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DELINEATION WORKPLAN

COG – SRO STATE COM #48 (Leak Date: 4/21/17)

RP # 2RP-4182 API # 30-015-41779

This delineation workplan and remediation proposal addresses the release associated with RP # 2RP-4182.

The following information includes:

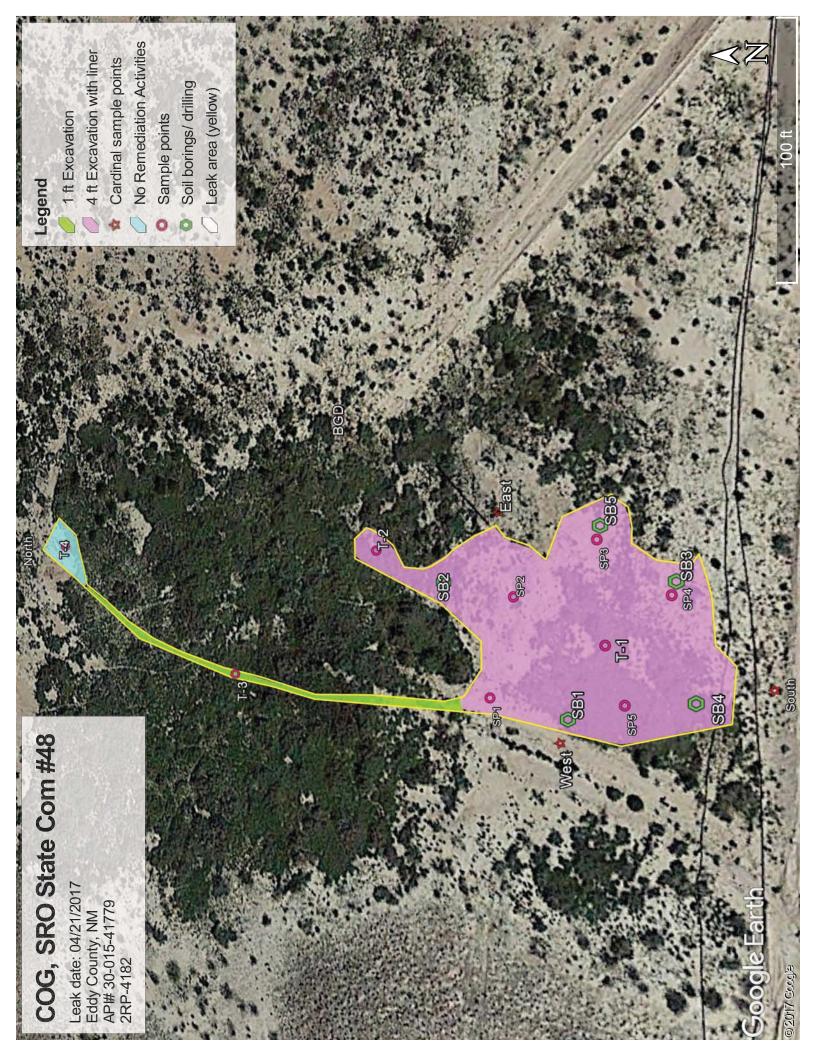
- 1. Scaled digital site map with spill area demarcated and leak point identified along with sample point locations and areas of remediation at appropriate depths.
- 2. GPS information for sample points and sample methodology
- 3. Depth to groundwater information (i.e., pdf of OSE search results and/or 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, SB1, SP2, SB2, SP3, SB3, SP4, SB4, SP5, SB5, T-1, and T-2 (purple shade on diagram) will be excavated to a depth of 4 feet and then an impermeable liner will be installed in the excavation and backfilled with caliche and then a cap of top soil. The leak area near T-3 (green shade on diagram) will be excavated to a depth of 1 foot. The leak area near T-4 (blue shade on diagram) will require no remediation activities.

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, SRO State Com #48H

Sample points taken by BBC, hand auger

SP1, N 32.06449 W -104.11170

SP2, N 32.06446 W-104.11156

SP3, N 32.06436 W-104.11148

SP4, N 32.06428 W-104.11155

SP5, N 32.06433 W-104.11169

SOUTH, N 32.06417 W-104.11116

Sample points taken by COG, hand auger

T-1, N 32.06435 W-104.11162

T-2, N 32.06464 W-104.11149

T-3, N 32.06486 W-104.11169

T-4, N 32.06516 W-104.11149

NORTH, N 32.06523 W-104.11150

EAST, N 32.06448 W-104.11144

WEST, N 32.06441 W-104.11175

BACKGROUND, N 32.06469 W-104.11130

Soil borings, drilling

SB1, N 32.06439 W-104.11172

SB2, N 32.06455 W-104.11154

SB3, N 32.06427 W-104.11153

SB4, N 32.06425 W-104.11168

SB5, N 32.06436 W-104.11146



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New Mexico State Land Office Revegetation and Noxious Weed Management Plan

COG – SRO STATE COM #48

Revegetation Plan

Disturbed areas associated with the remediation efforts will be reseeded. If after one growing season, the vegetation has not taken hold, seeding may need to be repeated until revegetation is successful, as determined by the State Land Office. The seed will be spread by either using a hand-held broadcaster or tractor-mounted broadcaster and the area will be raked or dragged to cover the seed. Since the seed will be broadcast, the pounds per acre will be double over the amount used by drill planting.

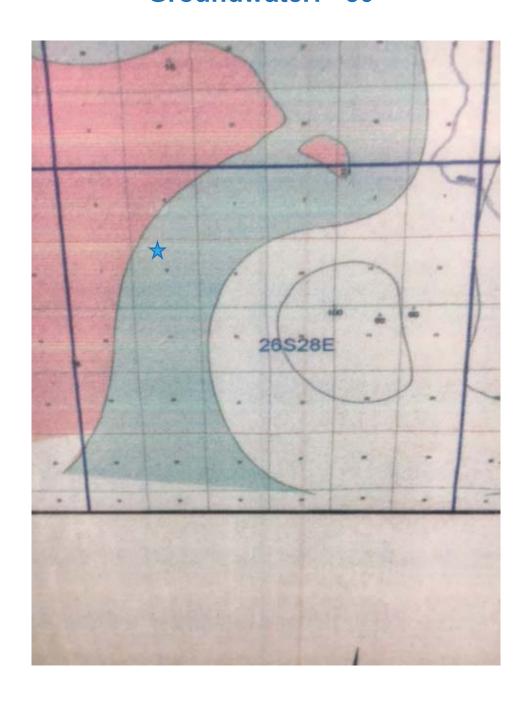
The seed mixture will be the appropriate mixture for the specific site and planted in the required amounts of pounds pure live seed (PLS) per acre. Commercially sold seed will be either certified or registered and will not contain primary or secondary noxious weeds.

Gramma grass – 40% - 1.5 lbs. PLS Buffalo grass – 40% - 1.5 lbs. PLS Side oats – 10% - 0.5% lbs. PLS Four wing Salt bush – 10% - 1.5 lbs. PLS

Noxious Weed Management Plan

The site will be visited to assess the establishment of vegetative growth. Personnel performing the site visit will also look for the presence of noxious weeds at the site as indicated on the New Mexico Noxious Weeds List specified on the United States Department of Agriculture website. If a noxious weed is observed at the site, the NMSLO will be contacted to determine the most effective manner to eradicate it.

COG, SRO State Com #48H U/L C, Section 8, T26S, R28E Groundwater: <50'





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											
		Sub-		QQ	Q								Water
POD Number	Code	basin	County	64 16	4	Sec	Tws	Rng	X	Y	DistanceDep	thWellDepth	Water Column
<u>C 02478</u>		CUB	ED	2	1	05	26S	28E	583848	3549325*	1619	100	

Average Depth to Water:

Minimum Depth:

Maximum Depth: --

Record Count: 1

UTMNAD83 Radius Search (in meters):

Easting (X): 583853 **Northing (Y):** 3547706 **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.

6/21/17 10:44 AM

WATER COLUMN/ AVERAGE DEPTH TO WATER

	Public Land Survey System (PLSS) Q16: NE Q4: NW Sec: 08 Tws: 26S Rng: 28E
	State Plane Coordinate System - NAD27 X: 0 ft Y: 0 ft Zone:
	State Plane Coordinate System - NAD83 X: 0 ft Y: 0 ft Zone:
	Degrees/Minutes/Seconds Longitude (X): Degrees: 0 ° Minutes: 0 ' Seconds: 0 " Latitude (Y): Degrees: 0 ° Minutes: 0 ' Seconds: 0 "
	UTM - NAD27 Description of the control of the cont
ı.	SUBMIT
	All Conversion Results are displayed as NAD 1983 UTM Zone 13
	Easting (X): 583853.0 mtrs Northing (Y): 3547706.0 mtrs
	~~ Please keep screen open to copy UTM values for Reports. ~~

Laboratory Analytical Results Summary SRO State Com #48H

		Sample	T1 @ SURFACE	T1 @ 1.	T1@2'	T1 @ 3'	T1 @ 4'	T1 @ 6'	T1 @ 8'	T1 @ 10.	T1 @ 12'	T1 @ 14'	T1 @ 18'	T1 @ 24'
Analyte	Method	Date	5/3/17	5/3/17	5/3/17	5/3/17	5/3/17	5/3/17	5/3/17	5/3/17	5/3/17	5/3/17	5/3/17	5/3/17
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	EPA 8021B		<0.00935	<0.00337	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	u/a	n/a
Toluene	EPA 8021B		<0.00935	0.0158	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	u/a	n/a
Ibenzene	Ethylbenzene EPA 8021B		<0.00935	<0.00337	n/a	n/a	n/a	n/a	n/a	u/a	n/a	n/a	e/u	n/a
-Xylenes	m,p-Xylenes EPA 8021B		<0.0187	0.0379	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	u/a	n/a
o-Xylene	EPA 8021B		<0.00935	0.0169	n/a	n/a	n/a	n/a	n/a	u/a	n/a	n/a	e/u	n/a
Il Xylenes	Total Xylenes EPA 8021B		<0.150	0.0548	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	u/a	n/a
Total BTEX	EPA 8021B		<0.300	90200	n/a	n/a	n/a	n/a	n/a	u/a	n/a	n/a	e/u	n/a
Chloride	EPA300/300.1		11000	12200	16800	14600	14800	15400	6140	1290	271	28.3	86	163
J, C6-C10	GRO, C6-C10 SW8015 Mod		<15.0	<15.0	n/a	n/a	n/a	n/a	n/a	u/a	n/a	n/a	e/u	n/a
), C10-C2E	DRO, C10-C28 SW8015 Mod		<15.0	<15.0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total TPH	SW8015 Mod		<15.0	<15.0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
		Sample	T2 @ SURFACE	T2 @ 1'	T2@2'	T2 @ 3'	T2 @ 4'	T2 @ 6'	T2 @ 8'	T2 @ 10'	T2 @ 12'	T2 @ 14'	T2 @ 19'	T2 @ 24'
Analyte	Method	Date	5/3/17	5/3/17	5/3/17	5/3/17	5/3/17	5/3/17	5/3/17	5/3/17	5/3/17	5/3/17	5/3/17	5/3/17
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	EPA 8021B		<0.00388	<0.00380	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	u/a	n/a
Toluene	EPA 8021B		<0.00388	0.00567	n/a	n/a	n/a	n/a	n/a	u/a	n/a	n/a	e/u	n/a
lbenzene	Ethylbenzene EPA 8021B		<0.00388	<0.00380	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	u/a	n/a
Xylenes	m,p-Xylenes EPA 8021B		<0.00775	<0.00760	n/a	n/a	n/a	n/a	n/a	u/a	n/a	n/a	e/u	n/a
o-Xylene	EPA 8021B		<0.00388	<0.00380	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
II Xylenes	Total Xylenes EPA 8021B		<0.00388	<0.00380	n/a	n/a	n/a	n/a	n/a	u/a	n/a	n/a	e/u	n/a
Total BTEX	EPA 8021B		<0.00388	0.00567	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	u/a	n/a
Chloride	EPA300/300.1		9730	11900	9720	8500	13900	13300	9170	1180	1350	6.48	<25.0	<49.7
, C6-C10	GRO, C6-C10 SW8015 Mod		<14.9	<15.0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
, C10-C28	DRO, C10-C28 SW8015 Mod		<14.9	<15.0	n/a	n/a	n/a	n/a	n/a	u/a	n/a	n/a	e/u	n/a
Total TPH	SW8015 Mod		<14.9	<15.0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	u/a	n/a
			T3 @											

		Sample	T3 @ SURFACE	T3 @ 1'	T3@2'	T3 @ 3'	T3 @ 4'	T3 @ 6'	T3 @ 8'	T3 @ 10'	T3 @ 17.	T3 @ 22'
Analyte	Method	Date	5/3/17	5/3/17	5/3/17	21/8/15	5/3/17	5/3/17	5/3/17	5/3/17	5/3/17	5/3/17
			mg/Kg	mg/Kg	mg/Kg	g//gm	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	EPA 8021B		<0.00319	<0.00201	n/a	e/u	u/a	n/a	n/a	e/u	u/a	n/a
Toluene	EPA 8021B		<0.00319	<0.00201	n/a	u/a	u/a	n/a	n/a	u/a	u/a	n/a
Ethylbenzene	thylbenzene EPA 8021B		<0.00319	<0.00201	n/a	e/u	u/a	n/a	n/a	e/u	u/a	n/a
m,p-Xylenes	EPA 8021B		<0.00639	<0.00402	n/a	u/a	u/a	n/a	n/a	u/a	u/a	n/a
o-Xylene	EPA 8021B		<0.00319	<0.00201	n/a	e/u	u/a	n/a	n/a	e/u	u/a	n/a
Total Xylenes	otal Xylenes EPA 8021B		<0.00319	<0.00201	n/a	u/a	n/a	n/a	n/a	n/a	n/a	n/a
Total BTEX	EPA 8021B		<0.00319	<0.00201	n/a	e/u	n/a	n/a	n/a	e/u	u/a	n/a
Chloride	EPA300/300.1		29000	649	23	1130	<24.9	<24.9	<24.9	<24.9	509	209
GRO, C6-C10	3RO, C6-C10 SW8015 Mod		<15.0	<15.0	n/a	u/a	n/a	n/a	n/a	n/a	n/a	n/a
DRO, C10-C28	RO, C10-C28 SW8015 Mod		132	<15.0	n/a	u/a	n/a	n/a	n/a	n/a	n/a	n/a
Total TPH	SW8015 Mod		132	<15.0	n/a	u/a	n/a	n/a	n/a	n/a	n/a	n/a

		Sample	SURFACE	T4 @ 1.	T4@ 2'	T4 @ 3'	T4 @ 4.	T4 @ 6'	T4 @ 11.	T4 @ 16'
Analyte	Method	Date	5/3/17	5/3/17	5/3/17	5/3/17	5/3/17	5/3/17	5/3/17	5/3/17
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	gX/gm	mg/Kg
Benzene	EPA 8021B		<0.00199	<0.00198	n/a	n/a	n/a	n/a	u/a	u/a
Toluene	EPA 8021B		<0.00199	<0.00198	n/a	n/a	n/a	n/a	e/u	u/a
Ethylbenzene EPA 8021B	EPA 8021B		<0.00199	<0.00198	n/a	n/a	n/a	n/a	u/a	n/a
m,p-Xylenes	EPA 8021B		26000'0>	<0.00397	n/a	n/a	n/a	n/a	e/u	u/a
o-Xylene	EPA 8021B		<0.00199	<0.00198	n/a	n/a	n/a	n/a	u/a	u/a
Total Xylenes EPA 8021B	EPA 8021B		<0.00199	<0.00198	n/a	n/a	n/a	n/a	e/u	u/a
Total BTEX	EPA 8021B		<0.00199	<0.00198	n/a	n/a	n/a	n/a	u/a	u/a
Chloride	EPA300/300.1		37.2	<48.9	51.1	<49.5	<24.6	7.83	14.8	271
GRO, C6-C10	3RO, C6-C10 SW8015 Mod		<15.0	<15.0	n/a	n/a	n/a	n/a	u/a	u/a
DRO, C10-C28	IRO, C10-C28 SW8015 Mod		<15.0	<15.0	n/a	n/a	n/a	n/a	n/a	n/a
Total TPH	SW8015 Mod		<15.0	<15.0	n/a	n/a	n/a	n/a	e/u	n/a
			l							

		Sample	Background @ 5'	Background @ 10'	Background @ 15'	Background @ 20'
Analyte	Method	Date	5/3/17	5/3/17	5/3/17	5/3/17
			mg/Kg	mg/Kg	mg/Kg	mg/Kg
Chloride	EPA300/300.1		<49.0	<24.4	<24.6	47.6

		Sample	North @ Surface	North @ 1'
Analyte	Method	Date	5/3/17	5/3/17
			mg/Kg	mg/Kg
Benzene	EPA 8021B		<0.00339	<0.00201
Toluene	EPA 8021B		<0.00339	<0.00201
Ethylbenzene EPA 8021B	EPA 8021B		<0.00339	<0.00201
m,p-Xylenes	EPA 8021B		<0.00678	<0.00402
o-Xylene	EPA 8021B		<0.00339	<0.00201
Total Xylenes EPA 8021B	EPA 8021B		<0.00339	<0.00201
Total BTEX	EPA 8021B		<0.00339	<0.00201
Chloride	EPA300/300.1		13.7	<4.93
GRO, C6-C10 SW8015 Mod	SW8015 Mod		<15.0	<15.0
DRO, C10-C28 SW8015 Mod	SW8015 Mod		<15.0	<15.0
Total TPH	SW8015 Mod		<15.0	<15.0

			1	
		Sample	East @ Surface	East @ 1'
Analyte	Method	Date	5/3/17	5/3/17
			mg/Kg	mg/Kg
Benzene	EPA 8021B		<0.00200	<0.00202
Toluene	EPA 8021B		<0.00200	<0.00202
Ethylbenzene EPA 8021B	EPA 8021B		<0.00200	<0.00202
m,p-Xylenes	EPA 8021B		66800.0>	<0.00404
o-Xylene	EPA 8021B		<0.00200	<0.00202
Total Xylenes	EPA 8021B		<0.00200	<0.00202
Total BTEX	EPA 8021B		<0.00200	<0.00202
Chloride	EPA300/300.1		20	6.9
GRO, C6-C10 SW8015 Mod	SW8015 Mod		<15.0	<15.0
DRO, C10-C28 SW8015 Mod	SW8015 Mod		<15.0	<15.0
Total TPH	SW8015 Mod		<15.0	<15.0

Method Date			Sample	West @ Surface	West @ 1'
EPA 8021B EPA 8021B EPA 8021B nes EPA 8021B EP	Analyte	Method	Date	5/3/17	5/3/17
EPA 8021B EPA 8021B EPA 8021B ESS EPA 8021B EP				mg/Kg	mg/Kg
	Benzene	EPA 8021B		<0.00199	<0.00200
	Toluene	EPA 8021B		<0.00199	<0.00200
	Ethylbenzene	EPA 8021B		<0.00199	0.00238
	m,p-Xylenes	EPA 8021B		<0.00398	<0.00399
	o-Xylene	EPA 8021B		<0.00199	<0.00200
	Total Xylenes	EPA 8021B		<0.00199	<0.00200
	Total BTEX	EPA 8021B		<0.00199	0.00238
	Chloride	EPA300/300.1		26.8	<4.99
	GRO, C6-C10	SW8015 Mod		<15.0	<15.0
SW8015 Mod	DRO, C10-C28	SW8015 Mod		<15.0	<15.0
200	Total TPH	SW8015 Mod		<15.0	<15.0

Laboratory Analytical Results Summary SRO State Com #48H

Method Date 8251/7 8251/7 8 251/7			Sample	SP1 @ 1.	SP1 @ 3'	SP1 @ 6'	SP1 @ 9'	SP1 @ 12.	SP1 @ 16'	SP1 @ 18.
BTEX 8021B	Analyte	Method	Date	8/25/17	8/25/17	8/25/17	8/25/17	8/25/17	8/25/17	8/25/17
BTEX 8021B				mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Name		TEX 8021B		<0.050	n/a	n/a	n/a	n/a	u/a	n/a
BTEX 8021B		TEX 8021B		<0.050	n/a	n/a	n/a	n/a	u/a	n/a
Xylenes BTEX 8021B <0.150		TEX 8021B		<0.050	n/a	n/a	n/a	n/a	u/a	n/a
STREX BTEX 8021B <0.300 n/a n/a	otal Xylenes B	TEX 8021B		<0.150	n/a	n/a	n/a	n/a	u/a	n/a
ide SM4500Cl-B 9800 8800 6100 TPH 8015M <10.0 n/a n/a TPH 8015M <10.0 n/a n/a TPH 8015M <10.0 n/a n/a		TEX 8021B		<0.300	n/a	n/a	n/a	n/a	u/a	n/a
TPH 8015W <10.0 n/a		M4500CI-B		9800	8800	6100	0068	0086	4400	5920
TPH 8015M <10.0 n/a n/a		PH 8015M		<10.0	n/a	n/a	n/a	n/a	u/a	n/a
TEM 80.45M	•	PH 8015M		<10.0	n/a	n/a	n/a	n/a	u/a	n/a
0.017	EXT DRO TH	TPH 8015M		<10.0	n/a	n/a	n/a	n/a	u/a	n/a

		Sample	SP2 @ 1'	SP2 @ 3'	SP2 @ 6'	SP2 @ 9'	SP2 @ 12'	SP2 @ 16'	SP2 @ 18'
Analyte	Method	Date	8/25/17	8/25/17	8/25/17	8/28/17	8/28/17	8/28/17	8/28/17
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Chloride	SM4500CI-B		10700	8700	0089	0092	11400	2200	1280

		Sample	SP3 @ 1.	SP3 @ 3'	SP3 @ 6.	SP3 @ 9.	SP3 @ 12'	SP3 @ 16'	SP3 @ 18.
Analyte	Method	Date	8/28/17	8/28/17	8/28/17	8/28/17	8/28/17	8/28/17	8/28/17
			mg/Kg	mg/Kg	mg/Kg	gy/kgm	mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		<0.050	e/u	n/a	e/u	n/a	n/a	n/a
Toluene	BTEX 8021B		<0.050	n/a	n/a	n/a	n/a	n/a	n/a
Ethylbenzene BTEX 8021B	BTEX 8021B		<0.050	e/u	n/a	u/a	n/a	n/a	n/a
Total Xylenes	otal Xylenes BTEX 8021B		<0.150	e/u	n/a	u/a	n/a	n/a	n/a
Total BTEX	BTEX 8021B		<0.300	n/a	n/a	n/a	n/a	n/a	n/a
Chloride	SM4500CI-B		11200	10800	0006	3200	565	400	368
GRO	TPH 8015M		<10.0	n/a	n/a	n/a	n/a	n/a	n/a
DRO	TPH 8015M		<10.0	e/u	n/a	e/u	n/a	n/a	n/a
EXT DRO	TPH 8015M		<10.0	n/a	n/a	e/u	n/a	n/a	n/a

		Sample	SP4 @ 1.	SP4@3	SP4 @ 6.	SP4@9.	SP4 @ 12'	SP4 @ 16'	SP4 @ 18
Analyte	Method	Date	8/28/17	8/28/17	8/28/17	21/82/8	8/28/17	8/28/17	8/28/17
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Chloride	SM4500CI-B		38400	1570	7300	0088	6200	5300	4100

		Sample	SP5 @ 1'	SP5@3°	.9 @ 9dS	.6 @ sds	SP5 @ 12'	SP5 @ 16'	SP5 @ 18'
Analyte	Method	Date	21/87/8	21/82/8	8/28/17	21/82/8	8/28/17	8/28/17	8/28/17
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	BTEX 8021B		050.0>	e/u	e/u	e/u	u/a	u/a	n/a
Toluene	BTEX 8021B		050.0>	e/u	e/u	e/u	u/a	e/u	n/a
Ethylbenzene	BTEX 8021B		050.0>	e/u	e/u	e/u	u/a	e/u	n/a
Total Xylenes	BTEX 8021B		<0.150	e/u	e/u	e/u	e/u	e/u	n/a
Total BTEX	BTEX 8021B		008'0>	u/a	e/u	u/a	n/a	u/a	n/a
Chloride	SM4500CI-B		34800	1840	0002	0008	6400	0069	2200
GRO	TPH 8015M		<10.0	e/u	u/a	u/a	u/a	u/a	n/a
DRO	TPH 8015M		11.8	e/u	u/a	u/a	u/a	u/a	n/a
EXT DRO	TPH 8015M		<10.0	e/u	u/a	u/a	u/a	u/a	n/a

		Sample	SOUTH @ SURFACE
Analyte	Method	Date	8/28/17
			mg/Kg
Benzene	BTEX 8021B		<0.050
Toluene	BTEX 8021B		<0.050
Ethylbenzene	BTEX 8021B		<0.050
Total Xylenes	BTEX 8021B		<0.150
Total BTEX	BTEX 8021B		<0.300
Chloride	SM4500CI-B		32
GRO	TPH 8015M		<10.0
DRO	TPH 8015M		<10.0
EXT DRO	TPH 8015M		<10.0

Laboratory Analytical Results Summary SRO State Com #48H

Analyte Method	Date	2	SB1 @ 20' SB1 @ 25'	SB1 @ 30' SB1 @ 35'	SB1@35
•	220	10/10/17	10/10/17	10/10/17	10/10/17
		mg/kg	mg/kg	mg/kg	mg/kg
Chloride SM4500Cl-B		304	48	48	48

Analyte	Method	Date	10/10/17	10/10/17	10/10/17	10/10/17
			mg/kg	mg/kg	mg/kg	mg/kg
Chloride	SM4500CI-B		304	48	48	48
		Ol olumes	Sample ID SB2 @ 20' SB2 @ 25'	SB2 @ 25	SB2 @ 30' SB2 @ 35'	SB2 @ 35'
		campic in			@	
Analyte	Method	Date	10/10/17	10/10/17	10/10/17	10/10/17
			mg/kg	mg/kg	mg/kg	mg/kg
Chloride	SM4500CI-B		4320	48	48	16

		Sample ID SB3 @ 201	SB3@20'	SB3 @ 25'	SB3 @ 30' SB3 @ 35'	SB3 @ 35'
Analyte	Method	Date	10/10/17	10/10/17	10/10/17	10/10/17
			mg/kg	mg/kg	mg/kg	mg/kg
Chloride	SM4500CI-B		8260	320	208	240

		Sample ID SB4 @ 20' SB4 @ 25'	SB4@20'	SB4 @ 25'	SB4@30'
Analyte	Method	Date	10/10/17	10/10/17	10/10/17
			mg/kg	mg/kg	mg/kg
Chloride	SM4500CI-B		240	112	160

		Sample ID	SB5@20'	SB5 @ 25'	SB5@30' SB5@35'	SB5@35
Analyte	Method	Date	10/10/17	10/10/17	10/10/17	10/10/17
			mg/kg	mg/kg	mg/kg	mg/kg
Chloride	SM4500CI-B		352	192	160	208



Project Location:

Project Id: Contact:

Aaron Lieb

Certificate of Analysis Summary 552580

COG Operating LLC, Artesia, NM

Project Name: SRO STATE COM #48H



Date Received in Lab: Fri May-05-17 11:00 am

Report Date: 15-MAY-17

Project Manager: Liz Givens

	Lab Id:	552580-001	552580-002	552580-003	552580-004	552580-005	552580-006
And alread Downsontal	Field Id:	T1-SURF	T1-1'	T1-2'	T1-3'	T1-4'	T1-6'
Analysts requested	Depth:		1 ft	2 ft	3 ft	4 ft	6 ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	May-03-17 09:30	May-03-17 09:35	May-03-17 09:37	May-03-17 09:40	May-03-17 09:42	May-03-17 09:45
BTEX by EPA 8021B	Extracted:	May-08-17 16:00	May-08-17 09:00				
	Analyzed:	May-09-17 12:07	May-09-17 00:43				
	Units/RL:	mg/kg RL	mg/kg RL		_		
Benzene		<0.00935 0.00935	<0.00337 0.00337				
Toluene		<0.00935 0.00935	0.0158 0.00337				
Ethylbenzene		<0.00935 0.00935	<0.00337 0.00337				
m,p-Xylenes		<0.0187 0.0187	0.0379 0.00673				
o-Xylene		<0.00935 0.00935	0.0169 0.00337				
Total Xylenes		<0.00935 0.00935	0.0548 0.00337				
Total BTEX		<0.00935 0.00935	0.0706 0.00337				
Inorganic Anions by EPA 300/300.1	Extracted:	May-15-17 08:00	May-13-17 15:00	May-13-17 15:00	May-13-17 15:00	May-13-17 15:00	May-13-17 15:00
	Analyzed:	May-15-17 09:26	May-13-17 18:27	May-13-17 18:35	May-13-17 18:43	May-13-17 18:50	May-13-17 19:13
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		11000 97.5	12200 97.7	16800 250	14600 247	14800 249	15400 249
TPH By SW8015 Mod	Extracted:	May-08-17 15:00	May-08-17 15:00				
	Analyzed:	May-08-17 20:06	May-08-17 20:25				
	Units/RL:	mg/kg RL	mg/kg RL				
C6-C10 Gasoline Range Hydrocarbons		<15.0 15.0	<15.0 15.0				
C10-C28 Diesel Range Hydrocarbons		<15.0 15.0	<15.0 15.0				
Total TPH		<15.0 15.0	<15.0 15.0				

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Brandi Ritcherson Project Manager

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Project Location:

Project Id: Contact:

Aaron Lieb

Certificate of Analysis Summary 552580

COG Operating LLC, Artesia, NM

Project Name: SRO STATE COM #48H

Date Received in Lab: Fri May-05-17 11:00 am

Project Manager: Liz Givens

Report Date: 15-MAY-17

Analysis Requested Field Id. T1-18' T1-11' T1-11' T1-18' T1-24' Maritis Depth: 8 ft 10 ft 12 ft 14 ft 18 ft T1-12' Maritis/RL Soll SOIL SOIL SOIL SOIL SOIL SOIL Inorganic Anions by EPA 300/300.1 Extracted May-03-17 09:47 May-03-17 09:50 May-13-17 15:00 May-13-17 15:00 May-13-17 15:00 May-13-17 15:00 May-13-17 15:00 May-13-17 15:01 May-13-17 19:35 May-13-17 19:35 May-13-17 19:36 May-13-17 19:36<		Lab Id:	552580-007	552580-008	552580-009	552580-010	552580-011	552580-012
Addity53 Requested Depth: 8 ft 10 ft 12 ft 14 ft 18 ft 24 ft Addity Addity SOIL SOIL SOIL SOIL SOIL SOIL ganic Anions by EPA 300/300.1 Extracted: May-03-17 09:47 May-03-17 09:52 May-03-17 09:54 May-13-17 15:00 May-13-17 15:00 May-13-17 15:00 May-13-17 15:00 May-13-17 15:00 May-13-17 19:34 May-13-17 19:35 May-13-17 19:36 May-13-17 19:36 May-13-17 19:36 May-13-17 19:36 May-13-17 19:36 May-13-17 19:31	Amothoric Dogwood	Field Id:	T1-8'	T1-10'	T1-12'	T1-14'	T1-18'	T1-24'
Ganic Anions by EPA 300/300.1 Extracted: May-13-17 15:00 M	Analysis Neduesied	Depth:	8 ft	10 ft	12 ft	14 ft	18 ft	24 ft
ganic Anions by EPA 300/300.1 Extracted: May-03-17 09:50 May-03-17 15:00 May-13-17 15:00 M		Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
ganic Anions by EPA 300/300.1 Extracted: May-13-17 15:00 May-13-17 15:01 M		Sampled:	May-03-17 09:47	May-03-17 09:50	May-03-17 09:52	May-03-17 09:54	May-03-17 09:57	May-03-17 09:58
Analyzed: May-13-17 19:28 May-13-17 19:36 May-13-17 19:45 May-13-17 19:45 May-13-17 19:51 May-13-17 20:	Inorganic Anions by EPA 300/300.1	Extracted:	May-13-17 15:00					
Units/RL: mg/kg RL RL mg/kg RL mg/kg RL		Analyzed:	May-13-17 19:21	May-13-17 19:28	May-13-17 19:36	May-13-17 19:43	May-13-17 19:51	May-13-17 20:14
6140 99.4 1290 48.7 271 24.9 28.3 4.89 98.0 4.93 163		Units/RL:	mg/kg RL		mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Chloride						98.0 4.93	

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Project Location:

Project Id: Contact:

Aaron Lieb

Certificate of Analysis Summary 552580

COG Operating LLC, Artesia, NM

Project Name: SRO STATE COM #48H



Date Received in Lab: Fri May-05-17 11:00 am

Report Date: 15-MAY-17

Project Manager: Liz Givens

	Lab Id:	552580-013	552580-014	552580-015	552580-016	552580-017	552580-018
Andreis Dogwood	Field Id:	T2- SURF	T2- 1'	T2- 2'	T2- 3'	T2- 4'	T2- 6'
Allatysts Nedaestea	Depth:		1 ft	2 ft	3 ft	4 ft	6 ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	May-03-17 10:05	May-03-17 10:10	May-03-17 10:13	May-03-17 10:15	May-03-17 10:17	May-03-17 10:20
BTEX by EPA 8021B	Extracted:	May-08-17 16:00	May-08-17 16:00				
	Analyzed:	May-09-17 10:13	May-09-17 10:29				
	Units/RL:	mg/kg RL	mg/kg RL		_		
Benzene		<0.00388 0.00388	<0.00380 0.00380				
Toluene		<0.00388 0.00388	0.00567 0.00380				
Ethylbenzene		<0.00388 0.00388	<0.00380 0.00380				
m,p-Xylenes		<0.00775 0.00775	<0.00760 0.00760				
o-Xylene		<0.00388 0.00388	<0.00380 0.00380				
Total Xylenes		<0.00388 0.00388	<0.00380 0.00380				
Total BTEX		<0.00388 0.00388	0.00567 0.00380				
Inorganic Anions by EPA 300/300.1	Extracted:	May-13-17 15:00	May-13-17 15:00	May-13-17 15:00	May-13-17 15:00	May-13-17 15:00	May-13-17 15:00
	Analyzed:	May-13-17 20:21	May-13-17 20:44	May-13-17 20:52	May-13-17 20:59	May-13-17 21:07	May-13-17 21:14
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		9730 99.4	11900 99.6	9720 98.8	8200 97.8	13900 249	13300 100
TPH By SW8015 Mod	Extracted:	May-08-17 15:00	May-08-17 15:00				
	Analyzed:	May-08-17 21:23	May-08-17 21:43				
	Units/RL:	mg/kg RL	mg/kg RL				
C6-C10 Gasoline Range Hydrocarbons		<14.9 14.9	<15.0 15.0				
C10-C28 Diesel Range Hydrocarbons		<14.9 14.9	<15.0 15.0				
Total TPH		<14.9 14.9	<15.0 15.0				

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Project Location:

Project Id: Contact:

Aaron Lieb

Certificate of Analysis Summary 552580

COG Operating LLC, Artesia, NM

Project Name: SRO STATE COM #48H

Thomas Action

Date Received in Lab: Fri May-05-17 11:00 am

Report Date: 15-MAY-17

Project Manager: Liz Givens

	Lab Id:	552580-019	552580-020	552580-021	552580-022	552580-023	552580-024
Amalucia Dominated	Field Id:	T2- 8'	T2-10'	T2-12'	T2-14'	T2-19'	T2-24'
Analysis Nequesieu	Depth:	8 ft	10 ft	12 ft	14 ft	19 ft	24 ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	May-03-17 10:22	May-03-17 10:25	May-03-17 10:30	May-03-17 10:35	May-03-17 10:37	May-03-17 10:40
Inorganic Anions by EPA 300/300.1	Extracted:	May-13-17 15:00	May-13-17 15:00	May-14-17 13:00	May-14-17 13:00	May-14-17 13:00	May-14-17 13:00
	Analyzed:	Analyzed: May-13-17 21:22	May-13-17 21:30	May-14-17 15:16	May-14-17 14:53	May-14-17 15:24	May-14-17 15:31
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		9170 97.1	1180 24.9	1350 24.8	6.48 4.94	<25.0 25.0	<49.7 49.7

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Project Location:

Project Id: Contact:

Aaron Lieb

Certificate of Analysis Summary 552580

COG Operating LLC, Artesia, NM

Project Name: SRO STATE COM #48H



Date Received in Lab: Fri May-05-17 11:00 am

Report Date: 15-MAY-17

Project Manager: Liz Givens

	Lab Id:	552580-025	552580-026	552580-027	552580-028	552580-029	552580-030
Amalicia Dominated	Field Id:	T3-SURF	T3-1'	T3-2'	T3-3'	T3-4'	T3-6'
marsa wequested	Depth:		1 ft	2 ft	3 ft	4 ft	6 ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	May-03-17 10:55	May-03-17 11:00	May-03-17 11:03	May-03-17 11:05	May-03-17 11:08	May-03-17 11:10
BTEX by EPA 8021B	Extracted:	May-08-17 09:00	May-08-17 09:00				
	Analyzed:	May-09-17 01:31	May-09-17 01:47				
	Units/RL:	mg/kg RL	mg/kg RL		_		
Benzene		<0.00319 0.00319	<0.00201 0.00201				
Toluene		<0.00319 0.00319	<0.00201 0.00201				
Ethylbenzene		<0.00319 0.00319	<0.00201 0.00201				
m,p-Xylenes		<0.00639 0.00639	<0.00402 0.00402				
o-Xylene		<0.00319 0.00319	<0.00201 0.00201				
Total Xylenes		<0.00319 0.00319	<0.00201 0.00201				
Total BTEX		<0.00319 0.00319	<0.00201 0.00201				
Inorganic Anions by EPA 300/300.1	Extracted:	May-14-17 13:00	May-14-17 13:00	May-14-17 13:00	May-14-17 13:00	May-14-17 13:00	May-14-17 13:00
	Analyzed:	May-14-17 15:39	May-14-17 16:02	May-14-17 16:09	May-14-17 16:17	May-14-17 16:24	May-14-17 16:32
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		29000 250	649 4.94	23.0 4.97	1130 50.0	<24.9 24.9	<24.9 24.9
TPH By SW8015 Mod	Extracted:	May-08-17 15:00	May-08-17 15:00				
	Analyzed:	May-08-17 22:02	May-08-17 22:22				
	Units/RL:	mg/kg RL	mg/kg RL				
C6-C10 Gasoline Range Hydrocarbons		<15.0 15.0	<15.0 15.0				
C10-C28 Diesel Range Hydrocarbons		132 15.0	<15.0 15.0				
Total TPH		132 15.0	<15.0 15.0				

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Project Location:

Project Id: Contact:

Aaron Lieb

Certificate of Analysis Summary 552580

COG Operating LLC, Artesia, NM

Project Name: SRO STATE COM #48H



Report Date: 15-MAY-17

Date Received in Lab: Fri May-05-17 11:00 am

Project Manager: Liz Givens

	Lab Id:	552580-031	552580-032	552580-033	552580-034	552580-035	552580-036	
Analysis Domostod	Field Id:	T3-8'	T3-10'	T3-17'	T3-22'	T4-SURF	T4-1'	
marsa wednessen	Depth:	8 ft	10 ft	17 ft	22 ft		1 ft	
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
	Sampled:	May-03-17 11:45	May-03-17 11:50	May-03-17 11:55	May-03-17 12:35	May-03-17 12:40	May-03-17 12:42	7
BTEX by EPA 8021B	Extracted:					May-08-17 09:00	May-08-17 09:00	0
	Analyzed:					May-09-17 02:03	May-09-17 02:19	
	Units/RL:			_		mg/kg RL	mg/kg I	RL
Benzene						<0.00199 0.00199	<0.00198 0.00	0.00198
Toluene						0.00334 0.00199	<0.00198 0.00	0.00198
Ethylbenzene						<0.00199 0.00199	<0.00198 0.00	0.00198
m,p-Xylenes						<0.00398 0.00398	<0.00397 0.00	0.00397
o-Xylene						<0.00199 0.00199	<0.00198 0.00198	8610
Total Xylenes						<0.00199 0.00199	<0.00198 0.00	0.00198
Total BTEX						0.00334 0.00199	<0.00198 0.00198	8610
Inorganic Anions by EPA 300/300.1	Extracted:	May-14-17 13:00	May-14-17 13:00	0				
	Analyzed:	May-14-17 17:02	May-14-17 17:10	May-14-17 16:40	May-14-17 17:33	May-14-17 17:40	May-14-17 17:48	
	Units/RL:	mg/kg RL	mg/kg I	RL				
Chloride		<24.9 24.9	<24.9 24.9	209 4.92	209 4.94	37.2 4.92	48.9 4	48.9
TPH By SW8015 Mod	Extracted:					May-08-17 15:00	May-08-17 15:00	0
	Analyzed:					May-08-17 22:41	May-08-17 23:00	
	Units/RL:					mg/kg RL	mg/kg I	RL
C6-C10 Gasoline Range Hydrocarbons						<15.0 15.0	<15.0	15.0
C10-C28 Diesel Range Hydrocarbons						<15.0 15.0	<15.0	15.0
Total TPH						<15.0 15.0	<15.0	15.0

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Project Location:

Project Id: Contact:

Aaron Lieb

Certificate of Analysis Summary 552580

COG Operating LLC, Artesia, NM

Project Name: SRO STATE COM #48H

Project Manager: Liz Givens

Fri May-05-17 11:00 am	e: 15-MAY-17
Date Received in Lab:	Report Date:

	Lab Id:	552580-037	552580-038	552580-039	552580-040	552580-041	552580-042
Amalicia Dominated	Field Id:	T4-2'	T4-3'	T4-4'	T4-6'	T4-11'	T4-16'
rangas vequesieu	Depth:	2 ft	3 ft	4 ft	6 ft	11 ft	16 ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	May-03-17 12:45	May-03-17 12:50	May-03-17 12:55	May-03-17 12:58	May-03-17 01:05	May-03-17 01:10
Inorganic Anions by EPA 300/300.1	Extracted:	May-14-17 13:00	May-14-17 13:00	May-14-17 13:00	May-14-17 13:00	May-14-17 13:30	May-14-17 13:30
	Analyzed:	May-14-17 17:56	May-14-17 18:03	May-14-17 18:11	May-14-17 18:18	May-14-17 19:04	May-14-17 19:27
	Units/RL:	mg/kg RL					
Chloride		51.1 49.9	<49.5 49.5	<24.6 24.6	7.83 4.92	14.8 4.99	271 4.92

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Analytical Report 552580

for COG Operating LLC

Project Manager: Aaron Lieb SRO STATE COM #48H

15-MAY-17

Collected By: Client





1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215), Arizona (AZ0765), Florida (E871002), Louisiana (03054) Oklahoma (9218)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)

Xenco-San Antonio: Texas (T104704534)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757) Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)





15-MAY-17

Project Manager: Aaron Lieb COG Operating LLC 2407 Pecos Avenue Artesia, NM 88210

Reference: XENCO Report No(s): **552580 SRO STATE COM #48H**

Project Address: SRO STATE COM #48H

Aaron Lieb:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 552580. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 552580 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Sand.

Brandi Ritcherson

Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

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Sample Cross Reference 552580



COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
T1-SURF	S	05-03-17 09:30	N/A	552580-001
T1-1'	S	05-03-17 09:35	- 1 ft	552580-002
T1-2'	S	05-03-17 09:37	- 2 ft	552580-003
T1-3'	S	05-03-17 09:40	- 3 ft	552580-004
T1-4'	S	05-03-17 09:42	- 4 ft	552580-005
T1-6'	S	05-03-17 09:45	- 6 ft	552580-006
T1-8'	S	05-03-17 09:47	- 8 ft	552580-007
T1-10'	S	05-03-17 09:50	- 10 ft	552580-008
T1-12'	S	05-03-17 09:52	- 12 ft	552580-009
T1-14'	S	05-03-17 09:54	- 14 ft	552580-010
T1-18'	S	05-03-17 09:57	- 18 ft	552580-011
T1-24'	S	05-03-17 09:58	- 24 ft	552580-012
T2- SURF	S	05-03-17 10:05	N/A	552580-013
T2- 1'	S	05-03-17 10:10	- 1 ft	552580-014
T2- 2'	S	05-03-17 10:13	- 2 ft	552580-015
T2- 3'	S	05-03-17 10:15	- 3 ft	552580-016
T2- 4'	S	05-03-17 10:17	- 4 ft	552580-017
T2- 6'	S	05-03-17 10:20	- 6 ft	552580-018
T2- 8'	S	05-03-17 10:22	- 8 ft	552580-019
T2- 10'	S	05-03-17 10:25	- 10 ft	552580-020
T2- 12'	S	05-03-17 10:30	- 12 ft	552580-021
T2- 14'	S	05-03-17 10:35	- 14 ft	552580-022
T2- 19'	S	05-03-17 10:37	- 19 ft	552580-023
T2- 24'	S	05-03-17 10:40	- 24 ft	552580-024
T3-SURF	S	05-03-17 10:55	N/A	552580-025
T3-1'	S	05-03-17 11:00	- 1 ft	552580-026
T3-2'	S	05-03-17 11:03	- 2 ft	552580-027
T3-3'	S	05-03-17 11:05	- 3 ft	552580-028
T3-4'	S	05-03-17 11:08	- 4 ft	552580-029
T3-6'	S	05-03-17 11:10	- 6 ft	552580-030
T3-8'	S	05-03-17 11:45	- 8 ft	552580-031
T3-10'	S	05-03-17 11:50	- 10 ft	552580-032
T3-17'	S	05-03-17 11:55	- 17 ft	552580-033
T3-22'	S	05-03-17 12:35	- 22 ft	552580-034
T4-SURF	S	05-03-17 12:40	N/A	552580-035
T4-1'	S	05-03-17 12:42	- 1 ft	552580-036
T4-2'	S	05-03-17 12:45	- 2 ft	552580-037
T4-3'	S	05-03-17 12:50	- 3 ft	552580-038
T4-4'	S	05-03-17 12:55	- 4 ft	552580-039
T4-6'	S	05-03-17 12:58	- 6 ft	552580-040
T4-11'	S	05-03-17 01:05	- 11 ft	552580-041
T4-16'	S	05-03-17 01:10	- 16 ft	552580-042

XENCO

CASE NARRATIVE

Client Name: COG Operating LLC
Project Name: SRO STATE COM #48H

Project ID: Report Date: 15-MAY-17
Work Order Number(s): 552580 Date Received: 05/05/2017

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3016772 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3017044 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3017191 Inorganic Anions by EPA 300/300.1

Lab Sample ID 552580-011 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 552580-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015, -016, -017, -018, -019, -020.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3017230 Inorganic Anions by EPA 300/300.1

Lab Sample ID 552582-005 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 552580-041, -042.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Sample Id: T1-SURF Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552580-001 Date Collected: 05.03.17 09.30

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: MGO

% Moisture:

Analyst: MGO

Date Prep: 05.15.17 08.00

Basis: Wet Weight

Seq Number: 3017191

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11000	97.5	mg/kg	05.15.17 09.26		20

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

% Moisture:

Tech:

Analyst:

ARM ARM

Date Prep: 05.08.17 15.00

Basis: Wet Weight

Seq Number: 3016765

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0		mg/kg	05.08.17 20.06	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0		mg/kg	05.08.17 20.06	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	05.08.17 20.06	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	104	%	70-135	05.08.17 20.06		
o-Terphenyl		84-15-1	108	%	70-135	05.08.17 20.06		

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: ALJ

Analyst:

ALJ Date Prep: 05.08.17 16.00

% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00935	0.00935		mg/kg	05.09.17 12.07	U	1
Toluene	108-88-3	< 0.00935	0.00935		mg/kg	05.09.17 12.07	U	1
Ethylbenzene	100-41-4	< 0.00935	0.00935		mg/kg	05.09.17 12.07	U	1
m,p-Xylenes	179601-23-1	< 0.0187	0.0187		mg/kg	05.09.17 12.07	U	1
o-Xylene	95-47-6	< 0.00935	0.00935		mg/kg	05.09.17 12.07	U	1
Total Xylenes	1330-20-7	< 0.00935	0.00935		mg/kg	05.09.17 12.07	U	1
Total BTEX		< 0.00935	0.00935		mg/kg	05.09.17 12.07	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	96	%	80-120	05.09.17 12.07		
1,4-Difluorobenzene		540-36-3	91	%	80-120	05.09.17 12.07		





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Sample Id: T1-1' Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552580-002 Date Collected: 05.03.17 09.35 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: MGO

% Moisture:

Basis:

Analyst: MGO Date Prep: 05.13.17 15.00

Wet Weight

Seq Number: 3017191

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12200	97.7	mg/kg	05.13.17 18.27		20

Analytical Method: TPH By SW8015 Mod

Tech: ARM

Prep Method: TX1005P

% Moisture:

% Moisture:

Wet Weight

Basis:

Analyst: ARM

Date Prep: 05.08.17 15.00

Basis: Wet Weight

Seq Number: 3016765

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0		mg/kg	05.08.17 20.25	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0		mg/kg	05.08.17 20.25	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	05.08.17 20.25	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	101	%	70-135	05.08.17 20.25		
o-Terphenyl		84-15-1	104	%	70-135	05.08.17 20.25		

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: ALJ

Analyst:

Date Prep: 05.08.17 09.00

Seq Number: 3016772

ALJ

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00337	0.00337		mg/kg	05.09.17 00.43	U	1
Toluene	108-88-3	0.0158	0.00337		mg/kg	05.09.17 00.43		1
Ethylbenzene	100-41-4	< 0.00337	0.00337		mg/kg	05.09.17 00.43	U	1
m,p-Xylenes	179601-23-1	0.0379	0.00673		mg/kg	05.09.17 00.43		1
o-Xylene	95-47-6	0.0169	0.00337		mg/kg	05.09.17 00.43		1
Total Xylenes	1330-20-7	0.0548	0.00337		mg/kg	05.09.17 00.43		1
Total BTEX		0.0706	0.00337		mg/kg	05.09.17 00.43		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	89	%	80-120	05.09.17 00.43		
1,4-Difluorobenzene		540-36-3	98	%	80-120	05.09.17 00.43		





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Sample Id: T1-2' Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552580-003 Date Collected: 05.03.17 09.37 Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: MGO % Moisture:

Analyst: MGO Date Prep: 05.13.17 15.00 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	16800	250	mg/kg	05.13.17 18.35		50





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Sample Id: T1-3' Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552580-004 Date Collected: 05.03.17 09.40 Sample Depth: 3 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: MGO % Moisture:

Analyst: MGO Date Prep: 05.13.17 15.00 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	14600	247	mg/kg	05.13.17 18.43		50





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Sample Id: T1-4' Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552580-005 Date Collected: 05.03.17 09.42 Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Tech: MGO % Moisture:

Analyst: MGO Date Prep: 05.13.17 15.00 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	14800	249	mg/kg	05.13.17 18.50		50





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Sample Id: T1-6' Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552580-006 Date Collected: 05.03.17 09.45 Sample Depth: 6 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: MGO % Moisture:

Analyst: MGO Date Prep: 05.13.17 15.00 Basis:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	15400	249	mg/kg	05.13.17 19.13		50





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Sample Id: T1-8' Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552580-007 Date Collected: 05.03.17 09.47 Sample Depth: 8 ft

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Tech: MGO % Moisture:

Analyst: MGO Date Prep: 05.13.17 15.00 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6140	99.4	mg/kg	05.13.17 19.21		20





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Sample Id: T1-10' Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552580-008 Date Collected: 05.03.17 09.50 Sample Depth: 10 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Wet Weight

Tech: MGO % Moisture:

Analyst: MGO Date Prep: 05.13.17 15.00 Basis:

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1290	48.7	mg/kg	05.13.17 19.28		10





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Sample Id: T1-12' Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552580-009 Date Collected: 05.03.17 09.52 Sample Depth: 12 ft

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Tech: MGO % Moisture:

Analyst: MGO Date Prep: 05.13.17 15.00 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	271	24.9	mg/kg	05.13.17 19.36		5





Wet Weight

COG Operating LLC, Artesia, NM

SRO STATE COM #48H

05.13.17 15.00

Sample Id: T1-14' Matrix: Soil Date Received:05.05.17 11.00

Date Prep:

Lab Sample Id: 552580-010 Date Collected: 05.03.17 09.54 Sample Depth: 14 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Basis:

Tech: MGO % Moisture:

Seq Number: 3017191

Analyst:

MGO

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	28.3	4.89	mg/kg	05.13.17 19.43		1





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Sample Id: T1-18' Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552580-011 Date Collected: 05.03.17 09.57 Sample Depth: 18 ft

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Tech: MGO % Moisture:

Analyst: MGO Date Prep: 05.13.17 15.00 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	98.0	4.93	mg/kg	05.13.17 19.51		1





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Sample Id: T1-24' Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552580-012 Date Collected: 05.03.17 09.58 Sample Depth: 24 ft

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Tech: MGO % Moisture:

Analyst: MGO Date Prep: 05.13.17 15.00 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	163	4.88	mg/kg	05.13.17 20.14		1





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Sample Id: T2-SURF Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552580-013 Date Collected: 05.03.17 10.05

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: MGO

% Moisture:

Analyst: MGO

Date Prep: 05.13.17 15.00

Basis: Wet Weight

Seq Number: 3017191

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9730	99.4	mg/kg	05.13.17 20.21		20

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

% Moisture:

% Moisture:

Wet Weight

Basis:

Tech: Analyst:

ARM ARM

Date Prep: 05.08.17 15.00

Basis: Wet Weight

Seq Number: 3016765

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<14.9	14.9		mg/kg	05.08.17 21.23	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<14.9	14.9		mg/kg	05.08.17 21.23	U	1
Total TPH	PHC635	<14.9	14.9		mg/kg	05.08.17 21.23	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	102	%	70-135	05.08.17 21.23		
o-Terphenyl		84-15-1	104	%	70-135	05.08.17 21.23		

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: ALJ

Analyst:

ALJ Date Prep: 05.08.17 16.00

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00388	0.00388		mg/kg	05.09.17 10.13	U	1
Toluene	108-88-3	< 0.00388	0.00388		mg/kg	05.09.17 10.13	U	1
Ethylbenzene	100-41-4	< 0.00388	0.00388		mg/kg	05.09.17 10.13	U	1
m,p-Xylenes	179601-23-1	< 0.00775	0.00775		mg/kg	05.09.17 10.13	U	1
o-Xylene	95-47-6	< 0.00388	0.00388		mg/kg	05.09.17 10.13	U	1
Total Xylenes	1330-20-7	< 0.00388	0.00388		mg/kg	05.09.17 10.13	U	1
Total BTEX		< 0.00388	0.00388		mg/kg	05.09.17 10.13	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	86	%	80-120	05.09.17 10.13		
1,4-Difluorobenzene		540-36-3	88	%	80-120	05.09.17 10.13		





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

05.13.17 15.00

Date Received:05.05.17 11.00 Sample Id: T2-1' Matrix: Soil

Date Prep:

Lab Sample Id: 552580-014 Date Collected: 05.03.17 10.10 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: MGO % Moisture:

MGO Analyst:

Basis: Wet Weight

Seq Number: 3017191

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11900	99.6	mg/kg	05.13.17 20.44		20

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

% Moisture:

ARM Tech: ARM

Analyst:

05.08.17 15.00 Date Prep:

Basis: Wet Weight

Seq Number: 3016765

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0		mg/kg	05.08.17 21.43	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0		mg/kg	05.08.17 21.43	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	05.08.17 21.43	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	101	%	70-135	05.08.17 21.43		
o-Terphenyl		84-15-1	103	%	70-135	05.08.17 21.43		

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: ALJ

Analyst:

05.08.17 16.00 Date Prep:

Basis: Wet Weight

% Moisture:

Seq Number: 3017044

ALJ

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00380	0.00380		mg/kg	05.09.17 10.29	U	1
Toluene	108-88-3	0.00567	0.00380		mg/kg	05.09.17 10.29		1
Ethylbenzene	100-41-4	< 0.00380	0.00380		mg/kg	05.09.17 10.29	U	1
m,p-Xylenes	179601-23-1	< 0.00760	0.00760		mg/kg	05.09.17 10.29	U	1
o-Xylene	95-47-6	< 0.00380	0.00380		mg/kg	05.09.17 10.29	U	1
Total Xylenes	1330-20-7	< 0.00380	0.00380		mg/kg	05.09.17 10.29	U	1
Total BTEX		0.00567	0.00380		mg/kg	05.09.17 10.29		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	115	%	80-120	05.09.17 10.29		
1,4-Difluorobenzene		540-36-3	118	%	80-120	05.09.17 10.29		





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

05.13.17 15.00

Sample Id: T2-2' Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552580-015 Date Collected: 05.03.17 10.13 Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

MGO % Moisture:

Analyst: MGO Date Prep:

Basis: Wet Weight

Seq Number: 3017191

Tech:

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9720	98.8	mg/kg	05.13.17 20.52		20





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Sample Id: T2-3' Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552580-016 Date Collected: 05.03.17 10.15 Sample Depth: 3 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

MGO % Moisture:

Analyst: MGO Date Prep: 05.13.17 15.00 Basis: Wet Weight

Seq Number: 3017191

Tech:

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8500	97.8	mg/kg	05.13.17 20.59		20





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Sample Id: T2-4' Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552580-017 Date Collected: 05.03.17 10.17 Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Trop Method.

Tech: MGO % Moisture:

Analyst: MGO Date Prep: 05.13.17 15.00 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13900	249	mg/kg	05.13.17 21.07		50





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Sample Id: T2-6' Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552580-018 Date Collected: 05.03.17 10.20 Sample Depth: 6 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: MGO % Moisture:

Analyst: MGO Date Prep: 05.13.17 15.00 Bas

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13300	100	mg/kg	05.13.17 21.14		20





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Sample Id: T2-8' Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552580-019 Date Collected: 05.03.17 10.22 Sample Depth: 8 ft

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Tech: MGO % Moisture:

Analyst: MGO Date Prep: 05.13.17 15.00 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9170	97.1	mg/kg	05.13.17 21.22		20





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Sample Id: T2-10' Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552580-020 Date Collected: 05.03.17 10.25 Sample Depth: 10 ft

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Tech: MGO % Moisture:

Analyst: MGO Date Prep: 05.13.17 15.00 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1180	24.9	mg/kg	05.13.17 21.30		5





Wet Weight

COG Operating LLC, Artesia, NM

SRO STATE COM #48H

05.14.17 13.00

Sample Id: Matrix: Soil Date Received:05.05.17 11.00 T2- 12'

Date Prep:

Lab Sample Id: 552580-021 Date Collected: 05.03.17 10.30 Sample Depth: 12 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Basis:

MGO Tech: % Moisture: MGO

Seq Number: 3017234

Analyst:

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1350	24.8	mg/kg	05.14.17 15.16		5





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Sample Id: T2-14' Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552580-022 Date Collected: 05.03.17 10.35 Sample Depth: 14 ft

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Tech: MGO % Moisture:

Analyst: MGO Date Prep: 05.14.17 13.00 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6.48	4.94	mg/kg	05.14.17 14.53		1





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Sample Id: T2-19' Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552580-023 Date Collected: 05.03.17 10.37 Sample Depth: 19 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: MGO

% Moisture:

Analyst: MGO Date Prep: 05.14.17 13.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<25.0	25.0	mg/kg	05.14.17 15.24	U	5





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Sample Id: T2-24' Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552580-024 Date Collected: 05.03.17 10.40 Sample Depth: 24 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

MGO % Moisture:

Analyst: MGO Date Prep: 05.14.17 13.00 Basis: Wet Weight

Seq Number: 3017234

Tech:

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<49.7	49.7	mg/kg	05.14.17 15.31	U	10





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Sample Id: T3-SURF Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552580-025 Date Collected: 05.03.17 10.55

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: MGO % Moisture:

MGO Analyst:

Basis: Date Prep: 05.14.17 13.00

Wet Weight

Seq Number: 3017234

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	29000	250	mg/kg	05.14.17 15.39		50

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

% Moisture:

Wet Weight

Basis:

% Moisture:

Tech: ARM

Analyst:

ARM

05.08.17 15.00 Date Prep:

Basis: Wet Weight

Seq Number: 3016765

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0		mg/kg	05.08.17 22.02	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	132	15.0		mg/kg	05.08.17 22.02		1
Total TPH	PHC635	132	15.0		mg/kg	05.08.17 22.02		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	101	%	70-135	05.08.17 22.02		
o-Terphenyl		84-15-1	103	%	70-135	05.08.17 22.02		

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: ALJ

Analyst:

05.08.17 09.00 Date Prep:

Seq Number: 3016772

ALJ

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00319	0.00319		mg/kg	05.09.17 01.31	U	1
Toluene	108-88-3	< 0.00319	0.00319		mg/kg	05.09.17 01.31	U	1
Ethylbenzene	100-41-4	< 0.00319	0.00319		mg/kg	05.09.17 01.31	U	1
m,p-Xylenes	179601-23-1	< 0.00639	0.00639		mg/kg	05.09.17 01.31	U	1
o-Xylene	95-47-6	< 0.00319	0.00319		mg/kg	05.09.17 01.31	U	1
Total Xylenes	1330-20-7	< 0.00319	0.00319		mg/kg	05.09.17 01.31	U	1
Total BTEX		< 0.00319	0.00319		mg/kg	05.09.17 01.31	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	117	%	80-120	05.09.17 01.31		
1,4-Difluorobenzene		540-36-3	116	%	80-120	05.09.17 01.31		





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Sample Id: T3-1' Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552580-026 Date Collected: 05.03.17 11.00 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

% Moisture:

% Moisture:

Tech: MGO % Moisture:

Analyst: MGO Date Prep: 05.14.17 13.00

Basis: Wet Weight

Seq Number: 3017234

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	649	4.94	mg/kg	05.14.17 16.02		1

Analytical Method: TPH By SW8015 Mod Prep Method: TX1005P

Tech: ARM

Analyst: ARM Date Prep: 05.08.17 15.00 Basis: Wet Weight

Seq Number: 3016765

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0		mg/kg	05.08.17 22.22	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0		mg/kg	05.08.17 22.22	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	05.08.17 22.22	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	94	%	70-135	05.08.17 22.22		
o-Terphenyl		84-15-1	96	%	70-135	05.08.17 22.22		

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: ALJ

Analyst: ALJ Date Prep: 05.08.17 09.00 Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00201	0.00201		mg/kg	05.09.17 01.47	U	1
Toluene	108-88-3	< 0.00201	0.00201		mg/kg	05.09.17 01.47	U	1
Ethylbenzene	100-41-4	< 0.00201	0.00201		mg/kg	05.09.17 01.47	U	1
m,p-Xylenes	179601-23-1	< 0.00402	0.00402		mg/kg	05.09.17 01.47	U	1
o-Xylene	95-47-6	< 0.00201	0.00201		mg/kg	05.09.17 01.47	U	1
Total Xylenes	1330-20-7	< 0.00201	0.00201		mg/kg	05.09.17 01.47	U	1
Total BTEX		< 0.00201	0.00201		mg/kg	05.09.17 01.47	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	89	%	80-120	05.09.17 01.47		
1,4-Difluorobenzene		540-36-3	102	%	80-120	05.09.17 01.47		





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Sample Id: T3-2' Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552580-027 Date Collected: 05.03.17 11.03 Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

MGO % Moisture:

Analyst: MGO Date Prep: 05.14.17 13.00 Basis: Wet Weight

Seq Number: 3017234

Tech:

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	23.0	4.97	mg/kg	05.14.17 16.09		1





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Sample Id: T3-3' Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552580-028 Date Collected: 05.03.17 11.05 Sample Depth: 3 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

MGO % Moisture:

Analyst: MGO Date Prep: 05.14.17 13.00 Basis: Wet Weight

Seq Number: 3017234

Tech:

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1130	50.0	mg/kg	05.14.17 16.17		10





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Sample Id: Matrix: Soil Date Received:05.05.17 11.00 T3-4'

Lab Sample Id: 552580-029 Date Collected: 05.03.17 11.08 Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

MGO Tech:

% Moisture:

MGO

Analyst:

05.14.17 13.00 Date Prep:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<24.9	24.9	mg/kg	05.14.17 16.24	U	5





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Sample Id: T3-6' Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552580-030 Date Collected: 05.03.17 11.10 Sample Depth: 6 ft

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Tech: MGO % Moisture:

Analyst: MGO Date Prep: 05.14.17 13.00 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<24.9	24.9	mg/kg	05.14.17 16.32	U	5





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Sample Id: T3-8' Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552580-031 Date Collected: 05.03.17 11.45 Sample Depth: 8 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: MGO % Moisture:

Analyst: MGO Date Prep: 05.14.17 13.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<24.9	24.9	mg/kg	05.14.17 17.02	U	5





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Sample Id: T3-10' Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552580-032 Date Collected: 05.03.17 11.50 Sample Depth: 10 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: MGO % Moisture:

Analyst: MGO Date Prep: 05.14.17 13.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<24.9	24.9	mg/kg	05.14.17 17.10	U	5





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Sample Id: T3-17' Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552580-033 Date Collected: 05.03.17 11.55 Sample Depth: 17 ft

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Tech: MGO % Moisture:

Analyst: MGO Date Prep: 05.14.17 13.00 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	209	4.92	mg/kg	05.14.17 16.40		1





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Sample Id: T3-22' Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552580-034 Date Collected: 05.03.17 12.35 Sample Depth: 22 ft

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Tech: MGO % Moisture:

Analyst: MGO Date Prep: 05.14.17 13.00 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	209	4.94	mg/kg	05.14.17 17.33		1





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Date Received:05.05.17 11.00 Sample Id: **T4-SURF** Matrix: Soil

Lab Sample Id: 552580-035 Date Collected: 05.03.17 12.40

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: MGO % Moisture:

Analyst:

Date Prep: 05.14.17 13.00 Basis: Wet Weight

Seq Number: 3017234

MGO

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	37.2	4.92	mg/kg	05.14.17 17.40		1

Analytical Method: TPH By SW8015 Mod

ARM

Prep Method: TX1005P

05.08.17 15.00

05.08.17 09.00

ARM Tech:

Analyst:

% Moisture:

Basis:

Wet Weight

Seq Number: 3016765

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0		mg/kg	05.08.17 22.41	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0		mg/kg	05.08.17 22.41	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	05.08.17 22.41	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	94	%	70-135	05.08.17 22.41		
o-Terphenyl		84-15-1	95	%	70-135	05.08.17 22.41		

Date Prep:

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Date Prep:

Tech: ALJ

Analyst:

% Moisture:

Basis: Wet Weight

Seq Number: 3016772

ALJ

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00199	0.00199		mg/kg	05.09.17 02.03	U	1
Toluene	108-88-3	0.00334	0.00199		mg/kg	05.09.17 02.03		1
Ethylbenzene	100-41-4	< 0.00199	0.00199		mg/kg	05.09.17 02.03	U	1
m,p-Xylenes	179601-23-1	< 0.00398	0.00398		mg/kg	05.09.17 02.03	U	1
o-Xylene	95-47-6	< 0.00199	0.00199		mg/kg	05.09.17 02.03	U	1
Total Xylenes	1330-20-7	< 0.00199	0.00199		mg/kg	05.09.17 02.03	U	1
Total BTEX		0.00334	0.00199		mg/kg	05.09.17 02.03		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	85	%	80-120	05.09.17 02.03		
1,4-Difluorobenzene		540-36-3	102	%	80-120	05.09.17 02.03		





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Sample Id: T4-1' Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552580-036 Date Collected: 05.03.17 12.42 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: MGO % Moisture:

Analyst: MGO Date Prep: 05.14.17 13.00

Basis: Wet Weight

Seq Number: 3017234

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<48.9	48.9	mg/kg	05.14.17 17.48	U	10

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

% Moisture:

% Moisture:

Tech: ARM Analyst: ARM

Date Prep: 05.08.17 15.00

Basis: Wet Weight

Seq Number: 3016765

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0		mg/kg	05.08.17 23.00	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0		mg/kg	05.08.17 23.00	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	05.08.17 23.00	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	96	%	70-135	05.08.17 23.00		
o-Terphenyl		84-15-1	96	%	70-135	05.08.17 23.00		

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: ALJ

Analyst:

Data Barrer 05 00 17 00 00

Date Prep: 05.08.17 09.00 Basis: Wet Weight

Seq Number: 3016772

ALJ

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00198	0.00198		mg/kg	05.09.17 02.19	U	1
Toluene	108-88-3	< 0.00198	0.00198		mg/kg	05.09.17 02.19	U	1
Ethylbenzene	100-41-4	< 0.00198	0.00198		mg/kg	05.09.17 02.19	U	1
m,p-Xylenes	179601-23-1	< 0.00397	0.00397		mg/kg	05.09.17 02.19	U	1
o-Xylene	95-47-6	< 0.00198	0.00198		mg/kg	05.09.17 02.19	U	1
Total Xylenes	1330-20-7	< 0.00198	0.00198		mg/kg	05.09.17 02.19	U	1
Total BTEX		< 0.00198	0.00198		mg/kg	05.09.17 02.19	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	104	%	80-120	05.09.17 02.19		
4-Bromofluorobenzene		460-00-4	87	%	80-120	05.09.17 02.19		





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Sample Id: T4-2' Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552580-037 Date Collected: 05.03.17 12.45 Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: MGO % Moisture:

Analyst: MGO Date Prep: 05.14.17 13.00 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	51.1	49.9	mg/kg	05.14.17 17.56		10





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Sample Id: T4-3' Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552580-038 Date Collected: 05.03.17 12.50 Sample Depth: 3 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: MGO % Moisture:

Analyst: MGO Date Prep: 05.14.17 13.00 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<49.5	49.5	mg/kg	05.14.17 18.03	U	10





Wet Weight

COG Operating LLC, Artesia, NM

SRO STATE COM #48H

05.14.17 13.00

Basis:

Sample Id: T4-4' Matrix: Soil Date Received:05.05.17 11.00

Date Prep:

Lab Sample Id: 552580-039 Date Collected: 05.03.17 12.55 Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

MGO % Moisture:

Seq Number: 3017234

MGO

Tech:

Analyst:

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<24.6	24.6	mg/kg	05.14.17 18.11	U	5





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Sample Id: T4-6' Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552580-040 Date Collected: 05.03.17 12.58 Sample Depth: 6 ft

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Tech: MGO % Moisture:

Analyst: MGO Date Prep: 05.14.17 13.00 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7.83	4.92	mg/kg	05.14.17 18.18		1





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Sample Id: T4-11' Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552580-041 Date Collected: 05.03.17 01.05 Sample Depth: 11 ft

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep

Prep Method: E300P

Tech: MGO % Moisture:

Analyst: MGO Date Prep: 05.14.17 13.30

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	14.8	4.99	mg/kg	05.14.17 19.04		1





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Sample Id: T4-16' Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552580-042 Date Collected: 05.03.17 01.10 Sample Depth: 16 ft

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Tech: MGO % Moisture:

Analyst: MGO Date Prep: 05.14.17 13.30 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	271	4.92	mg/kg	05.14.17 19.27		1



Flagging Criteria



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

MDL Method Detection Limit SDL Sample Detection Limit LOD Limit of Detection

PQL Practical Quantitation Limit MQL Method Quantitation Limit LOQ Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

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

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

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5332 Blackberry Drive, San Antonio TX 78238 (210) 509-3334 (210) 509-3335
1211 W Florida Ave, Midland, TX 79701 (432) 563-1800 (432) 563-1713
2525 W. Huntington Dr. - Suite 102, Tempe AZ 85282 (602) 437-0330

NCO

QC Summary 552580

COG Operating LLC SRO STATE COM #48H

Analytical Method:	Inorganic Anions by EPA 300/	300.1		Prep Method:	E300P
Seq Number:	3017191	Matrix:	Solid	Date Prep:	05.13.17
MB Sample Id:	724544-1-BLK	LCS Sample Id:	724544-1-BKS	LCSD Sample Id:	724544-1-BSD

LCS %RPD RPD MB Spike LCS LCSD **LCSD** Limits Units Analysis Flag **Parameter** Result Result Limit Date Amount %Rec Result %Rec

Chloride <5.00 250 241 96 245 98 90-110 2 20 mg/kg 05.13.17 17:06

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Seq Number: 3017234 Matrix: Solid Date Prep: 05.14.17

MB Sample Id: 724549-1-BLK LCS Sample Id: 724549-1-BKS LCSD Sample Id: 724549-1-BSD

LCS LCS LCSD Limits %RPD RPD MB Spike **LCSD** Units Analysis Flag **Parameter** Result Amount Result %Rec Limit Date Result %Rec Chloride < 5.00 250 252 101 255 102 90-110 20 mg/kg 05.14.17 14:38

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Seq Number: 3017230 Matrix: Solid Date Prep: 05.14.17

MB Sample Id: 724559-1-BLK LCS Sample Id: 724559-1-BKS LCSD Sample Id: 724559-1-BSD

RPD LCS MB Spike LCS LCSD LCSD Limits %RPD Units **Analysis** Flag **Parameter** Result Limit Result Date Amount %Rec Result %Rec 20 05.14.17 18:49 Chloride < 5.00 250 255 102 253 101 90-110 mg/kg

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3017191 Matrix: Soil Date Prep: 05.13.17

Parent Sample Id: 552580-011 MS Sample Id: 552580-011 S MSD Sample Id: 552580-011 SD

RPD MS MS %RPD Parent Spike **MSD** Limits Units Analysis **MSD** Flag **Parameter** Limit Result Amount Result %Rec Date Result %Rec Chloride 98.0 347 101 348 90-110 0 20 05.13.17 19:59 247 101 mg/kg

E300P

Prep Method:

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Seq Number: 3017234 Matrix: Soil Date Prep: 05.14.17

Parent Sample Id: 552580-022 MS Sample Id: 552580-022 SD MSD Sample Id: 552580-022 SD

Parent Spike MS MS Limits %RPD **RPD** Units Analysis **MSD MSD** Flag **Parameter** Result Limit Date Result Amount %Rec Result %Rec

Chloride 6.48 247 258 102 255 101 90-110 1 20 mg/kg 05.14.17 15:01

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Seq Number: 3017234 Matrix: Soil Date Prep: 05.14.17

Parent Sample Id: 552580-033 MS Sample Id: 552580-033 S MSD Sample Id: 552580-033 SD

Parent Spike MS MS Limits %RPD **RPD** Units Analysis MSD **MSD** Flag **Parameter** Result %Rec Limit Result Amount Result %Rec Date 209 457 101 456 100 90-110 0 20 05.14.17 16:47 Chloride 246 mg/kg



QC Summary 552580

COG Operating LLC SRO STATE COM #48H

E300P Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: Seq Number: 3017230 Matrix: Soil Date Prep: 05.14.17

MS Sample Id: 552580-041 S MSD Sample Id: 552580-041 SD Parent Sample Id: 552580-041

MS RPD Parent Spike MS Limits %RPD **MSD MSD** Units Analysis Flag **Parameter** Result Limit Date Result Amount %Rec Result %Rec Chloride 14.8 250 299 90-110 20 05.14.17 19:12 114 289 110 3 mg/kg X

Analytical Method: Inorganic Anions by EPA 300/300.1 E300P Prep Method:

Seq Number: 3017230 Matrix: Soil Date Prep: 05.14.17 552582-005 S

MS Sample Id: 552582-005 SD Parent Sample Id: 552582-005 MSD Sample Id:

Parent MS MS Limits %RPD RPD Units Spike **MSD** MSD Analysis Flag **Parameter** Result Amount Result %Rec Limit Date Result %Rec Chloride 26.8 244 311 116 296 110 90-110 5 20 mg/kg 05.14.17 20:58 X

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Seq Number: 3017191 Matrix: Soil Date Prep: 05.15.17

552580-001 S MS Sample Id: MSD Sample Id: 552580-001 SD Parent Sample Id: 552580-001

MS RPD Parent Spike MS MSD MSD Limits %RPD Units Analysis Flag **Parameter** Result Limit Date Result Amount %Rec Result %Rec 20 mg/kg 05.15.17 09:34 Chloride 11000 244 10700 10600 0 90-110 X

Analytical Method: TPH By SW8015 Mod TX1005P Prep Method:

Seq Number: 3016765 Matrix: Solid Date Prep: 05.08.17 LCS Sample Id: 724267-1-BKS LCSD Sample Id: 724267-1-BSD MB Sample Id: 724267-1-BLK

RPD LCS %RPD MB Spike LCS LCSD Limits Units Analysis **LCSD** Flag **Parameter** Limit Result Amount Result %Rec Date Result %Rec 35 05.08.17 16:14 C6-C10 Gasoline Range Hydrocarbons <15.0 1000 1170 117 1170 70-135 0 117 mg/kg C10-C28 Diesel Range Hydrocarbons 70-135 05.08.17 16:14 1000 1100 110 1120 2 35 <15.0 112 mg/kg

MB MB LCS LCS LCSD Limits Units LCSD Analysis **Surrogate** %Rec Flag %Rec Flag %Rec Flag Date 05.08.17 16:14 1-Chlorooctane 109 115 120 70-135 % 116 70-135 05.08.17 16:14 o-Terphenyl 118 115 %



QC Summary 552580

COG Operating LLC SRO STATE COM #48H

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P Date Prep: 05.08.17

Seq Number: 3016765 Parent Sample Id: 552561-001

Matrix: Soil MS Sample Id: 552561-001 S

MSD Sample Id: 552561-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
C6-C10 Gasoline Range Hydrocarbons	18.9	999	1030	101	986	97	70-135	4	35	mg/kg	05.08.17 18:13	
C10-C28 Diesel Range Hydrocarbons	110	999	1140	103	1140	103	70-135	0	35	mg/kg	05.08.17 18:13	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	107		97		70-135	%	05.08.17 18:13
o-Terphenyl	103		85		70-135	%	05.08.17 18:13

Analytical Method: BTEX by EPA 8021B

3016772

Prep Method: SW5030B Date Prep: 05.08.17

MB Sample Id: 724253-1-BLK

Seq Number:

LCS Sample Id: 724253-1-BKS

LCSD Sample Id: 724253-1-BSD

Flag

Flag

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date
Benzene	< 0.00199	0.0994	0.0954	96	0.0967	97	70-130	1	35	mg/kg	05.08.17 19:22
Toluene	< 0.00199	0.0994	0.0995	100	0.111	111	70-130	11	35	mg/kg	05.08.17 19:22
Ethylbenzene	< 0.00199	0.0994	0.0915	92	0.0937	94	71-129	2	35	mg/kg	05.08.17 19:22
m,p-Xylenes	< 0.00398	0.199	0.180	90	0.182	91	70-135	1	35	mg/kg	05.08.17 19:22
o-Xylene	< 0.00199	0.0994	0.0944	95	0.0975	98	71-133	3	35	mg/kg	05.08.17 19:22

Matrix: Solid

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	119		101		104		80-120	%	05.08.17 19:22
4-Bromofluorobenzene	110		101		103		80-120	%	05.08.17 19:22

Analytical Method: BTEX by EPA 8021B

MD

Prep Method: SW5030B 05.08.17

Unite

Analysis

Seq Number: 3017044 Matrix: Solid Date Prep: LCS Sample Id: 724323-1-BKS LCSD Sample Id: 724323-1-BSD MB Sample Id: 724323-1-BLK

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date
Benzene	< 0.00200	0.0998	0.0942	94	0.0942	94	70-130	0	35	mg/kg	05.09.17 07:15
Toluene	< 0.00200	0.0998	0.0964	97	0.101	101	70-130	5	35	mg/kg	05.09.17 07:15
Ethylbenzene	< 0.00200	0.0998	0.0938	94	0.0898	90	71-129	4	35	mg/kg	05.09.17 07:15
m,p-Xylenes	< 0.00399	0.200	0.186	93	0.186	93	70-135	0	35	mg/kg	05.09.17 07:15
o-Xylene	< 0.00200	0.0998	0.0996	100	0.103	103	71-133	3	35	mg/kg	05.09.17 07:15

%Rec	Flag	%Rec	Flag	%Rec	Flag	Limits	Units	Date
104		97		101		80-120	%	05.09.17 07:15
92		85		106		80-120	%	05.09.17 07:15
	%Rec 104	%Rec Flag 104	%Rec Flag %Rec 104 97	%Rec Flag %Rec Flag 104 97	%Rec Flag %Rec Flag %Rec 104 97 101	%Rec Flag %Rec Flag %Rec Flag 104 97 101	%Rec Flag %Rec Flag 104 97 101 80-120	%Rec Flag %Rec Flag 104 97 101 80-120 %

LCS

Limite



QC Summary 552580

COG Operating LLC SRO STATE COM #48H

Analytical Method: BTEX by EPA 8021B

SW5030B Prep Method: 05.08.17

Parent Sample Id: 552561-001

3016772

Seq Number:

Parameter

Benzene

Toluene

Date Prep: MS Sample Id: 552561-001 S MSD Sample Id: 552561-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	< 0.00202	0.101	0.0743	74	0.0770	76	70-130	4	35	mg/kg	05.08.17 19:54	
Toluene	< 0.00202	0.101	0.0704	70	0.0884	88	70-130	23	35	mg/kg	05.08.17 19:54	
Ethylbenzene	0.00751	0.101	0.0627	55	0.0780	70	71-129	22	35	mg/kg	05.08.17 19:54	X
m,p-Xylenes	0.0417	0.202	0.151	54	0.162	60	70-135	7	35	mg/kg	05.08.17 19:54	X
o-Xylene	0.0179	0.101	0.0868	68	0.0875	69	71-133	1	35	mg/kg	05.08.17 19:54	X

Matrix: Soil

MS MSD Analysis MS MSD Limits Units Surrogate %Rec Flag Flag Date %Rec 120 118 80-120 % 05.08.17 19:54 1,4-Difluorobenzene 80-120 % 05.08.17 19:54 4-Bromofluorobenzene 116 112

Analytical Method: BTEX by EPA 8021B

3017044

SW5030B Prep Method: Matrix: Soil Date Prep: 05.08.17

MSD

%Rec

48

34

Limits

70-130

70-130

%RPD

40

59

Seq Number: MS Sample Id: 552582-003 S Parent Sample Id: 552582-003 Spike

Amount

0.0998

0.0998

Parent

Result

< 0.00200

< 0.00200

MS

Result

0.0725

0.0639

MSD Sample Id: 552582-003 SD

RPD

Limit

35

35

Units Analysis Flag Date 05.09.17 07:47 mg/kg XF mg/kg 05.09.17 07:47 XF

Ethylbenzene 0.0998 0.0539 0.0289 71-129 35 05.09.17 07:47 < 0.00200 54 29 60 mg/kg XF 53 0.0505 70-135 70 05.09.17 07:47 m,p-Xylenes < 0.00399 0.200 0.105 25 35 XF mg/kg o-Xylene < 0.00200 0.0998 0.0597 60 0.0353 71-133 51 35 05.09.17 07:47 35 mg/kg XF

MS

73

64

%Rec

MSD

Result

0.0485

0.0348

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Li Flag	mits Ui	nits	Analysis Date
1,4-Difluorobenzene	112		91	80	-120	%	05.09.17 07:47
4-Bromofluorobenzene	105		95	80	-120	%	05.09.17 07:47



Dallas Texas (214-902-0300)

CHAIN OF CUSTODY

San Antonio, Texas (210-509-3334)

Midland, Texas (432-704-5251)

Phoenix, Arizona (480-355-0900)

	www.xenco.com		Xenco Quote #	Xenco Job # 55 258	00
			Analytical Information	no	Matrix Codes
Client / Reporting Information	Project Information				
Company Name / Branch: COG Operating LLC	Project Name/Number: SRO STATE COM #48H				W = Water
Company Address: 2407 PECOS Avenue Artesia NM 88210	Project Location:				GW =Ground Water DW = Drinking Water
	SRO STATE COM#				P = Product
Email: <u>alleb@concho.com</u> dneelz@concho.com rhaskell@concho.com	3-1553 Invoice To:		7		SW = Surface water SL = Sludge OW = Ocean/Sea Water
Project Contact: Aaron Lieb	Midland TX 79701		קי		WI = Wipe
Samplers's Name-Aaron Lieb			?? X		WW= Waste Water
	Collection	Number of preserved bottles	(3		A = Air
No. Field ID / Point of Collection			7/1		
	Sample # of Time Matrix bottles \$\overline{\overli	NONE NBHROH HSROH HNO3 HNO3 HNO3	D .81		Field Comments
1 TI- SURF	- 5/3/17 9:30 Hm S (× ×		
2 TI- 1'			×		
3 TI- 2'			×		
4 TI- 3'	3 9:40 gm		\sim		
s TI - H'	4:42		×		
6 T(- 6'			*		
171-83	8 9:47 Am 1		×		
8 TI- 10'	10 9:50 pm 1		(×		
16 -17 6	12 q:52m 1		×		
10 71 - 141	14 G:54 m, 1		×		
Turnaround Time (Business days)	Data Deliverable Information	ble Information	Notes:		
Same Day TAT 5 Day TAT	Level II Std QC	Level IV (Full Data Pkg /raw data)	iw data)		
Next Day EMERGENCY 7 Day TAT	Level III Std QC+ Forms	IS TRRP Level IV			
2 Day EMERGENCY Contract TAT	T Level 3 (CLP Forms)	UST / RG -411			
3 Day EMERGENCY	TRRP Checklist				
TAT Starts Day received by Lab, if received by 5:00 pm				FED-EX / UPS: Tracking #	
Relinquished by Sampler:	COMENTED BELOW EACH TIM	E SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY	DELIVERY Date Time:	Received By: 1, p 1/1	CJU /
Relinquished by:	1 Jud Outhur Received By:	CS-17 2 Relinquished By:	Date Time:	Received By:	BIDBO
3	3	4		4	CF:(0-6: 0.0°C) (6-23: +0.1°C)
Kelinquished by:	Date Time: Received By:	Custody Seal #	Preserved where applicable	On lce	Temp: Z i
	e e				1

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Phoenix, Arizona (480-355-0900)

Xenco Job #

Xenco Quote #

Page 60 of 64 Final 1.000 OW =Ocean/Sea Water DW = Drinking Water SW = Surface water IR ID:R-9 CF: (0-6: 0.0°C) (6-23: +0.1°C) GW =Ground Water O = Oil WW= Waste Water W = Water S = Soil/Sed/Solid Matrix Codes SL = Sludge P = Product Field Comments WI = Wipe A = Air Corrected Temp. 3 SOPER. Temp: On Ice FED-EX / UPS: Tracking # Received By: Analytical Information Notes: Preserved where applicable Date Time: Date Time: 8 SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY Level IV (Full Data Pkg /raw data) X NONE Relinquished By: Relinquished By: UST / RG -411 Custody Seal # POSHE HOE 15204 RONH Data Deliverable Information 11:00 AM 2-5-17 /sOH/Zn www.xenco.com Level III Std QC+ Forms IOH Level 3 (CLP Forms) # of bottles Project Information Date Time: 45/17 Received By: COG Operating LLC Attn: Robert Mcneill 600 W. Illinois Midland TX 79701 TRRP Checklist Level II Std QC Matrix Received By: Project Name/Number: SRO STATE COM #48H Received By: 10:22 5/3/17 9157Am 10:20 10:25 5/3/17 9:58 Am 10:01 10:15 10:05 10:10 13:13 SRO STATE COM# invoice To: Collection PO Number: Date Time: Date Time: 24. 0 00 TAT Starts Day received by Lab, if received by 5:00 pm 20 I Phone No: 575-748-1553 alieb@concho.com dneel2@concho.com rhaskell@concho.com Contract TAT 5 Day TAT 7 Day TAT Field ID / Point of Collection Artesia NM 88210 furnaround Time (Business days) SURF Client / Reporting Information 00 2 Z 7 6 3 Next Day EMERGENCY Project Contact: Aaron Lieb 2 Day EMERGENCY 3 Day EMERGENCY Relinquished by Sample Samplers's Name-Aaron Lieb 2407 PECOS Avenue Company Name / Branch: COG Operating LLC Same Day TAT Relinquished by: Relinquished by: Company Address: 8 10 No. 6

| 5
| Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for this cost of samples and shall not assume any responsable to season expenses incurred by the Client if such loses are due to circumstances beyond the control of Xenco. A minimum charge of \$75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not analyzed will be invoiced at \$5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.



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San Antonio, Texas (210-509-3334) Midland, Texas (432-704-5251)

Phoenix, Arizona (480-355-0900)

	www.xenco.com	Xenco Quote #	Xenco Job # 25 1580	
		Analy	Analytical Information Matrix Codes	Codes
Client / Reporting Information	Project Information			
Company Name / Branch:	Project Name/Number: SRO STATE COM #48H		W = Water	d/Solid
Company Address: 2407 PECOS Avenue Artesia NM 88210	Project Location:		GW=RG	GW = Ground Water DW = Drinking Water
Email: Phone No: 575-748-1553 alieb@concho.com daskell@concho.com	om Atn: Robert Moneill		SW = Surface SW = Surface SL = Sludge	e water
Project Contact: Aaron Lieb		gp	W = Wipe	OW = Ocean/Sea Water WI = Wipe
Samplers's Name- Aaron Lieb	Continue	X	N =WW	O = Oil WW= Waste Water
	Collection	Number of preserved bottles	A=Air	
No. Field ID / Point of Collection	Sample Sample Depth Date Time Matrix bottles 101	NONE MECH MECH MECH MECH MECH MECH MECH MEC	Field Comments	stue
1 72-12'	5/3/17/10:30 5 1			
2 72-14	_	(>		t
3 72 - 19:	19 (0.37	×		79 <u>1</u> 0
12-24	24 Di40	×		19
s 13 - SURF	10:55	× × ×		98e
· 73 - 11	1 00:11	×		
173-2	2 1/:03 (×		
° +3-3-	3 11:05 (×		
9 73 - 41	H 11:08 (×		
10 73 - 6	1 1 1 01111 1 9	×		
Turnaround Time (Business days)	Data Deliverable Information		Notes:	
Same Day TAT 5 Day TAT	Level II Std QC	Level IV (Full Data Pkg /raw data)		
□ Next Day EMERGENCY □ 7 Day TAT	Level III Std QC+ Forms	TRRP Level IV		
2 Day EMERGENCY Contract TAT	T Level 3 (CLP Forms)	UST / RG -411		
3 Day EMERGENCY	TRRP Checklist			
TAT Starts Day received by Lab, if received by 5:00 pm	5:00 pm		FED-EX / UPS: Tracking #	
100	CUMENTED BELOW EACH TIME SAMPLES	SESSION, INCLUDING COURIER DELIVERY	0 "	
Relinquished by Sampler:	Date Time: 11:0 Received By 11:00 AM SIST 11:00 AM	11 - or AM Relinquished By: Date Time:	200	
Relinquished by:	Date Time: Received By:	Relinquished By: Date Time:	Received By:	IR (D:R-9
Relinquished by:	Date Time: Received By:	ustody Seal #	On lee Corrected Temp:	7 C) — Z
9	io.			

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Dallas Texas (214-902-0300)

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Midland, Texas (432-704-5251)

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Xenco Job#

Xenco Quote #

23ge 62 of 64 Final 1.000 OW =Ocean/Sea Water IR ID.R-9 CF:(0.6; 0.0°C) (6-23: +0.1°C) DW = Drinking Water SW = Surface water GW =Ground Water O = Oil WW= Waste Water S = Soil/Sed/Solid Matrix Codes Corrected Temp: 3 P = Product SL = Sludge Field Comments WI = Wipe A = Air on Ice FED-EX / UPS: Tracking # Received By: Analytical Information Notes: Preserved where applicable Date Time: Date Time: E I SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY Level IV (Full Data Pkg /raw data) NONE " nad M Relinquished By: Number of preserved bottles Relinquished By: Custody Seal # TRRP Level IV UST / RG -411 POSHE HOBN 15204 FONH Data Deliverable Information 5-5-17 VaOH/Zn Acetate www.xenco.com Level III Std QC+ Forms HCI Level 3 (CLP Forms) # of bottles Project Information 11:00 Received By: TRRP Checklist Level II Std QC COG Operating LLC Attn: Robert Mcneill Midland TX 79701 Matrix Project Name/Number: SRO STATE COM #48H Project Location: 600 W. Illinois Received By: Received By: 5/3/11 12:42 58/17 (2:80 8/3/17 17:58 54:4 1/6/8 5/3/1 11:45 58/17/12:35 5/3/17 12:40 5/2/17/12:55 5/3/17/11:55 05:11 11:50 SRO STATE COM # nvoice To: Collection PO Number: Date Date Time: Date Time: Sample Depth 4 TAT Starts Day received by Lab, if received by 5:00 pm I 3 Phone No: 575-748-1553 alieb@concho.com dneel2@concho.com rhaskell@concho.com Contract TAT 5 Day TAT 7 Day TAT Field ID / Point of Collection Artesia NM 88210 Turnaround Time (Business days) Client / Reporting Information SURF Next Day EMERGENCY 22 I Project Contact: Aaron Lieb M 2 Day EMERGENCY Relinquished by Sampler 3 Day EMERGENCY Samplers's Name- Aaron Lieb 2407 PECOS Avenue Company Name / Branch: COG Operating LLC Same Day TAT Relinquished by: Relinquished by: 1 Company Address: 1 10 9 S.

Indice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples are due to circumstances beyond the control of Xenco. A minimum charge of \$75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not analyzed will be invoiced at \$5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.



CHAIN OF CUSTODY

San Antonio, Texas (210-509-3334)

Midland, Texas (432-704-5251)

Phoenix, Arizona (480-355-0900)

	WWW.xenco.com	Xenco Quote #	# gor o lob	00	9500	
		Analyt	Analytical Information		Matrix Codes	
Client / Reporting Information	Project Information					
Company Name / Branch:	Project Name/Number: SRO STATE COM #48H				W = Water S = Soil/Sed/Solid	
Company Address: 2407 PECOS Avenue Artesia NM 89210	Project Location:				er ter	000
Phone No: 575-748-1553 alleb@concho.com rhaskell@concho.com	3-1553 Invoice To:				P = Product SW = Surface water SL = Sludge	r Ibni ⁻
Project Contact: Adron Lieb		J.			Sea Water	1
Samplers's Name- Aaron Lieb	PO Number:	5/2			O = Oil WW= Waste Water	
	Collection Number of preserved bottles	XE H			A = Air	
No. Field ID / Point of Collection	Jo #	197 518 5/A:				
	ME Nad) -			Field Comments	
11-11	1 5 50:/ 1/8/5 1	×				
2 74-16	0/:/ 21	×				
8						7 9
4						o S
io.						g ə6
ω						Ьа
7						
80						
6						
10						
Turnaround Time (Business days)	Data Deliverable information		Notes:			_
Same Day TAT 5 Day TAT	Level II Std QC	Iraw data)				
Next Day EMERGENCY 7 Day TAT	Level III Std QC+ Forms TRRP Level IV					
2 Day EMERGENCY Contract TAT	Level 3 (CLP Forms) UST / RG -411			5		
☐ 3 Day EMERGENCY	TRRP Checklist					
TAT Starts Day received by Lab, if received by 5:00 pm			FED-EX / UPS: Tracking #	acking #		
1	CUMENTED BELOW EACH TIME SAMPLES CHANGE POSSE	l. I		0.1		
Sampler:	11/200 Received By 11/20 Mm	Date Time:		Received By MANN	Ta	
Relinquished by:		Date Time:		Received By: Temp:	Temp: 3 - IRID:R-9	
Relinquished by:	Date Time: Received By: Custody Seal #	Preserved where applicable	re applicable	On 196 Corrected	Corrected Temp: 7	
2	2			Z)	

Notice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples are due to circumstances beyond the control of Xenco. A minimum charge of \$75 will be applied to each project. Xenco's liability will be limited to the cost of samples received by Xenco but not analyzed will be invoiced at \$5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.



XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: COG Operating LLC

Date/ Time Received: 05/05/2017 11:00:00 AM

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Comments

Work Order #: 552580

Temperature Measuring device used: R9

#1 *Temperature of cooler(s)? #2 *Shipping container in good condition #3 *Samples received on ice? #4 *Custody Seal present on shipping co #5 *Custody Seals intact on sample bottle #7 *Custody Seals Signed and dated? #8 *Chain of Custody present? #9 Sample instructions complete on Cha #10 Any missing/extra samples? #11 Chain of Custody signed when relind #12 Chain of Custody agrees with sampl #13 Container label(s) legible and intact? #14 Sample matrix/ properties agree with #15 Samples in proper container/ bottle? #16 Samples properly preserved? #17 Sample container(s) intact? #18 Sufficient sample amount for indicate #19 All samples received within hold time #20 Subcontract of sample(s)? #21 VOC samples have zero headspace #22 <2 for all samples preserved with HN samples for the analysis of HEM or HEM- analysts. #23 >10 for all samples preserved with N	entainer/ cooler? ese? in of Custody? quished/ received? e label(s)? c h Chain of Custody? ed test(s)? e? NO3,HCL, H2SO4? Except for SGT which are verified by the NaAsO2+NaOH, ZnAc+NaOH?	3.1 Yes Yes N/A N/A N/A N/A N/A Yes						
* Must be completed for after-hours de	* Must be completed for after-hours delivery of samples prior to placing in the refrigerator							
Analyst:	PH Device/Lot#:							
Checklist completed by:	Jessica Kramer	Date: 05/08/2017						
Checklist reviewed by:	Liz Givens	Date: 05/08/2017						

Sample Receipt Checklist



SRO STATE COM #48H

Project Location:

Project Id: Contact:

Aaron Lieb

Certificate of Analysis Summary 552581

COG Operating LLC, Artesia, NM

Project Name: SRO STATE COM #48H

Report Date: 15-MAY-17

Date Received in Lab: Fri May-05-17 11:00 am

Project Manager: Liz Givens

	Lab Id:	552581-001	552581-002	552581-003	552581-004	
Amalucie Domoctod	Field Id:	BG-5'	BG-10'	BG-15'	BG-20'	
Allatysts Nequested	Depth:	5 ft	10 ft	15 ft	20 ft	
	Matrix:	SOIL	SOIL	SOIL	SOIL	
	Sampled:	Sampled: May-03-17 13:30	May-03-17 13:35	May-03-17 13:40	May-03-17 13:45	
Inorganic Anions by EPA 300/300.1	Extracted:	Extracted: May-14-17 13:30	May-14-17 13:30	May-14-17 13:30	May-14-17 13:30	
	Analyzed:	Analyzed: May-14-17 19:34	May-14-17 19:42	May-14-17 19:50	May-14-17 20:12	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Chloride		<49.0 49.0	<24.4 24.4	<24.6 24.6	47.6 4.99	

Grand Letinson

Brandi Ritcherson Project Manager

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

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

Analytical Report 552581

for COG Operating LLC

Project Manager: Aaron Lieb SRO STATE COM #48H

15-MAY-17

Collected By: Client





1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215), Arizona (AZ0765), Florida (E871002), Louisiana (03054) Oklahoma (9218)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)

Xenco-San Antonio: Texas (T104704534)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757) Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)





15-MAY-17

Project Manager: Aaron Lieb COG Operating LLC 2407 Pecos Avenue Artesia, NM 88210

Reference: XENCO Report No(s): **552581 SRO STATE COM #48H**

Project Address: SRO STATE COM #48H

Aaron Lieb:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 552581. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 552581 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Sand.

Brandi Ritcherson

Project Manager

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Sample Cross Reference 552581



COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BG-5'	S	05-03-17 13:30	- 5 ft	552581-001
BG-10'	S	05-03-17 13:35	- 10 ft	552581-002
BG-15'	S	05-03-17 13:40	- 15 ft	552581-003
BG-20'	S	05-03-17 13:45	- 20 ft	552581-004

XENCO

CASE NARRATIVE

Client Name: COG Operating LLC Project Name: SRO STATE COM #48H

Project ID: Report Date: 15-MAY-17 Work Order Number(s): 552581 Date Received: 05/05/2017

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Sample Id: BG-5' Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552581-001 Date Collected: 05.03.17 13.30 Sample Depth: 5 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: MGO % Moisture:

Analyst: MGO Date Prep: 05.14.17 13.30

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<49.0	49.0	mg/kg	05.14.17 19.34	U	10





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Sample Id: BG-10' Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552581-002 Date Collected: 05.03.17 13.35 Sample Depth: 10 ft

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Tech: MGO % Moisture:

Analyst: MGO Date Prep: 05.14.17 13.30 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<24.4	24.4	mg/kg	05.14.17 19.42	U	5





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Sample Id: BG-15' Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552581-003 Date Collected: 05.03.17 13.40 Sample Depth: 15 ft

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Tech: MGO % Moisture:

Analyst: MGO Date Prep: 05.14.17 13.30 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<24.6	24.6	mg/kg	05.14.17 19.50	U	5





COG Operating LLC, Artesia, NM

SRO STATE COM #48H

Sample Id: Matrix: Soil Date Received:05.05.17 11.00 **BG-20'**

Lab Sample Id: 552581-004 Date Collected: 05.03.17 13.45 Sample Depth: 20 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

% Moisture:

Prep Method: E300P

MGO Tech: MGO Analyst: 05.14.17 13.30 Basis: Wet Weight Date Prep:

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	47.6	4.99	mg/kg	05.14.17 20.12		1



Flagging Criteria



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

MDL Method Detection Limit SDL Sample Detection Limit LOD Limit of Detection

PQL Practical Quantitation Limit MQL Method Quantitation Limit LOQ Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

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

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5332 Blackberry Drive, San Antonio TX 78238 (210) 509-3334 (210) 509-3335
1211 W Florida Ave, Midland, TX 79701 (432) 563-1800 (432) 563-1713
2525 W. Huntington Dr. - Suite 102, Tempe AZ 85282 (602) 437-0330



QC Summary 552581

COG Operating LLC SRO STATE COM #48H

Analytical Method:Inorganic Anions by EPA 300/300.1Prep Method:E300PSeq Number:3017230Matrix:SolidDate Prep:05.14.17

MB Sample Id: 724559-1-BLK LCS Sample Id: 724559-1-BSD

%RPD LCS RPD MB Spike LCS Limits Analysis LCSD LCSD Units Flag **Parameter** Result Result Limit Date Amount %Rec %Rec Result

Chloride <5.00 250 255 102 253 101 90-110 1 20 mg/kg 05.14.17 18:49

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Seq Number: 3017230 Matrix: Soil Date Prep: 05.14.17

Parent Sample Id: 552580-041 MS Sample Id: 552580-041 S MSD Sample Id: 552580-041 SD

RPD Parent Spike MS MS Limits %RPD Units **MSD** MSD Analysis **Parameter** Flag Result Amount Result %Rec Limit Date Result %Rec

Chloride 14.8 250 299 114 289 110 90-110 3 20 mg/kg 05.14.17 19:12

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Seq Number: 3017230 Matrix: Soil Date Prep: 05.14.17

Parent Sample Id: 552582-005 MS Sample Id: 552582-005 S MSD Sample Id: 552582-005 SD

MS RPD MS %RPD Parent Spike MSD MSD Limits Units Analysis Flag **Parameter** Result Limit Date Result Amount %Rec Result %Rec Chloride 20 mg/kg 05.14.17 20:58 26.8 244 311 116 296 110 90-110 5 X

X



CHAIN OF CUSTODY

San Antonio, Texas (210-509-3334) Midland, Texas (432-704-5251)

Phoenix, Arizona (480-355-0900)

Client / Reporting Information											
Client / Reporting Information Company Name / Branch:							Ani	Analytical Information			Matrix Codes
Company Name / Branch:			Project Information	rmation							
COG Operating LLC		Project Name/Number: SRO STATE COM #48H	ber:)M #48H								W = Water
Company Address: 2407 PECOS Avenue Artesia NM 89210		Project Location:	_								GW = Ground Water DW = Drinking Water
Email: Blieb@concho.com dneet2@concho.com rhaskell@concho.com	Phone No: 575-748-1553 kell@concho.com	Invoice To: COC Attn 600	COG Operating LLC Attn: Robert Mcneill 600 W Illinois	LLC			3				SW = Surface water SL = Sludge
Project Contact: Aaron Lieb		Midl	Midland TX 79701	.01			יק!			70 1 -0	OW =Ocean/sea water WI = Wipe
Samplers's Name- Aaron Lieb							13				O = Oil WW= Waste Water
		Collection			Number of preserved bottles		01				A = Air
No. Field ID / Point of Collection	Sample	Date	Matrix	# of	nZ/HOsi eisieo sour bossi HOsi	IONE ISHEON	Y.)			Ü	Andrew Control
1 8.6 51		7		-	4	N	7				COMMENS
2 B.G 10'	-		-	-							
3 B.G 15'	15	1:40	0	_		,	×				
4 B.C 20'	20	1:45	5	-			17				
5											
1 0							1				
- 8											
6											
10											
Turnaround Time (Business days)				Data Deliverable Information	le Information			Notes:			
Same Day TAT 5 D	5 Day TAT		Level II Std QC	d QC	Level IN	Level IV (Full Data Pkg /raw data)	w data)			6	
Next Day EMERGENCY	ay TAT	Ш	Level III Std	td QC+ Forms	s TRRP Level IV	Sevel IV					
2 Day EMERGENCY	Contract TAT	Ш	Level 3 (C	Level 3 (CLP Forms)	UST/RG-411	G 411					
3 Day EMERGENCY			TRRP Checklist	cklist							
TAT Starts Day received by Lab, if received by 5:00 pm	ived by 5:00 pm							FED-EX / UP	FED-EX / UPS: Tracking #		
Relinquished by Sampler;	SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY DELICERY TIME: 1/20 Received By: 1/20 1/20 1/20 1/20 1/20 1/20 1/20 1/20	OOCUMENTED BELOW EACH TI	ow EACH TIP	NE SAMPLES C	HANGE POSSESSION, IN	CLUDING COURIER	DELIVERY Date Time:		Paraival Bu-	C WW W C	0
Mn 5 L	4/5/5		Sid Bu	the	6-5-17 2				7	ピーチ	1
Kelinquisnea by: C	Date Time.		Received By:		Relinqui	Relinquished By:	Date Time:		Received By:	CF:(0-6: 0 0°	Temp: 70 - IR ID:R-9
Relinquished by:	Date Time:		Received By:		Custody Seal #	Seal #	Preserved w	Preserved where applicable	On See	Corrected Temp	mo:/ (0-43: +0.1°C) -

losses or expenses incurred by the Client if such loses are due to circumstances beyond the control of Xenco. A minimum charge of \$75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not analyzed will be invoiced at \$5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.



XENCO Laboratories BORATORIES Prelogin/Nonconformance Report- Sample Log-In



Client: COG Operating LLC

Work Order #: 552581

Date/ Time Received: 05/05/2017 11:00:00 AM

Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used: R9

	Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?		3.1
#2 *Shipping container in good condition?		Yes
#3 *Samples received on ice?		Yes
#4 *Custody Seal present on shipping conta	niner/ cooler?	N/A
#5 *Custody Seals intact on shipping contai	ner/ cooler?	N/A
#6 Custody Seals intact on sample bottles?		N/A
#7 *Custody Seals Signed and dated?		N/A
#8 *Chain of Custody present?		Yes
#9 Sample instructions complete on Chain of	of Custody?	Yes
#10 Any missing/extra samples?		No
#11 Chain of Custody signed when relinquis	shed/ received?	Yes
#12 Chain of Custody agrees with sample la	abel(s)?	Yes
#13 Container label(s) legible and intact?		Yes
#14 Sample matrix/ properties agree with C	hain of Custody?	Yes
#15 Samples in proper container/ bottle?		Yes
#16 Samples properly preserved?		Yes
#17 Sample container(s) intact?		Yes
#18 Sufficient sample amount for indicated	test(s)?	Yes
#19 All samples received within hold time?		Yes
#20 Subcontract of sample(s)?		N/A
#21 VOC samples have zero headspace?		N/A
#22 <2 for all samples preserved with HNO3 samples for the analysis of HEM or HEM-SG analysts.		N/A
#23 >10 for all samples preserved with NaA	sO2+NaOH, ZnAc+NaOH?	N/A
* Must be completed for after-hours deliver Analyst:	ery of samples prior to placing in PH Device/Lot#:	the refrigerator
Checklist completed by:	Jessica Kramer	Date: 05/08/2017

Checklist reviewed by:

Liz Givens

Date: 05/08/2017



SRO State Com #48H

Project Location:

Project Id: Contact:

Aaron Lieb

Certificate of Analysis Summary 552582

COG Operating LLC, Artesia, NM

Project Name: SRO State Com #48H



Date Received in Lab: Fri May-05-17 11:00 am

Report Date: 15-MAY-17

Project Manager: Liz Givens

	Lab Id:	552582-001	552582-002	552582-003	552582-004	552582-005	552582-006
And Incie Dogwooted	Field Id:	North-Surf	North-1'	East-Surf	East-1'	West-Surf	West-1'
raicanhar sistinus	Depth:		1 ft		1 ft		1 ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	May-03-17 13:55	May-03-17 13:55	May-03-17 14:05	May-03-17 14:10	May-03-17 14:20	May-03-17 14:25
BTEX by EPA 8021B	Extracted:	May-08-17 09:00	May-08-17 16:00				
	Analyzed:	May-09-17 02:35	May-09-17 12:23	May-09-17 08:51	May-09-17 12:40	May-09-17 12:56	May-09-17 13:12
	Units/RL:	mg/kg RL					
Benzene		<0.00339 0.00339	<0.00201 0.00201	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200
Toluene		<0.00339 0.00339	<0.00201 0.00201	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200
Ethylbenzene		<0.00339 0.00339	<0.00201 0.00201	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199	0.00238 0.00200
m,p-Xylenes		<0.00678 0.00678	<0.00402 0.00402	<0.00399 0.00399	<0.00404 0.00404	<0.00398 0.00398	<0.00399 0.00399
o-Xylene		<0.00339 0.00339	<0.00201 0.00201	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200
Total Xylenes		<0.00339 0.00339	<0.00201 0.00201	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200
Total BTEX		<0.00339 0.00339	<0.00201 0.00201	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199	0.00238 0.00200
Inorganic Anions by EPA 300/300.1	Extracted:	May-14-17 13:30					
	Analyzed:	May-14-17 20:20	May-14-17 20:28	May-14-17 20:35	May-14-17 20:43	May-14-17 20:50	May-14-17 21:13
	Units/RL:	mg/kg RL					
Chloride		13.7 4.95	<4.93 4.93	20.0 4.87	6.90 4.87	26.8 4.88	<4.99 4.99
TPH By SW8015 Mod	Extracted:	May-09-17 07:00					
	Analyzed:	May-09-17 08:50	May-09-17 09:52	May-09-17 10:12	May-09-17 10:32	May-09-17 10:52	May-09-17 11:11
	Units/RL:	mg/kg RL					
C6-C10 Gasoline Range Hydrocarbons		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
C10-C28 Diesel Range Hydrocarbons		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Total TPH		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0

Brand Letinson

Brandi Ritcherson Project Manager

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

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

Analytical Report 552582

for COG Operating LLC

Project Manager: Aaron Lieb SRO State Com #48H

15-MAY-17

Collected By: Client





1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122): Texas (T104704215), Arizona (AZ0765), Florida (E871002), Louisiana (03054) Oklahoma (9218)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295) Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)

Xenco-San Antonio: Texas (T104704534)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757) Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)





15-MAY-17

Project Manager: Aaron Lieb COG Operating LLC 2407 Pecos Avenue Artesia, NM 88210

Reference: XENCO Report No(s): 552582

SRO State Com #48H

Project Address: SRO State Com #48H

Aaron Lieb:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 552582. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

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

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 552582 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Sand.

Brandi Ritcherson

Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

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



Sample Cross Reference 552582



COG Operating LLC, Artesia, NM

SRO State Com #48H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
North-Surf	S	05-03-17 13:55	N/A	552582-001
North-1'	S	05-03-17 13:55	- 1 ft	552582-002
East-Surf	S	05-03-17 14:05	N/A	552582-003
East-1'	S	05-03-17 14:10	- 1 ft	552582-004
West-Surf	S	05-03-17 14:20	N/A	552582-005
West-1'	S	05-03-17 14:25	- 1 ft	552582-006

XENCO

CASE NARRATIVE

Client Name: COG Operating LLC Project Name: SRO State Com #48H

Project ID: Report Date: 15-MAY-17
Work Order Number(s): 552582 Date Received: 05/05/2017

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3016772 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3017044 BTEX by EPA 8021B

Lab Sample ID 552582-003 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Benzene recovered below QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 552582-002, -003, -004, -005, -006.

The Laboratory Control Sample for Toluene, Benzene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

Soil samples were not received in Terracore kits and therefore were prepared by method 5030. Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene Relative Percent Difference (RPD) between matrix spike and duplicate were above quality control limits.

Samples in the analytical batch are: 552582-002, -003, -004, -005, -006

Batch: LBA-3017230 Inorganic Anions by EPA 300/300.1

Lab Sample ID 552582-005 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 552582-001, -002, -003, -004, -005, -006.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.





Wet Weight

COG Operating LLC, Artesia, NM

SRO State Com #48H

Sample Id: North-Surf Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552582-001 Date Collected: 05.03.17 13.55

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: MGO

% Moisture:

Analyst: MGO Date Prep: 05.14.17 13.30 Basis:

Seq Number: 3017230

 Parameter
 Cas Number
 Result
 RL
 Units
 Analysis Date
 Flag
 Dil

 Chloride
 16887-00-6
 13.7
 4.95
 mg/kg
 05.14.17 20.20
 1

Analytical Method: TPH By SW8015 Mod Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 05.09.17 07.00 Basis: Wet Weight

Seq Number: 3016886

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0		mg/kg	05.09.17 08.50	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0		mg/kg	05.09.17 08.50	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	05.09.17 08.50	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	94	%	70-135	05.09.17 08.50		
o-Terphenyl		84-15-1	97	%	70-135	05.09.17 08.50		

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: ALJ

Analyst:

Date Prep: 05.08.17 09.00

Basis: Wet Weight

% Moisture:

Seq Number: 3016772

ALJ

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00339	0.00339		mg/kg	05.09.17 02.35	U	1
Toluene	108-88-3	< 0.00339	0.00339		mg/kg	05.09.17 02.35	U	1
Ethylbenzene	100-41-4	< 0.00339	0.00339		mg/kg	05.09.17 02.35	U	1
m,p-Xylenes	179601-23-1	< 0.00678	0.00678		mg/kg	05.09.17 02.35	U	1
o-Xylene	95-47-6	< 0.00339	0.00339		mg/kg	05.09.17 02.35	U	1
Total Xylenes	1330-20-7	< 0.00339	0.00339		mg/kg	05.09.17 02.35	U	1
Total BTEX		< 0.00339	0.00339		mg/kg	05.09.17 02.35	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	99	%	80-120	05.09.17 02.35		
1,4-Difluorobenzene		540-36-3	108	%	80-120	05.09.17 02.35		





COG Operating LLC, Artesia, NM

SRO State Com #48H

05.14.17 13.30

Sample Id: North-1' Matrix: Soil Date Received:05.05.17 11.00

Date Prep:

Lab Sample Id: 552582-002 Date Collected: 05.03.17 13.55 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: MGO

% Moisture:

Analyst: MGO

Basis: Wet Weight

Seq Number: 3017230

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.93	4.93	mg/kg	05.14.17 20.28	U	1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

% Moisture:

Tech: Analyst: ARM ARM

Date Prep: 05.09.17 07.00

Basis: Wet Weight

Seq Number: 3016886

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0		mg/kg	05.09.17 09.52	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0		mg/kg	05.09.17 09.52	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	05.09.17 09.52	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	98	%	70-135	05.09.17 09.52		
o-Terphenyl		84-15-1	101	%	70-135	05.09.17 09.52		

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: ALJ

Analyst:

Date Prep: 05.08.17 16.00

Basis: Wet Weight

% Moisture:

Seq Number: 3017044

ALJ

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00201	0.00201		mg/kg	05.09.17 12.23	U	1
Toluene	108-88-3	< 0.00201	0.00201		mg/kg	05.09.17 12.23	U	1
Ethylbenzene	100-41-4	< 0.00201	0.00201		mg/kg	05.09.17 12.23	U	1
m,p-Xylenes	179601-23-1	< 0.00402	0.00402		mg/kg	05.09.17 12.23	U	1
o-Xylene	95-47-6	< 0.00201	0.00201		mg/kg	05.09.17 12.23	U	1
Total Xylenes	1330-20-7	< 0.00201	0.00201		mg/kg	05.09.17 12.23	U	1
Total BTEX		< 0.00201	0.00201		mg/kg	05.09.17 12.23	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	118	%	80-120	05.09.17 12.23		
1,4-Difluorobenzene		540-36-3	112	%	80-120	05.09.17 12.23		





COG Operating LLC, Artesia, NM

SRO State Com #48H

Sample Id: East-Surf Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552582-003 Date Collected: 05.03.17 14.05

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: MGO % Moisture:

Analyst: MGO Date Prep: 05.14.17 13.30

Basis: Wet Weight

Seq Number: 3017230

 Parameter
 Cas Number
 Result
 RL
 Units
 Analysis Date
 Flag
 Dil

 Chloride
 16887-00-6
 20.0
 4.87
 mg/kg
 05.14.17 20.35
 1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

% Moisture:

% Moisture:

Tech: ARM Analyst: ARM

Date Prep: 05.09.17 07.00 Basis:

asis: Wet Weight

Seq Number: 3016886

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0		mg/kg	05.09.17 10.12	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0		mg/kg	05.09.17 10.12	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	05.09.17 10.12	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	97	%	70-135	05.09.17 10.12		
o-Terphenyl		84-15-1	98	%	70-135	05.09.17 10.12		

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: ALJ

Analyst: ALJ Date Prep: 05.08.17 16.00 Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00200	0.00200		mg/kg	05.09.17 08.51	U	1
Toluene	108-88-3	< 0.00200	0.00200		mg/kg	05.09.17 08.51	U	1
Ethylbenzene	100-41-4	< 0.00200	0.00200		mg/kg	05.09.17 08.51	U	1
m,p-Xylenes	179601-23-1	< 0.00399	0.00399		mg/kg	05.09.17 08.51	U	1
o-Xylene	95-47-6	< 0.00200	0.00200		mg/kg	05.09.17 08.51	U	1
Total Xylenes	1330-20-7	< 0.00200	0.00200		mg/kg	05.09.17 08.51	U	1
Total BTEX		< 0.00200	0.00200		mg/kg	05.09.17 08.51	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	102	%	80-120	05.09.17 08.51		
4-Bromofluorobenzene		460-00-4	86	%	80-120	05.09.17 08.51		





COG Operating LLC, Artesia, NM

SRO State Com #48H

05.14.17 13.30

Sample Id: East-1' Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552582-004 Date Collected: 05.03.17 14.10 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: MGO

% Moisture:

Analyst: MGO Date Prep:

Basis: Wet Weight

Seq Number: 3017230

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6.90	4.87	mg/kg	05.14.17 20.43		1

Analytical Method: TPH By SW8015 Mod

ARM

Prep Method: TX1005P

% Moisture:

% Moisture:

Tech: ARM

Analyst:

Date Prep: 05.09.17 07.00

Basis: Wet Weight

Seq Number: 3016886

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0		mg/kg	05.09.17 10.32	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0		mg/kg	05.09.17 10.32	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	05.09.17 10.32	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	97	%	70-135	05.09.17 10.32		
o-Terphenyl		84-15-1	100	%	70-135	05.09.17 10.32		

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: ALJ

Analyst: ALJ Date Prep: 05.08.17 16.00 Basis: Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00202	0.00202		mg/kg	05.09.17 12.40	U	1
Toluene	108-88-3	< 0.00202	0.00202		mg/kg	05.09.17 12.40	U	1
Ethylbenzene	100-41-4	< 0.00202	0.00202		mg/kg	05.09.17 12.40	U	1
m,p-Xylenes	179601-23-1	< 0.00404	0.00404		mg/kg	05.09.17 12.40	U	1
o-Xylene	95-47-6	< 0.00202	0.00202		mg/kg	05.09.17 12.40	U	1
Total Xylenes	1330-20-7	< 0.00202	0.00202		mg/kg	05.09.17 12.40	U	1
Total BTEX		< 0.00202	0.00202		mg/kg	05.09.17 12.40	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	95	%	80-120	05.09.17 12.40		
1,4-Difluorobenzene		540-36-3	107	%	80-120	05.09.17 12.40		





COG Operating LLC, Artesia, NM

SRO State Com #48H

Sample Id: West-Surf Matrix: Soil Date Received:05.05.17 11.00

Lab Sample Id: 552582-005 Date Collected: 05.03.17 14.20

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Prep Method: TX1005P

Tech: MGO % Moisture:

Analyst: MGO Basis: Date Prep: 05.14.17 13.30 Wet Weight

Seq Number: 3017230

Parameter Cas Number Result RLUnits **Analysis Date** Flag Dil 16887-00-6 Chloride 05.14.17 20.50 26.8 4.88 mg/kg 1

Analytical Method: TPH By SW8015 Mod

ARM Tech:

% Moisture:

% Moisture:

ARM Analyst: 05.09.17 07.00 Basis: Wet Weight Date Prep:

Seq Number: 3016886

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0		mg/kg	05.09.17 10.52	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0		mg/kg	05.09.17 10.52	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	05.09.17 10.52	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	97	%	70-135	05.09.17 10.52		
o-Terphenyl		84-15-1	99	%	70-135	05.09.17 10.52		

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: ALJ

ALJ Analyst: 05.08.17 16.00 Basis: Wet Weight Date Prep:

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00199	0.00199		mg/kg	05.09.17 12.56	U	1
Toluene	108-88-3	< 0.00199	0.00199		mg/kg	05.09.17 12.56	U	1
Ethylbenzene	100-41-4	< 0.00199	0.00199		mg/kg	05.09.17 12.56	U	1
m,p-Xylenes	179601-23-1	< 0.00398	0.00398		mg/kg	05.09.17 12.56	U	1
o-Xylene	95-47-6	< 0.00199	0.00199		mg/kg	05.09.17 12.56	U	1
Total Xylenes	1330-20-7	< 0.00199	0.00199		mg/kg	05.09.17 12.56	U	1
Total BTEX		< 0.00199	0.00199		mg/kg	05.09.17 12.56	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	102	%	80-120	05.09.17 12.56		
1,4-Difluorobenzene		540-36-3	111	%	80-120	05.09.17 12.56		





COG Operating LLC, Artesia, NM

SRO State Com #48H

Date Received:05.05.17 11.00 Sample Id: West-1' Matrix: Soil

Lab Sample Id: 552582-006 Date Collected: 05.03.17 14.25 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300/300.1

Prep Method: E300P

Tech: MGO % Moisture:

MGO Analyst: Seq Number: 3017230

Date Prep: 05.14.17 13.30 Basis: Wet Weight

Parameter Cas Number Result RLUnits **Analysis Date** Flag Dil Chloride 16887-00-6 U <4.99 05.14.17 21.13 4.99 mg/kg 1

Analytical Method: TPH By SW8015 Mod

Prep Method: TX1005P

% Moisture:

Tech: Analyst:

ARM ARM

05.09.17 07.00 Date Prep:

Basis: Wet Weight

Seq Number: 3016886

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0		mg/kg	05.09.17 11.11	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0		mg/kg	05.09.17 11.11	U	1
Total TPH	PHC635	<15.0	15.0		mg/kg	05.09.17 11.11	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	95	%	70-135	05.09.17 11.11		
o-Terphenyl		84-15-1	98	%	70-135	05.09.17 11.11		

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Tech: ALJ

Analyst:

05.08.17 16.00 Date Prep:

% Moisture:

Basis:

Wet Weight

Seq Number: 3017044

ALJ

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00200	0.00200		mg/kg	05.09.17 13.12	U	1
Toluene	108-88-3	< 0.00200	0.00200		mg/kg	05.09.17 13.12	U	1
Ethylbenzene	100-41-4	0.00238	0.00200		mg/kg	05.09.17 13.12		1
m,p-Xylenes	179601-23-1	< 0.00399	0.00399		mg/kg	05.09.17 13.12	U	1
o-Xylene	95-47-6	< 0.00200	0.00200		mg/kg	05.09.17 13.12	U	1
Total Xylenes	1330-20-7	< 0.00200	0.00200		mg/kg	05.09.17 13.12	U	1
Total BTEX		0.00238	0.00200		mg/kg	05.09.17 13.12		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	119	%	80-120	05.09.17 13.12		
1,4-Difluorobenzene		540-36-3	118	%	80-120	05.09.17 13.12		



Flagging Criteria



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

MDL Method Detection Limit SDL Sample Detection Limit LOD Limit of Detection

PQL Practical Quantitation Limit MQL Method Quantitation Limit LOQ Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

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

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QC Summary 552582

COG Operating LLC

SRO State Com #48H

Analytical Method:Inorganic Anions by EPA 300/300.1Prep Method:E300PSeq Number:3017230Matrix:SolidDate Prep:05.14.17

MB Sample Id: 724559-1-BLK LCS Sample Id: 724559-1-BKS LCSD Sample Id: 724559-1-BSD

RPD MB Spike LCS LCS Limits %RPD LCSD **LCSD** Units Analysis Flag **Parameter** Result Result Limit Date Amount %Rec Result %Rec

Chloride <5.00 250 255 102 253 101 90-110 1 20 mg/kg 05.14.17 18:49

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Seq Number: 3017230 Matrix: Soil Date Prep: 05.14.17

Parent Sample Id: 552580-041 MS Sample Id: 552580-041 S MSD Sample Id: 552580-041 SD

Parent Spike MS MS Limits %RPD RPD Units **MSD** MSD Analysis Flag **Parameter** Result Amount Result %Rec Limit Date Result %Rec Chloride 14.8 250 299 114 289 110 90-110 3 20 mg/kg 05.14.17 19:12 X

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Seq Number: 3017230 Matrix: Soil Date Prep: 05.14.17

Parent Sample Id: 552582-005 MS Sample Id: 552582-005 S MSD Sample Id: 552582-005 SD

MS RPD Parent Spike MS MSD MSD Limits %RPD Units Analysis Flag **Parameter** Result Limit Date Result Amount %Rec Result %Rec 20 mg/kg 05.14.17 20:58 Chloride 26.8 244 311 116 296 110 90-110 5 X

Analytical Method: TPH By SW8015 Mod Prep Method: TX1005P

Seq Number: 3016886 Matrix: Solid Date Prep: 05.09.17

MB Sample Id: 724310-1-BLK LCS Sample Id: 724310-1-BKS LCSD Sample Id: 724310-1-BSD

RPD LCS %RPD MB Spike LCS LCSD Limits Units Analysis **LCSD** Flag **Parameter** Limit Result Amount Result %Rec Date Result %Rec 35 05.09.17 08:07 C6-C10 Gasoline Range Hydrocarbons <15.0 1000 958 96 973 97 70-135 2 mg/kg

C10-C28 Diesel Range Hydrocarbons 983 98 70-135 4 05.09.17 08:07 1000 946 95 35 <15.0 mg/kg MB MB LCS LCS LCSD Limits Units LCSD Analysis **Surrogate** %Rec Flag %Rec Flag %Rec Flag Date 98 05.09.17 08:07 1-Chlorooctane 99 102 70-135 %

94

106

o-Terphenyl

Page 13 of 17 Final 1.000

100

70-135

%

05.09.17 08:07



QC Summary 552582

COG Operating LLC

SRO State Com #48H

Analytical Method: TPH By SW8015 Mod

Seq Number: 3016886 Matrix: Soil Date Prep: 05.09.17 MSD Sample Id: 552582-001 SD

MS Sample Id: 552582-001 S Parent Sample Id: 552582-001 Snike

RPD %RPD Units Analysis Flag

Flag

Flag

Prep Method: TX1005P

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Fl
C6-C10 Gasoline Range Hydrocarbons	<15.0	1000	970	97	959	96	70-135	1	35	mg/kg	05.09.17 09:11	
C10-C28 Diesel Range Hydrocarbons	<15.0	1000	960	96	954	96	70-135	1	35	mg/kg	05.09.17 09:11	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	97		95		70-135	%	05.09.17 09:11
o-Terphenyl	96		89		70-135	%	05.09.17 09:11

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Seq Number: 3016772 Matrix: Solid Date Prep: 05.08.17 LCS Sample Id: 724253-1-BKS LCSD Sample Id: 724253-1-BSD MB Sample Id: 724253-1-BLK

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date
Benzene	< 0.00199	0.0994	0.0954	96	0.0967	97	70-130	1	35	mg/kg	05.08.17 19:22
Toluene	< 0.00199	0.0994	0.0995	100	0.111	111	70-130	11	35	mg/kg	05.08.17 19:22
Ethylbenzene	< 0.00199	0.0994	0.0915	92	0.0937	94	71-129	2	35	mg/kg	05.08.17 19:22
m,p-Xylenes	< 0.00398	0.199	0.180	90	0.182	91	70-135	1	35	mg/kg	05.08.17 19:22
o-Xylene	< 0.00199	0.0994	0.0944	95	0.0975	98	71-133	3	35	mg/kg	05.08.17 19:22

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	119		101		104		80-120	%	05.08.17 19:22
4-Bromofluorobenzene	110		101		103		80-120	%	05.08.17 19:22

Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B

Seq Number: 3017044 Matrix: Solid Date Prep: 05.08.17 LCS Sample Id: 724323-1-BKS LCSD Sample Id: 724323-1-BSD MB Sample Id: 724323-1-BLK

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date]
Benzene	< 0.00200	0.0998	0.0942	94	0.0942	94	70-130	0	35	mg/kg	05.09.17 07:15	
Toluene	< 0.00200	0.0998	0.0964	97	0.101	101	70-130	5	35	mg/kg	05.09.17 07:15	
Ethylbenzene	< 0.00200	0.0998	0.0938	94	0.0898	90	71-129	4	35	mg/kg	05.09.17 07:15	
m,p-Xylenes	< 0.00399	0.200	0.186	93	0.186	93	70-135	0	35	mg/kg	05.09.17 07:15	
o-Xylene	< 0.00200	0.0998	0.0996	100	0.103	103	71-133	3	35	mg/kg	05.09.17 07:15	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		97		101		80-120	%	05.09.17 07:15
4-Bromofluorobenzene	92		85		106		80-120	%	05.09.17 07:15



Seq Number:

QC Summary 552582

COG Operating LLC

SRO State Com #48H

Analytical Method: BTEX by EPA 8021B 3016772

Prep Method: SW5030B Matrix: Soil Date Prep: 05.08.17

MS Sample Id: 552561-001 S Parent Sample Id: 552561-001

MSD Sample Id: 552561-001 SD RPD %RPD Units Analysis

alysis Flag ate
17 19:54
17 19:54
17 19:54 X
17 19:54 X
17 19:54 X
8.1 8.1 8.1

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	120		118		80-120	%	05.08.17 19:54
4-Bromofluorobenzene	116		112		80-120	%	05.08.17 19:54

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B Seq Number: 3017044 Matrix: Soil Date Prep: 05.08.17 Parent Sample Id: 552582-003 MS Sample Id: 552582-003 S MSD Sample Id: 552582-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	< 0.00200	0.0998	0.0725	73	0.0485	48	70-130	40	35	mg/kg	05.09.17 07:47	XF
Toluene	< 0.00200	0.0998	0.0639	64	0.0348	34	70-130	59	35	mg/kg	05.09.17 07:47	XF
Ethylbenzene	< 0.00200	0.0998	0.0539	54	0.0289	29	71-129	60	35	mg/kg	05.09.17 07:47	XF
m,p-Xylenes	< 0.00399	0.200	0.105	53	0.0505	25	70-135	70	35	mg/kg	05.09.17 07:47	XF
o-Xylene	< 0.00200	0.0998	0.0597	60	0.0353	35	71-133	51	35	mg/kg	05.09.17 07:47	XF

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	112		91		80-120	%	05.09.17 07:47
4-Bromofluorobenzene	105		95		80-120	%	05.09.17 07:47



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Phoenix, Arizona (480-355-0900)

	WWW.xenco.com	Xenco Quote # Xenco Job # 55 75 C	do co
		Analytical Information	Matrix Codes
Client / Reporting Information	Project Information		
Company Name / Branch: COG Operating LLC	Project Name/Number: SRO STATE COM #48H		W = Water
Company Address: 2407 PECOS Avenue Adesia NM 88210	Project Location:		Water 1 Water 19 Water
Email: Phone No: 575-748-1553 alieb@concho.com dneel2@concho.com rhaskell@concho.com	-1553		SW = Surface water 38 SL = Sludge III
Project Contact: Aaron Lieb	Midland TX 79701	3	WI = Wipe
Samplers's Name- Aaron Lieb		10	WW= Waste Water
	Collection Number of preserved bottles	(!ak	A = Air
No. Field ID / Point of Collection	Sample Sample # of House	0/40	Field Comments
1 North - SURF			
1	+	××××	
n			21
4 EAST - SUIP	2. R. A. 2. 2. 1	*	6 of
5 EAST - 11	1 2 310 pm (l ap
9			ed_
1 West - SURF	Suer 2120 1	× × × ×	
8 Wcst - 1"	1 2:35pm 1 (XX	
6			
10			
umaround time (business days)	Data Deliverable Information	Notes:	
Same Day TAT 5 Day TAT	Level II Std QC	data)	
Next Day EMERGENCY	Level III Std QC+ Forms TRRP Level IV		
2 Day EMERGENCY	Level 3 (CLP Forms) UST / RG -411		
3 Day EMERGENCY	TRRP Checklist		
TAT Starts Day received by Lab, if received by 5:00 pm	md 00	FED-EX / UPS: Tracking #	
Relinquished by Sampler:	CUMENTED BELOW EACH TIN	Date Time: Received Rv// .// .//	0
1 May 5 h	on sid Buther 5-5-17		7
Kelinquisned by:	Received By:	Date Time: Received By: Temp: 3	Temp: 3 · \ IRID:R-9
Relinquished by:	eceived By:	Preserved where applicable Onlice Corrected Temps	emp: 7
2	8		- 0

Notice: Notice: Signature of this occument and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subconfractors. It assigns standard terms and conditions of service. Xenco will be limited to the cost of samples and shall not analyzed will be invoiced at \$5 per sample. These terms will be invoiced to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco will be invoiced at \$5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.



XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: COG Operating LLC

Date/ Time Received: 05/05/2017 11:00:00 AM

Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient

Work Order #: 552582

Temperature Measuring device used: R9

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.1
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seal present on shipping container/ cooler?	N/A
#5 *Custody Seals intact on shipping container/ cooler?	N/A
#6 Custody Seals intact on sample bottles?	N/A
#7 *Custody Seals Signed and dated?	N/A
#8 *Chain of Custody present?	Yes
#9 Sample instructions complete on Chain of Custody?	Yes
#10 Any missing/extra samples?	No
#11 Chain of Custody signed when relinquished/ received?	Yes
#12 Chain of Custody agrees with sample label(s)?	Yes
#13 Container label(s) legible and intact?	Yes
#14 Sample matrix/ properties agree with Chain of Custody?	Yes
#15 Samples in proper container/ bottle?	Yes
#16 Samples properly preserved?	Yes
#17 Sample container(s) intact?	Yes
#18 Sufficient sample amount for indicated test(s)?	Yes
#19 All samples received within hold time?	Yes
#20 Subcontract of sample(s)?	N/A
#21 VOC samples have zero headspace?	N/A
#1 *Temperature of cooler(s)? #2 *Shipping container in good condition? #3 *Samples received on ice? #4 *Custody Seal present on shipping container/ cooler? #5 *Custody Seals intact on shipping container/ cooler? #6 Custody Seals intact on sample bottles? #7 *Custody Seals Signed and dated? #8 *Chain of Custody present? #9 Sample instructions complete on Chain of Custody? #10 Any missing/extra samples? #12 Chain of Custody agrees with sample label(s)? #13 Container label(s) legible and intact? #14 Sample matrix/ properties agree with Chain of Custody? #15 Samples in proper container/ bottle? #16 Samples properly preserved? #17 Sample container(s) intact? #18 Sufficient sample amount for indicated test(s)? #19 All samples received within hold time? #20 Subcontract of sample(s)?	
#23 > 10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	N/A
	in the refrigerator
Checklist completed by: Jessica Kramer Jessica Kramer	Date: <u>05/08/2017</u>
Checklist reviewed by: Liz Givens	Date: 05/08/2017



September 07, 2017

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: SRO STATE COM #48H

Enclosed are the results of analyses for samples received by the laboratory on 08/31/17 16:34.

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. Keene

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



Analytical Results For:

BBC International, Inc.

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

Fax To: (575) 397-0397

 Received:
 08/31/2017
 Sampling Date:
 08/25/2017

 Reported:
 09/07/2017
 Sampling Type:
 Soil

Project Name: SRO STATE COM #48H Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker

Project Location: COG - MALAGA

Sample ID: SP1 @ 1 (H702335-01)

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	09/05/2017	ND	1.93	96.6	2.00	0.458	
Toluene*	<0.050	0.050	09/05/2017	ND	1.93	96.6	2.00	0.872	
Ethylbenzene*	<0.050	0.050	09/05/2017	ND	2.06	103	2.00	0.713	
Total Xylenes*	<0.150	0.150	09/05/2017	ND	6.13	102	6.00	0.591	
Total BTEX	<0.300	0.300	09/05/2017	ND					
Surrogate: 4-Bromofluorobenzene (PID	102	% 72-148	}						
Chloride, SM4500CI-B	mg,	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	9800	16.0	09/06/2017	ND	448	112	400	3.64	
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	09/05/2017	ND	185	92.4	200	3.24	
DRO >C10-C28	<10.0	10.0	09/05/2017	ND	186	92.8	200	2.95	
EXT DRO >C28-C36	<10.0	10.0	09/05/2017	ND					
Surrogate: 1-Chlorooctane	95.3	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	94.8	% 34.7-15	7						

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Celey D. Keene



Analytical Results For:

BBC International, Inc.

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

Fax To: (575) 397-0397

Received: 08/31/2017 Sampling Date: 08/25/2017

Reported: 09/07/2017 Sampling Type: Soil

Project Name: SRO STATE COM #48H Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker

Project Location: COG - MALAGA

Sample ID: SP1 @ 3 (H702335-02)

Chloride, SM4500CI-B	mg	mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8800	16.0	09/06/2017	ND	448	112	400	3.64	
Sample ID: SP1 @ 6 (H70)	2335-03)								
Chloride, SM4500CI-B	mg	/kg	Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6100	16.0	09/06/2017	ND	448	112	400	3.64	
Sample ID: SP1 @ 9 (H70)	2335-04)								
Chloride, SM4500CI-B	mg	/kg	Analyze	Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8900	16.0	09/06/2017	ND	448	112	400	3.64	
Sample ID: SP1 @ 12 (H70	02335-05)								
Chloride, SM4500CI-B	mg	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	9800	16.0	09/06/2017	ND	448	112	400	3.64	
Sample ID: SP1 @ 16 (H70	02335-06)								
Chloride, SM4500CI-B	mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4400	16.0	09/06/2017	ND	448	112	400	3.64	

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Celeg D. Keene



BBC International, Inc.

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

Fax To: (575) 397-0397

Received: 08/31/2017 Sampling Date: 08/25/2017

Reported: 09/07/2017 Sampling Type: Soil

Project Name: SRO STATE COM #48H Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker

Project Location: COG - MALAGA

Sample ID: SP1 @ 18 (H702335-07)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5920	16.0	09/06/2017	ND	448	112	400	3.64	
Sample ID: SP2 @ 1 (H7	02335-08)								
Chloride, SM4500CI-B	mg	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	10700	16.0	09/06/2017	ND	448	112	400	3.64	
Sample ID: SP2 @ 3 (H7	02335-09)								
Chloride, SM4500CI-B	mg	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8700	16.0	09/06/2017	ND	448	112	400	3.64	
Sample ID: SP2 @ 6 (H7	02335-10)								
Chloride, SM4500CI-B	mg	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6800	16.0	09/06/2017	ND	416	104	400	3.77	QM-07
Sample ID: SP2 @ 9 (H7	02335-11)								
Chloride, SM4500CI-B	mg	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7600	16.0	09/06/2017	ND	416	104	400	3.77	

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BBC International, Inc.

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

Fax To: (575) 397-0397

Received: 08/31/2017 Sampling Date: 08/28/2017

09/06/2017

Reported: 09/07/2017 Sampling Type: Soil

Project Name: SRO STATE COM #48H Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker

Project Location: COG - MALAGA

11400

16.0

Sample ID: SP2 @ 12 (H702335-12)

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

 Analyte
 Result Reporting Limit
 Analyzed Method Blank
 BS % Recovery
 True Value QC RPD Qualifier

ND

416

104

400

3.77

Sample ID: SP2 @ 16 (H702335-13)

Chloride

Chloride, SM4500Cl-B mg/kg Analyzed By: HM Reporting Limit Analyzed BS True Value QC RPD Qualifier Analyte Result Method Blank % Recovery Chloride 2200 16.0 09/06/2017 416 400 3.77 ND 104

Sample ID: SP2 @ 18 (H702335-14)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1280	16.0	09/06/2017	ND	416	104	400	3.77	

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Celeg D. Freene



BBC International, Inc.

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

Fax To: (575) 397-0397

 Received:
 08/31/2017
 Sampling Date:
 08/28/2017

 Reported:
 09/07/2017
 Sampling Type:
 Soil

Project Name: SRO STATE COM #48H Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker

Project Location: COG - MALAGA

Sample ID: SP3 @ 1 (H702335-15)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/06/2017	ND	1.82	90.8	2.00	0.313	
Toluene*	< 0.050	0.050	09/06/2017	ND	1.83	91.3	2.00	0.0863	
Ethylbenzene*	< 0.050	0.050	09/06/2017	ND	1.94	97.0	2.00	0.633	
Total Xylenes*	< 0.150	0.150	09/06/2017	ND	5.78	96.3	6.00	0.918	
Total BTEX	<0.300	0.300	09/06/2017	ND					
Surrogate: 4-Bromofluorobenzene (PID	98.4	% 72-148	}						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	11200	16.0	09/07/2017	ND	416	104	400	3.77	
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	09/05/2017	ND	185	92.4	200	3.24	
DRO >C10-C28	<10.0	10.0	09/05/2017	ND	186	92.8	200	2.95	
EXT DRO >C28-C36	<10.0	10.0	09/05/2017	ND					
Surrogate: 1-Chlorooctane	84.2 9	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	92.4 9	% 34.7-15	7						

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Fax To: (575) 397-0397

Received: 08/31/2017 Sampling Date: 08/28/2017

Reported: 09/07/2017 Sampling Type: Soil

Project Name: SRO STATE COM #48H Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker

Project Location: COG - MALAGA

Sample ID: SP3 @ 3 (H702335-16)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	10800	16.0	09/07/2017	ND	416	104	400	3.77	
Sample ID: SP3 @ 6 (H70	02335-17)								
Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	9000	16.0	09/07/2017	ND	416	104	400	3.77	
Sample ID: SP3 @ 9 (H70	02335-18)								
Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3200	16.0	09/07/2017	ND	416	104	400	3.77	
Sample ID: SP3 @ 12 (HZ	702335-19)								
Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	656	16.0	09/07/2017	ND	416	104	400	3.77	
Sample ID: SP3 @ 16 (HZ	702335-20)								
Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	400	16.0	09/07/2017	ND	416	104	400	3.77	

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

Fax To: (575) 397-0397

Received: 08/31/2017 Sampling Date: 08/28/2017

Reported: 09/07/2017 Sampling Type: Soil

Project Name: SRO STATE COM #48H Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker

Project Location: COG - MALAGA

Sample ID: SP3 @ 18 (H702335-21)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	368	16.0	09/07/2017	ND	416	104	400	3.77	
Sample ID: SP4 @ 1 (H7	(02335-22)								
Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	38400	16.0	09/07/2017	ND	416	104	400	3.77	
Sample ID: SP4 @ 3 (H7	(02335-23)								
Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1570	16.0	09/07/2017	ND	416	104	400	3.77	
Sample ID: SP4 @ 6 (H7	(02335-24)								
Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7300	16.0	09/07/2017	ND	416	104	400	3.77	
Sample ID: SP4 @ 9 (H7	(02335-25)								
Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8300	16.0	09/07/2017	ND	416	104	400	3.77	

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

Fax To: (575) 397-0397

Received: 08/31/2017 Sampling Date: 08/28/2017

Reported: 09/07/2017 Sampling Type: Soil

Project Name: SRO STATE COM #48H Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker

Project Location: COG - MALAGA

Sample ID: SP4 @ 12 (H702335-26)

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

Analyte Result Reporting Limit Analyzed Method Blank BS % Recovery True Value QC RPD Qualifier

Chloride 6200 16.0 09/07/2017 ND 416 104 400 3.77

Sample ID: SP4 @ 16 (H702335-27)

Chloride, SM4500Cl-B mg/kg Analyzed By: AC Reporting Limit Analyzed BS True Value QC RPD Analyte Result Method Blank % Recovery Qualifier Chloride 5300 16.0 09/07/2017 416 400 3.77 ND 104

Sample ID: SP4 @ 18 (H702335-28)

Chloride, SM4500Cl-B mg/kg Analyzed By: AC Analyte Result Reporting Limit Analyzed Method Blank BS % Recovery True Value QC RPD Qualifier Chloride 4100 09/07/2017 ND 400 16.0 416 104 3.77

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Fax To: (575) 397-0397

Received: 08/31/2017 Sampling Date: 08/28/2017

Reported: 09/07/2017 Sampling Type: Soil

Project Name: SRO STATE COM #48H Sampling Condition: Cool & Intact Project Number: Sample Received By: NONE GIVEN Tamara Oldaker

Project Location: COG - MALAGA

Sample ID: SP5 @ 1 (H702335-29)

BTEX 8021B	mg/	kg	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/06/2017	ND	1.82	90.8	2.00	0.313	
Toluene*	<0.050	0.050	09/06/2017	ND	1.83	91.3	2.00	0.0863	
Ethylbenzene*	<0.050	0.050	09/06/2017	ND	1.94	97.0	2.00	0.633	
Total Xylenes*	<0.150	0.150	09/06/2017	ND	5.78	96.3	6.00	0.918	
Total BTEX	<0.300	0.300	09/06/2017	ND					
Surrogate: 4-Bromofluorobenzene (PID	98.5	% 72-148	}						
Chloride, SM4500Cl-B	mg/	kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	34800	16.0	09/07/2017	ND	416	104	400	3.77	
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	09/05/2017	ND	185	92.4	200	3.24	
DRO >C10-C28	11.8	10.0	09/05/2017	ND	186	92.8	200	2.95	
EXT DRO >C28-C36	<10.0	10.0	09/05/2017	ND					
Surrogate: 1-Chlorooctane	92.6	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	98 5	% 34 7-15	7						

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Fax To: (575) 397-0397

Received: 08/31/2017 Sampling Date: 08/28/2017

Reported: 09/07/2017 Sampling Type: Soil

Project Name: SRO STATE COM #48H Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker

Project Location: COG - MALAGA

Sample ID: SP5 @ 3 (H702335-30)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1840	16.0	09/07/2017	ND	416	104	400	3.77	
Sample ID: SP5 @ 6 (H70)2335-31)								
Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	7000	16.0	09/07/2017	ND	416	104	400	3.77	
Sample ID: SP5 @ 9 (H70)2335-32)								
Chloride, SM4500Cl-B	mg	/kg	Analyze	ed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8000	16.0	09/07/2017	ND	416	104	400	3.77	
Sample ID: SP5 @ 12 (H7	702335-33)								
Chloride, SM4500Cl-B	mg	/kg	Analyze	ed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	6400	16.0	09/07/2017	ND	416	104	400	3.77	
Sample ID: SP5 @ 16 (HZ	702335-34)								
Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5900	16.0	09/07/2017	ND	416	104	400	3.77	

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BBC International, Inc.

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

Fax To: (575) 397-0397

Received: 08/31/2017 Sampling Date: 08/28/2017

Reported: 09/07/2017 Sampling Type: Soil

Project Name: SRO STATE COM #48H Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker

Project Location: COG - MALAGA

Sample ID: SP5 @ 18 (H702335-35)

Chioride, SM4500CI-B	mg/	кд	Analyze	а ву: АС					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5500	16.0	09/07/2017	ND	416	104	400	3.77	

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BBC International, Inc.

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

Fax To: (575) 397-0397

Received: 08/31/2017 Sampling Date: 08/28/2017

Reported: 09/07/2017 Sampling Type: Soil

Project Name: SRO STATE COM #48H Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker

Project Location: COG - MALAGA

Sample ID: SOUTH @ SURFACE (H702335-36)

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	09/06/2017	ND	1.82	90.8	2.00	0.313	
Toluene*	<0.050	0.050	09/06/2017	ND	1.83	91.3	2.00	0.0863	
Ethylbenzene*	<0.050	0.050	09/06/2017	ND	1.94	97.0	2.00	0.633	
Total Xylenes*	<0.150	0.150	09/06/2017	ND	5.78	96.3	6.00	0.918	
Total BTEX	<0.300	0.300	09/06/2017	ND					
Surrogate: 4-Bromofluorobenzene (PID	99.2	% 72-148	}						
Chloride, SM4500CI-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	09/07/2017	ND	416	104	400	3.77	
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	09/05/2017	ND	185	92.4	200	3.24	
DRO >C10-C28	<10.0	10.0	09/05/2017	ND	186	92.8	200	2.95	
EXT DRO >C28-C36	<10.0	10.0	09/05/2017	ND					
Surrogate: 1-Chlorooctane	91.5	% 28.3-16	4						
Surrogate: 1-Chlorooctadecane	92.8	% 34.7-15	7						

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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

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

company Name: BB	company Name: BBC International, Inc.				B	BILL TO		ANALYSIS KE	REGUESI	T
roject Manager: Cliff Brunson	ff Brunson			P.C	P.O. #:					
Address: P.O. Box 805	805			ဝိ	Company:	700				
Sity: Hobbs	State: NM	Zip: 88241	41	Attu:	n:		/-			
hone #: 575-397-6388	Fax #:	575-397-0397		Ad	Address:		20)			
roject #:	Project Owner:	C. C.O.	5	City:	.: X:)			
Project Name: SR	O Stote Com	484		Sts	State:	Zip:	V J			
Project Location:	202/21/			A.	Phone #:		7			
Sampler Name:	100			Fa	Fax #:		1			
Sample rame	2		MATRIX		PRESERV.	/ SAMPLING	7			
Lab I.D.	Sample I.D.	S)RAB OR (C)OMP. CONTAINERS SEQUINDMATER	MASTEWATER JOIL JIC	STHER:	CE / COOL	DATE	8 HJ.L			
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☐ Yes ☐ No Add'l Phone #: Phone Result: Fax Result: REMARKS: CHECKED BY: (Initials) Sample Condition Cool Intact
Ves 7 Yes -2.35°C -2.6. Time: Date: Sampler - UPS - Bus - Other: Delivered By: (Circle One) Relinquished By:

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

Corrected 1,28°C

ES	88240	2476
200	Z	202
ARDINAL LABORATORIES	101 East Marland, Hobbs, NM 88240	1201 202 220 EAY (EAS) 202-2476
1	1	

Name DDC International Inc	International Inc		BILL TO	70	ANALYSIS REQUES!
ollipany rame: DDC	Illeriational, inc.		.# 00		
roject Manager: Cliff Brunson	Brunson		F.O. #:		
ddress: P.O. Box 805	05		Company:	50	
ity: Hobbs	State: NM	Zip: 88241	Attn:		
hone #: 575-397-6388	_	397-0397	Address:		
project #:		しのひ	City:	0	
Project Name:	o St. to Com it	# 4ºH	State: Zip:	× 2	
<i>[</i>	12/21	,	Phone #:	1	
	1 of		Fax #:		
sampler Name:	0.	MATRIX	PRESERV	SAMPLING	
FOR LAB USE ONLY		A3TA A31	;	8 Ha	
Lab I.D.	Sample I.D.	MUDU TEWAT	HEB: \ COOF D\BYSE HEB: DGE	Z	
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PEASE NOTE: Liability and Damagas. Cardnut'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 clause whatboever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall caudinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its substitutives.

In other such claim is based upon any of the above stated reasons or differenties affiliates or successors arising out of or related to the performance of services hereunder by claiming, regardless of whether such claim is based upon any of the above stated reasons or differenties.

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

Corrected +.25°C

ARDINAL LABORATORIES
101 East Marland, Hobbs, NM 88240

(5	(505) 393-2326 FAX (505) 393-2476	94									3									1	1	1	3	9	٥	5	TOTOLIECT	ļ,				_
Company Name:	Company Name: BBC International, Inc.									7	311	BILL TO	0		İ			1	ŀ	1	AN I	ANALTSIS	2	2	4	計	Ú	5	-	1	1	
Project Manager: Cliff Brunson	Cliff Brunson							ď.	P.O. #:									-								_					_	
Address: P.O. Box 805	30x 805							ŭ	duic	Company:						10																
Sity: Hobbs	State: NM	Zip:	2550	88241	41			¥	Attn:							1	10		_												_	
phone #: 575-397-6388	_	5-397	-03	397				ď	Address:	SS:							1	-,														
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PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim analog whether based in contract or tort, shall be limited to the adjount paid by the client for the amongs. Any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In order that can be liable for incidental dramages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subdiciaries, anilases or successors shrings and or or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

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

Corrected 1.25°C

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

Company Name: BBC International, Inc.	International, Inc.	BILL TO	ANALYSIS REQUEST	_
Project Manager: Cliff Brunson	f Brunson	P.O. #:		_
Address: P.O. Box 805	305	Company:		_
city: Hobbs	State: NM Zip: 88241	Attn:	10)	
Phone #: 575-397-6388	_	Address:		
Project #:	Project Owner:	City:	12/	_
Project Name: SK	20 State Can 40H	State: Zip:	7	_
Project Location:	Malesz	Phone #:		_
Sampler Name:	1/2	Fax#:	7	_
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PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim ansing whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed walved unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, is submitted.

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nce of services hereunder by Cardinal, regardless of wh	12/2/ Vacan	Time: 4.34	Date: Received By:	Time:	21°.C/	7-235.0
affiliates or successors arising out of or related to the performa	Relinquished By:	1/44 (Jun.)	Relinquished By:		Delivered By: (Circle One)	Sampler - UPS - Bus - Other:

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

Corrected +.85°C



October 19, 2017

Cliff Brunson

BBC International, Inc.

P.O. Box 805

Hobbs, NM 88241

RE: SRO STATE COM #48H

Enclosed are the results of analyses for samples received by the laboratory on 10/13/17 13:33.

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. Keene

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:
 10/13/2017
 Sampling Date:
 10/10/2017

 Reported:
 10/19/2017
 Sampling Type:
 Soil

Project Name: SRO STATE COM #48H Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker

Project Location: COG - MALAGA, EDDY CO NM

Sample ID: SB1 @ 20 (H702780-01)

Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	304	16.0	10/17/2017	ND	416	104	400	3.77	
Sample ID: SB1 @ 25 (H7	02780-02)								
Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	10/17/2017	ND	416	104	400	3.77	
Sample ID: SB1 @ 30 (H7	02780-03)								
Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	10/17/2017	ND	416	104	400	3.77	
Sample ID: SB1 @ 35 (H7	02780-04)								
Chloride, SM4500CI-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier

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: 10/13/2017 Sampling Date: 10/10/2017

Reported: 10/19/2017 Sampling Type: Soil

Project Name: SRO STATE COM #48H Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker

Project Location: COG - MALAGA, EDDY CO NM

Sample ID: SB2 @ 20 (H702780-05)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4320	16.0	10/17/2017	ND	416	104	400	3.77	
Sample ID: SB2 @ 25 (HZ	702780-06)								
Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	10/17/2017	ND	416	104	400	3.77	
Sample ID: SB2 @ 30 (HZ Chloride, SM4500Cl-B	•	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	10/17/2017	ND	416	104	400	3.77	
Sample ID: SB2 @ 35 (H	702780-08)								
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	10/17/2017	ND	416	104	400	3.77	
Sample ID: SB3 @ 20 (H7	702780-09)								
Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	8260	16.0	10/17/2017	ND	416	104	400	3.77	

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: 10/13/2017 Sampling Date: 10/10/2017

Reported: 10/19/2017 Sampling Type: Soil

Project Name: SRO STATE COM #48H Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker

Project Location: COG - MALAGA, EDDY CO NM

Sample ID: SB3 @ 25 (H702780-10)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	10/17/2017	ND	416	104	400	3.77	
Sample ID: SB3 @ 30 (HZ	702780-11)								
Chloride, SM4500Cl-B	mg	/kg	Analyze	ed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	10/18/2017	ND	416	104	400	3.77	
Sample ID: SB3 @ 35 (HZ	-	/kg	Analyze	ed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	10/18/2017	ND	416	104	400	3.77	
Sample ID: SB4 @ 20 (H	702780-13)								
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	10/18/2017	ND	416	104	400	3.77	
Sample ID: SB4 @ 25 (HZ	702780-14)								
Chloride, SM4500Cl-B	-	/kg	Analyze	ed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	10/18/2017	ND	416	104	400	3.77	

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Celeg & Keene



BBC International, Inc.

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

Fax To: (575) 397-0397

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

Reported: 10/19/2017 Sampling Type: Soil

Project Name: SRO STATE COM #48H Sampling Condition: Cool & Intact
Project Number: NONE GIVEN Sample Received By: Tamara Oldaker

Project Location: COG - MALAGA, EDDY CO NM

Sample ID: SB4 @ 30 (H702780-15)

Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	10/18/2017	ND	416	104	400	3.77	
Sample ID: SB5 @ 20 (H7	702780-16)								
Chloride, SM4500Cl-B	mg	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	352	16.0	10/18/2017	ND	432	108	400	3.64	
Sample ID: SB5 @ 25 (H7 Chloride, SM4500Cl-B	•	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	10/18/2017	ND	432	108	400	3.64	
Sample ID: SB5 @ 30 (H7	702780-18)								
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	10/18/2017	ND	432	108	400	3.64	
Sample ID: SB5 @ 35 (H7	702780-19)								
Chloride, SM4500Cl-B	-	/kg	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	10/18/2017	ND	432	108	400	3.64	

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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

ecovery.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

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

*** Insufficient time to reach temperature.

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

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

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(505) 393-2326	(505) 393-2326 FAX (505) 393-2476	BILL TO	ANALYSIS REQUEST
ompany Name: BBC International, Inc.	ional, Inc.	P.O.#:	
roject Manager: Cliff Brunson			
Address: P.O. Box 805		Company	
sity. Hobbs	State: NM Zip: 88241	Attn:	
Phone #: 575-397-6388		Address: /p	
Project #:	Project Owner: CO G		
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Sampler - UPS - Bus - Other:	r. / 35.c Fres	No No No	
† Cardinal cannot accept	† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476	n changes to 505-393-2476	

Corrected +.25°C

(505) 393-2326 FAX (505) 393-2476					TODIO DECLIECT
Company Name: BBC International, Inc.			BILL TO		ANALISIS NEGOESI
Project Manager: Cliff Brunson		P.O. #:		_	
Address: P.O. Box 805		Company:			
City: Hobbs State: NM Zip:	88241	Attn:	CI.		
-397-6388	7-0397	Address:	20		
Project #: CO	S	City:	5		
Project Name: < RC State Cum # 48 H		State:	Zip:		
Project ocation: Cold J Const. Lu		Phone #:			
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	MATRIX	PRESERV.	SAMPLING		
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one Result:	□ Yes □ No	REMARKS:				
such claim is based upon any of the above stated reasons	Fa	Amen It.	11/1/1/1/	249 LUNDON	Sample Condition CHECKED BY: Cool Intact (Initials)	No No TO #25
of services hereunder by Cardinal, regardless of whether	Date: Received By:	Time:	Date: Received By:	Time: 22	Sample	1.35°C
affiliates or expossions arising out of or related to the performance of	Relifiquished By:	111 000	Retinquished By:	To live to	Delivered By: (Circle One)	Sampler - UPS - Bus - Other:

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

#75 Corrected +. 25°C

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

NM OIL CONSERVATION State of New Mexico Energy Minerals and Natural Resources

ARTESIA DISTRICT

Form C-141 Revised August 8, 2011

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

APR 2 4 2017
Submit I Copy to appropriate District Office in accordance with 19.15.29 NMAC.

RECEIVED

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Name of Companiy: COG Operating LLC OGRID# (229137) Contact: Robert McNeill Address: Gol West Illinois Avenue, Midland TX 79701 Telephone No. 432-683-7443 Facility Name: SRO STATE COM #48H Facility Type: Tank Battery Surface Owner: State Mineral Owner: API No. 30-015-41779 LOCATION OF RELEASE Unit Letter Section Township Range Feet from the North/South Line Feet from the East/West Line County Page 190 North South Line Feet from the East Eddy Latitude 32.063797 Longitude 104.1248322 NATURE OF RELEASE Type of Release: Produced Water Volume of Release: Volume Recovered: 40bbls Source of Release: 4" Plotline Date and Hour of Occurrence: Obels May Introduced Water Source of Release: 14" Plotline Peet May 191 North South Line Feet from the East Meet Obbls Source of Release: Produced Water Source of Release: 14" Plotline Produced Water Source of Release: 15" North South Line Feet from the East West Line Eddy Was Immediate Notice Given? Date and Hour of Occurrence: Obbls Source of Release: 14" Plotline Produced Water Source of Release: 15" North South Line Feet from the East West Line Eddy Was a Watercourse Reached? Yes No Not Required Produced Water Source of Release: 15" North South Line Feet from the East West Line Eddy North South Line Feet from the East West Line Eddy North South Line Feet from the East West Line Eddy Volume Recovered: 40bbls Was a Watercourse Reached? Yes No Not Required Produced Water Source of Release: 17" North South Head of Occurrence: Obbls Source of Release: 17" North South Release Source of Problem and Remedial Action Taken.* This release of Problem and Remedial Action Taken.* This release occurred in the pasture and affected an area of 50" x 100". Concho will have the spill site sampled to delineate any possible contamination the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation work. I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant t													
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Signature: Printed Name: Robert Grubbs Jr. Approved by Environmental Specialist: Title: Senior HSE Coordinator Approval Date: A 25 17 Expiration Date: N A	regulations al public health should their o or the environ	operators are required or the environment. The perations have failed to ment. In addition, NM	to report and ne acceptance adequately IOCD accep	d/or file certain re e of a C-141 repo investigate and re	elease n ort by th emediat	notifications a te NMOCD mate contamination	nd perform correct tarked as "Final Rich that pose a thi	ctive action teport" doe reat to grou	s for release s not relieve and water, su	s which the ope rface wa	may en rator of ater, hu	ndanger Tliability man health	
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April 22, 2017 * Attach Additional Sheets If Necessary 432-683-7443

2RP-4182

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 4/24/17 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number <u>329-4183</u> 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 II office in Artesia on or before 5/24/17. 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

Weaver, Crystal, EMNRD

From: Robert Grubbs <RGrubbs@concho.com>

Sent: Saturday, April 22, 2017 8:54 AM

To: Bratcher, Mike, EMNRD; Weaver, Crystal, EMNRD; 'agroves@slo.state.nm.us'

Subject: (immediate Notification & Initial C-141) SRO State Com #048 4/21/17 (30-015-41779)

Attachments: SRO State Com #48 (FL) Initial.pdf

MR. BRATCHER / MS. GROVES,

ATTACHED IS AN IMMEDIATE NOTIFICATION & C-141 FOR YOUR CONSIDERATION. IF YOU HAVE ANY ADDITIONAL QUESTIONS PLEASE FEEL FREE TO CONTACT ME.

THANK YOU,

ROBERT GRUBBS JR.
SR. HSE COORDINATOR
432.683.7443 (MAIN)
432.818.2369 (DIRECT)
432.661.6601 (CELL)
432.221.0892 (FAX)
RGRUBBS@CONCHO.COM
MAILING ADDRESS:
ONE CONCHO CENTER
600 W. ILLINOIS AVENUE
MIDLAND, TEXAS 79701

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