facility Nar		Ilinois Aven Deep Unit		and, TX 79701		Telephone N Facility Typ		/443				
·		-	Α πυΖ31.		ı	, ,,	C Battery					
Surface Ow	ner Fede	eral		Mineral C	wner	Federal			API No	. 30-025	-4020	50
						N OF REI	LEASE					
Unit Letter	Section	Township	Range	Feet from the	North	/South Line	Feet from the	East/W	Vest Line	County		
P	19	19S	32E	330		South	380	E	East	Lea Count	y, NM	1
			I	atitude N 32.63	3897°	Longitu	de <u>W -103.7980</u>	<u>00°</u>				
				NAT	URE	OF RELI	EASE					
Type of Rele		iced water				Volume of			Volume R		190 l	
Source of Re	lease Pol	y flowline				Date and H	lour of Occurrence unknown	ce		Hour of Dise 6 @ 5:00am		ý
Was Immedia	ate Notice C	_		1		If YES, To	Whom?					
D 1111 0	. 1 7		Yes _	No Not Re	equired	•	es, NMOCD; She					
By Whom? Was a Water		rujillo Davis thed?				Date and H	lour 06/10/2010 dume Impacting t					
vvas a vvater	004100 11040		Yes 🗵] No		11 125, 10	rume impueting t		10041501			
If a Watercou	rse was Im	pacted, Descri	ibe Fully.3	k								
N/A												
Describe Cau	se of Proble	em and Remed	dial Action	n Taken.*								
The release v	as caused t	oy a comprom	ised poly	flow line on the b	ackside	of the battery	. Vacuum trucks	were dis	spatched to	recover all	standi	ng fluid.
Describe Are	a Affected a	and Cleanup A	Action Tak	ken.*								
was agreed u	pon. Reme	diation was co	mpleted i	asture. The weld n accordance with ail on 11/01/2017	the rei							
regulations a public health should their o	l operators or the envir operations h nment. In a	are required to ronment. The ave failed to a ddition, NMC	o report ar acceptand adequately OCD accep	e is true and comp nd/or file certain r ce of a C-141 report investigate and r otance of a C-141	elease r ort by th emedia	notifications and the NMOCD mate contaminati	nd perform correct arked as "Final R on that pose a thr	ctive action eport" do reat to gro	ons for rele oes not reli ound water	eases which eve the oper r, surface wa	may e ator o ter, h	endanger of liability uman health
							OIL CON	SERV	ATION	DIVISIO	<u>N</u>	
Signature:	Relea	ica G	Haske	ell		Approved by	Environmental S	pecialist	:			
Printed Name	: Rebecc	a Haskell						1				
Title: Seni	or HSE Coo	ordinator				Approval Dat	e:	E	Expiration 1	Date:		
E-mail Addre	ess: RHas	skell@concho	.com			Conditions of	Approval:			Attached		

432-683-7443

Phone:

Date: June 25, 2018

^{*} Attach Additional Sheets If Necessary



COG, Lusk Deep Unit A #023H

Samples, Hand Auger:

SP1, N 32.63955° W-103.79891°

SP2, N 32.63952° W-103.79875°

SP3, N 32.63938° W-103.79867°

SP4, N 32.63924° W-103.79861°

SP5, N 32.63915° W-103.79856°

Samples, Hand Auger:

North Sample, N 32.63963° W-103.79878°

South Sample, N 32.63907° W-103.79856°

East Sample, N 32.63939° W-103.79859°

West Sample, N 32.63937° W-103.79875°

Confirmation Samples

CP1, N 32.63909 W-103.79854

CP2, N 32.63910 W-103.79862

CP3, N 32.63913 W-103.79850

CP4, N 32.63925 W-103.79853

CP5, N 32.63921 W-103.79868

CP6, N 32.63929 W-103.79864

CP7, N 32.63915 W-103.79857

CP8, N 32.63930 W-103.79871

CP9, N 32.63935 W-103.79858

CP10, N 32.63945 W-103.79863

CP11, N 32.63958 W-103.79873

CP12, N 32.63949 W-103.79878

CP13, N 32.63958 W-103.79883

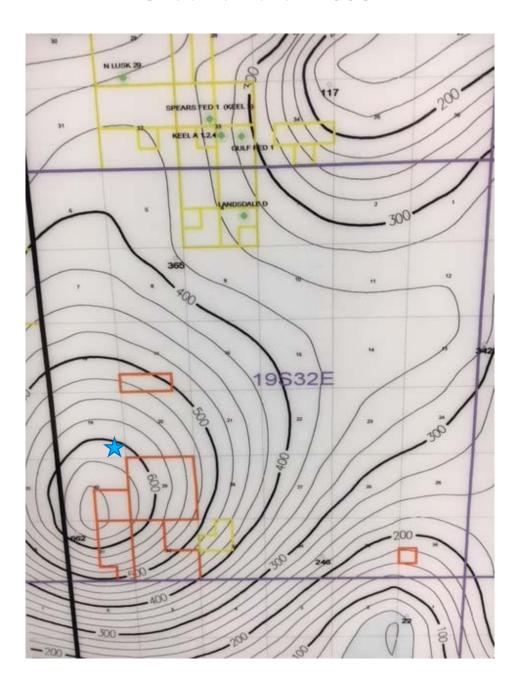
CP14, N 32.63955 W-103.79887

CP15, N 32.63953 W-103.79892

CP16, N 32.63956 W-103.79898

CP17, N 32.63958 W-103.79893

COG, Lusk Deep Unit A #023H U/L P, Section 19, T19S, R32E Groundwater: 600'





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,

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

C=the file is closed)

osed) (quarters are smallest to largest)

(NAD83 UTM in meters) (In feet)

	DOD												
	Sub-		QQ	Q								W	Vater
Code	basin	County	64 16	6 4	Sec	Tws	Rng	X	Y	DistanceDep	thWellDep	othWater Co	lumn
	CP	LE	3	1	20	19S	32E	613029	3612880*	897	350	345	5
	CP	LE	2	2	19	19S	32E	612621	3613280*	1207	260	102	158
	CP	LE	1 1	2	19	19S	32E	612118	3613376*	1402	300		
	CP	ED	2	2	25	19S	31E	611025	3611657*	1664	250		
	Code	Code basin CP CP CP	Code basin County CP LE CP LE CP LE	Code Sub-basin County 64 16 CP LE 3 CP LE 1 CP LE 1	Sub- Q Q Q Code basin County 64 16 4 CP LE 3 1 CP LE 2 2 CP LE 1 1 2	Code Sub-basin County 64 16 4 Sec CP LE 3 1 20 CP LE 2 2 19 CP LE 1 1 2 19	Sub- Q Q Q V Sec Tws Code basin County 64 16 4 Sec Tws CP LE 3 1 20 19S CP LE 2 2 2 19 19S CP LE 1 1 2 19 19S	Code Sub-basin County 64 16 4 Sec Tws Rng CP LE 3 1 20 198 32E CP LE 2 2 19 198 32E CP LE 1 1 2 19 198 32E	Code Sub-basin County 64 16 4 5ee Tws Rng X CP LE 3 1 20 19S 32E 613029 CP LE 2 2 19 19S 32E 612621 CP LE 1 1 2 19 19S 32E 612118	Sub- Q Q Q V Q Q V Q Q V Q Q V Q Q V Q Q V Q Q V Q Q Q V Q Q Q V Q Q Q V Q Q Q V Q Q Q V Q Q Q Q V Q Q Q Q V Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q	Code basin County 64 16 4 Sec Tws Rng X Y DistanceDep CP LE 3 1 20 19S 32E 613029 3612880* 897 CP LE 2 2 19 19S 32E 612621 3613280* 1207 CP LE 1 1 2 19 19S 32E 612118 3613376* 1402	Sub- Q Q Q basin County 64 16 4 Sec Tws Rng X Y DistanceDepthWellDepth CP LE 3 1 20 198 32E 613029 3612880* 897 350 CP LE 2 2 19 198 32E 612621 3613280* 1207 260 CP LE 1 1 2 19 198 32E 612118 3613376* 1402 300	Sub- Q Q Q W DistanceDepthWellDepthWater Company Code basin County 64 16 4 Sec Tws Rng X Y DistanceDepthWellDepthWater Company County 613029 3612880* 897 350 345 CP LE 2 2 19 19S 32E 612621 3613280* 1207 260 102 CP LE 1 1 2 19 19S 32E 612118 3613376* 1402 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): 612637 **Northing (Y):** 3612073 **Radius:** 1700

*UTM location was derived from PLSS - see Help

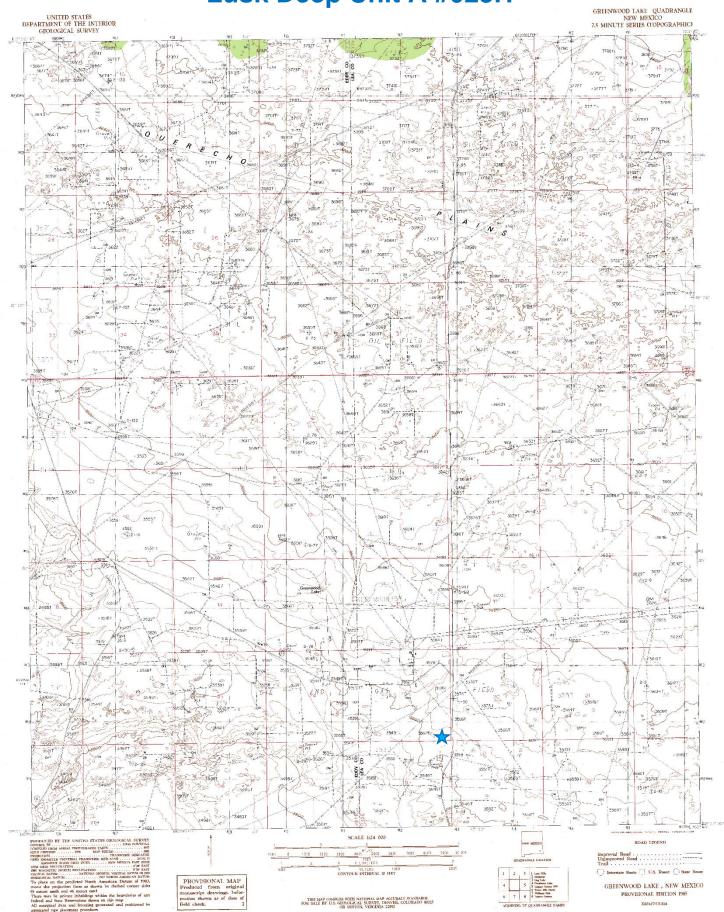
The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

2/27/17 11:16 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER

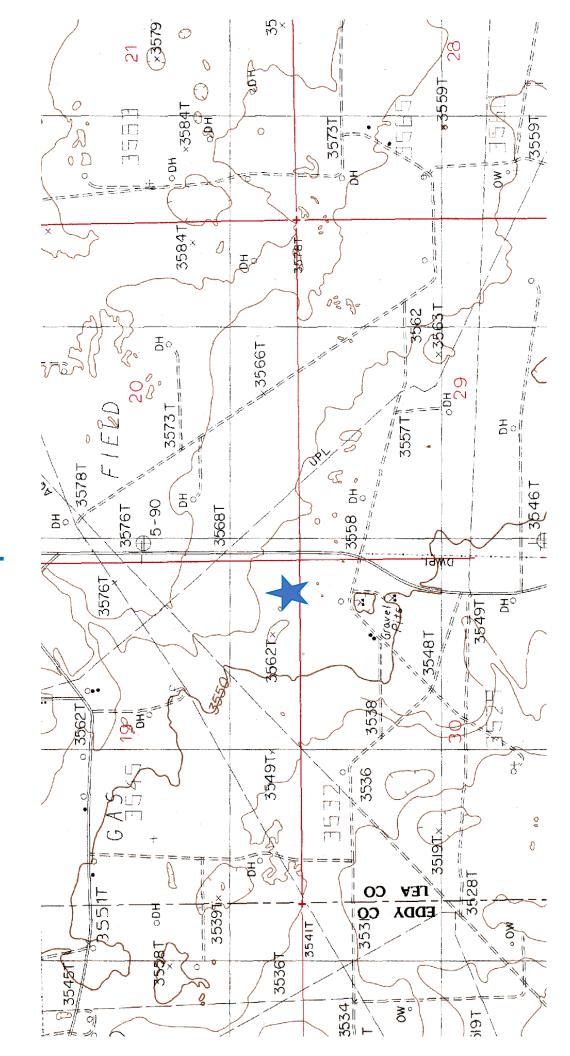
COG

Lusk Deep Unit A #023H



500

Lusk Deep Unit A #023H



Laboratory Analytical Results Summary Lusk Deep Unit A #23

		Sample	SP1 @ 1'	SP1 @ 2'	SP1 @ 3'	SP1 @ 4'	SP1 @ 5'	SP1 @ 6'	SP1 @ 10'
Analyte	Method	Date	7/14/16	7/14/16	1/31/17	1/31/17	1/31/17	1/31/17	10/13/17
			mg/Kg						
Benzene	BTEX 8021B		<0.050	<0.050	n/a	n/a	u/a	n/a	n/a
Toluene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a	n/a
Ethylbenzene BTEX 8021B	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	n/a	n/a
Total Xylenes	otal Xylenes BTEX 8021B		<0.150	<0.150	n/a	n/a	u/a	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	n/a	n/a	u/a	n/a	n/a
Chloride	SM4500CI-B		432	2160	2720	1560	240	128	192
GRO	TPH 8015M		<10.0	<10.0	n/a	n/a	n/a	n/a	n/a
DRO	TPH 8015M		<10.0	72.2	n/a	n/a	u/a	n/a	n/a

		Sample	SP2 @ 1.	SP2 @ 2	SP2 @ 3'	SP2 @ 8'
				1))
Analyte	Method	Date	7/14/16	7/14/16	10/13/17	10/13/17
			mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	<0.050	u/a	u/a
Toluene	BTEX 8021B		<0.050	<0.050	u/a	n/a
Ethylbenzene BTEX 8021B	BTEX 8021B		<0.050	<0.050	n/a	e/u
Total Xylenes BTEX 8021B	BTEX 8021B		<0.150	<0.150	u/a	u/a
Total BTEX	BTEX 8021B		<0.300	<0.300	u/a	u/a
Chloride	SM4500CI-B		3080	272	32	160
GRO	TPH 8015M		<10.0	<10.0	n/a	n/a
DRO	TPH 8015M		<10.0	<10.0	n/a	n/a

		Sample	SP3 @ 1'	SP3 @ 2'	SP3 @ 3'	SP3 @ 7'
Analyte	Method	Date	7/14/16	7/14/16	7/14/16	10/13/17
			mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	090.0>	<0.050	e/u
Toluene	BTEX 8021B		<0.050	<0.050	<0.050	n/a
Ethylbenzene BTEX 8021B	BTEX 8021B		<0.050	<0.050	<0.050	n/a
Total Xylenes BTEX 8021B	BTEX 8021B		<0.150	<0.150	<0.150	n/a
Total BTEX	BTEX 8021B		<0.300	<0.300	<0.300	n/a
Chloride	SM4500CI-B		1360	112	32	176
GRO	TPH 8015M		<10.0	<10.0	<10.0	n/a
DRO	TPH 8015M		<10.0	<10.0	<10.0	n/a

		Sample	SP4 @ 1.	SP4 @ 2'	SP4 @ 3'	SP4 @ 4'	SP4 @ 5'	SP4 @ 6'	SP4 @ 10
Analyte	Method	Date	7/14/16	7/14/16	1/31/17	1/31/17	1/31/17	11/11/1	10/13/17
			mg/Kg						
Benzene	BTEX 8021B		<0.050	<0.050	n/a	u/a	n/a	u/a	u/a
Toluene	BTEX 8021B		<0.050	<0.050	n/a	n/a	n/a	u/a	e/u
Ethylbenzene BTEX 8021B	BTEX 8021B		<0.050	<0.050	n/a	u/a	n/a	u/a	e/u
Total Xylenes BTEX 8021B	BTEX 8021B		<0.150	<0.150	n/a	n/a	n/a	u/a	e/u
Total BTEX	BTEX 8021B		<0.300	<0.300	n/a	u/a	n/a	u/a	e/u
Chloride	SM4500CI-B		2920	2920	3120	1280	224	192	176
GRO	TPH 8015M		<10.0	<10.0	n/a	n/a	n/a	u/a	e/u
טפט	TPH SO15M		7100	7100	6/4	6/4	6/4	6/4	6/4

		Sample	SP5 @ 1'	SP5 @ 2'	SP5 @ 3'	SP5 @ 4'	SP5 @ 5'	SP5 @ 6'	SP5 @ 9'
Analyte	Method	Date	7/14/16	7/14/16	1/31/17	1/31/17	1/31/17	1/31/17	10/13/17
			mg/Kg						
Benzene	BTEX 8021B		<0.050	<0.050	e/u	n/a	n/a	n/a	n/a
Toluene	BTEX 8021B		<0.050	<0.050	e/u	n/a	n/a	n/a	n/a
Ethylbenzene BTEX 8021B	BTEX 8021B		<0.050	<0.050	e/u	n/a	n/a	n/a	n/a
Total Xylenes BTEX 8021B	BTEX 8021B		<0.150	<0.150	e/u	n/a	n/a	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	008.0>	e/u	n/a	n/a	n/a	n/a
Chloride	SM4500CI-B		10000	1520	832	208	240	192	176
GRO	TPH 8015M		<10.0	<10.0	e/u	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

		Sample	
Analyte	Method	Date	1/31/17
			mg/Kg
hloride	SM4500CI-B		<16.0
		Sample	EACT @ 11

		Sample	EAST @ 1'
Analyte	Method	Date	1/31/17
			mg/Kg
Chloride	SM4500CI-B		32

® IIII			
16		SM4500CI-B	Chloride
mg/Kg			
1/31/17	Date	Method	Analyte
WEST @ 1'	Sample		

		Sample	SOUTH @ 1'
Analyte Method	pou	Date	1/31/17
			mg/Kg
Chloride SM4500CI-B	9-I00		16

Laboratory Analytical Results Summary Lusk Deep Unit A #023H

		Sample ID	CP1
Analyte	Method	Date	81/8/9
			mg/kg
Chloride	SM4500CI-B		<16.0

Chloride	SM4500CI-B		<16.0
		Sample ID	CP2
Analyte	Method	Date	6/8/18
			mg/kg
Chloride	SM4500CI-B		<16.0

		4	5
		Sample ID	SPO
Analyte	Method	Date	6/8/18
			mg/kg
Chloride	SM4500CI-B		<16.0

			mg/kg
Chloride	SM4500CI-B		<16.0
		Sample ID	CP4
Analyte	Method	Date	6/8/18
			mg/kg
Chloride	SM4500CI-B		<16.0

<16.0		SM4500CI-B	Chloride
mg/kg			
6/8/18	Date	Method	Analyte
CP5	Sample ID		
	•		

CP6	Sample ID		
<16.C		SM4500CI-B	Chloride
mg/kg			
6/8/18	Date	Method	Analyte
CP5	Sample ID		

		Sample ID	CP6
Analyte	Method	Date	6/8/18
			mg/kg
Chloride	SM4500CI-B		<16.0

		Sample ID	CP7
Analyte	Method	Date	6/8/18
			mg/kg
Shloride	SM4500CI-B		<16.0
		Cample ID	SP8

		Sample ID	CP7
Analyte	Method	Date	81/8/9
			mg/kg
Chloride	SM4500CI-B		<16.0
		Sample ID	8dO
Analyte	Method	Date	81/8/9
			mg/kg
Chloride	SM4500CI-B		<16.0
		Sample ID	6dO
Analyte	Method	Date	81/8/9
			mg/kg
Chloride	SM4500CI-B		<16.0

		Sample ID	CP9
Analyte	Method	Date	6/8/18
			mg/kg
Chloride	SM4500CI-B		<16.0

		Sample ID	CP10
Analyte	Method	Date	81/8/9
			mg/kg
Chloride	SM4500CI-B		<16.0

		Sample ID	C11
Analyte	Method	Date	6/8/18
			mg/kg
Chloride	SM4500CI-B		<16.0

		Sample ID	CP12
Analyte	Method	Date	81/8/9
			mg/kg
Chloride	SM4500CI-B		<16.0

		Sample ID	CP12
SM4500CI-B re Method SM4500CI-B		Date	81/8/9
SM4500CI-B re Method SM4500CI-B			mg/kg
rte Method			<16.0
rte Method			
rte Method SM4500CI-B		Sample ID	CP13
		Date	81/8/9
			mg/kg
	B SM4500CI-B		<16.0

		Sample ID	CP14
Analyte	Method	Date	6/8/18
			mg/kg
Chloride	SM4500CI-B		<16.0

		Sample ID	CP15
Analyte	Method	Date	6/8/18
			mg/kg
Chloride	SM4500CI-B		32

		Sample ID	CP16
Analyte	Method	Date	6/8/18
			mg/kg
Chloride	SM4500CI-B		16
		Sample ID	CP17
Analyte	Method	Date	6/8/18

Chloride SN4500CI-B Analyte Method		
SM4500Cl-B		mg/kg
Method	2	16
Method		
	Sample ID	CP17
	Date	6/8/18
		mg/kg
Chloride SM4500CI-B		32



July 20, 2016

AMANDA TRUJILLO
COG Operating, LLC
500 W. ILLINOIS
Midland, TX 79701

RE: LUSK DEEP UNIT A #23

Enclosed are the results of analyses for samples received by the laboratory on 07/14/16 12:00.

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/ga/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)

Celey D. Keine

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



COG Operating, LLC AMANDA TRUJILLO 500 W. ILLINOIS Midland TX, 79701 Fax To: None

Received: 07/14/2016 Sampling Date: 07/14/2016
Reported: 07/20/2016 Sampling Type: Soil

Project Name: LUSK DEEP UNIT A #23 Sampling Condition: ** (See Notes)
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: NONE GIVEN

Sample ID: S1-1' (H601585-01)

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	07/15/2016	ND	1.86	93.2	2.00	1.20	
Toluene*	<0.050	0.050	07/15/2016	ND	2.08	104	2.00	1.83	
Ethylbenzene*	<0.050	0.050	07/15/2016	ND	2.06	103	2.00	2.00	
Total Xylenes*	<0.150	0.150	07/15/2016	ND	6.25	104	6.00	1.71	
Total BTEX	<0.300	0.300	07/15/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	101 9	% 73.6-14	0						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	432	16.0	07/18/2016	ND	416	104	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	07/15/2016	ND	182	91.0	200	2.49	
DRO >C10-C28	<10.0	10.0	07/15/2016	ND	194	97.0	200	3.69	
Surrogate: 1-Chlorooctane	86.4	% 35-147	,						
Surrogate: 1-Chlorooctadecane	90.4	% 28-171							

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COG Operating, LLC AMANDA TRUJILLO 500 W. ILLINOIS Midland TX, 79701 Fax To: None

 Received:
 07/14/2016
 Sampling Date:
 07/14/2016

 Reported:
 07/20/2016
 Sampling Type:
 Soil

Project Name: LUSK DEEP UNIT A #23 Sampling Condition: ** (See Notes)
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: NONE GIVEN

Sample ID: S1-2' (H601585-02)

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	07/15/2016	ND	1.86	93.2	2.00	1.20	
Toluene*	<0.050	0.050	07/15/2016	ND	2.08	104	2.00	1.83	
Ethylbenzene*	<0.050	0.050	07/15/2016	ND	2.06	103	2.00	2.00	
Total Xylenes*	<0.150	0.150	07/15/2016	ND	6.25	104	6.00	1.71	
Total BTEX	<0.300	0.300	07/15/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	101 9	% 73.6-14	0						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2160	16.0	07/18/2016	ND	416	104	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	07/15/2016	ND	182	91.0	200	2.49	
DRO >C10-C28	72.2	10.0	07/15/2016	ND	194	97.0	200	3.69	
Surrogate: 1-Chlorooctane	88.2	% 35-147	,						
Surrogate: 1-Chlorooctadecane	93.8	% 28-171							

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COG Operating, LLC AMANDA TRUJILLO 500 W. ILLINOIS Midland TX, 79701 Fax To: None

Received: 07/14/2016 Sampling Date: 07/14/2016

Reported: 07/20/2016 Sampling Type: Soil

Project Name: LUSK DEEP UNIT A #23 Sampling Condition: ** (See Notes)
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: NONE GIVEN

Sample ID: S2-1' (H601585-03)

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	07/15/2016	ND	1.86	93.2	2.00	1.20	
Toluene*	<0.050	0.050	07/15/2016	ND	2.08	104	2.00	1.83	
Ethylbenzene*	<0.050	0.050	07/15/2016	ND	2.06	103	2.00	2.00	
Total Xylenes*	<0.150	0.150	07/15/2016	ND	6.25	104	6.00	1.71	
Total BTEX	<0.300	0.300	07/15/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	102 9	% 73.6-14	0						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3080	16.0	07/18/2016	ND	416	104	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	07/15/2016	ND	182	91.0	200	2.49	
DRO >C10-C28	<10.0	10.0	07/15/2016	ND	194	97.0	200	3.69	
Surrogate: 1-Chlorooctane	80.3	% 35-147	,						
Surrogate: 1-Chlorooctadecane	83.7	% 28-171							

Surrogate: 1-Chlorooctadecane 83.7 % 28-171

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COG Operating, LLC AMANDA TRUJILLO 500 W. ILLINOIS Midland TX, 79701 Fax To: None

Received: 07/14/2016 Sampling Date: 07/14/2016

Reported: 07/20/2016 Sampling Type: Soil

Project Name: LUSK DEEP UNIT A #23 Sampling Condition: ** (See Notes)
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: NONE GIVEN

Sample ID: S2-2' (H601585-04)

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	07/15/2016	ND	1.86	93.2	2.00	1.20	
Toluene*	< 0.050	0.050	07/15/2016	ND	2.08	104	2.00	1.83	
Ethylbenzene*	< 0.050	0.050	07/15/2016	ND	2.06	103	2.00	2.00	
Total Xylenes*	<0.150	0.150	07/15/2016	ND	6.25	104	6.00	1.71	
Total BTEX	<0.300	0.300	07/15/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	101 %	73.6-14	0						
Chloride, SM4500CI-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	272	16.0	07/18/2016	ND	416	104	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	07/15/2016	ND	182	91.0	200	2.49	
DRO >C10-C28	<10.0	10.0	07/15/2016	ND	194	97.0	200	3.69	
Surrogate: 1-Chlorooctane	69.4 9	% 35-147	,						
Surrogate: 1-Chlorooctadecane	72.2 9	% 28-171							

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Received: 07/14/2016 Sampling Date: 07/14/2016

Reported: 07/20/2016 Sampling Type: Soil

Project Name: LUSK DEEP UNIT A #23 Sampling Condition: ** (See Notes)
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: NONE GIVEN

Sample ID: S3-1' (H601585-05)

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	07/15/2016	ND	1.86	93.2	2.00	1.20	
Toluene*	<0.050	0.050	07/15/2016	ND	2.08	104	2.00	1.83	
Ethylbenzene*	<0.050	0.050	07/15/2016	ND	2.06	103	2.00	2.00	
Total Xylenes*	<0.150	0.150	07/15/2016	ND	6.25	104	6.00	1.71	
Total BTEX	<0.300	0.300	07/15/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	102 9	% 73.6-14	0						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1360	16.0	07/18/2016	ND	416	104	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	07/15/2016	ND	182	91.0	200	2.49	
DRO >C10-C28	<10.0	10.0	07/15/2016	ND	194	97.0	200	3.69	
Surrogate: 1-Chlorooctane	66.3	% 35-147	,						
Surrogate: 1-Chlorooctadecane	67.2	% 28-171							

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COG Operating, LLC AMANDA TRUJILLO 500 W. ILLINOIS Midland TX, 79701 Fax To: None

Received: 07/14/2016 Sampling Date: 07/14/2016

Reported: 07/20/2016 Sampling Type: Soil

Project Name: LUSK DEEP UNIT A #23 Sampling Condition: ** (See Notes)
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: NONE GIVEN

Sample ID: S3-2' (H601585-06)

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	07/15/2016	ND	1.86	93.2	2.00	1.20	
Toluene*	<0.050	0.050	07/15/2016	ND	2.08	104	2.00	1.83	
Ethylbenzene*	< 0.050	0.050	07/15/2016	ND	2.06	103	2.00	2.00	
Total Xylenes*	<0.150	0.150	07/15/2016	ND	6.25	104	6.00	1.71	
Total BTEX	<0.300	0.300	07/15/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	103 %	6 73.6-14	0						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	07/18/2016	ND	416	104	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	07/15/2016	ND	182	91.0	200	2.49	
DRO >C10-C28	<10.0	10.0	07/15/2016	ND	194	97.0	200	3.69	
Surrogate: 1-Chlorooctane	66.3 9	% 35-147	,						
Surrogate: 1-Chlorooctadecane	63.4 9	% 28-171							

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COG Operating, LLC AMANDA TRUJILLO 500 W. ILLINOIS Midland TX, 79701 Fax To: None

Received: 07/14/2016 Sampling Date: 07/14/2016

Reported: 07/20/2016 Sampling Type: Soil

Project Name: LUSK DEEP UNIT A #23 Sampling Condition: ** (See Notes)
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: NONE GIVEN

Sample ID: S3-3' (H601585-07)

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	07/15/2016	ND	1.86	93.2	2.00	1.20	
Toluene*	<0.050	0.050	07/15/2016	ND	2.08	104	2.00	1.83	
Ethylbenzene*	<0.050	0.050	07/15/2016	ND	2.06	103	2.00	2.00	
Total Xylenes*	<0.150	0.150	07/15/2016	ND	6.25	104	6.00	1.71	
Total BTEX	<0.300	0.300	07/15/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	100 9	73.6-14	0						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	07/18/2016	ND	416	104	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	07/15/2016	ND	182	91.0	200	2.49	
DRO >C10-C28	<10.0	10.0	07/15/2016	ND	194	97.0	200	3.69	
Surrogate: 1-Chlorooctane	72.5	% 35-147	,						
Surrogate: 1-Chlorooctadecane	73.7	% 28-171							

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COG Operating, LLC AMANDA TRUJILLO 500 W. ILLINOIS Midland TX, 79701 Fax To: None

Received: 07/14/2016 Sampling Date: 07/14/2016

Reported: 07/20/2016 Sampling Type: Soil

Project Name: LUSK DEEP UNIT A #23 Sampling Condition: ** (See Notes)
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: NONE GIVEN

Sample ID: S4-1' (H601585-08)

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	07/18/2016	ND	2.13	107	2.00	0.111	
Toluene*	<0.050	0.050	07/18/2016	ND	2.18	109	2.00	0.365	
Ethylbenzene*	<0.050	0.050	07/18/2016	ND	2.10	105	2.00	0.234	
Total Xylenes*	<0.150	0.150	07/18/2016	ND	6.33	106	6.00	0.107	
Total BTEX	<0.300	0.300	07/18/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	101 9	% 73.6-14	0						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2920	16.0	07/18/2016	ND	416	104	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	07/15/2016	ND	182	91.0	200	2.49	
DRO >C10-C28	<10.0	10.0	07/15/2016	ND	194	97.0	200	3.69	
Surrogate: 1-Chlorooctane	75.7	% 35-147	,						
Surrogate: 1-Chlorooctadecane	79.3	% 28-171							

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COG Operating, LLC AMANDA TRUJILLO 500 W. ILLINOIS Midland TX, 79701 Fax To: None

 Received:
 07/14/2016
 Sampling Date:
 07/14/2016

 Reported:
 07/20/2016
 Sampling Type:
 Soil

Project Name: LUSK DEEP UNIT A #23 Sampling Condition: ** (See Notes)
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: NONE GIVEN

Sample ID: S4-2' (H601585-09)

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	07/18/2016	ND	2.13	107	2.00	0.111	
Toluene*	<0.050	0.050	07/18/2016	ND	2.18	109	2.00	0.365	
Ethylbenzene*	<0.050	0.050	07/18/2016	ND	2.10	105	2.00	0.234	
Total Xylenes*	<0.150	0.150	07/18/2016	ND	6.33	106	6.00	0.107	
Total BTEX	<0.300	0.300	07/18/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	102 9	% 73.6-14	0						
Chloride, SM4500CI-B	mg/	'kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2920	16.0	07/18/2016	ND	416	104	400	0.00	QM-07
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	07/15/2016	ND	182	91.0	200	2.49	
DRO >C10-C28	<10.0	10.0	07/15/2016	ND	194	97.0	200	3.69	
Surrogate: 1-Chlorooctane	74.7	% 35-147	,						
Surrogate: 1-Chlorooctadecane	77.1	% 28-171							

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COG Operating, LLC AMANDA TRUJILLO 500 W. ILLINOIS Midland TX, 79701 Fax To: None

 Received:
 07/14/2016
 Sampling Date:
 07/14/2016

 Reported:
 07/20/2016
 Sampling Type:
 Soil

Project Name: LUSK DEEP UNIT A #23 Sampling Condition: ** (See Notes)
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: NONE GIVEN

Sample ID: S5-1' (H601585-10)

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	07/18/2016	ND	2.13	107	2.00	0.111	
Toluene*	<0.050	0.050	07/18/2016	ND	2.18	109	2.00	0.365	
Ethylbenzene*	<0.050	0.050	07/18/2016	ND	2.10	105	2.00	0.234	
Total Xylenes*	<0.150	0.150	07/18/2016	ND	6.33	106	6.00	0.107	
Total BTEX	<0.300	0.300	07/18/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	102 9	% 73.6-14	0						
Chloride, SM4500CI-B	mg/	'kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	10000	16.0	07/18/2016	ND	416	104	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	07/18/2016	ND	173	86.5	200	1.10	
DRO >C10-C28	<10.0	10.0	07/18/2016	ND	180	90.2	200	3.58	
Surrogate: 1-Chlorooctane	75.2	% 35-147	7						
Surrogate: 1-Chlorooctadecane	84 0	% 28-171							

Surrogate: 1-Chlorooctadecane 84.0 % 28-171

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COG Operating, LLC AMANDA TRUJILLO 500 W. ILLINOIS Midland TX, 79701 Fax To: None

Received: 07/14/2016 Sampling Date: 07/14/2016

Reported: 07/20/2016 Sampling Type: Soil

Project Name: LUSK DEEP UNIT A #23 Sampling Condition: ** (See Notes)
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: NONE GIVEN

Sample ID: S5-2' (H601585-11)

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	07/18/2016	ND	2.13	107	2.00	0.111	
Toluene*	<0.050	0.050	07/18/2016	ND	2.18	109	2.00	0.365	
Ethylbenzene*	<0.050	0.050	07/18/2016	ND	2.10	105	2.00	0.234	
Total Xylenes*	<0.150	0.150	07/18/2016	ND	6.33	106	6.00	0.107	
Total BTEX	<0.300	0.300	07/18/2016	ND					
Surrogate: 4-Bromofluorobenzene (PID	102 9	% 73.6-14	0						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1520	16.0	07/18/2016	ND	416	104	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	07/18/2016	ND	173	86.5	200	1.10	
DRO >C10-C28	<10.0	10.0	07/18/2016	ND	180	90.2	200	3.58	
Surrogate: 1-Chlorooctane	73.4	% 35-147	,						
Surrogate: 1-Chlorooctadecane	81.2	% 28-171							

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Notes and Definitions

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS

recovery.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

** Samples not received at proper temperature of 6°C or below.

*** Insufficient time to reach temperature.

Chloride by SM4500Cl-B does not require samples be received at or below 6°C

Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories *=Accredited Analyte

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

(575) 393-2326 FAX (575) 393-2476 101 East Marland, Hobbs, NM 88240

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Je 7		Relinguished By: Date:
A C	Received By: Phone Result: Fax Result: REMARKS:	Relinquished By: Time:
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01.014	DNTA DUND STEW - DGE	
H		Sample ID
	R	FUR LINE USE CHILLY
	Fax #: PRESERV SAMPLING	Sampler Name: 1. OQUIS
	Phone #:	Project Location:
	nit H # 23 State: Zip:	Project Name: Lusk Deap Unit
	city:	Project #: Project Owner
	Address:	Phone #: Fax #:
	zip: Attn: Kobert Comba	City: State:
	Company: COC	Address:
	P.O. #:	Project Manager: Andoda Truillo
ANALYSIS REQUEST	BILL TO	Company Name: COCILC
		1

Sample Condition
Cool Intact
Yes 446
No No

CHECKED BY: (Initials)

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

[†] Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240 (575) 393-2326 FAX (575) 393-2476

Company Name:			BILL TO			ANALYSIS REQUEST	
Project Manager:			P.O. #:				
Address:			Company:				
City:	State:	Zip:	Attn:				
Phone #:	Fax #:		Address:				
Project #:	Project Owner:	er:	City:				
Project Name:			State: Zip:				7
Project Location:			Phone #:				
Sampler Name:			Fax #:				
FOR LAB USE ONLY	Sample ID	WATER					
01		(G)RAB (GROUNE WASTEV SOIL OIL SLUDGE	OTHER: ACID/BA ICE / CO OTHER:	Bro	CI		
	SS -1	1		_	1		
-11-	55-2'	1			1		
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PLEASE NOTE: Liability and I analyses. All claims including t service. In no event shall Card affiliates or successions arising o	PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or lot, 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 detended whether allowed unless made in writing and received by Gardinal within 30 days after completion of the applicable service. In no event shall Cardinal's lies lable for incidental or conceptental damages, including whiting infrastron, business interruptions, loss of use, or loss of profits incurred by Cardinales. affiliates or successful a mistra out of or related to the performance of services hereunder by Cardinal reparatiess of whether such claim is based upon any of the above stated teasons or otherwise.	ir any daim arising whether based in contract the deemed walved unless made in writing an ling without limitation, business interruptions, y Cardinal regardless of whether such daim	n arising whether based in contract or tort, shall be limited to the amount paid waked unless made in writing and received by Casidinal within 30 days after I limitation, business interruptions, loss of use, or toso of portific hoursed by cit interruptions of whether such claim is based use, or any of the above stated rean requireless of whether such claim is based usen any of the above stated rean	id by the client for the er completion of the applicable client, its subsidiaries, asions or otherwise.			
Relinquished By:	only all	Received By:	1-6		☐ Yes ☐ No	Add'I Phone #: Add'I Fax #:	
Relinquished By:	tous la:00	Received By:	"Opresa	JUST pu	Sport	used sample and came	Came
Delivered By: (Circle One)	Time:	Sample Condition	CHECKED RV.	direction	1 to	Ď.	
TO VOTO TO		Sample Longit					

Cool Intact
Yes Yes

Sampler - UPS - Bus - Other:



February 09, 2017

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: LUSK DEEP UNIT A #023H

Enclosed are the results of analyses for samples received by the laboratory on 02/02/17 15:00.

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/ga/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)

Celey D. Keine

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



BBC International, Inc.

Cliff Brunson P.O. Box 805 Hobbs NM, 88241

Fax To: (575) 397-0397

Received: 02/02/2017 Sampling Date: 01/31/2017

Reported: 02/09/2017 Sampling Type: Soil

Project Name: LUSK DEEP UNIT A #023H Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Brittany Feller

Project Location: LEA COUNTY, NM

Sample ID: SP1 @ 3' (H700259-01)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2720	16.0	02/06/2017	ND	416	104	400	0.00	
Sample ID: SP1 @ 4' (H70	00259-02)								
Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1560	16.0	02/06/2017	ND	416	104	400	0.00	
Sample ID: SP1 @ 5' (H70	00259-03)								
Chloride, SM4500Cl-B	mg,	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	02/06/2017	ND	416	104	400	0.00	
Sample ID: SP1 @ 6' (H70	00259-04)								
Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier

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BBC International, Inc.

Cliff Brunson P.O. Box 805 Hobbs NM, 88241

Fax To: (575) 397-0397

Received: 02/02/2017 Sampling Date: 01/31/2017

Reported: 02/09/2017 Sampling Type: Soil

Project Name: LUSK DEEP UNIT A #023H Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Brittany Feller

Project Location: LEA COUNTY, NM

Sample ID: SP4 @ 3' (H700259-05)

Chloride, SM4500CI-B	mg,	'kg	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3120	16.0	02/06/2017	ND	416	104	400	0.00	

Sample ID: SP4 @ 4' (H700259-06)

Chloride, SM4500Cl-B	mg,	'kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1280	16.0	02/06/2017	ND	416	104	400	0.00	

Sample ID: SP4 @ 5' (H700259-07)

Chloride, SM4500CI-B	ride, SM4500Cl-B mg/kg								
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	224	16.0	02/06/2017	ND	416	104	400	0.00	

Sample ID: SP4 @ 6' (H700259-08)

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	02/06/2017	ND	416	104	400	0.00	

Sample ID: SP5 @ 3' (H700259-09)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	832	16.0	02/06/2017	ND	416	104	400	0.00	

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BBC International, Inc.

Cliff Brunson P.O. Box 805 Hobbs NM, 88241

Fax To: (575) 397-0397

Received: 02/02/2017 Sampling Date: 01/31/2017

Reported: 02/09/2017 Sampling Type: Soil

Project Name: LUSK DEEP UNIT A #023H Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Brittany Feller

Project Location: LEA COUNTY, NM

Sample ID: SP5 @ 4' (H700259-10)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	02/06/2017	ND	416	104	400	0.00	

Sample ID: SP5 @ 5' (H700259-11)

Chloride, SM4500Cl-B	mg/	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	02/06/2017	ND	416	104	400	0.00	

Sample ID: SP5 @ 6' (H700259-12)

Chloride, SM4500Cl-B	loride, SM4500Cl-B mg/kg								
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	02/06/2017	ND	416	104	400	0.00	

Sample ID: NORTH SAMPLE @ 1' (H700259-13)

Chloride, SM4500CI-B	mg,	/kg	Analyze	Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	02/06/2017	ND	416	104	400	0.00	

Sample ID: EAST SAMPLE @ 1' (H700259-14)

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	02/06/2017	ND	416	104	400	0.00	

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BBC International, Inc.

Cliff Brunson P.O. Box 805 Hobbs NM, 88241

Fax To: (575) 397-0397

Received: 02/02/2017 Sampling Date: 01/31/2017

Reported: 02/09/2017 Sampling Type: Soil

Project Name: LUSK DEEP UNIT A #023H Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Brittany Feller

Project Location: LEA COUNTY, NM

Sample ID: WEST SAMPLE @ 1' (H700259-15)

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	02/06/2017	ND	416	104	400	0.00	

Sample ID: SOUTH SAMPLE @ 1' (H700259-16)

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	02/06/2017	ND	416	104	400	0.00	

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Notes and Definitions

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

** Samples not received at proper temperature of 6°C or below.

*** Insufficient time to reach temperature.

- Chloride by SM4500Cl-B does not require samples be received at or below 6°C

Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories *=Accredited Analyte

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 client for analyses. All claims, including those for negligence and any other cause whistoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential 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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results related only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

ARDINAL LABORATORIES 101 East Marland, Hobbs, NM 88240

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

company name:	BBC International, Inc.		BILL TO	6	ANALYSIS REQUEST	_
Project Manager:	r: Cliff Brunson		P.O. #:			_
Address: P.O. Box 805	. Box 805		Company: (06	,		_
city: Hobbs	State: NM	Zip: 88241	Attn: (Symbos			_
Phone #: 575-397-6388	Fax #:	575-397-0397	SS			
Project #:	Project Owner:	er: (06	City:			-
Project Name:	Project Name: LUSK DEEP UNIT A #023H		State: Zip:			
Project Location:	n: LEA COUNTY, NM		#			_
Sampler Name:	JEFF ORNELAS		Fax #:			_
FOR LAB USE ONLY		MATRIX	ESERV.	SAMPLING		_
Lab I.D.	Sample I.D.	DR (C)OMP. NINERS DWATER VATER	DL			
H100259-		# COI GROI WAST SOIL	OTHE ACID/ CE/C	TE TIME		_
0	SP1 @ 3'	_	V 1	9		
OZ.	SP1 @ 4'	0-	7 1/31/17	7 10:01 AM		
S	SP1 @ 5'	0	V 1/31/17	7 10:44 AM		
kg	SP1 @ 6'	0	J 1/31/17	7 10:57 AM		
20	SP4 @ 3'	0	7/31/17	7 11:19 AM		
90	SP4 @ 4'	2	√ 1/31/17	7 11:47 AM		
2	SP4 @ 5'	0	1/31/17	7 1:05 PM		
S	SP4 @ 6'	C - 2	1/31/17	7 1:30 PM		
200	SP5 @ 3'	0	/ 1/31/17	1:45 PM		
g	SP5 @ 4'	61	V 1/31/17	7 2:15 PM 🗸		
PLEASE NOTE: Liability an analyses, All claims includin service. In no event shall Carefulate and the control of the control o	ily and client's exclusive re- iny other cause whatsoever I or consequental damages	any claim arising whether based in control deemed waived unless made in writing a guithout limitation, business interruption	act or tort, shall be limited to the amou and received by Cardinal within 30 day rs, loss of use, or loss of profits incurre	nt paid by the client for the ys after completion of the application of the policy of by client, its subsidiaries,	able	L
Relinquished By:	By: Date: Re	Received By:	im is based upon any of the above stat	Phone Result:	☐ Yes ☐ No Add'I Phone #:	_
A COMMAN	Time: 6		1	Fax Result:	O No	
TAC UNIV	5.100	1	1	NEWARNO:		_

CHECKED BY:

Received By:

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

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



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

(202) 232-2320 FMA (202) 233-2	470				
Company Name: BBC International, Inc.		BILL TO		ANALYSIS REQUEST	
Project Manager: Cliff Brunson		P.O. #:			
Address: P.O. Box 805		Company: (06			_
City: Hobbs State: NM	1 Zip: 88241	Attn: (JWb)			
5-397-6388 Fax #:	575-397-0397	Address:			
Project #: Project Owner:	ner: (06	City:			_
Project Name: LUSK DEEP UNIT A #023H		State: Zip:			
Project Location: LEA COUNTY, NM		Phone #:			
Sampler Name: JEFF ORNELAS		Fax #:			_
\neg	MATRIX	PRESERV. SAMPLING	ING		
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		
II SP5 @ 5'	-	(2:30 PM 🗸		
12 SP5 @ 6'	0	V 1/31/17	2:50 PM 🗸		
NORTH SAMPLE @ 1'	0 -	1/31/17	2:52 PM 🗸		
EAST SAMPLE @ 1'	0	V 1/31/17	2:55 PM 🗸		
VEST SAMPLE @ 1'	0	V 1/31/17	2:59 PM 🗸		
SOUTH SAMPLE @ 1'	6 - 0	/ 1/31/17	3:15 PM 🗸		
FILIA					
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 dynated unless made in writing and received by Cardinal within 30 days after completion of the asservice. In no event shall Cardinal be liable for incidental or consequental damages in the party without finitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries.	for any claim arising whether based in contract all be digwred waived unless made in writing and year gratification, business interruptions.	rry claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the type and waived unless made in writing and received by Cardinal within 30 days after completion of the applicable without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries,	id by the client for the er completion of the applicable client, its subsidiaries,		
Relinquished By: Time: Time:	Received By:	aby:	Phone Result: Fax Result: REMARKS:	☐ Yes ☐ No Add'l Phone #: ☐ Yes ☐ No Add'l Fax #:	
Relinquished By: Date 3 10	Received By:				
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Sample Condition Cook Intack Yes Tyes	CHECKED BY:			

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



October 20, 2017

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: LUSK DEEP UNIT A #023H

Enclosed are the results of analyses for samples received by the laboratory on 10/16/17 13:05.

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/ga/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.

Celey D. Keine

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



BBC International, Inc.

Cliff Brunson P.O. Box 805 Hobbs NM, 88241

Fax To: (575) 397-0397

Received: 10/16/2017 Sampling Date: 10/13/2017

Reported: 10/20/2017 Sampling Type: Soil

Project Name: LUSK DEEP UNIT A #023H Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Jodi Henson

Project Location: LEA COUNTY, NM

Sample ID: SP 1 @ 10' (H702787-01)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	10/20/2017	ND	432	108	400	3.64	
Sample ID: SP 2 @ 3' (H7	02787-02)								
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	10/20/2017	ND	432	108	400	3.64	
Sample ID: SP 2 @ 8' (H7	02787-03)								
Chloride, SM4500CI-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	10/20/2017	ND	432	108	400	3.64	
Sample ID: SP 3 @ 7' (H7	02787-04)								
Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176								

Cardinal Laboratories *=Accredited Analyte

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BBC International, Inc.

Cliff Brunson P.O. Box 805 Hobbs NM, 88241

Fax To: (575) 397-0397

Received: 10/16/2017 Sampling Date: 10/13/2017

Reported: 10/20/2017 Sampling Type: Soil

Project Name: LUSK DEEP UNIT A #023H Sampling Condition: Cool & Intact Project Number: Sample Received By: NONE GIVEN Jodi Henson

Project Location: LEA COUNTY, NM

Result

176

Reporting Limit

16.0

Sample ID: SP 4 @ 10' (H702787-05)

Analyte

Chloride

Chloride, SM4500CI-B	mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	10/20/2017	ND	432	108	400	3.64	
Sample ID: SP 5 @ 9' (H7	02787-06)								
Chloride, SM4500Cl-B	mg/kg		Analyzed By: AC						

Method Blank

ND

BS

432

% Recovery

108

Analyzed

10/20/2017

Cardinal Laboratories	*=Accredited Analyte
Cardinal Laboratories	*=Accredited Analyte

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Celeg D. Keene

RPD

3.64

True Value QC

400

Qualifier



Notes and Definitions

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

** Samples not received at proper temperature of 6°C or below.

*** Insufficient time to reach temperature.

- Chloride by SM4500Cl-B does not require samples be received at or below 6°C

Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories *=Accredited Analyte

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Celeg D. Kreene

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

1				The second secon
Company Name: BBC International, Inc.		BILL 10		ANALYSIS REQUEST
Project Manager: Cliff Brunson		P.O. #:		
Address: P.O. Box 805		Company: (UC	-	
City: Hobbs State: NM	Zip: 88241	Attn: BCCW HIST		
5-397-6388 Fax #:	575-397-0397	Address:		
Project #: Project Owner:	er: C05	City:		
Project Name: LUSK DEPP Unit A	#23H	State: Zip:		
on: Leg County		Phone #:		
Je A		Fax #:		
		PRESERV. SAMPLING	G	
Lab I.D. Sample I.D.	CONTAINERS ROUNDWATER VASTEWATER OIL LUDGE	THER: CID/BASE: CE / COOL THER:	C L	
01001051		11.5701	d133 V	
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8 0 6 9 8	ر د	\ \	(1) Y OP! (3)	
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5 5 P 4 @ 10	S - V	<	Dirid V	
688389	? - <	<	1 / 85 / 1	
TOTAL .				
1 19.				
PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive memoty for any claim asked whether based in contract or tot, shall be limited to the amount paid by the client for the applicable analyses. All claims including those for negligence and any other cause whatsoever that be deemed waved unters made in writing and received by Cardinal within 30 days after completion of the applicable sention. In or event what Cardinal has labely for includerated or competency including which intraction, business intemptions, loss of use, or loss of profits incurred by client, its substitution, in or event what Cardinal has labely for including any competency including without intraction, business intemptions, loss of use, or loss of profits incurred by client, its substitution, in the contraction of the contrac	wely for any claim arising whether based in contract or fort, shall be limited to the amount paid by the claim for the shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the ag including without limitation, business interruptions, loss of use, or loss of profits incurred by claim, its subsidiaries,	t or tort, shall be limited to the amount paid in direceived by Cardinal within 30 days after it loss of use, or loss of profits incurred by click	by the client for the completion of the applicable ient, its subsidiaries,	
affiliates or successors arising out of or related to the performance of services hereunder b Relinquished By: Date: 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	nder by Cardinal, regardless of whether such claim is based upon any of the above Received By:	is based upon any of the above stated reas	It: Yes	
Lex	Thulis Doney 1/1.			lo Add'I Fax#:
The House of the Lines	Received by:	nen		
#75,00	Sample Condition Cool Intact	tion CHECKEDBY:		
-	795° Fres H 16			



June 13, 2018

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: LUSK DEEP UNIT A #023H

Enclosed are the results of analyses for samples received by the laboratory on 06/12/18 15:20.

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 www.tceq.texas.gov/field/ga/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.

Celey D. Keine

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



BBC International, Inc.

Cliff Brunson P.O. Box 805 Hobbs NM, 88241

Fax To: (575) 397-0397

Received: 06/12/2018 Sampling Date: 06/08/2018

Reported: 06/13/2018 Sampling Type: Soil

Project Name: LUSK DEEP UNIT A #023H Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker

A .. . | D. .. 1184

Project Location: COG - LEA COUNTY, NM

<16.0

16.0

Sample ID: CP - 1 (H801597-01)

Chi--id- CM4E00CL D

Chloride

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/13/2018	ND	448	112	400	0.00	
Sample ID: CP - 2 (H801	597-02)								
Chloride, SM4500CI-B	mg	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/13/2018	ND	448	112	400	0.00	
Sample ID: CP - 3 (H801	597-03)								
Chloride, SM4500CI-B	mg	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/13/2018	ND	448	112	400	0.00	
Sample ID: CP - 4 (H801	597-04)								
Chloride, SM4500CI-B	mg	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier

Cardinal Laboratories *=Accredited Analyte

ND

448

112

400

0.00

06/13/2018

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BBC International, Inc.

Cliff Brunson P.O. Box 805 Hobbs NM, 88241

Fax To: (575) 397-0397

Received: 06/12/2018 Sampling Date: 06/08/2018

Reported: 06/13/2018 Sampling Type: Soil

Project Name: LUSK DEEP UNIT A #023H Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker

Project Location: COG - LEA COUNTY, NM

Sample ID: CP - 5 (H801597-05)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/13/2018	ND	448	112	400	0.00	

Sample ID: CP - 6 (H801597-06)

Chloride, SM4500CI-B		mg	/kg	Analyzed By: HM							
Ana	alyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride		<16.0	16.0	06/13/2018	ND	448	112	400	0.00		

Sample ID: CP - 7 (H801597-07)

Chloride, SM4500Cl-B	mg/	kg	Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/13/2018	ND	448	112	400	0.00	

Sample ID: CP - 8 (H801597-08)

Chloride, SM4500CI-B	Chloride, SM4500Cl-B mg/kg		Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/13/2018	ND	448	112	400	0.00	

Sample ID: CP - 9 (H801597-09)

Chloride, SM4500Cl-B mg		/kg	g Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/13/2018	ND	448	112	400	0.00	

Cardinal Laboratories *=Accredited Analyte

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BBC International, Inc.

Cliff Brunson P.O. Box 805 Hobbs NM, 88241

Fax To: (575) 397-0397

Received: 06/12/2018 Sampling Date: 06/08/2018

Reported: 06/13/2018 Sampling Type: Soil

Project Name: LUSK DEEP UNIT A #023H Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker

Project Location: COG - LEA COUNTY, NM

Sample ID: CP - 10 (H801597-10)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/13/2018	ND	448	112	400	0.00	

Sample ID: CP - 11 (H801597-11)

Chloride, SM4500Cl-B	mg/	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/13/2018	ND	448	112	400	0.00	

Sample ID: CP - 12 (H801597-12)

Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/13/2018	ND	448	112	400	0.00	

Sample ID: CP - 13 (H801597-13)

Chloride, SM4500CI-B	mg/	'kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/13/2018	ND	448	112	400	0.00	

Sample ID: CP - 14 (H801597-14)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	06/13/2018	ND	448	112	400	0.00	

Cardinal Laboratories *=Accredited Analyte

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 client for analyses. All claims, including those for negligence and any other cause whistoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential 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 the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



BBC International, Inc.

Cliff Brunson P.O. Box 805 Hobbs NM, 88241

Fax To: (575) 397-0397

Received: 06/12/2018 Sampling Date: 06/11/2018

Reported: 06/13/2018 Sampling Type: Soil

Project Name: LUSK DEEP UNIT A #023H Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker

Project Location: COG - LEA COUNTY, NM

Sample ID: CP - 15 (H801597-15)

Chloride, SM4500Cl-B mg/kg Analyzed By: HM Analyte Result Reporting Limit Analyzed Method Blank BS % Recovery True Value QC RPD Qualifier Chloride 16.0 06/13/2018 ND 448 400 0.00 32.0 112

Sample ID: CP - 16 (H801597-16)

Chloride, SM4500Cl-B Analyzed By: HM mg/kg Reporting Limit Analyzed BS True Value QC RPD Qualifier Analyte Result Method Blank % Recovery Chloride 16.0 16.0 06/13/2018 448 400 0.00 ND 112

Sample ID: CP - 17 (H801597-17)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	06/13/2018	ND	448	112	400	0.00	

Cardinal Laboratories *=Accredited Analyte

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Celeg D. Freene



Notes and Definitions

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

** Samples not received at proper temperature of 6°C or below.

*** Insufficient time to reach temperature.

Chloride by SM4500Cl-B does not require samples be received at or below 6°C

Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories *=Accredited Analyte

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Celeg D. Kreene

ARDINAL 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	0	А	ANALYSIS REQUEST	•
Project Manager: Cliff Brunson		P.O. #:				
Address: P.O. Box 805		Company:				
State: NM	Zip: 88241	Attn:	0			
5-397-6388 Fax #:	575-397-0397	Address:	(
Project #: Project Owner:		City:				
Project Name: Lusk Decp Unit A #023H		State: Zip:				
Project Location:		Phone #:				
Sampler Name: P. Brusson		Fax #:		_		
FOR LAB USE ONLY	MATRIX	PRESERV. S	SAMPLING	d «		
Lab I.D. Sample I.D.	(G)RAB OR (C)OMF # CONTAINERS GROUNDWATER WASTEWATER SOIL OIL SLUDGE	OTHER: ACID/BASE: ICE / COOL OTHER:	DATE TIME	Chlori		- 1
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C1-2	7	۲ .	11 9:00	?		
3 cp-3	9	?	11:15	9		
CP-4	7	7 77	7:30	9		
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6 CP-6	9	?	10:00	9		
CP-7	<u> </u>	9	10:15	?		
S CP28	9	?	11 /0:30	_		
9 62-9	2	?	11 /0:45			
10 CP-10	<u> </u>	9	11 //:00	•		

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Relinquished By: Relinquished By Sampler - UPS - Bus - Other: Delivered By: (Circle One) Time: Time: 5:00 Date: 11-18 Received By: Received By: yenne Cool Intact
A Yes A Yes
No No Sample Condition Gilken CHECKED BY 40 (Initials) Phone Result: Fax Result: REMARKS: to some head space Rush ☐ Yes ☐ No Add'l Phone
☐ Yes ☐ No Add'l Fax#: Add'l Phone #:

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



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

ANALYSIS REQUEST
3
06
Zip:
SAMPLING
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6/8/18 12:34
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SAMPLING SAM

Relinquished By: Relinquished By: Delivered By: (Circle One) 3,90 Time: Time: /20\ Date: 11-18 Received By: Received By: Henry b CHECKED BY: Phone Result: ☐ Yes ☐ No Add'I Phone #:
Fax Result: ☐ Yes ☐ No Add'I Fax #:
REMARKS:

as some head space

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

9

Sampler - UPS - Bus - Other:

From: Yu, Olivia, EMNRD

To: Cliff Brunson: "Rebecca Haskell"; Henryetta Price
Cc: "Ken Swinney"; "Jennifer Gilkey"; "Kathy Purvis"
Subject: RE: COG - Lusk Deep Unit A #023H - Delineation Workplan

Date: Monday, December 4, 2017 1:23:40 PM

Attachments: approved 1RP4657 Delineation Workplan Lusk Deep Unit A #023H.pdf

Mr. Brunson:

NMOCD approves of the delineation completed for 1RP-4657 and the proposed remedial activities. Please establish confirmation bottom sample locations at the borders between the different excavation depths. Each area with a different excavation depth should have at least one set of sidewall samples. Include a scaled map with confirmation sample points demarcated with GPS coordinates in the remediation/closure report.

Please see the attachment for your records.

Thanks,

Olivia Yu Environmental Specialist NMOCD, District I Olivia.yu@state.nm.us 575-393-6161 x113

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 [mailto:cbrunson@bbcinternational.com]

Sent: Friday, October 27, 2017 12:10 PM

To: Yu, Olivia, EMNRD <Olivia.Yu@state.nm.us>; 'Rebecca Haskell' <RHaskell@concho.com>; Henryetta Price <hprice@blm.gov>

Cc: 'Ken Swinney' <kswinney@bbcinternational.com>; 'Jennifer Gilkey' <jgilkey@bbcinternational.com>; 'Kathy Purvis'

<kathy@bbcinternational.com>

Subject: RE: COG - Lusk Deep Unit A #023H - Delineation Workplan

Olivia and Henryetta,

Please find attached the Delineation Workplan for the COG Lusk Deep Unit A #023H release site. Per Olivia's request below, COG has conducted further delineation at depth and has altered the excavation depth at SP5 to 4 feet instead of the original 3 feet. All other conditions will be met. COG respectfully requests both the NMOCD and BLM approve this plan so remediation activities may proceed. If you would please reply back with your approval via email, it would be greatly appreciated.

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: Yu, Olivia, EMNRD [mailto:Olivia.Yu@state.nm.us]

Sent: Monday, March 27, 2017 4:52 PM

To: Rebecca Haskell < RHaskell@concho.com >; Cliff Brunson < cbrunson@bbcinternational.com >; Shelly Tucker < stucker@blm.gov >

Cc: Ken Swinney < kswinney@bbcinternational.com >; Jennifer Gilkey < jgilkey@bbcinternational.com >; Kathy Purvis < kathy@bbcinternational.com >

Subject: RE: COG - Lusk Deep Unit A #023H - Delineation Workplan

Dear Mr. Brunson:

NMOCD determines that the delineation workplan for 1RP-4657 does not provide sufficient evidence of complete vertical delineation. Please address these concerns.

- 1. Vertically delineate an additional 5 ft. below the depth (minimum) at which permissible chloride levels were attained for each of the sample points.
- 2. Excavation to 3 ft. at SP5 does not capture all the contaminated soil. Impacted soil should be removed to 4 ft. bgs for the area around SP5.
- 3. Bottom and confirmation sidewall samples are requested at all sample points.

Thanks,

Olivia Yu Environmental Specialist NMOCD, District I Olivia.yu@state.nm.us 575-393-6161 x113

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: Yu, Olivia, EMNRD

Sent: Monday, March 27, 2017 10:26 AM

To: 'Rebecca Haskell' <<u>RHaskell@concho.com</u>>; Cliff Brunson <<u>cbrunson@bbcinternational.com</u>>; Shelly Tucker <<u>stucker@blm.gov</u>>

Cc: Ken Swinney <<u>kswinney@bbcinternational.com</u>>; Jennifer Gilkey <<u>jgilkey@bbcinternational.com</u>>; Kathy Purvis <<u>kathy@bbcinternational.com</u>>

Subject: RE: COG - Lusk Deep Unit A #023H - Delineation Workplan

Dear Ms. Haskell:

As NMOCD does not have a record of a processed initial C141, a 1RP is issued for the incident. The delineation workplan is under review.

				Lusk Deep Unit A #023H	30-025-	19S-32E-	
4657	3/27/2017	А	COG	battery	40260	19P	6/10/2016

Thanks,

Olivia Yu

Environmental Specialist NMOCD, District I Olivia.yu@state.nm.us 575-393-6161 x113

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: Rebecca Haskell [mailto:RHaskell@concho.com]

Sent: Monday, March 20, 2017 12:16 PM

To: Yu, Olivia, EMNRD < <u>Olivia.Yu@state.nm.us</u>>; Cliff Brunson < <u>cbrunson@bbcinternational.com</u>>; Shelly Tucker

<stucker@blm.gov>

Cc: Ken Swinney <<u>kswinney@bbcinternational.com</u>>; Jennifer Gilkey <<u>jgilkey@bbcinternational.com</u>>; Kathy Purvis <<u>kathy@bbcinternational.com</u>>

Subject: RE: COG - Lusk Deep Unit A #023H - Delineation Workplan

Ms. Yu,

Please see attached Notification submitted to Mr. Keyes on June 10, 2016 and the Initial C-141 submitted on June 20, 2016. Please let me know if you need any additional information.

Thank You,

Becky Haskell Senior HSE Coordinator COG Operating LLC 600 W Illinois Avenue | Midland, TX 79701 Direct: 432-818-2372 | Main: 432.683.7443 Cell: 432-556-5130

*CONCHO

rhaskell@concho.com

From: Yu, Olivia, EMNRD [mailto:Olivia.Yu@state.nm.us]

Sent: Monday, March 20, 2017 12:50 PM

To: Cliff Brunson; Shelly Tucker

Cc: Rebecca Haskell; Ken Swinney; Jennifer Gilkey; Kathy Purvis

Subject: [External] RE: COG - Lusk Deep Unit A #023H - Delineation Workplan

**** External email. Use caution. ****

Dear All:

NMOCD does not have a record of the original submission of the initial C-141. If anyone has a copy, please provide this information.

Thanks, Olivia

From: Cliff Brunson [mailto:cbrunson@bbcinternational.com]

Sent: Monday, March 20, 2017 11:11 AM

To: Yu, Olivia, EMNRD < Olivia. Yu@state.nm.us >; Shelly Tucker < stucker@blm.gov >

Cc: Becky Haskell < rhaskell@concho.com >; Ken Swinney < kswinney@bbcinternational.com >; Jennifer Gilkey

<jgilkey@bbcinternational.com>; Kathy Purvis <kathy@bbcinternational.com>

Subject: COG - Lusk Deep Unit A #023H - Delineation Workplan

Olivia and Shelly,

Please find the attached Delineation Workplan and remediation proposal for the COG Lusk Deep Unit A #023H. There is no RP number associated with this leak that was provided by the NMOCD. We searched online as well and were not successful in locating one. COG is requesting that you review this plan and is looking forward to the OCD's and BLM'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: Price, Henryetta
To: Cliff Brunson

Cc: Yu, Olivia, EMNRD; Rebecca Haskell; Ken Swinney; Jennifer Gilkey; Kathy Purvis

Subject: Re: COG - Lusk Deep Unit A #023H - Delineation Workplan

Date: Wednesday, November 1, 2017 11:15:34 AM

BLM approves the proposed work plan. Must have like approval from NMOCD prior to work. Thank you.

Henryetta Price

Environmental Protection Specialist Bureau Of Land Management Hprice@blm.gov Phone 575-234-5951

Cell 575-706-2780 Fax 575-234-5927

On Fri, Oct 27, 2017 at 12:10 PM, Cliff Brunson <<u>cbrunson@bbcinternational.com</u>> wrote:

Olivia and Henryetta,

Please find attached the Delineation Workplan for the COG Lusk Deep Unit A #023H release site. Per Olivia's request below, COG has conducted further delineation at depth and has altered the excavation depth at SP5 to 4 feet instead of the original 3 feet. All other conditions will be met. COG respectfully requests both the NMOCD and BLM approve this plan so remediation activities may proceed. If you would please reply back with your approval via email, it would be greatly appreciated.

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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prohibited.	p

From: Yu, Olivia, EMNRD [mailto: Olivia. Yu@state.nm.us]

Sent: Monday, March 27, 2017 4:52 PM

To: Rebecca Haskell <<u>RHaskell@concho.com</u>>; Cliff Brunson <<u>cbrunson@bbcinternational.com</u>>; Shelly Tucker <<u>stucker@blm.gov</u>>

Cc: Ken Swinney kswinney@bbcinternational.com; Jennifer Gilkey kswinney@bbcinternational.com; Kathy@bbcinternational.com; Kathy@bbcinternational.com

Subject: RE: COG - Lusk Deep Unit A #023H - Delineation Workplan

Dear Mr. Brunson:

NMOCD determines that the delineation workplan for 1RP-4657 does not provide sufficient evidence of complete vertical delineation. Please address these concerns.

- 1. Vertically delineate an additional 5 ft. below the depth (minimum) at which permissible chloride levels were attained for each of the sample points.
- 2. Excavation to 3 ft. at SP5 does not capture all the contaminated soil. Impacted soil should be removed to 4 ft. bgs for the area around SP5.
- 3. Bottom and confirmation sidewall samples are requested at all sample points.

Thanks,

Olivia Yu

Environmental Specialist

NMOCD, District I

Olivia.yu@state.nm.us

575-393-6161 x113

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: Yu, Olivia, EMNRD

Sent: Monday, March 27, 2017 10:26 AM

To: 'Rebecca Haskell' <<u>RHaskell@concho.com</u>>; Cliff Brunson <<u>cbrunson@bbcinternational.com</u>>; Shelly Tucker <<u>stucker@blm.gov</u>>

Cc: Ken Swinney kswinney@bbcinternational.com; Kathy Purvis < kathy@bbcinternational.com> Subject: RE: COG - Lusk Deep Unit A #023H - Delineation Workplan Dear Ms. Haskell: As NMOCD does not have a record of a processed initial C141, a 1RP is issued for the incident. The delineation workplan is under review. Lusk Deep Unit A 30-025-19S-32E-4657 3/27/2017 COG #023H battery 40260 19P 6/10/2016 A Thanks, Olivia Yu **Environmental Specialist** NMOCD, District I Olivia.yu@state.nm.us 575-393-6161 x113 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: Rebecca Haskell [mailto:RHaskell@concho.com] Sent: Monday, March 20, 2017 12:16 PM To: Yu, Olivia, EMNRD < Olivia. Yu@state.nm.us>; Cliff Brunson < cbrunson@bbcinternational.com>; Shelly Tucker <stucker@blm.gov> Cc: Ken Swinney kswinney@bbcinternational.com; Jennifer Gilkey kswinney@bbcinternational.com; Kathy Purvis < kathy@bbcinternational.com> Subject: RE: COG - Lusk Deep Unit A #023H - Delineation Workplan

Ms. Yu,

Please see attached Notification submitted to Mr. Keyes on June 10, 2016 and the Initial C-141 submitted on June 20, 2016. Please let me know if you need any additional information.

Thank You,

Becky Haskell

Senior HSE Coordinator

COG Operating LLC

600 W Illinois Avenue | Midland, TX 79701 Direct: 432-818-2372 | Main: 432.683.7443

Cell: 432-556-5130

rhaskell@concho.com



From: Yu, Olivia, EMNRD [mailto:Olivia.Yu@state.nm.us]

Sent: Monday, March 20, 2017 12:50 PM

To: Cliff Brunson; Shelly Tucker

Cc: Rebecca Haskell; Ken Swinney; Jennifer Gilkey; Kathy Purvis
Subject: [External] RE: COG - Lusk Deep Unit A #023H - Delineation Workplan

**** External email. Use caution. ****

Dear All:

NMOCD does not have a record of the original submission of the initial C-141. If anyone has a copy, please provide this information.

Thanks,

Olivia

From: Cliff Brunson [mailto:cbrunson@bbcinternational.com]

Sent: Monday, March 20, 2017 11:11 AM

To: Yu, Olivia, EMNRD < Olivia. Yu@state.nm.us>; Shelly Tucker < stucker@blm.gov>

Cc: Becky Haskell < rhaskell@concho.com >; Ken Swinney < kswinney@bbcinternational.com >; Jennifer Gilkey

<igilkev@bbcinternational.com>; Kathy Purvis <kathy@bbcinternational.com>

Subject: COG - Lusk Deep Unit A #023H - Delineation Workplan

Olivia and Shelly,

Please find the attached Delineation Workplan and remediation proposal for the COG Lusk Deep Unit A #023H. There is no RP number associated with this leak that was provided by the NMOCD. We searched online as well and were not successful in locating one. COG is requesting that you review this plan and is looking forward to the OCD's and BLM's approval.

Thanks, Cliff Cliff P. Brusson, CEL CRS President BBC International, Inc. World Wide Environmental Specialists Mailing Address: P. O. Box 805 Hobbs, NM 88241-0805 USA Slipping Address: 1324 W. Marland St. Hobbs, NM 88240 USA Phone: (575) 397-6388 Fax: (575) 397-6388 Fax: (575) 397-6387 E-Mail: chemaonell Decinternational com BBC Literatury (Confidentiality Notice: This electronic transmission (and any attached documents) is intended only for the person(c) to whom it is addressed and may contain information that it privileged, confidentiality Notice: This electronic transmission (and any attached documents) is intended only for the person(c) to whom it is addressed and may contain information that it privileged, confidentiality Notice: This electronic transmission (and any attached documents) is intended only for the person(c) to whom it is addressed and may contain information that it privileged, confidentiality Notice: This electronic transmission on error, please immediately notify the sender by enaul or by telephone call to (575) 397-6388 for handling instructions. Any disclosure or distribution of the contents of this transmission by anyone other than the named recipient(s) is strictly prohibited. CONFIDENTIALITY NOTICE: The information in this email may be confidential and/or privileged. If you are not the intended recipient or or an authorized representative of the intended recipient, you are hereby notified that any review dissemination or copying of this email and its attachments, if any, or the information contained herein, is prohibited. If you have received this email in error, please immediately notify the sender by return email and delete this email from your system. Thank you.	If you have any questions, please let me know.
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