



**REMEDICATION SUMMARY AND
SOIL CLOSURE REQUEST**

**COG Operating, LLC
Loco Hills SWD 33 #004
Eddy County, New Mexico
Unit Letter "P", Section 33, Township 17 South, Range 30 East, NMPM
Latitude 32.7860756° North, Longitude 103.9705276° West
NMOCD Reference No. 2RP-4359**

Prepared For:

**COG Operating, LLC
600 W Illinois Avenue
Midland, Texas 79701**

Prepared By:

**TRC Environmental Corporation
2057 Commerce
Midland, Texas 79703**

November 2017

A handwritten signature in blue ink that reads "Nikki Green". The signature is written in a cursive style with a horizontal line underneath.

Nikki Green
Project Manager

A handwritten signature in blue ink that reads "Joel Lowry". The signature is written in a cursive style with a horizontal line underneath.

Joel Lowry
Project Manager

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INTRODUCTION

TRC Environmental Corporation (TRC), on behalf of COG Operating, LLC (COG), has prepared this *Remediation Summary and Soil Closure Request* for the Site known as Loco Hills SWD 33 #004. The legal description of the Release Site is Unit Letter “P”, Section 33, Township 17 South, Range 30 East, in Eddy County, New Mexico. The subject property is administered by the United States Bureau of Land Management (BLM). The GPS coordinates for the site are N 32.7860756° W 103.9705276°. A “Site Location Map” and “Site & Sample Location Map” are provided as Figure 1 and Figure 2, respectively.

On August 21, 2017, COG discovered a crude oil and produced water release had occurred due to a lightning strike. The release was contained on the location within the lined secondary containment. The release affected an area measuring approximately 12,512 square feet. On August 21, 2017, a COG representative notified the New Mexico Oil Conservation Division (NMOCD) and BLM of the release. On August 23, 2017, a Release Notification and Corrective Action (Form C-141) was submitted to the NMOCD. During initial response activities, a vacuum truck was dispatched to remove all freestanding fluids. Approximately seven hundred (700) barrels of fluid was released, with approximately six hundred eighty five (685) barrels recovered. A copy of the NMOCD Form C-141 is provided as Appendix D. General photographs of the site are provided as Appendix B.

NMOCD SITE CLASSIFICATION

A groundwater database maintained by The New Mexico Office of the State Engineer (NMOSE) did not identify any registered water wells in Section 33, Township 17 South, Range 30 East. A reference map utilized by the NMOCD Carlsbad District Office indicates groundwater should be encountered at approximately two hundred fifty (250) feet below ground surface (bgs). Based on the NMOCD site classification system, zero (0) points will be assigned to the subject area ranking as a result of this criterion.

No water wells were observed within one-thousand (1,000) feet of the Release Site. Based on the NMOCD site classification system, zero (0) points will be assigned to the subject area ranking as a result of this criterion.

No surface water was observed within one-thousand (1,000) feet of the release. Based on the NMOCD site classification system, zero (0) points will be assigned to the subject area ranking as a result of this criterion.

The NMOCD guidelines indicate the Loco Hills SWD 33 #004 Release Site has a ranking score of zero (0). Soil remediation levels for a site with a ranking score of zero (0) points are as follows:

- Benzene – 10 mg/kg (ppm)
- Benzene, toluene, ethylbenzene, and xylenes (BTEX) – 50 mg/kg (ppm)
- Total Petroleum Hydrocarbons (TPH) – 5,000 mg/kg (ppm)
- Chloride – 1,000 mg/kg (ppm) with delineation to 600 mg/Kg

INITIAL INVESTIGATION AND PROPOSED REMEDIATION WORKPLAN

On September 7, 2017, a COG Representative conducted an initial investigation at the site. During the initial investigation, twenty-seven (27) soil samples from a series of test trenches (T1 through T6) were advanced within the affected area. (See Figure 2 and Table 1 for sample locations and a summary of laboratory analytical results). The soil samples were submitted to Xenco Laboratories in Midland, Texas for determination of concentrations of BTEX using Method SW 846-8021B, TPH using Method SW 846-8015M, and chloride using Method 300/300.1. The analytical results indicated benzene concentrations were less than the applicable laboratory Method Detection Limit (MDL) for all the submitted soil samples with the exception of soil samples T6-SURF (0.00532 mg/kg) and T6-1' (0.00523 mg/kg). Analytical results indicated BTEX concentrations were less than the applicable laboratory MDL for all the submitted soil samples, with the exception of soil samples T2-SURF (0.4782 mg/kg), T5-SURF (0.03039 mg/kg), T6-SURF (1.53932 mg/kg), T6-1' (0.03689 mg/kg), and T6-3' (0.00251 mg/kg). A review of laboratory analytical results indicated benzene and BTEX concentrations were below NMOCD regulatory guidelines. The laboratory results indicated TPH concentrations were less than the applicable laboratory MDL for all submitted soil samples, with the exception of soil samples T2-SURF (2,877 mg/kg), T3-SURF (111.3 mg/kg), T5-SURF (265.7 mg/kg) and T6-SURF (1,780 mg/kg). A review of laboratory analytical results indicated TPH concentrations were below NMOCD regulatory guidelines. The laboratory analytical results indicated chloride concentrations ranged from 24.4 mg/kg for soil sample T3-7' to 12,000 mg/kg for soil sample T6-SURF. A review of laboratory analytical results indicated chloride concentrations were above NMOCD regulatory guidelines for soil samples T1-SURF (1,500 mg/kg), T1-1' (1,240 mg/kg), T2-SURF (3,050 mg/kg), T3-SURF (5,640 mg/kg), T4-SURF (940 mg/kg), T5-SURF (5,120 mg/kg), T6-SURF (12,000 mg/kg), and T6-1' (8,590 mg/kg).

In addition, a COG Representative collected eight (8) delineation soil samples (North-SURF, North-1', South-SURF, South-1', East-SURF, East-1', West-SURF, and West-1') from the four cardinal directions outside the perimeter of the visibly impacted area to horizontally delineate the release. The soil samples were submitted to the laboratory for BTEX, TPH, and chloride analysis. Laboratory analytical results indicated benzene, BTEX, and TPH concentrations for all the submitted soil samples were less than the applicable laboratory MDL, with the exception of soil sample East-SURF, which exhibited a TPH concentration of 95.6 mg/kg. Laboratory analytical results indicated chloride concentrations ranged from 20.8 mg/kg for soil sample West-SURF to 182 mg/kg for soil sample North-SURF. A review of laboratory analytical results indicated benzene, BTEX, TPH, and chloride concentrations for the submitted soil samples were below NMOCD regulatory guidelines.

On September 25, 2017, TRC submitted a *Soil Remediation Summary and Proposed Remediation Workplan (Workplan)*, to the NMOCD and BLM on behalf of COG, designed to advance the site toward an approved closure. The *Workplan* proposed excavating affected areas represented by test trenches T2, T3, T4 and T5 to approximately six (6) inches bgs. Affected areas represented by test trenches T1 and T6 would be excavated to approximately one and one half (1.5) feet bgs. Following excavation activities, the excavation will be backfilled with non-impacted locally obtained "like" soil and the excavated impacted soil will be transported under manifest to an NMOCD approved disposal facility. The *Workplan* was subsequently approved by the NMOCD and BLM.

SUMMARY OF SOIL REMEDIATION ACTIVITIES

On October 4, 2017, remediation activities commenced at the release site. As per the approved *Workplan*, affected areas represented by test trenches T2, T3, T4 and T5 were excavated to approximately six (6) inches bgs. Affected areas represented by test trenches T1 and T6 were excavated to approximately one and one half (1.5) feet bgs.

Upon excavating affected areas within the release margins, the excavated area was backfilled with non-impacted “like” material. Excavation backfill was compacted, water-packed and rolled to meet the needs of the production pad.

Between October 10 and 12, 2017, approximately seven hundred and ninety-two (792) cubic yards (cy) of impacted soil was transported to an NMOCD-permitted disposal facility. Disposal documentation is provided as Appendix C.

SITE CLOSURE REQUEST

Remediation activities were conducted in accordance with the NMOCD- and BLM-approved *Workplan*. Based on laboratory analytical results from soil samples collected during the initial investigation, impacted soil affected above NMOCD regulatory guidelines was excavated and transported to and NMOCD-permitted disposal facility. Upon excavating impacted soil from within the release margins, the excavated area was backfilled and compacted. Based on laboratory analytical results and field activities conducted to date, TRC recommends COG provide copies of this *Remediation Summary and Soil Closure Request* to the NMOCD and BLM and request closure status to the Loco Hills SWD 33 #004 Site.

LIMITATIONS

TRC has prepared this *Remediation Summary and Soil Closure Request* to the best of its ability. No other warranty, expressed or implied, is made or intended.

TRC has examined and relied upon documents referenced in the report and has relied on oral statements made by certain individuals. TRC has not conducted an independent examination of the facts contained in referenced materials and statements. We have presumed the genuineness of the documents and that the information provided in documents or statements is true and accurate. TRC has prepared this report, in a professional manner, using the degree of skill and care exercised by similar environmental consultants. TRC also notes that the facts and conditions referenced in this report may change over time and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

This report has been prepared for the benefit of COG Operating, LLC. The information contained in this report, including all exhibits and attachments, may not be used by any other party without the express consent of TRC and/or COG Operating, LLC.

DISTRIBUTION

- Copy 1: Mike Bratcher
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division, District 2
811 S. First Street
Artesia, NM 88210
- Copy 2: Shelly Tucker
Carlsbad Field Office
United States Department of the Interior
Bureau of Land Management
620 E. Greene Street
Carlsbad, New Mexico 88220
- Copy 3: Rebecca Haskell
COG Operating, LLC
600 W. Illinois Avenue
Midland, Texas 79701
- Copy 4: TRC Environmental Corporation
2057 Commerce Street
Midland, Texas 79703

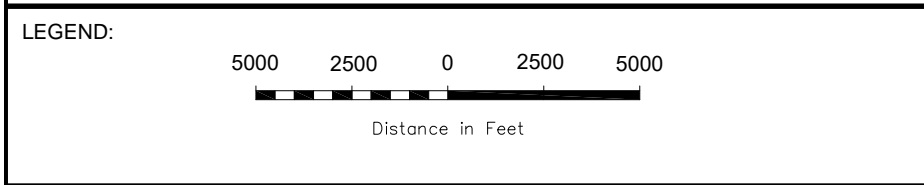
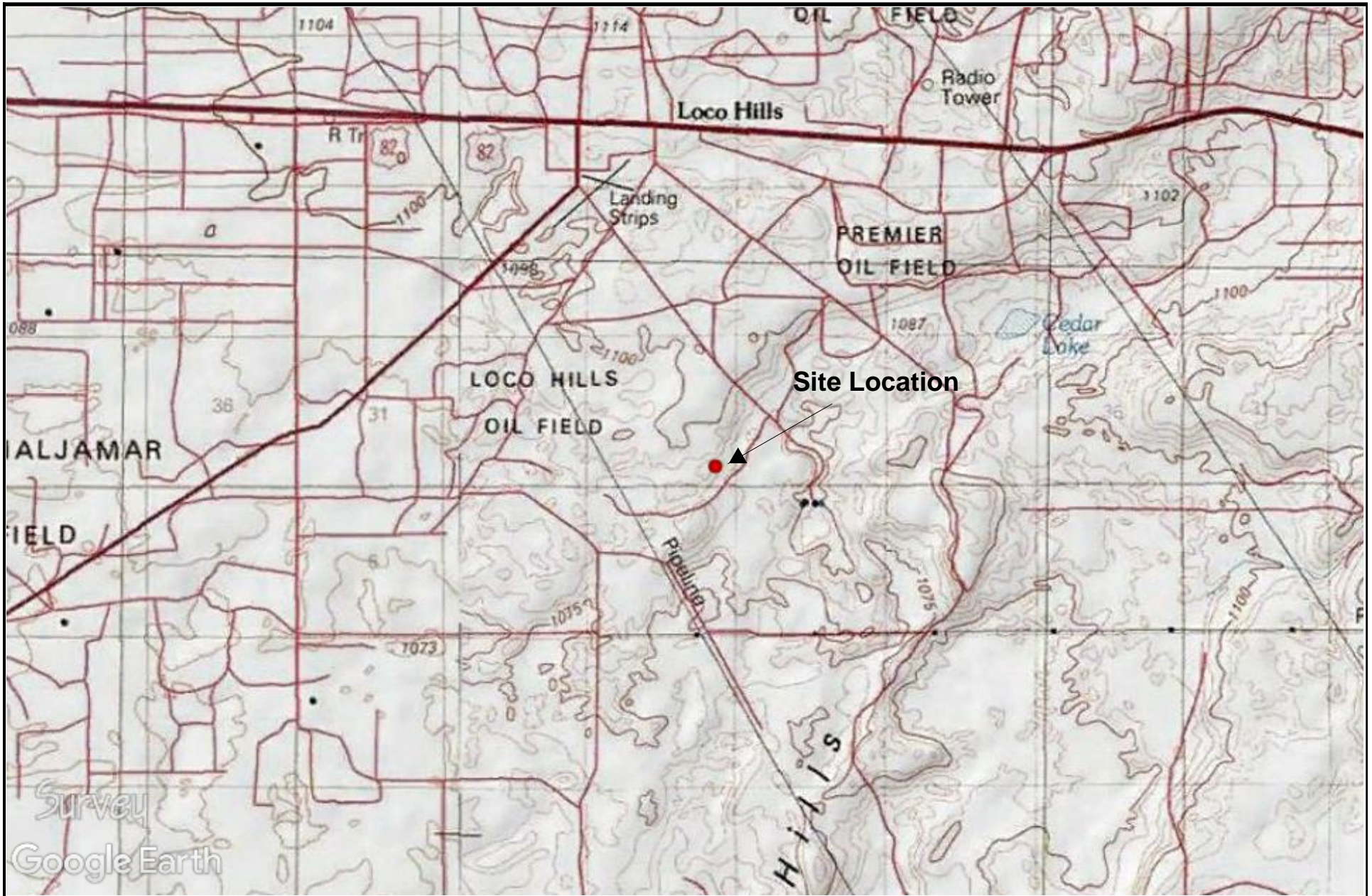
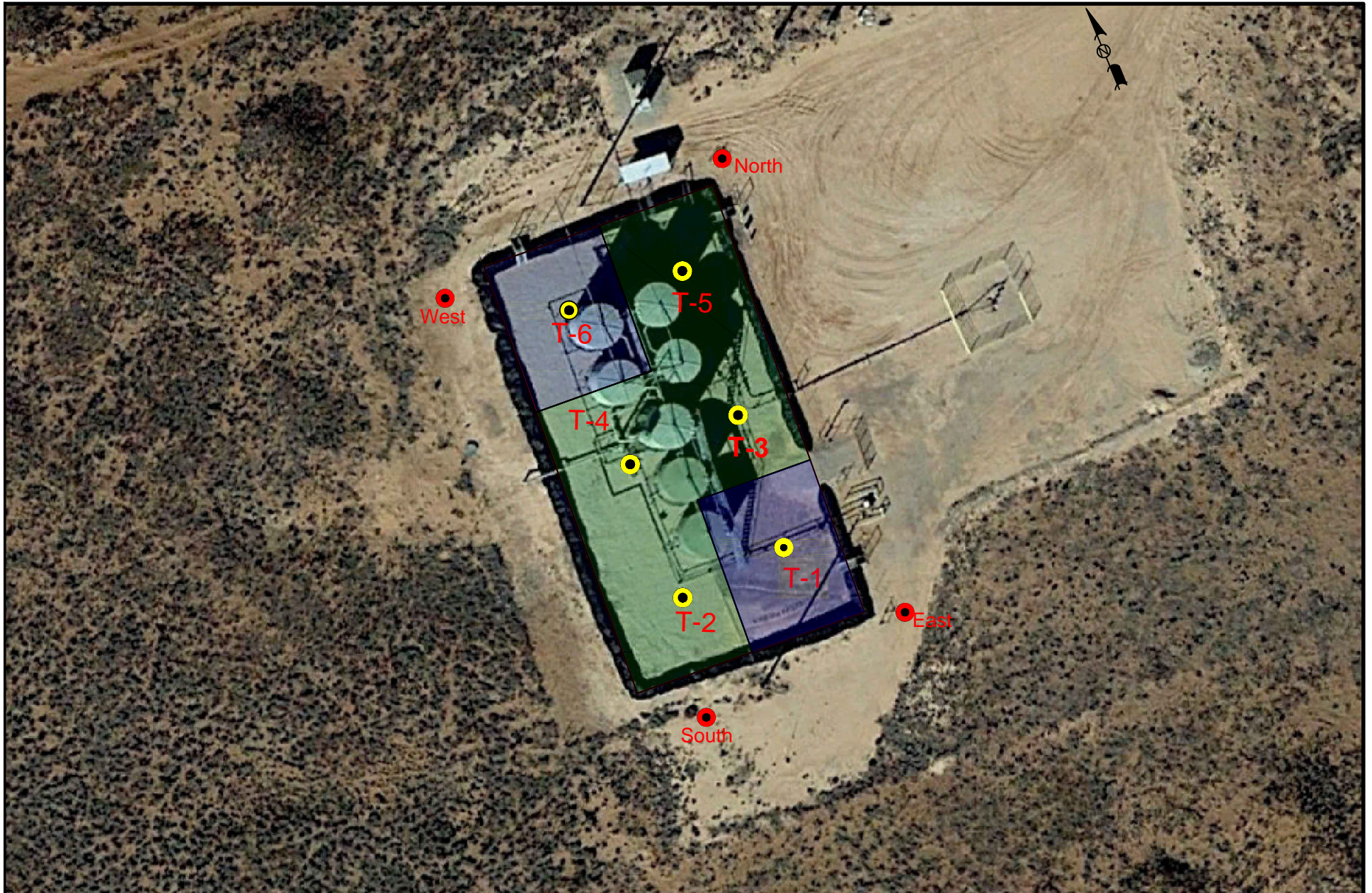


Figure 1
 Site Location Map
 COG Operating, LLC
 Loco Hills SWD 33 #004
 Eddy County, NM

Scale 1" = 5,000'	
Drafted By: JL	Checked By: CS
Draft: November 1, 2017	
Lat. N 32.78607 Long. W103.97052	
UL "P" Sec. 33 T17S R30E	
TRC Project No.: 287411	

2057 Commerce Drive
 Midland, Texas 79703
 432.520.7720



LEGEND:
■ Excavate To 1.5' BGS
■ Excavate To 6\" BGS

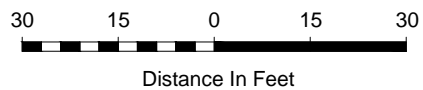


Figure 2
 Site & Sample Location Map
 Loco Hills SWD 33 #004
 COG Operating, LLC
 Eddy County, New Mexico

Scale: 1" = 30'
CAD By: JH
Checked By: NG
Draft: September 22, 2017
Lat. N 32.7860756°, Long. W 103.9705276°
TRC Proj. No. 287411



2057 Commerce Drive
 Midland, Texas 79703
 432.520.7720

TABLE 1

CONCENTRATIONS OF BENZENE, BTEX, TPH AND CHLORIDE IN SOIL

COG OPERATING, LLC
 LOCO HILLS SWD 33 #004
 EDDY COUNTY, NEW MEXICO

All concentrations are reported in mg/kg

SAMPLE LOCATION	SAMPLE DATE	SOIL STATUS	METHODS: SW 846-8021b						METHOD: SW 8015M				E 300.1 CHLORIDE
			BENZENE	TOLUENE	ETHYL-BENZENE	m, p - XYLENES	o - XYLENE	TOTAL BTEX	TPH GRO C ₆ -C ₁₀	TPH DRO C ₁₀ -C ₂₈	TPH ORO C ₂₈ -C ₃₅	TOTAL TPH C ₆ -C ₃₅	
T1-SURF	09/07/17	Excavated	<0.00353	<0.00353	<0.00353	<0.00707	<0.00353	<0.00707	<15.0	<15.0	<15.0	<15.0	1,500
T1-1'	09/07/17	Excavated	<0.00198	<0.00198	<0.00198	<0.00396	<0.00198	<0.00396	<15.0	<15.0	<15.0	<15.0	1,240
T1-2'	09/07/17	In-Situ	<0.00346	<0.00346	<0.00346	<0.00692	<0.00346	<0.00692	<15.0	<15.0	<15.0	<15.0	559
T1-3'	09/07/17	In-Situ	<0.00200	<0.00200	<0.00200	<0.00401	<0.00200	<0.00401	<15.0	<15.0	<15.0	<15.0	173
T1-8'	09/07/17	In-Situ	<0.00344	<0.00344	<0.00344	<0.00687	<0.00344	<0.00687	<15.0	<15.0	<15.0	<15.0	178
T2-SURF	09/07/17	Excavated	<0.00199	0.0975	0.0194	0.300	0.0613	0.4782	181	2,300	396	2,877	3,050
T2-1'	09/07/17	In-Situ	<0.00339	<0.00339	<0.00339	<0.00678	<0.00339	<0.00678	<15.0	<15.0	<15.0	<15.0	27.3
T2-2'	09/07/17	In-Situ	<0.00202	<0.00202	<0.00202	<0.00404	<0.00202	<0.00404	<15.0	<15.0	<15.0	<15.0	25.4
T2-7'	09/07/17	In-Situ	<0.00200	<0.00200	<0.00200	<0.00401	<0.00200	<0.00401	<15.0	<15.0	<15.0	<15.0	40.3
T3-SURF	09/07/17	Excavated	<0.00199	<0.00199	<0.00199	<0.00398	<0.00199	<0.00398	<15.0	93.5	17.8	111.3	5,640
T3-1'	09/07/17	In-Situ	<0.00201	<0.00201	<0.00201	<0.00402	<0.00201	<0.00402	<14.9	<14.9	<14.9	<14.9	81.8
T3-2'	09/07/17	In-Situ	<0.00200	<0.00200	<0.00200	<0.00399	<0.00200	<0.00399	<15.0	<15.0	<15.0	<15.0	26.6
T3-7'	09/07/17	In-Situ	<0.00202	<0.00202	<0.00202	<0.00403	<0.00202	<0.00403	<15.0	<15.0	<15.0	<15.0	24.4
T4-SURF	09/07/17	Excavated	<0.00199	<0.00199	<0.00199	<0.00398	<0.00199	<0.00398	<14.9	<14.9	<14.9	<14.9	940
T4-1'	09/07/17	In-Situ	<0.00200	<0.00200	<0.00200	<0.00399	<0.00200	<0.00399	<15.0	<15.0	<15.0	<15.0	31.8
T4-2'	09/07/17	In-Situ	<0.00198	<0.00198	<0.00198	<0.00396	<0.00198	<0.00396	<15.0	<15.0	<15.0	<15.0	35.9
T4-7'	09/07/17	In-Situ	<0.00201	<0.00201	<0.00201	<0.00402	<0.00201	<0.00402	<15.0	<15.0	<15.0	<15.0	164
T5-SURF	09/07/17	Excavated	<0.00202	<0.00202	0.0117	0.0129	0.00579	0.03039	<15.0	231	34.7	265.7	5,120
T5-1'	09/07/17	In-Situ	<0.00202	<0.00202	<0.00202	<0.00403	<0.00202	<0.00403	<15.0	<15.0	<15.0	<15.0	59.7
T5-2'	09/07/17	In-Situ	<0.00200	<0.00200	<0.00200	<0.00401	<0.00200	<0.00401	<15.0	<15.0	<15.0	<15.0	36.2
T5-3'	09/07/17	In-Situ	<0.00200	<0.00200	<0.00200	<0.00401	<0.00200	<0.00401	<15.0	<15.0	<15.0	<15.0	32.9
T5-8'	09/07/17	In-Situ	<0.00347	<0.00347	<0.00347	<0.00694	<0.00347	<0.00694	<15.0	<15.0	<15.0	<15.0	83.7
T6-SURF	09/07/17	Excavated	0.00532	0.180	0.366	0.403	0.5850	1.53932	132	1,410	238	1,780	12,000
T6-1'	09/07/17	Excavated	0.00523	0.00239	0.00722	0.00822	0.0138	0.03689	<15.0	<15.0	<15.0	<15.0	8,590
T6-2'	09/07/17	In-Situ	<0.00201	<0.00201	<0.00201	<0.00402	<0.00201	<0.00402	<15.0	<15.0	<15.0	<15.0	80.3
T6-3'	09/07/17	In-Situ	<0.00200	<0.00200	<0.00200	<0.00399	0.00251	0.00251	<15.0	<15.0	<15.0	<15.0	25.2
T6-8'	09/07/17	In-Situ	<0.00202	<0.00202	<0.00202	<0.00403	<0.00202	<0.00403	<15.0	<15.0	<15.0	<15.0	50.1
North-SURF	09/07/17	In-Situ	<0.00198	<0.00198	<0.00198	<0.00397	<0.00198	<0.00397	<15.0	<15.0	<15.0	<15.0	182
North-1'	09/07/17	In-Situ	<0.00200	<0.00200	<0.00200	<0.00399	<0.00200	<0.00399	<15.0	<15.0	<15.0	<15.0	44.1
South-SURF	09/07/17	In-Situ	<0.00345	<0.00345	<0.00345	<0.00690	<0.00345	<0.00690	<15.0	<15.0	<15.0	<15.0	21.1
South-1'	09/07/17	In-Situ	<0.00199	<0.00199	<0.00199	<0.00398	<0.00199	<0.00398	<14.9	<14.9	<14.9	<14.9	21.1
East-SURF	09/07/17	In-Situ	<0.00199	<0.00199	<0.00199	<0.00398	<0.00199	<0.00398	<14.9	55.7	39.9	95.6	22.1
East-1'	09/07/17	In-Situ	<0.00200	<0.00200	<0.00200	<0.00401	<0.00200	<0.00401	<15.0	<15.0	<15.0	<15.0	21.9
West-SURF	09/07/17	In-Situ	<0.00202	<0.00202	<0.00202	<0.00403	<0.00202	<0.00403	<15.0	<15.0	<15.0	<15.0	20.8
West-1'	09/07/17	In-Situ	<0.00199	<0.00199	<0.00199	<0.00398	<0.00199	<0.00398	<15.0	<15.0	<15.0	<15.0	21.7
NMOC Recommended Remediation Action Level			10	-	-	-	-	50	-	-	-	5,000	600



Certificate of Analysis Summary 562385

COG Operating LLC, Artesia, NM

Project Name: Loco Hills SWD#004



Project Id:

Contact: Aaron Lieb

Project Location: Loco Hills SWD#004

Date Received in Lab: Fri Sep-08-17 01:45 pm

Report Date: 12-SEP-17

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	562385-001	562385-002	562385-003	562385-004	562385-005	562385-006
	<i>Field Id:</i>	North	North	South	South	East	East
	<i>Depth:</i>	0-	1- ft	0-	1- ft	0-	1- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Sep-07-17 11:40	Sep-07-17 11:45	Sep-07-17 11:50	Sep-07-17 11:55	Sep-07-17 12:05	Sep-07-17 12:10
BTEX by EPA 8021B	<i>Extracted:</i>	Sep-11-17 08:30	Sep-11-17 08:30	Sep-11-17 08:45	Sep-11-17 08:30	Sep-11-17 08:30	Sep-11-17 08:30
	<i>Analyzed:</i>	Sep-11-17 12:13	Sep-11-17 12:30	Sep-11-17 18:47	Sep-11-17 13:10	Sep-11-17 13:30	Sep-11-17 13:49
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Benzene	<0.00198 0.00198	<0.00200 0.00200	<0.00345 0.00345	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200
	Toluene	<0.00198 0.00198	<0.00200 0.00200	<0.00345 0.00345	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200
	Ethylbenzene	<0.00198 0.00198	<0.00200 0.00200	<0.00345 0.00345	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200
	m,p-Xylenes	<0.00397 0.00397	<0.00399 0.00399	<0.00690 0.00690	<0.00398 0.00398	<0.00398 0.00398	<0.00401 0.00401
	o-Xylene	<0.00198 0.00198	<0.00200 0.00200	<0.00345 0.00345	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200
Total Xylenes	<0.00198 0.00198	<0.00200 0.00200	<0.00345 0.00345	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	
Total BTEX	<0.00198 0.00198	<0.00200 0.00200	<0.00345 0.00345	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	
Inorganic Anions by EPA 300/300.1	<i>Extracted:</i>	Sep-11-17 09:35	Sep-11-17 09:35	Sep-11-17 09:35	Sep-11-17 09:35	Sep-11-17 09:35	Sep-11-17 09:35
	<i>Analyzed:</i>	Sep-11-17 11:35	Sep-11-17 12:06	Sep-11-17 12:16	Sep-11-17 12:26	Sep-11-17 12:37	Sep-11-17 13:08
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride	182 4.99	44.1 4.94	21.1 4.93	21.1 4.99	22.1 5.00	21.9 4.91	
TPH By SW8015 Mod	<i>Extracted:</i>	Sep-10-17 14:00	Sep-10-17 14:00	Sep-10-17 14:00	Sep-10-17 14:00	Sep-10-17 14:00	Sep-10-17 14:00
	<i>Analyzed:</i>	Sep-11-17 12:33	Sep-10-17 21:31	Sep-10-17 21:51	Sep-10-17 22:12	Sep-10-17 22:32	Sep-10-17 22:53
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Gasoline Range Hydrocarbons (GRO)	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<14.9 14.9	<15.0 15.0
	Diesel Range Organics (DRO)	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	55.7 14.9	<15.0 15.0
Oil Range Hydrocarbons (ORO)	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	39.9 14.9	<15.0 15.0	
Total TPH	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	95.6 14.9	<15.0 15.0	

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

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

Kelsey Brooks
Project Manager



Certificate of Analysis Summary 562385

COG Operating LLC, Artesia, NM

Project Name: Loco Hills SWD#004



Project Id:
Contact: Aaron Lieb
Project Location: Loco Hills SWD#004

Date Received in Lab: Fri Sep-08-17 01:45 pm
Report Date: 12-SEP-17
Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	562385-007	562385-008			
	<i>Field Id:</i>	West	West			
	<i>Depth:</i>	0- ft	1- ft			
	<i>Matrix:</i>	SOIL	SOIL			
	<i>Sampled:</i>	Sep-07-17 12:15	Sep-07-17 12:20			
BTEX by EPA 8021B	<i>Extracted:</i>	Sep-11-17 08:30	Sep-11-17 08:30			
	<i>Analyzed:</i>	Sep-11-17 14:08	Sep-11-17 14:27			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL			
Benzene		<0.00202 0.00202	<0.00199 0.00199			
Toluene		<0.00202 0.00202	<0.00199 0.00199			
Ethylbenzene		<0.00202 0.00202	<0.00199 0.00199			
m,p-Xylenes		<0.00403 0.00403	<0.00398 0.00398			
o-Xylene		<0.00202 0.00202	<0.00199 0.00199			
Total Xylenes		<0.00202 0.00202	<0.00199 0.00199			
Total BTEX		<0.00202 0.00202	<0.00199 0.00199			
Inorganic Anions by EPA 300/300.1	<i>Extracted:</i>	Sep-11-17 09:35	Sep-11-17 09:35			
	<i>Analyzed:</i>	Sep-11-17 13:18	Sep-11-17 13:28			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL			
Chloride		20.8 4.96	21.7 4.97			
TPH By SW8015 Mod	<i>Extracted:</i>	Sep-10-17 14:00	Sep-10-17 14:00			
	<i>Analyzed:</i>	Sep-10-17 23:13	Sep-10-17 23:34			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL			
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0			
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0			
Oil Range Hydrocarbons (ORO)		<15.0 15.0	<15.0 15.0			
Total TPH		<15.0 15.0	<15.0 15.0			

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

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

Kelsey Brooks
Project Manager

Analytical Report 562385

for
COG Operating LLC

Project Manager: Aaron Lieb

Loco Hills SWD#004

12-SEP-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)



12-SEP-17

Project Manager: **Aaron Lieb**

COG Operating LLC

2407 Pecos Avenue

Artesia, NM 88210

Reference: XENCO Report No(s): **562385**

Loco Hills SWD#004

Project Address: Loco Hills SWD#004

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) 562385. 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. 562385 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Kelsey Brooks

Project Manager

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

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Sample Cross Reference 562385



COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
North	S	09-07-17 11:40	0	562385-001
North	S	09-07-17 11:45	1 ft	562385-002
South	S	09-07-17 11:50	0	562385-003
South	S	09-07-17 11:55	1 ft	562385-004
East	S	09-07-17 12:05	0	562385-005
East	S	09-07-17 12:10	1 ft	562385-006
West	S	09-07-17 12:15	0 ft	562385-007
West	S	09-07-17 12:20	1 ft	562385-008



CASE NARRATIVE

Client Name: COG Operating LLC

Project Name: Loco Hills SWD#004

Project ID:
Work Order Number(s): 562385

Report Date: 12-SEP-17
Date Received: 09/08/2017

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3027284 BTEX by EPA 8021B

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

Batch: LBA-3027289 BTEX by EPA 8021B

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

Surrogate 4-Bromofluorobenzene recovered below QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 562386-013 S, 562386-013 SD.

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: North	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562385-001	Date Collected: 09.07.17 11.40	Sample Depth: 0
Analytical Method: Inorganic Anions by EPA 300/300.1		Prep Method: E300P
Tech: MNV		% Moisture:
Analyst: MNV	Date Prep: 09.11.17 09.35	Basis: Wet Weight
Seq Number: 3027331		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	182	4.99	mg/kg	09.11.17 11.35		1

Analytical Method: TPH By SW8015 Mod	Prep Method: TX1005P
Tech: ARM	% Moisture:
Analyst: ARM	Date Prep: 09.10.17 14.00
Seq Number: 3027227	Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.11.17 12.33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.11.17 12.33	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.11.17 12.33	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.11.17 12.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	09.11.17 12.33	
o-Terphenyl	84-15-1	115	%	70-135	09.11.17 12.33	

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: North	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562385-001	Date Collected: 09.07.17 11.40	Sample Depth: 0
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: ALJ		% Moisture:
Analyst: ALJ	Date Prep: 09.11.17 08.30	Basis: Wet Weight
Seq Number: 3027284		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	09.11.17 12.13	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	09.11.17 12.13	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	09.11.17 12.13	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	09.11.17 12.13	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	09.11.17 12.13	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	09.11.17 12.13	U	1
Total BTEX		<0.00198	0.00198	mg/kg	09.11.17 12.13	U	1
			%				
Surrogate	Cas Number	Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	119	%	80-120	09.11.17 12.13		
1,4-Difluorobenzene	540-36-3	106	%	80-120	09.11.17 12.13		

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: North	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562385-002	Date Collected: 09.07.17 11.45	Sample Depth: 1 ft
Analytical Method: Inorganic Anions by EPA 300/300.1		Prep Method: E300P
Tech: MNV		% Moisture:
Analyst: MNV	Date Prep: 09.11.17 09.35	Basis: Wet Weight
Seq Number: 3027331		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	44.1	4.94	mg/kg	09.11.17 12.06		1

Analytical Method: TPH By SW8015 Mod	Prep Method: TX1005P
Tech: ARM	% Moisture:
Analyst: ARM	Date Prep: 09.10.17 14.00
Seq Number: 3027227	Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.10.17 21.31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.10.17 21.31	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.10.17 21.31	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.10.17 21.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	09.10.17 21.31	
o-Terphenyl	84-15-1	93	%	70-135	09.10.17 21.31	

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: North	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562385-002	Date Collected: 09.07.17 11.45	Sample Depth: 1 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: ALJ		% Moisture:
Analyst: ALJ	Date Prep: 09.11.17 08.30	Basis: Wet Weight
Seq Number: 3027284		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.11.17 12.30	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.11.17 12.30	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.11.17 12.30	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	09.11.17 12.30	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.11.17 12.30	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.11.17 12.30	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.11.17 12.30	U	1
		%					
Surrogate	Cas Number	Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	80-120	09.11.17 12.30		
4-Bromofluorobenzene	460-00-4	118	%	80-120	09.11.17 12.30		

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: South	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562385-003	Date Collected: 09.07.17 11.50	Sample Depth: 0
Analytical Method: Inorganic Anions by EPA 300/300.1		Prep Method: E300P
Tech: MNV		% Moisture:
Analyst: MNV	Date Prep: 09.11.17 09.35	Basis: Wet Weight
Seq Number: 3027331		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	21.1	4.93	mg/kg	09.11.17 12.16		1

Analytical Method: TPH By SW8015 Mod	Prep Method: TX1005P
Tech: ARM	% Moisture:
Analyst: ARM	Date Prep: 09.10.17 14.00
Seq Number: 3027227	Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.10.17 21.51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.10.17 21.51	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.10.17 21.51	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.10.17 21.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	09.10.17 21.51	
o-Terphenyl	84-15-1	87	%	70-135	09.10.17 21.51	

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: South	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562385-003	Date Collected: 09.07.17 11.50	Sample Depth: 0
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: ALJ		% Moisture:
Analyst: ALJ	Date Prep: 09.11.17 08.45	Basis: Wet Weight
Seq Number: 3027289		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00345	0.00345	mg/kg	09.11.17 18.47	U	1
Toluene	108-88-3	<0.00345	0.00345	mg/kg	09.11.17 18.47	U	1
Ethylbenzene	100-41-4	<0.00345	0.00345	mg/kg	09.11.17 18.47	U	1
m,p-Xylenes	179601-23-1	<0.00690	0.00690	mg/kg	09.11.17 18.47	U	1
o-Xylene	95-47-6	<0.00345	0.00345	mg/kg	09.11.17 18.47	U	1
Total Xylenes	1330-20-7	<0.00345	0.00345	mg/kg	09.11.17 18.47	U	1
Total BTEX		<0.00345	0.00345	mg/kg	09.11.17 18.47	U	1
		%					
Surrogate	Cas Number	Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	100	%	80-120	09.11.17 18.47		
4-Bromofluorobenzene	460-00-4	84	%	80-120	09.11.17 18.47		

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: South	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562385-004	Date Collected: 09.07.17 11.55	Sample Depth: 1 ft
Analytical Method: Inorganic Anions by EPA 300/300.1		Prep Method: E300P
Tech: MNV		% Moisture:
Analyst: MNV	Date Prep: 09.11.17 09.35	Basis: Wet Weight
Seq Number: 3027331		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	21.1	4.99	mg/kg	09.11.17 12.26		1

Analytical Method: TPH By SW8015 Mod	Prep Method: TX1005P
Tech: ARM	% Moisture:
Analyst: ARM	Date Prep: 09.10.17 14.00
Seq Number: 3027227	Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	09.10.17 22.12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	09.10.17 22.12	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	09.10.17 22.12	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	09.10.17 22.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	09.10.17 22.12	
o-Terphenyl	84-15-1	92	%	70-135	09.10.17 22.12	

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: **South**
 Lab Sample Id: 562385-004

Matrix: Soil
 Date Collected: 09.07.17 11.55

Date Received: 09.08.17 13.45
 Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 09.11.17 08.30

Basis: Wet Weight

Seq Number: 3027284

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	09.11.17 13.10	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	09.11.17 13.10	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	09.11.17 13.10	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	09.11.17 13.10	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	09.11.17 13.10	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	09.11.17 13.10	U	1
Total BTEX		<0.00199	0.00199	mg/kg	09.11.17 13.10	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	98	%	80-120	09.11.17 13.10		
4-Bromofluorobenzene	460-00-4	115	%	80-120	09.11.17 13.10		

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: East	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562385-005	Date Collected: 09.07.17 12.05	Sample Depth: 0
Analytical Method: Inorganic Anions by EPA 300/300.1		Prep Method: E300P
Tech: MNV		% Moisture:
Analyst: MNV	Date Prep: 09.11.17 09.35	Basis: Wet Weight
Seq Number: 3027331		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	22.1	5.00	mg/kg	09.11.17 12.37		1

Analytical Method: TPH By SW8015 Mod	Prep Method: TX1005P
Tech: ARM	% Moisture:
Analyst: ARM	Date Prep: 09.10.17 14.00
Seq Number: 3027227	Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	09.10.17 22.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	55.7	14.9	mg/kg	09.10.17 22.32		1
Oil Range Hydrocarbons (ORO)	PHCG2835	39.9	14.9	mg/kg	09.10.17 22.32		1
Total TPH	PHC635	95.6	14.9	mg/kg	09.10.17 22.32		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	09.10.17 22.32	
o-Terphenyl	84-15-1	93	%	70-135	09.10.17 22.32	

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: East	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562385-005	Date Collected: 09.07.17 12.05	Sample Depth: 0
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: ALJ		% Moisture:
Analyst: ALJ	Date Prep: 09.11.17 08.30	Basis: Wet Weight
Seq Number: 3027284		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	09.11.17 13.30	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	09.11.17 13.30	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	09.11.17 13.30	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	09.11.17 13.30	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	09.11.17 13.30	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	09.11.17 13.30	U	1
Total BTEX		<0.00199	0.00199	mg/kg	09.11.17 13.30	U	1
		%					
Surrogate	Cas Number	Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	80-120	09.11.17 13.30		
4-Bromofluorobenzene	460-00-4	118	%	80-120	09.11.17 13.30		

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: East	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562385-006	Date Collected: 09.07.17 12.10	Sample Depth: 1 ft
Analytical Method: Inorganic Anions by EPA 300/300.1		Prep Method: E300P
Tech: MNV		% Moisture:
Analyst: MNV	Date Prep: 09.11.17 09.35	Basis: Wet Weight
Seq Number: 3027331		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	21.9	4.91	mg/kg	09.11.17 13.08		1

Analytical Method: TPH By SW8015 Mod	Prep Method: TX1005P
Tech: ARM	% Moisture:
Analyst: ARM	Date Prep: 09.10.17 14.00
Seq Number: 3027227	Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.10.17 22.53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.10.17 22.53	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.10.17 22.53	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.10.17 22.53	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
	1-Chlorooctane	111-85-3	93	%	70-135	09.10.17 22.53	
	o-Terphenyl	84-15-1	92	%	70-135	09.10.17 22.53	

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: **East**
 Lab Sample Id: 562385-006

Matrix: Soil
 Date Collected: 09.07.17 12.10

Date Received: 09.08.17 13.45
 Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 09.11.17 08.30

Basis: Wet Weight

Seq Number: 3027284

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.11.17 13.49	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.11.17 13.49	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.11.17 13.49	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	09.11.17 13.49	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.11.17 13.49	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.11.17 13.49	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.11.17 13.49	U	1
			%				
Surrogate	Cas Number	Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	83	%	80-120	09.11.17 13.49		
4-Bromofluorobenzene	460-00-4	80	%	80-120	09.11.17 13.49		

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: West	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562385-007	Date Collected: 09.07.17 12.15	Sample Depth: 0 ft
Analytical Method: Inorganic Anions by EPA 300/300.1		Prep Method: E300P
Tech: MNV		% Moisture:
Analyst: MNV	Date Prep: 09.11.17 09.35	Basis: Wet Weight
Seq Number: 3027331		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	20.8	4.96	mg/kg	09.11.17 13.18		1

Analytical Method: TPH By SW8015 Mod	Prep Method: TX1005P
Tech: ARM	% Moisture:
Analyst: ARM	Date Prep: 09.10.17 14.00
Seq Number: 3027227	Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.10.17 23.13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.10.17 23.13	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.10.17 23.13	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.10.17 23.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	09.10.17 23.13	
o-Terphenyl	84-15-1	86	%	70-135	09.10.17 23.13	

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: West	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562385-007	Date Collected: 09.07.17 12.15	Sample Depth: 0 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: ALJ		% Moisture:
Analyst: ALJ	Date Prep: 09.11.17 08.30	Basis: Wet Weight
Seq Number: 3027284		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	09.11.17 14.08	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	09.11.17 14.08	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	09.11.17 14.08	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	09.11.17 14.08	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	09.11.17 14.08	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	09.11.17 14.08	U	1
Total BTEX		<0.00202	0.00202	mg/kg	09.11.17 14.08	U	1
		%					
Surrogate	Cas Number	Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	80-120	09.11.17 14.08		
4-Bromofluorobenzene	460-00-4	118	%	80-120	09.11.17 14.08		

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: West	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562385-008	Date Collected: 09.07.17 12.20	Sample Depth: 1 ft
Analytical Method: Inorganic Anions by EPA 300/300.1		Prep Method: E300P
Tech: MNV		% Moisture:
Analyst: MNV	Date Prep: 09.11.17 09.35	Basis: Wet Weight
Seq Number: 3027331		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	21.7	4.97	mg/kg	09.11.17 13.28		1

Analytical Method: TPH By SW8015 Mod	Prep Method: TX1005P
Tech: ARM	% Moisture:
Analyst: ARM	Date Prep: 09.10.17 14.00
Seq Number: 3027227	Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.10.17 23.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.10.17 23.34	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.10.17 23.34	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.10.17 23.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	09.10.17 23.34	
o-Terphenyl	84-15-1	95	%	70-135	09.10.17 23.34	

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: West	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562385-008	Date Collected: 09.07.17 12.20	Sample Depth: 1 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: ALJ		% Moisture:
Analyst: ALJ	Date Prep: 09.11.17 08.30	Basis: Wet Weight
Seq Number: 3027284		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	09.11.17 14.27	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	09.11.17 14.27	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	09.11.17 14.27	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	09.11.17 14.27	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	09.11.17 14.27	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	09.11.17 14.27	U	1
Total BTEX		<0.00199	0.00199	mg/kg	09.11.17 14.27	U	1
			%				
Surrogate	Cas Number	Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	105	%	80-120	09.11.17 14.27		
4-Bromofluorobenzene	460-00-4	114	%	80-120	09.11.17 14.27		

- 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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COG Operating LLC

Loco Hills SWD#004

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3027331

MB Sample Id: 730718-1-BLK

Matrix: Solid

LCS Sample Id: 730718-1-BKS

Prep Method: E300P

Date Prep: 09.11.17

LCSD Sample Id: 730718-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	248	99	226	90	90-110	9	20	mg/kg	09.11.17 11:14	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3027331

Parent Sample Id: 562385-001

Matrix: Soil

MS Sample Id: 562385-001 S

Prep Method: E300P

Date Prep: 09.11.17

MSD Sample Id: 562385-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	182	250	431	100	433	100	90-110	0	20	mg/kg	09.11.17 11:45	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3027331

Parent Sample Id: 562386-003

Matrix: Soil

MS Sample Id: 562386-003 S

Prep Method: E300P

Date Prep: 09.11.17

MSD Sample Id: 562386-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	559	250	813	102	815	102	90-110	0	20	mg/kg	09.11.17 14:10	

Analytical Method: TPH By SW8015 Mod

Seq Number: 3027227

MB Sample Id: 730692-1-BLK

Matrix: Solid

LCS Sample Id: 730692-1-BKS

Prep Method: TX1005P

Date Prep: 09.10.17

LCSD Sample Id: 730692-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	925	93	951	95	70-135	3	35	mg/kg	09.10.17 19:50	
Diesel Range Organics (DRO)	<15.0	1000	1040	104	1050	105	70-135	1	35	mg/kg	09.10.17 19:50	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	98		98		107		70-135	%	09.10.17 19:50
o-Terphenyl	101		95		102		70-135	%	09.10.17 19:50



COG Operating LLC

Loco Hills SWD#004

Analytical Method: TPH By SW8015 Mod

Seq Number: 3027227

Parent Sample Id: 562385-001

Matrix: Soil

MS Sample Id: 562385-001 S

Prep Method: TX1005P

Date Prep: 09.10.17

MSD Sample Id: 562385-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	998	923	92	930	93	70-135	1	35	mg/kg	09.10.17 20:50	
Diesel Range Organics (DRO)	<15.0	998	1040	104	1020	102	70-135	2	35	mg/kg	09.10.17 20:50	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	101		100		70-135	%	09.10.17 20:50
o-Terphenyl	97		94		70-135	%	09.10.17 20:50

Analytical Method: BTEX by EPA 8021B

Seq Number: 3027284

MB Sample Id: 730731-1-BLK

Matrix: Solid

LCS Sample Id: 730731-1-BKS

Prep Method: SW5030B

Date Prep: 09.11.17

LCSD Sample Id: 730731-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0905	90	0.105	104	70-130	15	35	mg/kg	09.11.17 10:15	
Toluene	<0.00202	0.101	0.0929	92	0.107	106	70-130	14	35	mg/kg	09.11.17 10:15	
Ethylbenzene	<0.00202	0.101	0.0898	89	0.103	102	71-129	14	35	mg/kg	09.11.17 10:15	
m,p-Xylenes	<0.00403	0.202	0.173	86	0.200	100	70-135	14	35	mg/kg	09.11.17 10:15	
o-Xylene	<0.00202	0.101	0.0849	84	0.0981	97	71-133	14	35	mg/kg	09.11.17 10:15	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	89		100		107		80-120	%	09.11.17 10:15
4-Bromofluorobenzene	102		92		99		80-120	%	09.11.17 10:15

Analytical Method: BTEX by EPA 8021B

Seq Number: 3027289

MB Sample Id: 730732-1-BLK

Matrix: Solid

LCS Sample Id: 730732-1-BKS

Prep Method: SW5030B

Date Prep: 09.11.17

LCSD Sample Id: 730732-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.110	110	0.109	108	70-130	1	35	mg/kg	09.11.17 11:03	
Toluene	<0.00200	0.100	0.103	103	0.103	102	70-130	0	35	mg/kg	09.11.17 11:03	
Ethylbenzene	<0.00200	0.100	0.100	100	0.101	100	71-129	1	35	mg/kg	09.11.17 11:03	
m,p-Xylenes	<0.00400	0.200	0.195	98	0.196	97	70-135	1	35	mg/kg	09.11.17 11:03	
o-Xylene	<0.00200	0.100	0.0932	93	0.0941	93	71-133	1	35	mg/kg	09.11.17 11:03	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	95		99		99		80-120	%	09.11.17 11:03
4-Bromofluorobenzene	80		87		89		80-120	%	09.11.17 11:03



COG Operating LLC

Loco Hills SWD#004

Analytical Method: BTEX by EPA 8021B

Seq Number: 3027284

Parent Sample Id: 562385-001

Matrix: Soil

MS Sample Id: 562385-001 S

Prep Method: SW5030B

Date Prep: 09.11.17

MSD Sample Id: 562385-001 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	0.112	111	0.0963	96	70-130	15	35	mg/kg	09.11.17 10:53	
Toluene	<0.00202	0.101	0.105	104	0.0930	93	70-130	12	35	mg/kg	09.11.17 10:53	
Ethylbenzene	<0.00202	0.101	0.105	104	0.0811	81	71-129	26	35	mg/kg	09.11.17 10:53	
m,p-Xylenes	<0.00403	0.202	0.202	100	0.155	78	70-135	26	35	mg/kg	09.11.17 10:53	
o-Xylene	<0.00202	0.101	0.0983	97	0.0804	80	71-133	20	35	mg/kg	09.11.17 10:53	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		92		80-120	%	09.11.17 10:53
4-Bromofluorobenzene	91		87		80-120	%	09.11.17 10:53

Analytical Method: BTEX by EPA 8021B

Seq Number: 3027289

Parent Sample Id: 562386-013

Matrix: Soil

MS Sample Id: 562386-013 S

Prep Method: SW5030B

Date Prep: 09.11.17

MSD Sample Id: 562386-013 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	0.201	199	0.142	141	70-130	34	35	mg/kg	09.11.17 12:20	X
Toluene	<0.00202	0.101	0.0803	80	0.0789	78	70-130	2	35	mg/kg	09.11.17 12:20	
Ethylbenzene	<0.00202	0.101	0.0306	30	0.0264	26	71-129	15	35	mg/kg	09.11.17 12:20	X
m,p-Xylenes	<0.00404	0.202	0.0475	24	0.0381	19	70-135	22	35	mg/kg	09.11.17 12:20	X
o-Xylene	<0.00202	0.101	0.0309	31	0.0312	31	71-133	1	35	mg/kg	09.11.17 12:20	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		109		80-120	%	09.11.17 12:20
4-Bromofluorobenzene	42	**	39	**	80-120	%	09.11.17 12:20



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Matrix Codes

- W = Water
- S = Soil/Sed/Solid
- GW = Ground Water
- DW = Drinking Water
- P = Product
- SW = Surface water
- SL = Sludge
- OW = Ocean/Sea Water
- WI = Wipe
- O = Oil
- WW = Waste Water
- A = Air

Field Comments

Client / Reporting Information		Project Information		Analytical Information		Matrix Codes	
Company Name / Branch: COG Operating LLC Company Address: 2407 PECOS Avenue Artesia NM 88210 Phone No: 575-748-1553 Email: alleh@concho.com dnee12@concho.com haskell@concho.com		Project Name/Number: LOCO Hills SMD #004 Project Location: LOCO Hills SMD #00 Invoice To: COG Operating LLC Attn: Robert McNeill 600 W. Illinois Midland TX 79701 PO Number:		Xenco Quote # 562385		Xenco Job #	
Project Contact: Aaron Lieb Sampler's Name: Aaron Lieb		Collection		TPH/ EXTENDED		BTEX	
No. Field ID / Point of Collection		Sample Depth	Date	Time	Matrix	# of bottles	HCl
						Number of preserved bottles	
						HNO3	
						H2SO4	
						NaOH	
						NaHSO4	
						MEOH	
						NONE	
						Chloride	
						Notes:	
1	North - Surf	Surf	9/21/17	11:40 am	S	1	
2	North - 1'	1		11:45 am		1	
3	South - Surf	Surf		11:50 am		1	
4	South - 1'	1		11:55 am		1	
5	East - Surf	Surf		12:05 pm		1	
6	East - 1'	1		12:10 pm		1	
7	West - Surf	Surf		12:15 pm		1	
8	West - 1'	1		12:20 pm		1	
9							
10							

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Temp: 4.2 IR ID: R-8
 CF: (0-6: -0.2°C) 4.0.
 Corrected Temp: on ICE.

Received By: *[Signature]* 9-2-17 11:00 AM
 Received By: *[Signature]* 9-8-17 11:54
 Received By: *[Signature]* 9-8-17 1:45
 Received By: *[Signature]* 9-8-17 1:45

Relinquished By: *[Signature]* 9-8-17 1:45
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Client: COG Operating LLC

Date/ Time Received: 09/08/2017 01:45:00 PM

Work Order #: 562385

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	4
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6*Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	N/A
#18 Water VOC samples have zero headspace?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by: Jessica Kramer Date: 09/11/2017
Jessica Kramer

Checklist reviewed by: Kelsey Brooks Date: 09/11/2017
Kelsey Brooks



Certificate of Analysis Summary 562386

COG Operating LLC, Artesia, NM

Project Name: Loco Hills SWD#004



Project Id:
Contact: Aaron Lieb
Project Location: Loco Hills SWD#004

Date Received in Lab: Fri Sep-08-17 01:45 pm
Report Date: 12-SEP-17
Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	562386-001	562386-002	562386-003	562386-004	562386-005	562386-006
	<i>Field Id:</i>	T1	T1	T1	T1	T1	T2
	<i>Depth:</i>	0-	1- ft	2- ft	3- ft	8- ft	0- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Sep-07-17 09:00	Sep-07-17 09:05	Sep-07-17 09:10	Sep-07-17 09:15	Sep-07-17 09:20	Sep-07-17 09:30
BTEX by EPA 8021B	<i>Extracted:</i>	Sep-11-17 08:45	Sep-11-17 08:30	Sep-11-17 08:45	Sep-11-17 08:30	Sep-11-17 14:00	Sep-11-17 08:30
	<i>Analyzed:</i>	Sep-11-17 19:06	Sep-11-17 15:02	Sep-11-17 20:02	Sep-11-17 16:22	Sep-12-17 07:34	Sep-11-17 16:59
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Benzene	<0.00353 0.00353	<0.00198 0.00198	<0.00346 0.00346	<0.00200 0.00200	<0.00344 0.00344	<0.00199 0.00199
	Toluene	<0.00353 0.00353	<0.00198 0.00198	<0.00346 0.00346	<0.00200 0.00200	<0.00344 0.00344	0.0975 0.00199
	Ethylbenzene	<0.00353 0.00353	<0.00198 0.00198	<0.00346 0.00346	<0.00200 0.00200	<0.00344 0.00344	0.0194 0.00199
	m,p-Xylenes	<0.00707 0.00707	<0.00396 0.00396	<0.00692 0.00692	<0.00401 0.00401	<0.00687 0.00687	0.300 0.00398
	o-Xylene	<0.00353 0.00353	<0.00198 0.00198	0.00436 0.00346	<0.00200 0.00200	<0.00344 0.00344	0.0613 0.00199
Total Xylenes	<0.00353 0.00353	<0.00198 0.00198	0.00436 0.00346	<0.00200 0.00200	<0.00344 0.00344	0.361 0.00199	
Total BTEX	<0.00353 0.00353	<0.00198 0.00198	0.00436 0.00346	<0.00200 0.00200	<0.00344 0.00344	0.478 0.00199	
Inorganic Anions by EPA 300/300.1	<i>Extracted:</i>	Sep-11-17 09:35	Sep-11-17 09:35	Sep-11-17 09:35	Sep-11-17 09:35	Sep-11-17 09:35	Sep-11-17 09:35
	<i>Analyzed:</i>	Sep-11-17 13:39	Sep-11-17 13:49	Sep-11-17 13:59	Sep-11-17 14:30	Sep-11-17 14:41	Sep-11-17 15:12
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride	1500 25.0	1240 4.99	559 5.00	173 4.90	178 4.93	3050 24.8	
TPH By SW8015 Mod	<i>Extracted:</i>	Sep-10-17 14:00	Sep-10-17 14:00	Sep-10-17 14:00	Sep-10-17 14:00	Sep-10-17 14:00	Sep-10-17 14:00
	<i>Analyzed:</i>	Sep-10-17 23:55	Sep-11-17 00:15	Sep-11-17 01:16	Sep-11-17 01:37	Sep-11-17 01:58	Sep-11-17 02:20
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Gasoline Range Hydrocarbons (GRO)	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	181 15.0
	Diesel Range Organics (DRO)	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	2300 15.0
	Oil Range Hydrocarbons (ORO)	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	396 15.0
Total TPH	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	2880 15.0	

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

Kelsey Brooks
Project Manager



Certificate of Analysis Summary 562386

COG Operating LLC, Artesia, NM

Project Name: Loco Hills SWD#004



Project Id:
Contact: Aaron Lieb
Project Location: Loco Hills SWD#004

Date Received in Lab: Fri Sep-08-17 01:45 pm
Report Date: 12-SEP-17
Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	562386-007	562386-008	562386-009	562386-010	562386-011	562386-012					
	<i>Field Id:</i>	T2	T2	T2	T3	T3	T3					
	<i>Depth:</i>	1- ft	2- ft	7- ft	0- ft	1- ft	2- ft					
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL					
	<i>Sampled:</i>	Sep-07-17 09:35	Sep-07-17 09:40	Sep-07-17 09:45	Sep-07-17 10:00	Sep-07-17 10:05	Sep-07-17 10:10					
BTEX by EPA 8021B	<i>Extracted:</i>	Sep-11-17 14:00	Sep-11-17 08:30	Sep-11-17 08:30	Sep-11-17 08:30	Sep-11-17 08:30	Sep-11-17 08:30					
	<i>Analyzed:</i>	Sep-12-17 07:53	Sep-11-17 17:35	Sep-11-17 17:54	Sep-11-17 18:16	Sep-11-17 18:34	Sep-11-17 18:52					
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL					
Benzene	<0.00339	0.00339	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200
Toluene	<0.00339	0.00339	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200
Ethylbenzene	<0.00339	0.00339	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200
m,p-Xylenes	<0.00678	0.00678	<0.00404	0.00404	<0.00401	0.00401	<0.00398	0.00398	<0.00402	0.00402	<0.00399	0.00399
o-Xylene	<0.00339	0.00339	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200
Total Xylenes	<0.00339	0.00339	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200
Total BTEX	<0.00339	0.00339	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00201	0.00201	<0.00200	0.00200
Inorganic Anions by EPA 300/300.1	<i>Extracted:</i>	Sep-11-17 09:35	Sep-11-17 09:35	Sep-11-17 09:35	Sep-11-17 09:35	Sep-11-17 09:35	Sep-11-17 09:35					
	<i>Analyzed:</i>	Sep-11-17 15:22	Sep-11-17 15:32	Sep-11-17 15:43	Sep-11-17 15:53	Sep-11-17 16:04	Sep-11-17 16:14					
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL					
Chloride	27.3	4.98	25.4	4.98	40.3	4.97	5640	25.0	81.8	4.93	26.6	4.91
TPH By SW8015 Mod	<i>Extracted:</i>	Sep-10-17 14:00	Sep-10-17 14:00	Sep-10-17 14:00	Sep-10-17 14:00	Sep-10-17 14:00	Sep-10-17 14:00					
	<i>Analyzed:</i>	Sep-11-17 02:40	Sep-11-17 03:00	Sep-11-17 03:22	Sep-11-17 03:42	Sep-11-17 04:03	Sep-11-17 04:25					
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL					
Gasoline Range Hydrocarbons (GRO)	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0
Diesel Range Organics (DRO)	<15.0	15.0	<15.0	15.0	<15.0	15.0	93.5	15.0	<14.9	14.9	<15.0	15.0
Oil Range Hydrocarbons (ORO)	<15.0	15.0	<15.0	15.0	<15.0	15.0	17.8	15.0	<14.9	14.9	<15.0	15.0
Total TPH	<15.0	15.0	<15.0	15.0	<15.0	15.0	111	15.0	<14.9	14.9	<15.0	15.0

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Kelsey Brooks
Project Manager



Certificate of Analysis Summary 562386



COG Operating LLC, Artesia, NM

Project Name: Loco Hills SWD#004

Project Id:
Contact: Aaron Lieb
Project Location: Loco Hills SWD#004

Date Received in Lab: Fri Sep-08-17 01:45 pm
Report Date: 12-SEP-17
Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	562386-013	562386-014	562386-015	562386-016	562386-017	562386-018
	<i>Field Id:</i>	T3	T4	T4	T4	T4	T5
	<i>Depth:</i>	7- ft	0- ft	1- ft	2- ft	7- ft	0- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Sep-07-17 10:15	Sep-07-17 10:25	Sep-07-17 10:30	Sep-07-17 10:35	Sep-07-17 10:40	Sep-07-17 10:55
BTEX by EPA 8021B	<i>Extracted:</i>	Sep-11-17 08:45	Sep-11-17 08:45	Sep-11-17 08:45	Sep-11-17 08:45	Sep-11-17 08:45	Sep-11-17 08:45
	<i>Analyzed:</i>	Sep-11-17 13:20	Sep-11-17 13:39	Sep-11-17 13:58	Sep-11-17 14:17	Sep-11-17 14:35	Sep-11-17 14:54
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00201 0.00201	<0.00202 0.00202
Toluene		<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00201 0.00201	<0.00202 0.00202
Ethylbenzene		<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00201 0.00201	0.0117 0.00202
m,p-Xylenes		<0.00403 0.00403	<0.00398 0.00398	<0.00399 0.00399	<0.00396 0.00396	<0.00402 0.00402	0.0129 0.00404
o-Xylene		<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00201 0.00201	0.00579 0.00202
Total Xylenes		<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00201 0.00201	0.0187 0.00202
Total BTEX		<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00201 0.00201	0.0304 0.00202
Inorganic Anions by EPA 300/300.1	<i>Extracted:</i>	Sep-11-17 14:15	Sep-11-17 14:15	Sep-11-17 14:15	Sep-11-17 14:15	Sep-11-17 14:15	Sep-11-17 14:15
	<i>Analyzed:</i>	Sep-11-17 17:16	Sep-11-17 17:47	Sep-11-17 17:57	Sep-11-17 18:08	Sep-11-17 18:18	Sep-11-17 18:49
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		24.4 4.99	940 4.98	31.8 4.96	35.9 4.96	164 4.93	5120 25.0
TPH By SW8015 Mod	<i>Extracted:</i>	Sep-10-17 16:00	Sep-10-17 16:00	Sep-10-17 16:00	Sep-10-17 16:00	Sep-10-17 16:00	Sep-10-17 16:00
	<i>Analyzed:</i>	Sep-11-17 06:10	Sep-11-17 07:11	Sep-11-17 07:32	Sep-11-17 07:53	Sep-11-17 08:14	Sep-11-17 08:34
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	231 15.0
Oil Range Hydrocarbons (ORO)		<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	34.7 15.0
Total TPH		<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	266 15.0

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

Kelsey Brooks
Project Manager



Certificate of Analysis Summary 562386

COG Operating LLC, Artesia, NM

Project Name: Loco Hills SWD#004



Project Id:
Contact: Aaron Lieb
Project Location: Loco Hills SWD#004

Date Received in Lab: Fri Sep-08-17 01:45 pm
Report Date: 12-SEP-17
Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	562386-019	562386-020	562386-021	562386-022	562386-023	562386-024
	<i>Field Id:</i>	T5	T5	T5	T5	T6	T6
	<i>Depth:</i>	1- ft	2- ft	3- ft	8- ft	0- ft	1- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Sep-07-17 11:00	Sep-07-17 11:05	Sep-07-17 11:10	Sep-07-17 11:15	Sep-07-17 11:20	Sep-07-17 11:25
BTEX by EPA 8021B	<i>Extracted:</i>	Sep-11-17 08:45	Sep-11-17 08:45	Sep-11-17 08:45	Sep-11-17 14:00	Sep-11-17 08:45	Sep-11-17 08:45
	<i>Analyzed:</i>	Sep-11-17 15:13	Sep-11-17 15:32	Sep-11-17 15:51	Sep-12-17 08:12	Sep-11-17 17:12	Sep-11-17 17:31
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Benzene	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00347 0.00347	0.00532 0.00202	0.00523 0.00200
	Toluene	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00347 0.00347	0.180 0.00202	0.00239 0.00200
	Ethylbenzene	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00347 0.00347	0.366 0.00202	0.00722 0.00200
	m,p-Xylenes	<0.00403 0.00403	<0.00401 0.00401	<0.00401 0.00401	<0.00694 0.00694	0.403 0.00404	0.00822 0.00401
	o-Xylene	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00347 0.00347	0.182 0.00202	0.00561 0.00200
Total Xylenes	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00347 0.00347	0.585 0.00202	0.0138 0.00200	
Total BTEX	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00347 0.00347	1.14 0.00202	0.0287 0.00200	
Inorganic Anions by EPA 300/300.1	<i>Extracted:</i>	Sep-11-17 14:15	Sep-11-17 14:15	Sep-11-17 14:15	Sep-11-17 14:15	Sep-11-17 14:15	Sep-11-17 14:15
	<i>Analyzed:</i>	Sep-11-17 18:59	Sep-11-17 19:10	Sep-11-17 19:20	Sep-11-17 19:30	Sep-11-17 19:41	Sep-11-17 20:12
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride	59.7 4.97	36.2 5.00	32.9 4.91	83.7 4.93	12000 49.7	8590 49.9	
TPH By SW8015 Mod	<i>Extracted:</i>	Sep-10-17 16:00	Sep-10-17 16:00	Sep-10-17 16:00	Sep-10-17 16:00	Sep-10-17 16:00	Sep-10-17 16:00
	<i>Analyzed:</i>	Sep-11-17 08:54	Sep-11-17 09:13	Sep-11-17 09:33	Sep-11-17 09:53	Sep-11-17 10:53	Sep-11-17 11:14
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Gasoline Range Hydrocarbons (GRO)	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	132 14.9	<15.0 15.0
	Diesel Range Organics (DRO)	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	1410 14.9	<15.0 15.0
	Oil Range Hydrocarbons (ORO)	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	238 14.9	<15.0 15.0
Total TPH	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	1780 14.9	<15.0 15.0	

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

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

Kelsey Brooks
Project Manager



Certificate of Analysis Summary 562386

COG Operating LLC, Artesia, NM

Project Name: Loco Hills SWD#004



Project Id:
Contact: Aaron Lieb
Project Location: Loco Hills SWD#004

Date Received in Lab: Fri Sep-08-17 01:45 pm
Report Date: 12-SEP-17
Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	562386-025	562386-026	562386-027			
	<i>Field Id:</i>	T6	T6	T6			
	<i>Depth:</i>	2- ft	3- ft	8- ft			
	<i>Matrix:</i>	SOIL	SOIL	SOIL			
	<i>Sampled:</i>	Sep-07-17 11:28	Sep-07-17 11:30	Sep-07-17 11:31			
BTEX by EPA 8021B	<i>Extracted:</i>	Sep-11-17 08:45	Sep-11-17 08:45	Sep-11-17 08:45			
	<i>Analyzed:</i>	Sep-11-17 17:50	Sep-11-17 18:09	Sep-11-17 18:28			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Benzene		<0.00201 0.00201	<0.00200 0.00200	<0.00202 0.00202			
Toluene		<0.00201 0.00201	<0.00200 0.00200	<0.00202 0.00202			
Ethylbenzene		<0.00201 0.00201	<0.00200 0.00200	<0.00202 0.00202			
m,p-Xylenes		<0.00402 0.00402	<0.00399 0.00399	<0.00403 0.00403			
o-Xylene		<0.00201 0.00201	0.00251 0.00200	<0.00202 0.00202			
Total Xylenes		<0.00201 0.00201	0.00251 0.00200	<0.00202 0.00202			
Total BTEX		<0.00201 0.00201	0.00251 0.00200	<0.00202 0.00202			
Inorganic Anions by EPA 300/300.1	<i>Extracted:</i>	Sep-11-17 14:15	Sep-11-17 14:15	Sep-11-17 14:15			
	<i>Analyzed:</i>	Sep-11-17 20:22	Sep-11-17 20:53	Sep-11-17 21:04			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Chloride		80.3 4.97	25.2 4.91	50.1 4.99			
TPH By SW8015 Mod	<i>Extracted:</i>	Sep-10-17 16:00	Sep-10-17 16:00	Sep-10-17 16:00			
	<i>Analyzed:</i>	Sep-11-17 11:33	Sep-11-17 11:54	Sep-11-17 12:13			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0			
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0			
Oil Range Hydrocarbons (ORO)		<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			

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

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Kelsey Brooks
Project Manager

Analytical Report 562386

for
COG Operating LLC

Project Manager: Aaron Lieb

Loco Hills SWD#004

12-SEP-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)



12-SEP-17

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

Reference: XENCO Report No(s): **562386**
Loco Hills SWD#004
Project Address: Loco Hills SWD#004

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) 562386. 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. 562386 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Kelsey Brooks

Project Manager

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COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
T1	S	09-07-17 09:00	0	562386-001
T1	S	09-07-17 09:05	1 ft	562386-002
T1	S	09-07-17 09:10	2 ft	562386-003
T1	S	09-07-17 09:15	3 ft	562386-004
T1	S	09-07-17 09:20	8 ft	562386-005
T2	S	09-07-17 09:30	0 ft	562386-006
T2	S	09-07-17 09:35	1 ft	562386-007
T2	S	09-07-17 09:40	2 ft	562386-008
T2	S	09-07-17 09:45	7 ft	562386-009
T3	S	09-07-17 10:00	0 ft	562386-010
T3	S	09-07-17 10:05	1 ft	562386-011
T3	S	09-07-17 10:10	2 ft	562386-012
T3	S	09-07-17 10:15	7 ft	562386-013
T4	S	09-07-17 10:25	0 ft	562386-014
T4	S	09-07-17 10:30	1 ft	562386-015
T4	S	09-07-17 10:35	2 ft	562386-016
T4	S	09-07-17 10:40	7 ft	562386-017
T5	S	09-07-17 10:55	0 ft	562386-018
T5	S	09-07-17 11:00	1 ft	562386-019
T5	S	09-07-17 11:05	2 ft	562386-020
T5	S	09-07-17 11:10	3 ft	562386-021
T5	S	09-07-17 11:15	8 ft	562386-022
T6	S	09-07-17 11:20	0 ft	562386-023
T6	S	09-07-17 11:25	1 ft	562386-024
T6	S	09-07-17 11:28	2 ft	562386-025
T6	S	09-07-17 11:30	3 ft	562386-026
T6	S	09-07-17 11:31	8 ft	562386-027



CASE NARRATIVE

Client Name: COG Operating LLC

Project Name: Loco Hills SWD#004

Project ID:
Work Order Number(s): 562386

Report Date: 12-SEP-17
Date Received: 09/08/2017

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3027284 BTEX by EPA 8021B

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

Batch: LBA-3027289 BTEX by EPA 8021B

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

Lab Sample ID 562386-013 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Ethylbenzene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Benzene recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 562386-001, -003, -013, -014, -015, -016, -017, -018, -019, -020, -021, -023, -024, -025, -026, -027.

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

Surrogate 4-Bromofluorobenzene recovered below QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 562386-013 S, 562386-013 SD.

Batch: LBA-3027292 BTEX by EPA 8021B

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

Batch: LBA-3027337 Inorganic Anions by EPA 300/300.1

Lab Sample ID 562386-023 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: 562386-013, -014, -015, -016, -017, -018, -019, -020, -021, -022, -023, -024, -025, -026, -027.

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

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T1	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-001	Date Collected: 09.07.17 09.00	Sample Depth: 0
Analytical Method: Inorganic Anions by EPA 300/300.1		Prep Method: E300P
Tech: MNV		% Moisture:
Analyst: MNV	Date Prep: 09.11.17 09.35	Basis: Wet Weight
Seq Number: 3027331		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1500	25.0	mg/kg	09.11.17 13.39		5

Analytical Method: TPH By SW8015 Mod	Prep Method: TX1005P
Tech: ARM	% Moisture:
Analyst: ARM	Date Prep: 09.10.17 14.00
Seq Number: 3027227	Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.10.17 23.55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.10.17 23.55	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.10.17 23.55	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.10.17 23.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	09.10.17 23.55	
o-Terphenyl	84-15-1	97	%	70-135	09.10.17 23.55	

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T1	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-001	Date Collected: 09.07.17 09.00	Sample Depth: 0
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: ALJ		% Moisture:
Analyst: ALJ	Date Prep: 09.11.17 08.45	Basis: Wet Weight
Seq Number: 3027289		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00353	0.00353	mg/kg	09.11.17 19.06	U	1
Toluene	108-88-3	<0.00353	0.00353	mg/kg	09.11.17 19.06	U	1
Ethylbenzene	100-41-4	<0.00353	0.00353	mg/kg	09.11.17 19.06	U	1
m,p-Xylenes	179601-23-1	<0.00707	0.00707	mg/kg	09.11.17 19.06	U	1
o-Xylene	95-47-6	<0.00353	0.00353	mg/kg	09.11.17 19.06	U	1
Total Xylenes	1330-20-7	<0.00353	0.00353	mg/kg	09.11.17 19.06	U	1
Total BTEX		<0.00353	0.00353	mg/kg	09.11.17 19.06	U	1
			%				
Surrogate	Cas Number	Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	92	%	80-120	09.11.17 19.06		
4-Bromofluorobenzene	460-00-4	86	%	80-120	09.11.17 19.06		

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T1	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-002	Date Collected: 09.07.17 09.05	Sample Depth: 1 ft
Analytical Method: Inorganic Anions by EPA 300/300.1		Prep Method: E300P
Tech: MNV		% Moisture:
Analyst: MNV	Date Prep: 09.11.17 09.35	Basis: Wet Weight
Seq Number: 3027331		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1240	4.99	mg/kg	09.11.17 13.49		1

Analytical Method: TPH By SW8015 Mod	Prep Method: TX1005P
Tech: ARM	% Moisture:
Analyst: ARM	Date Prep: 09.10.17 14.00
Seq Number: 3027227	Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.11.17 00.15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.11.17 00.15	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.11.17 00.15	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.11.17 00.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	09.11.17 00.15	
o-Terphenyl	84-15-1	101	%	70-135	09.11.17 00.15	

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T1	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-002	Date Collected: 09.07.17 09.05	Sample Depth: 1 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: ALJ		% Moisture:
Analyst: ALJ	Date Prep: 09.11.17 08.30	Basis: Wet Weight
Seq Number: 3027284		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	09.11.17 15.02	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	09.11.17 15.02	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	09.11.17 15.02	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	09.11.17 15.02	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	09.11.17 15.02	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	09.11.17 15.02	U	1
Total BTEX		<0.00198	0.00198	mg/kg	09.11.17 15.02	U	1
			%				
Surrogate	Cas Number	Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	89	%	80-120	09.11.17 15.02		
4-Bromofluorobenzene	460-00-4	104	%	80-120	09.11.17 15.02		

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T1	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-003	Date Collected: 09.07.17 09.10	Sample Depth: 2 ft
Analytical Method: Inorganic Anions by EPA 300/300.1		Prep Method: E300P
Tech: MNV		% Moisture:
Analyst: MNV	Date Prep: 09.11.17 09.35	Basis: Wet Weight
Seq Number: 3027331		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	559	5.00	mg/kg	09.11.17 13.59		1

Analytical Method: TPH By SW8015 Mod		Prep Method: TX1005P
Tech: ARM		% Moisture:
Analyst: ARM	Date Prep: 09.10.17 14.00	Basis: Wet Weight
Seq Number: 3027227		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.11.17 01.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.11.17 01.16	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.11.17 01.16	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.11.17 01.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	09.11.17 01.16	
o-Terphenyl	84-15-1	101	%	70-135	09.11.17 01.16	

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T1	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-003	Date Collected: 09.07.17 09.10	Sample Depth: 2 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: ALJ		% Moisture:
Analyst: ALJ	Date Prep: 09.11.17 08.45	Basis: Wet Weight
Seq Number: 3027289		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00346	0.00346	mg/kg	09.11.17 20.02	U	1
Toluene	108-88-3	<0.00346	0.00346	mg/kg	09.11.17 20.02	U	1
Ethylbenzene	100-41-4	<0.00346	0.00346	mg/kg	09.11.17 20.02	U	1
m,p-Xylenes	179601-23-1	<0.00692	0.00692	mg/kg	09.11.17 20.02	U	1
o-Xylene	95-47-6	0.00436	0.00346	mg/kg	09.11.17 20.02		1
Total Xylenes	1330-20-7	0.00436	0.00346	mg/kg	09.11.17 20.02		1
Total BTEX		0.00436	0.00346	mg/kg	09.11.17 20.02		1
%							
Surrogate	Cas Number	Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	82	%	80-120	09.11.17 20.02		
1,4-Difluorobenzene	540-36-3	92	%	80-120	09.11.17 20.02		

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T1	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-004	Date Collected: 09.07.17 09.15	Sample Depth: 3 ft
Analytical Method: Inorganic Anions by EPA 300/300.1		Prep Method: E300P
Tech: MNV		% Moisture:
Analyst: MNV	Date Prep: 09.11.17 09.35	Basis: Wet Weight
Seq Number: 3027331		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	173	4.90	mg/kg	09.11.17 14.30		1

Analytical Method: TPH By SW8015 Mod	Prep Method: TX1005P
Tech: ARM	% Moisture:
Analyst: ARM	Date Prep: 09.10.17 14.00
Seq Number: 3027227	Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.11.17 01.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.11.17 01.37	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.11.17 01.37	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.11.17 01.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	09.11.17 01.37	
o-Terphenyl	84-15-1	92	%	70-135	09.11.17 01.37	

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T1	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-004	Date Collected: 09.07.17 09.15	Sample Depth: 3 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: ALJ		% Moisture:
Analyst: ALJ	Date Prep: 09.11.17 08.30	Basis: Wet Weight
Seq Number: 3027284		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.11.17 16.22	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.11.17 16.22	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.11.17 16.22	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	09.11.17 16.22	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.11.17 16.22	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.11.17 16.22	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.11.17 16.22	U	1
			%				
Surrogate	Cas Number	Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	107	%	80-120	09.11.17 16.22		
1,4-Difluorobenzene	540-36-3	93	%	80-120	09.11.17 16.22		

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T1	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-005	Date Collected: 09.07.17 09.20	Sample Depth: 8 ft
Analytical Method: Inorganic Anions by EPA 300/300.1		Prep Method: E300P
Tech: MNV		% Moisture:
Analyst: MNV	Date Prep: 09.11.17 09.35	Basis: Wet Weight
Seq Number: 3027331		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	178	4.93	mg/kg	09.11.17 14.41		1

Analytical Method: TPH By SW8015 Mod	Prep Method: TX1005P
Tech: ARM	% Moisture:
Analyst: ARM	Date Prep: 09.10.17 14.00
Seq Number: 3027227	Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.11.17 01.58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.11.17 01.58	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.11.17 01.58	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.11.17 01.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	09.11.17 01.58	
o-Terphenyl	84-15-1	104	%	70-135	09.11.17 01.58	



Certificate of Analytical Results 562386



COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T1
Lab Sample Id: 562386-005

Matrix: Soil
Date Collected: 09.07.17 09.20

Date Received: 09.08.17 13.45
Sample Depth: 8 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 09.11.17 14.00

Basis: Wet Weight

Seq Number: 3027292

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00344	0.00344	mg/kg	09.12.17 07.34	U	1
Toluene	108-88-3	<0.00344	0.00344	mg/kg	09.12.17 07.34	U	1
Ethylbenzene	100-41-4	<0.00344	0.00344	mg/kg	09.12.17 07.34	U	1
m,p-Xylenes	179601-23-1	<0.00687	0.00687	mg/kg	09.12.17 07.34	U	1
o-Xylene	95-47-6	<0.00344	0.00344	mg/kg	09.12.17 07.34	U	1
Total Xylenes	1330-20-7	<0.00344	0.00344	mg/kg	09.12.17 07.34	U	1
Total BTEX		<0.00344	0.00344	mg/kg	09.12.17 07.34	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	81		%	80-120	09.12.17 07.34	
1,4-Difluorobenzene	540-36-3	94		%	80-120	09.12.17 07.34	

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T2	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-006	Date Collected: 09.07.17 09.30	Sample Depth: 0 ft
Analytical Method: Inorganic Anions by EPA 300/300.1		Prep Method: E300P
Tech: MNV		% Moisture:
Analyst: MNV	Date Prep: 09.11.17 09.35	Basis: Wet Weight
Seq Number: 3027331		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3050	24.8	mg/kg	09.11.17 15.12		5

Analytical Method: TPH By SW8015 Mod	Prep Method: TX1005P
Tech: ARM	% Moisture:
Analyst: ARM	Date Prep: 09.10.17 14.00
Seq Number: 3027227	Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	181	15.0	mg/kg	09.11.17 02.20		1
Diesel Range Organics (DRO)	C10C28DRO	2300	15.0	mg/kg	09.11.17 02.20		1
Oil Range Hydrocarbons (ORO)	PHCG2835	396	15.0	mg/kg	09.11.17 02.20		1
Total TPH	PHC635	2880	15.0	mg/kg	09.11.17 02.20		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
	1-Chlorooctane	111-85-3	107	%	70-135	09.11.17 02.20	
	o-Terphenyl	84-15-1	89	%	70-135	09.11.17 02.20	

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T2	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-006	Date Collected: 09.07.17 09.30	Sample Depth: 0 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: ALJ		% Moisture:
Analyst: ALJ	Date Prep: 09.11.17 08.30	Basis: Wet Weight
Seq Number: 3027284		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	09.11.17 16.59	U	1
Toluene	108-88-3	0.0975	0.00199	mg/kg	09.11.17 16.59		1
Ethylbenzene	100-41-4	0.0194	0.00199	mg/kg	09.11.17 16.59		1
m,p-Xylenes	179601-23-1	0.300	0.00398	mg/kg	09.11.17 16.59		1
o-Xylene	95-47-6	0.0613	0.00199	mg/kg	09.11.17 16.59		1
Total Xylenes	1330-20-7	0.361	0.00199	mg/kg	09.11.17 16.59		1
Total BTEX		0.478	0.00199	mg/kg	09.11.17 16.59		1
%							
Surrogate	Cas Number	Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	90	%	80-120	09.11.17 16.59		
4-Bromofluorobenzene	460-00-4	99	%	80-120	09.11.17 16.59		

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T2	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-007	Date Collected: 09.07.17 09.35	Sample Depth: 1 ft
Analytical Method: Inorganic Anions by EPA 300/300.1		Prep Method: E300P
Tech: MNV		% Moisture:
Analyst: MNV	Date Prep: 09.11.17 09.35	Basis: Wet Weight
Seq Number: 3027331		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	27.3	4.98	mg/kg	09.11.17 15.22		1

Analytical Method: TPH By SW8015 Mod	Prep Method: TX1005P
Tech: ARM	% Moisture:
Analyst: ARM	Date Prep: 09.10.17 14.00
Seq Number: 3027227	Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.11.17 02.40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.11.17 02.40	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.11.17 02.40	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.11.17 02.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	09.11.17 02.40	
o-Terphenyl	84-15-1	95	%	70-135	09.11.17 02.40	

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T2	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-007	Date Collected: 09.07.17 09.35	Sample Depth: 1 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: ALJ		% Moisture:
Analyst: ALJ	Date Prep: 09.11.17 14.00	Basis: Wet Weight
Seq Number: 3027292		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00339	0.00339	mg/kg	09.12.17 07.53	U	1
Toluene	108-88-3	<0.00339	0.00339	mg/kg	09.12.17 07.53	U	1
Ethylbenzene	100-41-4	<0.00339	0.00339	mg/kg	09.12.17 07.53	U	1
m,p-Xylenes	179601-23-1	<0.00678	0.00678	mg/kg	09.12.17 07.53	U	1
o-Xylene	95-47-6	<0.00339	0.00339	mg/kg	09.12.17 07.53	U	1
Total Xylenes	1330-20-7	<0.00339	0.00339	mg/kg	09.12.17 07.53	U	1
Total BTEX		<0.00339	0.00339	mg/kg	09.12.17 07.53	U	1
			%				
Surrogate	Cas Number	Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	95	%	80-120	09.12.17 07.53		
4-Bromofluorobenzene	460-00-4	81	%	80-120	09.12.17 07.53		

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T2	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-008	Date Collected: 09.07.17 09.40	Sample Depth: 2 ft
Analytical Method: Inorganic Anions by EPA 300/300.1		Prep Method: E300P
Tech: MNV		% Moisture:
Analyst: MNV	Date Prep: 09.11.17 09.35	Basis: Wet Weight
Seq Number: 3027331		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	25.4	4.98	mg/kg	09.11.17 15.32		1

Analytical Method: TPH By SW8015 Mod		Prep Method: TX1005P
Tech: ARM		% Moisture:
Analyst: ARM	Date Prep: 09.10.17 14.00	Basis: Wet Weight
Seq Number: 3027227		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.11.17 03.00	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.11.17 03.00	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.11.17 03.00	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.11.17 03.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	09.11.17 03.00	
o-Terphenyl	84-15-1	104	%	70-135	09.11.17 03.00	

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T2	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-008	Date Collected: 09.07.17 09.40	Sample Depth: 2 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: ALJ		% Moisture:
Analyst: ALJ	Date Prep: 09.11.17 08.30	Basis: Wet Weight
Seq Number: 3027284		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	09.11.17 17.35	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	09.11.17 17.35	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	09.11.17 17.35	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	09.11.17 17.35	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	09.11.17 17.35	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	09.11.17 17.35	U	1
Total BTEX		<0.00202	0.00202	mg/kg	09.11.17 17.35	U	1
			%				
Surrogate	Cas Number	Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	114	%	80-120	09.11.17 17.35		
1,4-Difluorobenzene	540-36-3	92	%	80-120	09.11.17 17.35		

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T2	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-009	Date Collected: 09.07.17 09.45	Sample Depth: 7 ft
Analytical Method: Inorganic Anions by EPA 300/300.1		Prep Method: E300P
Tech: MNV		% Moisture:
Analyst: MNV	Date Prep: 09.11.17 09.35	Basis: Wet Weight
Seq Number: 3027331		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	40.3	4.97	mg/kg	09.11.17 15.43		1

Analytical Method: TPH By SW8015 Mod	Prep Method: TX1005P
Tech: ARM	% Moisture:
Analyst: ARM	Date Prep: 09.10.17 14.00
Seq Number: 3027227	Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.11.17 03.22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.11.17 03.22	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.11.17 03.22	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.11.17 03.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	09.11.17 03.22	
o-Terphenyl	84-15-1	104	%	70-135	09.11.17 03.22	

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T2	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-009	Date Collected: 09.07.17 09.45	Sample Depth: 7 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: ALJ		% Moisture:
Analyst: ALJ	Date Prep: 09.11.17 08.30	Basis: Wet Weight
Seq Number: 3027284		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.11.17 17.54	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.11.17 17.54	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.11.17 17.54	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	09.11.17 17.54	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.11.17 17.54	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.11.17 17.54	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.11.17 17.54	U	1
		%					
Surrogate	Cas Number	Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	91	%	80-120	09.11.17 17.54		
4-Bromofluorobenzene	460-00-4	113	%	80-120	09.11.17 17.54		

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T3	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-010	Date Collected: 09.07.17 10.00	Sample Depth: 0 ft
Analytical Method: Inorganic Anions by EPA 300/300.1		Prep Method: E300P
Tech: MNV		% Moisture:
Analyst: MNV	Date Prep: 09.11.17 09.35	Basis: Wet Weight
Seq Number: 3027331		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5640	25.0	mg/kg	09.11.17 15.53		5

Analytical Method: TPH By SW8015 Mod		Prep Method: TX1005P
Tech: ARM		% Moisture:
Analyst: ARM	Date Prep: 09.10.17 14.00	Basis: Wet Weight
Seq Number: 3027227		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.11.17 03.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	93.5	15.0	mg/kg	09.11.17 03.42		1
Oil Range Hydrocarbons (ORO)	PHCG2835	17.8	15.0	mg/kg	09.11.17 03.42		1
Total TPH	PHC635	111	15.0	mg/kg	09.11.17 03.42		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	09.11.17 03.42	
o-Terphenyl	84-15-1	93	%	70-135	09.11.17 03.42	

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T3	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-010	Date Collected: 09.07.17 10.00	Sample Depth: 0 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: ALJ		% Moisture:
Analyst: ALJ	Date Prep: 09.11.17 08.30	Basis: Wet Weight
Seq Number: 3027284		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	09.11.17 18.16	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	09.11.17 18.16	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	09.11.17 18.16	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	09.11.17 18.16	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	09.11.17 18.16	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	09.11.17 18.16	U	1
Total BTEX		<0.00199	0.00199	mg/kg	09.11.17 18.16	U	1
		%					
Surrogate	Cas Number	Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	117	%	80-120	09.11.17 18.16		
1,4-Difluorobenzene	540-36-3	103	%	80-120	09.11.17 18.16		

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T3	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-011	Date Collected: 09.07.17 10.05	Sample Depth: 1 ft
Analytical Method: Inorganic Anions by EPA 300/300.1		Prep Method: E300P
Tech: MNV		% Moisture:
Analyst: MNV	Date Prep: 09.11.17 09.35	Basis: Wet Weight
Seq Number: 3027331		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	81.8	4.93	mg/kg	09.11.17 16.04		1

Analytical Method: TPH By SW8015 Mod	Prep Method: TX1005P
Tech: ARM	% Moisture:
Analyst: ARM	Date Prep: 09.10.17 14.00
Seq Number: 3027227	Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	09.11.17 04.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	09.11.17 04.03	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	09.11.17 04.03	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	09.11.17 04.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	09.11.17 04.03	
o-Terphenyl	84-15-1	105	%	70-135	09.11.17 04.03	

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T3	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-011	Date Collected: 09.07.17 10.05	Sample Depth: 1 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: ALJ		% Moisture:
Analyst: ALJ	Date Prep: 09.11.17 08.30	Basis: Wet Weight
Seq Number: 3027284		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	09.11.17 18.34	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	09.11.17 18.34	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	09.11.17 18.34	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	09.11.17 18.34	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	09.11.17 18.34	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	09.11.17 18.34	U	1
Total BTEX		<0.00201	0.00201	mg/kg	09.11.17 18.34	U	1
			%				
Surrogate	Cas Number		Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3		93	%	80-120	09.11.17 18.34	
4-Bromofluorobenzene	460-00-4		112	%	80-120	09.11.17 18.34	

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T3	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-012	Date Collected: 09.07.17 10.10	Sample Depth: 2 ft
Analytical Method: Inorganic Anions by EPA 300/300.1		Prep Method: E300P
Tech: MNV		% Moisture:
Analyst: MNV	Date Prep: 09.11.17 09.35	Basis: Wet Weight
Seq Number: 3027331		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	26.6	4.91	mg/kg	09.11.17 16.14		1

Analytical Method: TPH By SW8015 Mod	Prep Method: TX1005P
Tech: ARM	% Moisture:
Analyst: ARM	Date Prep: 09.10.17 14.00
Seq Number: 3027227	Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.11.17 04.25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.11.17 04.25	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.11.17 04.25	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.11.17 04.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	09.11.17 04.25	
o-Terphenyl	84-15-1	92	%	70-135	09.11.17 04.25	

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: **T3**
 Lab Sample Id: 562386-012

Matrix: **Soil**
 Date Collected: 09.07.17 10.10

Date Received: 09.08.17 13.45
 Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: **ALJ**

% Moisture:

Analyst: **ALJ**

Date Prep: 09.11.17 08.30

Basis: **Wet Weight**

Seq Number: 3027284

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.11.17 18.52	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.11.17 18.52	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.11.17 18.52	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	09.11.17 18.52	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.11.17 18.52	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.11.17 18.52	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.11.17 18.52	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	112	%	80-120	09.11.17 18.52		
1,4-Difluorobenzene	540-36-3	91	%	80-120	09.11.17 18.52		

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T3	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-013	Date Collected: 09.07.17 10.15	Sample Depth: 7 ft
Analytical Method: Inorganic Anions by EPA 300/300.1		Prep Method: E300P
Tech: MNV		% Moisture:
Analyst: MNV	Date Prep: 09.11.17 14.15	Basis: Wet Weight
Seq Number: 3027337		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	24.4	4.99	mg/kg	09.11.17 17.16		1

Analytical Method: TPH By SW8015 Mod		Prep Method: TX1005P
Tech: ARM		% Moisture:
Analyst: ARM	Date Prep: 09.10.17 16.00	Basis: Wet Weight
Seq Number: 3027228		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.11.17 06.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.11.17 06.10	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.11.17 06.10	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.11.17 06.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	09.11.17 06.10	
o-Terphenyl	84-15-1	97	%	70-135	09.11.17 06.10	

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T3	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-013	Date Collected: 09.07.17 10.15	Sample Depth: 7 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: ALJ		% Moisture:
Analyst: ALJ	Date Prep: 09.11.17 08.45	Basis: Wet Weight
Seq Number: 3027289		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	09.11.17 13.20	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	09.11.17 13.20	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	09.11.17 13.20	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	09.11.17 13.20	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	09.11.17 13.20	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	09.11.17 13.20	U	1
Total BTEX		<0.00202	0.00202	mg/kg	09.11.17 13.20	U	1
			%				
Surrogate	Cas Number	Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	86	%	80-120	09.11.17 13.20		
1,4-Difluorobenzene	540-36-3	100	%	80-120	09.11.17 13.20		

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T4	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-014	Date Collected: 09.07.17 10.25	Sample Depth: 0 ft
Analytical Method: Inorganic Anions by EPA 300/300.1		Prep Method: E300P
Tech: MNV		% Moisture:
Analyst: MNV	Date Prep: 09.11.17 14.15	Basis: Wet Weight
Seq Number: 3027337		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	940	4.98	mg/kg	09.11.17 17.47		1

Analytical Method: TPH By SW8015 Mod	Prep Method: TX1005P
Tech: ARM	% Moisture:
Analyst: ARM	Date Prep: 09.10.17 16.00
Seq Number: 3027228	Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	09.11.17 07.11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	09.11.17 07.11	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	09.11.17 07.11	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	09.11.17 07.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	09.11.17 07.11	
o-Terphenyl	84-15-1	103	%	70-135	09.11.17 07.11	

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: **T4**
 Lab Sample Id: 562386-014

Matrix: Soil
 Date Collected: 09.07.17 10.25

Date Received: 09.08.17 13.45
 Sample Depth: 0 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 09.11.17 08.45

Basis: Wet Weight

Seq Number: 3027289

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	09.11.17 13.39	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	09.11.17 13.39	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	09.11.17 13.39	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	09.11.17 13.39	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	09.11.17 13.39	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	09.11.17 13.39	U	1
Total BTEX		<0.00199	0.00199	mg/kg	09.11.17 13.39	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	87	%	80-120	09.11.17 13.39		
1,4-Difluorobenzene	540-36-3	98	%	80-120	09.11.17 13.39		

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T4	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-015	Date Collected: 09.07.17 10.30	Sample Depth: 1 ft
Analytical Method: Inorganic Anions by EPA 300/300.1		Prep Method: E300P
Tech: MNV		% Moisture:
Analyst: MNV	Date Prep: 09.11.17 14.15	Basis: Wet Weight
Seq Number: 3027337		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	31.8	4.96	mg/kg	09.11.17 17.57		1

Analytical Method: TPH By SW8015 Mod		Prep Method: TX1005P
Tech: ARM		% Moisture:
Analyst: ARM	Date Prep: 09.10.17 16.00	Basis: Wet Weight
Seq Number: 3027228		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.11.17 07.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.11.17 07.32	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.11.17 07.32	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.11.17 07.32	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	108	%	70-135	09.11.17 07.32		
o-Terphenyl	84-15-1	106	%	70-135	09.11.17 07.32		

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T4	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-015	Date Collected: 09.07.17 10.30	Sample Depth: 1 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: ALJ		% Moisture:
Analyst: ALJ	Date Prep: 09.11.17 08.45	Basis: Wet Weight
Seq Number: 3027289		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.11.17 13.58	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.11.17 13.58	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.11.17 13.58	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	09.11.17 13.58	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.11.17 13.58	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.11.17 13.58	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.11.17 13.58	U	1
			%				
Surrogate	Cas Number	Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	87	%	80-120	09.11.17 13.58		
1,4-Difluorobenzene	540-36-3	99	%	80-120	09.11.17 13.58		

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T4	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-016	Date Collected: 09.07.17 10.35	Sample Depth: 2 ft
Analytical Method: Inorganic Anions by EPA 300/300.1		Prep Method: E300P
Tech: MNV		% Moisture:
Analyst: MNV	Date Prep: 09.11.17 14.15	Basis: Wet Weight
Seq Number: 3027337		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	35.9	4.96	mg/kg	09.11.17 18.08		1

Analytical Method: TPH By SW8015 Mod	Prep Method: TX1005P
Tech: ARM	% Moisture:
Analyst: ARM	Date Prep: 09.10.17 16.00
Seq Number: 3027228	Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.11.17 07.53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.11.17 07.53	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.11.17 07.53	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.11.17 07.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	09.11.17 07.53	
o-Terphenyl	84-15-1	99	%	70-135	09.11.17 07.53	



Certificate of Analytical Results 562386



COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T4	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-016	Date Collected: 09.07.17 10.35	Sample Depth: 2 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: ALJ		% Moisture:
Analyst: ALJ	Date Prep: 09.11.17 08.45	Basis: Wet Weight
Seq Number: 3027289		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	09.11.17 14.17	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	09.11.17 14.17	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	09.11.17 14.17	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	09.11.17 14.17	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	09.11.17 14.17	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	09.11.17 14.17	U	1
Total BTEX		<0.00198	0.00198	mg/kg	09.11.17 14.17	U	1
			%				
Surrogate	Cas Number	Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	84	%	80-120	09.11.17 14.17		
1,4-Difluorobenzene	540-36-3	98	%	80-120	09.11.17 14.17		

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T4	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-017	Date Collected: 09.07.17 10.40	Sample Depth: 7 ft
Analytical Method: Inorganic Anions by EPA 300/300.1		Prep Method: E300P
Tech: MNV		% Moisture:
Analyst: MNV	Date Prep: 09.11.17 14.15	Basis: Wet Weight
Seq Number: 3027337		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	164	4.93	mg/kg	09.11.17 18.18		1

Analytical Method: TPH By SW8015 Mod	Prep Method: TX1005P
Tech: ARM	% Moisture:
Analyst: ARM	Date Prep: 09.10.17 16.00
Seq Number: 3027228	Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.11.17 08.14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.11.17 08.14	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.11.17 08.14	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.11.17 08.14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	09.11.17 08.14	
o-Terphenyl	84-15-1	99	%	70-135	09.11.17 08.14	

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T4	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-017	Date Collected: 09.07.17 10.40	Sample Depth: 7 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: ALJ		% Moisture:
Analyst: ALJ	Date Prep: 09.11.17 08.45	Basis: Wet Weight
Seq Number: 3027289		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	09.11.17 14.35	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	09.11.17 14.35	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	09.11.17 14.35	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	09.11.17 14.35	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	09.11.17 14.35	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	09.11.17 14.35	U	1
Total BTEX		<0.00201	0.00201	mg/kg	09.11.17 14.35	U	1
		%					
Surrogate	Cas Number	Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	87	%	80-120	09.11.17 14.35		
1,4-Difluorobenzene	540-36-3	99	%	80-120	09.11.17 14.35		

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T5	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-018	Date Collected: 09.07.17 10.55	Sample Depth: 0 ft
Analytical Method: Inorganic Anions by EPA 300/300.1		Prep Method: E300P
Tech: MNV		% Moisture:
Analyst: MNV	Date Prep: 09.11.17 14.15	Basis: Wet Weight
Seq Number: 3027337		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5120	25.0	mg/kg	09.11.17 18.49		5

Analytical Method: TPH By SW8015 Mod	Prep Method: TX1005P
Tech: ARM	% Moisture:
Analyst: ARM	Date Prep: 09.10.17 16.00
Seq Number: 3027228	Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.11.17 08.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	231	15.0	mg/kg	09.11.17 08.34		1
Oil Range Hydrocarbons (ORO)	PHCG2835	34.7	15.0	mg/kg	09.11.17 08.34		1
Total TPH	PHC635	266	15.0	mg/kg	09.11.17 08.34		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
	1-Chlorooctane	111-85-3	108	%	70-135	09.11.17 08.34	
	o-Terphenyl	84-15-1	103	%	70-135	09.11.17 08.34	

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T5	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-018	Date Collected: 09.07.17 10.55	Sample Depth: 0 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: ALJ		% Moisture:
Analyst: ALJ	Date Prep: 09.11.17 08.45	Basis: Wet Weight
Seq Number: 3027289		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	09.11.17 14.54	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	09.11.17 14.54	U	1
Ethylbenzene	100-41-4	0.0117	0.00202	mg/kg	09.11.17 14.54		1
m,p-Xylenes	179601-23-1	0.0129	0.00404	mg/kg	09.11.17 14.54		1
o-Xylene	95-47-6	0.00579	0.00202	mg/kg	09.11.17 14.54		1
Total Xylenes	1330-20-7	0.0187	0.00202	mg/kg	09.11.17 14.54		1
Total BTEX		0.0304	0.00202	mg/kg	09.11.17 14.54		1
%							
Surrogate	Cas Number	Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	95	%	80-120	09.11.17 14.54		
4-Bromofluorobenzene	460-00-4	86	%	80-120	09.11.17 14.54		

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T5	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-019	Date Collected: 09.07.17 11.00	Sample Depth: 1 ft
Analytical Method: Inorganic Anions by EPA 300/300.1		Prep Method: E300P
Tech: MNV		% Moisture:
Analyst: MNV	Date Prep: 09.11.17 14.15	Basis: Wet Weight
Seq Number: 3027337		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	59.7	4.97	mg/kg	09.11.17 18.59		1

Analytical Method: TPH By SW8015 Mod	Prep Method: TX1005P
Tech: ARM	% Moisture:
Analyst: ARM	Date Prep: 09.10.17 16.00
Seq Number: 3027228	Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.11.17 08.54	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.11.17 08.54	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.11.17 08.54	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.11.17 08.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	116	%	70-135	09.11.17 08.54	
o-Terphenyl	84-15-1	116	%	70-135	09.11.17 08.54	

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T5	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-019	Date Collected: 09.07.17 11.00	Sample Depth: 1 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: ALJ		% Moisture:
Analyst: ALJ	Date Prep: 09.11.17 08.45	Basis: Wet Weight
Seq Number: 3027289		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	09.11.17 15.13	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	09.11.17 15.13	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	09.11.17 15.13	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	09.11.17 15.13	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	09.11.17 15.13	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	09.11.17 15.13	U	1
Total BTEX		<0.00202	0.00202	mg/kg	09.11.17 15.13	U	1
		%					
Surrogate	Cas Number	Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	97	%	80-120	09.11.17 15.13		
4-Bromofluorobenzene	460-00-4	87	%	80-120	09.11.17 15.13		

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T5	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-020	Date Collected: 09.07.17 11.05	Sample Depth: 2 ft
Analytical Method: Inorganic Anions by EPA 300/300.1		Prep Method: E300P
Tech: MNV		% Moisture:
Analyst: MNV	Date Prep: 09.11.17 14.15	Basis: Wet Weight
Seq Number: 3027337		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	36.2	5.00	mg/kg	09.11.17 19.10		1

Analytical Method: TPH By SW8015 Mod	Prep Method: TX1005P
Tech: ARM	% Moisture:
Analyst: ARM	Date Prep: 09.10.17 16.00
Seq Number: 3027228	Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.11.17 09.13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.11.17 09.13	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.11.17 09.13	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.11.17 09.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	09.11.17 09.13	
o-Terphenyl	84-15-1	105	%	70-135	09.11.17 09.13	

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T5	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-020	Date Collected: 09.07.17 11.05	Sample Depth: 2 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: ALJ		% Moisture:
Analyst: ALJ	Date Prep: 09.11.17 08.45	Basis: Wet Weight
Seq Number: 3027289		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.11.17 15.32	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.11.17 15.32	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.11.17 15.32	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	09.11.17 15.32	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.11.17 15.32	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.11.17 15.32	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.11.17 15.32	U	1
		%					
Surrogate	Cas Number	Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	82	%	80-120	09.11.17 15.32		
1,4-Difluorobenzene	540-36-3	97	%	80-120	09.11.17 15.32		

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T5	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-021	Date Collected: 09.07.17 11.10	Sample Depth: 3 ft
Analytical Method: Inorganic Anions by EPA 300/300.1		Prep Method: E300P
Tech: MNV		% Moisture:
Analyst: MNV	Date Prep: 09.11.17 14.15	Basis: Wet Weight
Seq Number: 3027337		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	32.9	4.91	mg/kg	09.11.17 19.20		1

Analytical Method: TPH By SW8015 Mod	Prep Method: TX1005P
Tech: ARM	% Moisture:
Analyst: ARM	Date Prep: 09.10.17 16.00
Seq Number: 3027228	Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.11.17 09.33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.11.17 09.33	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.11.17 09.33	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.11.17 09.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	09.11.17 09.33	
o-Terphenyl	84-15-1	113	%	70-135	09.11.17 09.33	

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T5	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-021	Date Collected: 09.07.17 11.10	Sample Depth: 3 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: ALJ		% Moisture:
Analyst: ALJ	Date Prep: 09.11.17 08.45	Basis: Wet Weight
Seq Number: 3027289		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.11.17 15.51	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.11.17 15.51	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.11.17 15.51	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	09.11.17 15.51	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	09.11.17 15.51	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	09.11.17 15.51	U	1
Total BTEX		<0.00200	0.00200	mg/kg	09.11.17 15.51	U	1
			%				
Surrogate	Cas Number		Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3		98	%	80-120	09.11.17 15.51	
4-Bromofluorobenzene	460-00-4		85	%	80-120	09.11.17 15.51	

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T5	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-022	Date Collected: 09.07.17 11.15	Sample Depth: 8 ft
Analytical Method: Inorganic Anions by EPA 300/300.1		Prep Method: E300P
Tech: MNV		% Moisture:
Analyst: MNV	Date Prep: 09.11.17 14.15	Basis: Wet Weight
Seq Number: 3027337		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	83.7	4.93	mg/kg	09.11.17 19.30		1

Analytical Method: TPH By SW8015 Mod	Prep Method: TX1005P
Tech: ARM	% Moisture:
Analyst: ARM	Date Prep: 09.10.17 16.00
Seq Number: 3027228	Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.11.17 09.53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.11.17 09.53	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.11.17 09.53	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.11.17 09.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	09.11.17 09.53	
o-Terphenyl	84-15-1	106	%	70-135	09.11.17 09.53	

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: **T5**
 Lab Sample Id: 562386-022

Matrix: Soil
 Date Collected: 09.07.17 11.15

Date Received: 09.08.17 13.45
 Sample Depth: 8 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 09.11.17 14.00

Basis: Wet Weight

Seq Number: 3027292

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00347	0.00347	mg/kg	09.12.17 08.12	U	1
Toluene	108-88-3	<0.00347	0.00347	mg/kg	09.12.17 08.12	U	1
Ethylbenzene	100-41-4	<0.00347	0.00347	mg/kg	09.12.17 08.12	U	1
m,p-Xylenes	179601-23-1	<0.00694	0.00694	mg/kg	09.12.17 08.12	U	1
o-Xylene	95-47-6	<0.00347	0.00347	mg/kg	09.12.17 08.12	U	1
Total Xylenes	1330-20-7	<0.00347	0.00347	mg/kg	09.12.17 08.12	U	1
Total BTEX		<0.00347	0.00347	mg/kg	09.12.17 08.12	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	92	%	80-120	09.12.17 08.12		
4-Bromofluorobenzene	460-00-4	87	%	80-120	09.12.17 08.12		

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T6	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-023	Date Collected: 09.07.17 11.20	Sample Depth: 0 ft
Analytical Method: Inorganic Anions by EPA 300/300.1		Prep Method: E300P
Tech: MNV		% Moisture:
Analyst: MNV	Date Prep: 09.11.17 14.15	Basis: Wet Weight
Seq Number: 3027337		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12000	49.7	mg/kg	09.11.17 19.41		10

Analytical Method: TPH By SW8015 Mod	Prep Method: TX1005P
Tech: ARM	% Moisture:
Analyst: ARM	Date Prep: 09.10.17 16.00
Seq Number: 3027228	Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	132	14.9	mg/kg	09.11.17 10.53		1
Diesel Range Organics (DRO)	C10C28DRO	1410	14.9	mg/kg	09.11.17 10.53		1
Oil Range Hydrocarbons (ORO)	PHCG2835	238	14.9	mg/kg	09.11.17 10.53		1
Total TPH	PHC635	1780	14.9	mg/kg	09.11.17 10.53		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	09.11.17 10.53	
o-Terphenyl	84-15-1	98	%	70-135	09.11.17 10.53	

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T6	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-023	Date Collected: 09.07.17 11.20	Sample Depth: 0 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: ALJ		% Moisture:
Analyst: ALJ	Date Prep: 09.11.17 08.45	Basis: Wet Weight
Seq Number: 3027289		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.00532	0.00202	mg/kg	09.11.17 17.12		1
Toluene	108-88-3	0.180	0.00202	mg/kg	09.11.17 17.12		1
Ethylbenzene	100-41-4	0.366	0.00202	mg/kg	09.11.17 17.12		1
m,p-Xylenes	179601-23-1	0.403	0.00404	mg/kg	09.11.17 17.12		1
o-Xylene	95-47-6	0.182	0.00202	mg/kg	09.11.17 17.12		1
Total Xylenes	1330-20-7	0.585	0.00202	mg/kg	09.11.17 17.12		1
Total BTEX		1.14	0.00202	mg/kg	09.11.17 17.12		1
%							
Surrogate	Cas Number	Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	82	%	80-120	09.11.17 17.12		
4-Bromofluorobenzene	460-00-4	110	%	80-120	09.11.17 17.12		

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T6	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-024	Date Collected: 09.07.17 11.25	Sample Depth: 1 ft
Analytical Method: Inorganic Anions by EPA 300/300.1		Prep Method: E300P
Tech: MNV		% Moisture:
Analyst: MNV	Date Prep: 09.11.17 14.15	Basis: Wet Weight
Seq Number: 3027337		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8590	49.9	mg/kg	09.11.17 20.12		10

Analytical Method: TPH By SW8015 Mod	Prep Method: TX1005P
Tech: ARM	% Moisture:
Analyst: ARM	Date Prep: 09.10.17 16.00
Seq Number: 3027228	Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.11.17 11.14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.11.17 11.14	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.11.17 11.14	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.11.17 11.14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	09.11.17 11.14	
o-Terphenyl	84-15-1	104	%	70-135	09.11.17 11.14	

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T6	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-024	Date Collected: 09.07.17 11.25	Sample Depth: 1 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: ALJ		% Moisture:
Analyst: ALJ	Date Prep: 09.11.17 08.45	Basis: Wet Weight
Seq Number: 3027289		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.00523	0.00200	mg/kg	09.11.17 17.31		1
Toluene	108-88-3	0.00239	0.00200	mg/kg	09.11.17 17.31		1
Ethylbenzene	100-41-4	0.00722	0.00200	mg/kg	09.11.17 17.31		1
m,p-Xylenes	179601-23-1	0.00822	0.00401	mg/kg	09.11.17 17.31		1
o-Xylene	95-47-6	0.00561	0.00200	mg/kg	09.11.17 17.31		1
Total Xylenes	1330-20-7	0.0138	0.00200	mg/kg	09.11.17 17.31		1
Total BTEX		0.0287	0.00200	mg/kg	09.11.17 17.31		1
%							
Surrogate	Cas Number	Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	91	%	80-120	09.11.17 17.31		
4-Bromofluorobenzene	460-00-4	97	%	80-120	09.11.17 17.31		

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Loco Hills SWD#004

Sample Id: T6	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-025	Date Collected: 09.07.17 11.28	Sample Depth: 2 ft
Analytical Method: Inorganic Anions by EPA 300/300.1		Prep Method: E300P
Tech: MNV		% Moisture:
Analyst: MNV	Date Prep: 09.11.17 14.15	Basis: Wet Weight
Seq Number: 3027337		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	80.3	4.97	mg/kg	09.11.17 20.22		1

Analytical Method: TPH By SW8015 Mod	Prep Method: TX1005P
Tech: ARM	% Moisture:
Analyst: ARM	Date Prep: 09.10.17 16.00
Seq Number: 3027228	Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.11.17 11.33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.11.17 11.33	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.11.17 11.33	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.11.17 11.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	09.11.17 11.33	
o-Terphenyl	84-15-1	109	%	70-135	09.11.17 11.33	

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T6	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-025	Date Collected: 09.07.17 11.28	Sample Depth: 2 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: ALJ		% Moisture:
Analyst: ALJ	Date Prep: 09.11.17 08.45	Basis: Wet Weight
Seq Number: 3027289		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	09.11.17 17.50	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	09.11.17 17.50	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	09.11.17 17.50	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	09.11.17 17.50	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	09.11.17 17.50	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	09.11.17 17.50	U	1
Total BTEX		<0.00201	0.00201	mg/kg	09.11.17 17.50	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	94	%	80-120	09.11.17 17.50		
1,4-Difluorobenzene	540-36-3	93	%	80-120	09.11.17 17.50		

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T6	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-026	Date Collected: 09.07.17 11.30	Sample Depth: 3 ft
Analytical Method: Inorganic Anions by EPA 300/300.1		Prep Method: E300P
Tech: MNV		% Moisture:
Analyst: MNV	Date Prep: 09.11.17 14.15	Basis: Wet Weight
Seq Number: 3027337		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	25.2	4.91	mg/kg	09.11.17 20.53		1

Analytical Method: TPH By SW8015 Mod	Prep Method: TX1005P
Tech: ARM	% Moisture:
Analyst: ARM	Date Prep: 09.10.17 16.00
Seq Number: 3027228	Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.11.17 11.54	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.11.17 11.54	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.11.17 11.54	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.11.17 11.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	09.11.17 11.54	
o-Terphenyl	84-15-1	106	%	70-135	09.11.17 11.54	

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T6	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-026	Date Collected: 09.07.17 11.30	Sample Depth: 3 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: ALJ		% Moisture:
Analyst: ALJ	Date Prep: 09.11.17 08.45	Basis: Wet Weight
Seq Number: 3027289		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	09.11.17 18.09	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	09.11.17 18.09	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	09.11.17 18.09	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	09.11.17 18.09	U	1
o-Xylene	95-47-6	0.00251	0.00200	mg/kg	09.11.17 18.09		1
Total Xylenes	1330-20-7	0.00251	0.00200	mg/kg	09.11.17 18.09		1
Total BTEX		0.00251	0.00200	mg/kg	09.11.17 18.09		1
		%					
Surrogate	Cas Number	Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	80	%	80-120	09.11.17 18.09		
1,4-Difluorobenzene	540-36-3	104	%	80-120	09.11.17 18.09		

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T6	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-027	Date Collected: 09.07.17 11.31	Sample Depth: 8 ft
Analytical Method: Inorganic Anions by EPA 300/300.1		Prep Method: E300P
Tech: MNV		% Moisture:
Analyst: MNV	Date Prep: 09.11.17 14.15	Basis: Wet Weight
Seq Number: 3027337		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	50.1	4.99	mg/kg	09.11.17 21.04		1

Analytical Method: TPH By SW8015 Mod	Prep Method: TX1005P
Tech: ARM	% Moisture:
Analyst: ARM	Date Prep: 09.10.17 16.00
Seq Number: 3027228	Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	09.11.17 12.13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	09.11.17 12.13	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	09.11.17 12.13	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	09.11.17 12.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	09.11.17 12.13	
o-Terphenyl	84-15-1	113	%	70-135	09.11.17 12.13	

COG Operating LLC, Artesia, NM

Loco Hills SWD#004

Sample Id: T6	Matrix: Soil	Date Received: 09.08.17 13.45
Lab Sample Id: 562386-027	Date Collected: 09.07.17 11.31	Sample Depth: 8 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: ALJ		% Moisture:
Analyst: ALJ	Date Prep: 09.11.17 08.45	Basis: Wet Weight
Seq Number: 3027289		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	09.11.17 18.28	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	09.11.17 18.28	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	09.11.17 18.28	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	09.11.17 18.28	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	09.11.17 18.28	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	09.11.17 18.28	U	1
Total BTEX		<0.00202	0.00202	mg/kg	09.11.17 18.28	U	1
		%					
Surrogate	Cas Number	Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	92	%	80-120	09.11.17 18.28		
4-Bromofluorobenzene	460-00-4	91	%	80-120	09.11.17 18.28		

- 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	(214) 902 0300	(214) 351-9139
1211 W Florida Ave, Midland, TX 79701	(210) 509-3334	(210) 509-3335
2525 W. Huntington Dr. - Suite 102, Tempe AZ 85282	(432) 563-1800	(432) 563-1713
	(602) 437-0330	



COG Operating LLC

Loco Hills SWD#004

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3027331

MB Sample Id: 730718-1-BLK

Matrix: Solid

LCS Sample Id: 730718-1-BKS

Prep Method: E300P

Date Prep: 09.11.17

LCSD Sample Id: 730718-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	248	99	226	90	90-110	9	20	mg/kg	09.11.17 11:14	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3027331

MB Sample Id: 730721-1-BLK

Matrix: Solid

LCS Sample Id: 730721-1-BKS

Prep Method: E300P

Date Prep: 09.11.17

LCSD Sample Id: 730721-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	246	98	246	98	90-110	0	20	mg/kg	09.11.17 16:55	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3027331

Parent Sample Id: 562385-001

Matrix: Soil

MS Sample Id: 562385-001 S

Prep Method: E300P

Date Prep: 09.11.17

MSD Sample Id: 562385-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	182	250	431	100	433	100	90-110	0	20	mg/kg	09.11.17 11:45	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3027331

Parent Sample Id: 562386-003

Matrix: Soil

MS Sample Id: 562386-003 S

Prep Method: E300P

Date Prep: 09.11.17

MSD Sample Id: 562386-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	559	250	813	102	815	102	90-110	0	20	mg/kg	09.11.17 14:10	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3027331

Parent Sample Id: 562386-013

Matrix: Soil

MS Sample Id: 562386-013 S

Prep Method: E300P

Date Prep: 09.11.17

MSD Sample Id: 562386-013 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	24.4	250	258	93	258	93	90-110	0	20	mg/kg	09.11.17 17:26	

Analytical Method: Inorganic Anions by EPA 300/300.1

Seq Number: 3027331

Parent Sample Id: 562386-023

Matrix: Soil

MS Sample Id: 562386-023 S

Prep Method: E300P

Date Prep: 09.11.17

MSD Sample Id: 562386-023 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	12000	249	11800	0	11900	0	90-110	1	20	mg/kg	09.11.17 19:51	X



COG Operating LLC

Loco Hills SWD#004

Analytical Method: TPH By SW8015 Mod

Seq Number: 3027227

MB Sample Id: 730692-1-BLK

Matrix: Solid

LCS Sample Id: 730692-1-BKS

Prep Method: TX1005P

Date Prep: 09.10.17

LCSD Sample Id: 730692-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	925	93	951	95	70-135	3	35	mg/kg	09.10.17 19:50	
Diesel Range Organics (DRO)	<15.0	1000	1040	104	1050	105	70-135	1	35	mg/kg	09.10.17 19:50	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	98		98		107		70-135	%	09.10.17 19:50
o-Terphenyl	101		95		102		70-135	%	09.10.17 19:50

Analytical Method: TPH By SW8015 Mod

Seq Number: 3027228

MB Sample Id: 730694-1-BLK

Matrix: Solid

LCS Sample Id: 730694-1-BKS

Prep Method: TX1005P

Date Prep: 09.10.17

LCSD Sample Id: 730694-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	964	96	1040	104	70-135	8	35	mg/kg	09.11.17 05:26	
Diesel Range Organics (DRO)	<15.0	1000	1090	109	1120	112	70-135	3	35	mg/kg	09.11.17 05:26	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	101		104		107		70-135	%	09.11.17 05:26
o-Terphenyl	103		98		104		70-135	%	09.11.17 05:26

Analytical Method: TPH By SW8015 Mod

Seq Number: 3027227

Parent Sample Id: 562385-001

Matrix: Soil

MS Sample Id: 562385-001 S

Prep Method: TX1005P

Date Prep: 09.10.17

MSD Sample Id: 562385-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	998	923	92	930	93	70-135	1	35	mg/kg	09.10.17 20:50	
Diesel Range Organics (DRO)	<15.0	998	1040	104	1020	102	70-135	2	35	mg/kg	09.10.17 20:50	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	101		100		70-135	%	09.10.17 20:50
o-Terphenyl	97		94		70-135	%	09.10.17 20:50



COG Operating LLC

Loco Hills SWD#004

Analytical Method: TPH By SW8015 Mod

Seq Number: 3027228

Parent Sample Id: 562386-013

Matrix: Soil

MS Sample Id: 562386-013 S

Prep Method: TX1005P

Date Prep: 09.10.17

MSD Sample Id: 562386-013 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	999	1060	106	945	95	70-135	11	35	mg/kg	09.11.17 06:30	
Diesel Range Organics (DRO)	<15.0	999	1120	112	1100	110	70-135	2	35	mg/kg	09.11.17 06:30	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	112		105		70-135	%	09.11.17 06:30
o-Terphenyl	106		101		70-135	%	09.11.17 06:30

Analytical Method: BTEX by EPA 8021B

Seq Number: 3027284

MB Sample Id: 730731-1-BLK

Matrix: Solid

LCS Sample Id: 730731-1-BKS

Prep Method: SW5030B

Date Prep: 09.11.17

LCSD Sample Id: 730731-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0905	90	0.105	104	70-130	15	35	mg/kg	09.11.17 10:15	
Toluene	<0.00202	0.101	0.0929	92	0.107	106	70-130	14	35	mg/kg	09.11.17 10:15	
Ethylbenzene	<0.00202	0.101	0.0898	89	0.103	102	71-129	14	35	mg/kg	09.11.17 10:15	
m,p-Xylenes	<0.00403	0.202	0.173	86	0.200	100	70-135	14	35	mg/kg	09.11.17 10:15	
o-Xylene	<0.00202	0.101	0.0849	84	0.0981	97	71-133	14	35	mg/kg	09.11.17 10:15	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	89		100		107		80-120	%	09.11.17 10:15
4-Bromofluorobenzene	102		92		99		80-120	%	09.11.17 10:15

Analytical Method: BTEX by EPA 8021B

Seq Number: 3027289

MB Sample Id: 730732-1-BLK

Matrix: Solid

LCS Sample Id: 730732-1-BKS

Prep Method: SW5030B

Date Prep: 09.11.17

LCSD Sample Id: 730732-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.110	110	0.109	108	70-130	1	35	mg/kg	09.11.17 11:03	
Toluene	<0.00200	0.100	0.103	103	0.103	102	70-130	0	35	mg/kg	09.11.17 11:03	
Ethylbenzene	<0.00200	0.100	0.100	100	0.101	100	71-129	1	35	mg/kg	09.11.17 11:03	
m,p-Xylenes	<0.00400	0.200	0.195	98	0.196	97	70-135	1	35	mg/kg	09.11.17 11:03	
o-Xylene	<0.00200	0.100	0.0932	93	0.0941	93	71-133	1	35	mg/kg	09.11.17 11:03	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	95		99		99		80-120	%	09.11.17 11:03
4-Bromofluorobenzene	80		87		89		80-120	%	09.11.17 11:03



COG Operating LLC

Loco Hills SWD#004

Analytical Method: BTEX by EPA 8021B

Seq Number: 3027292

MB Sample Id: 730734-1-BLK

Matrix: Solid

LCS Sample Id: 730734-1-BKS

Prep Method: SW5030B

Date Prep: 09.11.17

LCSD Sample Id: 730734-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.106	105	0.106	106	70-130	0	35	mg/kg	09.11.17 20:57	
Toluene	<0.00202	0.101	0.100	99	0.100	100	70-130	0	35	mg/kg	09.11.17 20:57	
Ethylbenzene	<0.00202	0.101	0.0995	99	0.0991	99	71-129	0	35	mg/kg	09.11.17 20:57	
m,p-Xylenes	<0.00403	0.202	0.193	96	0.192	96	70-135	1	35	mg/kg	09.11.17 20:57	
o-Xylene	<0.00202	0.101	0.0941	93	0.0931	93	71-133	1	35	mg/kg	09.11.17 20:57	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	93		97		96		80-120	%	09.11.17 20:57
4-Bromofluorobenzene	86		92		89		80-120	%	09.11.17 20:57

Analytical Method: BTEX by EPA 8021B

Seq Number: 3027284

Parent Sample Id: 562385-001

Matrix: Soil

MS Sample Id: 562385-001 S

Prep Method: SW5030B

Date Prep: 09.11.17

MSD Sample Id: 562385-001 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	0.112	111	0.0963	96	70-130	15	35	mg/kg	09.11.17 10:53	
Toluene	<0.00202	0.101	0.105	104	0.0930	93	70-130	12	35	mg/kg	09.11.17 10:53	
Ethylbenzene	<0.00202	0.101	0.105	104	0.0811	81	71-129	26	35	mg/kg	09.11.17 10:53	
m,p-Xylenes	<0.00403	0.202	0.202	100	0.155	78	70-135	26	35	mg/kg	09.11.17 10:53	
o-Xylene	<0.00202	0.101	0.0983	97	0.0804	80	71-133	20	35	mg/kg	09.11.17 10:53	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		92		80-120	%	09.11.17 10:53
4-Bromofluorobenzene	91		87		80-120	%	09.11.17 10:53

Analytical Method: BTEX by EPA 8021B

Seq Number: 3027289

Parent Sample Id: 562386-013

Matrix: Soil

MS Sample Id: 562386-013 S

Prep Method: SW5030B

Date Prep: 09.11.17

MSD Sample Id: 562386-013 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	0.201	199	0.142	141	70-130	34	35	mg/kg	09.11.17 12:20	X
Toluene	<0.00202	0.101	0.0803	80	0.0789	78	70-130	2	35	mg/kg	09.11.17 12:20	
Ethylbenzene	<0.00202	0.101	0.0306	30	0.0264	26	71-129	15	35	mg/kg	09.11.17 12:20	X
m,p-Xylenes	<0.00404	0.202	0.0475	24	0.0381	19	70-135	22	35	mg/kg	09.11.17 12:20	X
o-Xylene	<0.00202	0.101	0.0309	31	0.0312	31	71-133	1	35	mg/kg	09.11.17 12:20	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		109		80-120	%	09.11.17 12:20
4-Bromofluorobenzene	42	**	39	**	80-120	%	09.11.17 12:20



COG Operating LLC

Loco Hills SWD#004

Analytical Method: BTEX by EPA 8021B

Seq Number: 3027292

Parent Sample Id: 562388-001

Matrix: Soil

MS Sample Id: 562388-001 S

Prep Method: SW5030B

Date Prep: 09.11.17

MSD Sample Id: 562388-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0733	73	0.0791	79	70-130	8	35	mg/kg	09.11.17 21:35	
Toluene	<0.00200	0.100	0.0618	62	0.0692	69	70-130	11	35	mg/kg	09.11.17 21:35	X
Ethylbenzene	<0.00200	0.100	0.0549	55	0.0587	59	71-129	7	35	mg/kg	09.11.17 21:35	X
m,p-Xylenes	<0.00400	0.200	0.103	52	0.109	54	70-135	6	35	mg/kg	09.11.17 21:35	X
o-Xylene	<0.00200	0.100	0.0553	55	0.0565	57	71-133	2	35	mg/kg	09.11.17 21:35	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		98		80-120	%	09.11.17 21:35
4-Bromofluorobenzene	87		91		80-120	%	09.11.17 21:35



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 Midland, Texas (432-704-5251)

Phoenix, Arizona (480-355-0900)

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Client / Reporting Information		Project Information		Analytical Information		Matrix Codes												
Company Name / Branch: COG Operating LLC		Project Name/Number: Loco Hills SWD #004		Xenco Quote #		Xenco Job #												
Company Address: 2407 PECOS Avenue Artesia NM 88210		Project Location: Loco Hills SWD #0C		562386		562386												
Email: alieb@concho.com dneel2@concho.com thaskel@concho.com		Invoice To: COG Operating LLC Attn: Robert McNeill 600 W. Illinois Midland TX 79701		FED-EX / UPS: Tracking #														
Project Contact: Aaron Lieb		Phone No: 575-748-1553		Date Time: 9-8-17 145		Received By: Sullivan Martinez												
Samplers Name: Aaron Lieb		PO Number:		Date Time: 9-8-17 145		Received By: 3												
No.	Field ID / Point of Collection	Sample Depth	Date	Time	Matrix	# of bottles	HCI	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	TPH/ EXTENDED	BTEX	Chloride	Notes
1	T1- Surf	Surf	9/7/17	9:05 AM	S	1									X	X	X	
2	T1- 1'			9:10		1									X	X	X	
3	T1- 2'			9:15		1									X	X	X	
4	T1- 3'			9:20		1									X	X	X	
5	T1- 8'			9:30		1									X	X	X	
6	T2- Surf	Surf		9:35		1									X	X	X	
7	T2- 1'			9:40		1									X	X	X	
8	T2- 2'			9:45		1									X	X	X	
9	T2- 7'			9:45		1									X	X	X	
10																		

Matrix Codes
 W = Water
 S = Soil/Sed/Solid
 GW = Ground Water
 DW = Drinking Water
 P = Product
 SW = Surface water
 SL = Sludge
 OW = Ocean/Sea Water
 WI = Wipe
 O = Oil
 WW = Waste Water
 A = Air

Field Comments

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Temp: 4.2 IR ID: R-
 CF: (0-6: -0.2°C)
 (6-23: +0.2°C)
 Corrected Temp: 4.0



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 Midland, Texas (432-704-5251)

Phoenix, Arizona (480-355-0900)

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Client / Reporting Information

Company Name / Branch: COG Operating LLC
 Company / Address: 2407 PECOS Avenue Artesia NM 88210
 Email: alieb@concho.com Phone No: 575-748-1553
 Project Contact: Aaron Lieb

Project Information

Project Name/Number: LOCO Hills SMD #004
 Project Location: LOCO Hills SMD #00
 Invoice To: COG Operating LLC
 Attn: Robert McNeill
 600 W. Illinois
 Midland TX 79701
 PO Number:

Sampler's Name- Aaron Lieb

Field ID / Point of Collection

No.	Field ID / Point of Collection	Sample Depth	Collection		Matrix	# of bottles	Number of preserved bottles								TPH/ EXTENDED	BTEX	Chloride	Notes:	
			Date	Time			HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE					
1	T3 - SURF	SURF	9/17/17	10:00am	S	1													
2	T3 - 1'	1		10:05		1													
3	T3 - 2'	2		10:10		1													
4	T3 - 7'	7		10:15		1													
5																			
6	T4 - SURF	SURF		10:25		1													
7	T4 - 1'	1		10:30		1													
8	T4 - 2'	2		10:35		1													
9	T4 - 7'	7		10:40		1													
10																			

Turnaround Time (Business days) _____

Same Day TAT
 Next Day EMERGENCY
 2 Day EMERGENCY
 3 Day EMERGENCY

5 Day TAT
 7 Day TAT
 Contract TAT
 TRRP Checklist

TAT Starts Day received by Lab, if received by 5:00 pm

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

Relinquished by:	Date Time:	Received By:	Date Time:	Relinquished by:	Date Time:	Received By:	Date Time:	Relinquished by:	Date Time:	Received By:	Date Time:
1	9/17/17	1	11:50	1	9/17/17	2	11:50	1	9/17/17	3	11:50
2		2		2		3		3		4	
3		3		4		5		5			

Level II Std QC
 Level III Std QC+ Forms
 Level 3 (CLP Forms)
 TRRP Level IV
 UST / RG 411

FED-EX / UPS- Tracking # _____

On Ice

Temp: 4.2 IR ID: R-1
 CF: (0-6: -0.2°C)
 (6-23: +0.2°C)
 Corrected Temp: 4.0



Setting the Standard since 1990
 Stafford, Texas (281-240-4200)
 Dallas Texas (214-902-0300)

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

Phoenix, Arizona (480-355-0900)

www.xenco.com

CHAIN OF CUSTODY

Page 3 of 3

Client / Reporting Information		Project Information		Analytical Information		Matrix Codes	
Company Name / Branch: COG Operating LLC		Project Name/Number: Loco Hills SWD #004		Xenco Quote #		Xenco Job #	
Company Address: 2407 PECOS Avenue Artesia NM 89210		Project Location: Loco Hills SWD #00		561386			
Email: alleb@concho.com Phone No: 575-748-1553		Invoice To: COG Operating LLC					
Project Contact: Aaron Lieb		Attn: Robert McNeill					
Sampler's Name: Aaron Lieb		600 W. Illinois					
		Midland TX 79701					

No.	Field ID / Point of Collection	Sample Depth	Collection		Matrix	# of bottles	Number of preserved bottles							TPH/ EXTENDED	BTEX	Chloride	Notes:	Field Comments
			Date	Time			HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH					
1	T5 - Surf	Surf	9/17/17	11:00 AM	S	1												
2	T5 - 2'			11:05 AM		1												
3	T5 - 3'			11:10 AM		1												
4	T5 - 8'			11:15 AM		1												
5	T6 - Surf	Surf		11:20 AM		1												
6	T6 - 1'			11:25 AM		1												
7	T6 - 2'			11:28 AM		1												
8	T6 - 3'			11:30 AM		1												
9	T6 - 8'			11:31 AM		1												
10	Turnaround Time (Business days)																	

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 Level 3 (CLP Forms) UST / RG 411

3 Day EMERGENCY TRRP Checklist

TAT Starts Day received by Lab, if received by 5:00 pm

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

Relinquished by:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	
1	9/18/17	11:55 AM	9/18/17	11:55 AM	9-8-17	11:55 AM	9-8-17	14:55	9-8-17	14:55	9-8-17	14:55	9-8-17	14:55	9-8-17	14:55	9-8-17	14:55
2	9/18/17	11:55 AM	9/18/17	11:55 AM	9-8-17	11:55 AM	9-8-17	14:55	9-8-17	14:55	9-8-17	14:55	9-8-17	14:55	9-8-17	14:55	9-8-17	14:55
3	9/18/17	11:55 AM	9/18/17	11:55 AM	9-8-17	11:55 AM	9-8-17	14:55	9-8-17	14:55	9-8-17	14:55	9-8-17	14:55	9-8-17	14:55	9-8-17	14:55
4	9/18/17	11:55 AM	9/18/17	11:55 AM	9-8-17	11:55 AM	9-8-17	14:55	9-8-17	14:55	9-8-17	14:55	9-8-17	14:55	9-8-17	14:55	9-8-17	14:55
5	9/18/17	11:55 AM	9/18/17	11:55 AM	9-8-17	11:55 AM	9-8-17	14:55	9-8-17	14:55	9-8-17	14:55	9-8-17	14:55	9-8-17	14:55	9-8-17	14:55

Temp: 4.2 IR ID: R-3
 CF: (0-6: -0.2°C)
 Corrected Temp: 4.0

Notice: Signatures 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. Any samples received by Xenco but 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: 09/08/2017 01:45:00 PM

Work Order #: 562386

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	4
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6*Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	N/A
#18 Water VOC samples have zero headspace?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by: Jessica Kramer
Jessica Kramer

Date: 09/11/2017

Checklist reviewed by: Kelsey Brooks
Kelsey Brooks

Date: 09/11/2017

Photographic Documentation

Client: COG Operating, LLC
Project Name: Loco Hills SWD 33 #004

Prepared by: TRC Environmental Corp.
Location: Eddy County, NM

Photograph No. 1

Date:
August 21, 2017

Direction:
Northwest

Description:
View of Release
Site



Photograph No. 2

Date:
August 21, 2017

Direction:
North

Description:
View of Release
Site.



Client: COG Operating, LLC
Project Name: Loco Hills SWD 33 #004

Prepared by: TRC Environmental Corp.
Location: Eddy County, NM

Photograph No. 3

Date:
September 7, 2017

Direction:
Northwest

Description:
View of the Release Site following the removal of facility equipment and secondary containment.



Photograph No. 4

Date:
September 7, 2017

Direction:
Northeast

Description:
View of the Release Site following the removal of facility equipment and secondary containment.



Photographic Documentation

Client: COG Operating, LLC
Project Name: Loco Hills SWD 33 #004

Prepared by: TRC Environmental Corp.
Location: Eddy County, NM

Photograph No. 5

Date:
October 10, 2017

Direction:
Southeast

Description:
View of the
excavated area.



Photograph No. 6

Date:
October 10, 2017

Direction:
East



Description:
View of excavated
area.



Photographic Documentation

Client: COG Operating, LLC
Project Name: Loco Hills SWD 33 #004

Prepared by: TRC Environmental Corp.
Location: Eddy County, NM

<p>Photograph No. 7</p> <p>Date: October 13, 2017</p> <p>Direction: Southeast</p> <p>Description: View of the affected area after remediation activities.</p>	
<p>Photograph No. 8</p> <p>Date: October 13, 2017</p> <p>Direction: Southwest</p> <p>Description: View of the affected area after remediation activities.</p>	



Customer: COG OPERATING LLC
 Customer #: CR12120
 Ordered by: REBECCA HASKELL
 AFE #: _____
 PO #: _____
 Manifest #: NA
 Manif. Date: 10/10/2017
 Hauler: J & R TRANSPORT
 Driver: JACOBO
 Truck #: 02
 Card #: _____
 Job Ref #: _____

Ticket #: 700-839879
 Bid #: 06UJ9A00092L
 Date: 10/10/2017
 Generator: COG OPERATING LLC
 Generator #: _____
 Well Ser. #: 37269
 Well Name: LOCO HILLS SWD 33
 Well #: 004
 Field #: _____
 Field #: _____
 Rig: NON-DRILLING
 County: EDDY (NM)

Permian Basin

Facility: CRI

Product / Service

Quantity Units

Contaminated Soil (RCRA Exempt)		12.00 yards							
Cell	pH	Cl	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil
Lab Analysis: 50	0.00	0.00	0.00	0	0				

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:
 RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.

RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):
 — MSDS Information — RCRA Hazardous Waste Analysis — Process Knowledge — Other (Provide description above)

Driver/ Agent Signature _____ R360 Representative Signature _____

Customer Approval _____

THIS IS NOT AN INVOICE!

Approved By: _____ Date: _____



Customer: COG OPERATING LLC
 Customer #: CR12120
 Ordered by: BECKY HASKELL
 AFE #: _____
 PO #: _____
 Manifest #: NA
 Manif. Date: 10/10/2017
 Hauler: ALL TERRAIN
 Driver: SERGIO
 Truck #: 1
 Card #: _____
 Job Ref #: _____

Ticket #: 700-839929
 Bid #: 06UJ9A00092L
 Date: 10/10/2017
 Generator: COG OPERATING LLC
 Generator #: _____
 Well Ser. #: 37269
 Well Name: LOCO HILLS SWD 33
 Well #: 004
 Field #: _____
 Field #: _____
 Rig: NON-DRILLING
 County: EDDY (NM)

Permian Basin

Facility: CRI

Product / Service

Quantity Units

Contaminated Soil (RCRA Exempt)		12.00 yards							
Cell	pH	Cl	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil
Lab Analysis: 50/51	0.00	0.00	0.00	0	0				

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:
 RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.

RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):
 — MSDS Information — RCRA Hazardous Waste Analysis — Process Knowledge — Other (Provide description above)

Driver/ Agent Signature _____ R360 Representative Signature _____

Customer Approval _____

THIS IS NOT AN INVOICE!

Approved By: _____ Date: _____



Customer: COG OPERATING LLC
 Customer #: CR12120
 Ordered by: BECKY HASKELL
 AFE #: _____
 PO #: _____
 Manifest #: NA
 Manif. Date: 10/10/2017
 Hauler: ALL IN OILFIELD SERVICE
 Driver: SERGIO
 Truck #: 1
 Card #: _____
 Job Ref #: _____

Ticket #: 700-839978
 Bid #: 06LJ9A00092L
 Date: 10/10/2017
 Generator: COG OPERATING LLC
 Generator #: 37269
 Well Ser. #: LOCO HILLS SWD 33
 Well Name: 004
 Field #: _____
 Rig: NON-DRILLING
 County: EDDY (NM)
 Job Ref #: _____

Permian Basin

Facility: CRI

Product / Service

Quantity Units

12.00 yards

Contaminated Soil (RCRA Exempt)		TDS		MR/HR		H2S		% Oil		Weight	
Cell	pH	CI	Cond.	%Solids	PCI/GM						
Lab Analysis:	50	0.00	0.00	0.00	0						

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

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- MSDS Information
- RCRA Hazardous Waste Analysis
- Process Knowledge
- Other (Provide description above)

Driver/ Agent Signature

R360 Representative Signature

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____ Date: _____



Customer: COG OPERATING LLC
 Customer #: CR12120
 Ordered by: BECKY HASKELL
 AFE #: _____
 PO #: _____
 Manifest #: NA
 Manif. Date: 10/10/2017
 Hauler: J & R TRANSPORT
 Driver: JACOBO
 Truck #: 2
 Card #: _____
 Job Ref #: _____

Ticket #: 700-839931
 Bid #: 06LJ9A00092L
 Date: 10/10/2017
 Generator: COG OPERATING LLC
 Generator #: 37269
 Well Ser. #: LOCO HILLS SWD 33
 Well Name: 004
 Field #: _____
 Rig: NON-DRILLING
 County: EDDY (NM)
 Job Ref #: _____

Permian Basin

Facility: CRI

Product / Service

Quantity Units

12.00 yards

Contaminated Soil (RCRA Exempt)		TDS		MR/HR		H2S		% Oil		Weight	
Cell	pH	CI	Cond.	%Solids	PCI/GM						
Lab Analysis:	50/51	0.00	0.00	0.00	0						

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

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- MSDS Information
- RCRA Hazardous Waste Analysis
- Process Knowledge
- Other (Provide description above)

Driver/ Agent Signature

R360 Representative Signature

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____ Date: _____



Customer: COG OPERATING LLC
 Customer #: CR12120
 Ordered by: REBECCA HASKELL
 AFE #: _____
 PO #: _____
 Manifest #: NA
 Manif. Date: 10/10/2017
 Hauler: ALL TERRAIN
 Driver: SERGIO
 Truck #: 1
 Card #: _____
 Job Ref #: _____

Ticket #: 700-839875
 Bid #: 06UJ9A00092L
 Date: 10/10/2017
 Generator: COG OPERATING LLC
 Generator #: 37269
 Well Ser #: LOCO HILLS SWD 33
 Well Name: 004
 Field #: _____
 Rig: NON-DRILLING
 County: EDDY (NM)

Permian Basin

Facility: CRI

Product / Service

Contaminated Soil (RCRA Exempt)
 Quantity Units
 12.00 yards

Cell	pH	CI	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
Lab Analysis:	50/51	0.00	0.00	0	0	0				

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:
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MSDS Information RCRA Hazardous Waste Analysis Process Knowledge Other (Provide description above)

Driver/ Agent Signature

R360 Representative Signature

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____

Date: _____

Customer: COG OPERATING LLC
 Customer #: CR12120
 Ordered by: BECKY HASKELL
 AFE #: _____
 PO #: _____
 Manifest #: NA
 Manif. Date: 10/12/2017
 Hauler: K & N TRUCKING
 Driver: JOSE
 Truck #: 2
 Card #: _____
 Job Ref #: _____

Ticket #: 700-840435
 Bid #: 06UJ9A00092L
 Date: 10/12/2017
 Generator: COG OPERATING LLC
 Generator #: 37269
 Well Ser #: LOCO HILLS SWD 33
 Well Name: 004
 Field #: _____
 Rig: NON-DRILLING
 County: EDDY (NM)

Permian Basin

Facility: CRI

Product / Service

Oil-Contaminated Debris (RCRA Exempt)
 Quantity Units
 20.00 yards

Cell	pH	CI	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
Lab Analysis:	50	0.00	0.00	0	0	0				

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:
 X RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.

RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):

MSDS Information RCRA Hazardous Waste Analysis Process Knowledge Other (Provide description above)

Driver/ Agent Signature

R360 Representative Signature

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____

Date: _____



Customer: COG OPERATING LLC
 Customer #: CR12120
 Ordered by: BECKY HASKELL
 AFE #: _____
 PO #: _____
 Manifest #: NA
 Manif. Date: 10/12/2017
 Hauler: M & K OILFIELD
 Driver: OSCAR
 Truck #: 14
 Card #: _____
 Job Ref #: _____

Ticket #: 700-840411
 Bid #: 06UJ9A00092L
 Date: 10/12/2017
 Generator: COG OPERATING LLC
 Generator #: _____
 Well Ser #: 37269
 Well Name: LOCO HILLS SWD 33
 Well #: 004
 Field #: _____
 Field #: _____
 Rig: NON-DRILLING
 County: EDDY (NM)

Permian Basin

Facility: CRI

Product / Service

Quantity Units
 20.00 yards

Contaminated Soil (RCRA Exempt)

Cell	pH	CI	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
Lab Analysis:	50	0.00	0.00	0	0					

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:
 RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.

RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):

MSDS Information RCRA Hazardous Waste Analysis Process Knowledge Other (Provide description above)

Driver/Agent Signature

R360 Representative Signature

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____ Date: _____

10



Customer: COG OPERATING LLC
 Customer #: CR12120
 Ordered by: BECKY HASKELL
 AFE #: _____
 PO #: _____
 Manifest #: NA
 Manif. Date: 10/12/2017
 Hauler: GOLD SPEED TRUCKING LLC
 Driver: JESUS
 Truck #: 10
 Card #: _____
 Job Ref #: _____

Ticket #: 700-840394
 Bid #: 06UJ9A00092L
 Date: 10/12/2017
 Generator: COG OPERATING LLC
 Generator #: _____
 Well Ser #: 37269
 Well Name: LOCO HILLS SWD 33
 Well #: 004
 Field #: _____
 Field #: _____
 Rig: NON-DRILLING
 County: EDDY (NM)

Permian Basin

Facility: CRI

Product / Service

Quantity Units
 20.00 yards

Contaminated Soil (RCRA Exempt)

Cell	pH	CI	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
Lab Analysis:	50	0.00	0.00	0	0					

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:
 RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.

RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):

MSDS Information RCRA Hazardous Waste Analysis Process Knowledge Other (Provide description above)

Driver/Agent Signature

R360 Representative Signature

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____ Date: 10-12-17



Customer: COG OPERATING LLC
 Customer #: CR12120
 Ordered by: RECECCA HASKELL
 AFE #: _____
 PO #: _____
 Manifest #: NA
 Manif. Date: 10/12/2017
 Hauler: GOLD SPEED TRUCKING LLC
 Driver: SEVERO
 Truck #: 08
 Card #: _____
 Job Ref #: _____

Ticket #: 700-840395
 Bid #: OGUJ9A00092L
 Date: 10/12/2017
 Generator: COG OPERATING LLC
 Generator #: _____
 Well Ser. #: 37269
 Well Name: LOCO HILLS SWD 33
 Well #: 004
 Field #: _____
 Rig: NON-DRILLING
 County: EDDY (NM)

Permian Basin

Facility: CRI

Product / Service

Quantity Units

20.00 yards

Contaminated Soil (RCRA Exempt)

Cell pH CI Cond. %Solids TDS PCI/GM MR/HR H2S % Oil Weight

Lab Analysis: 50/51 0.00 0.00 0.00 0.00 0

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.

RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):

MSDS Information RCRA Hazardous Waste Analysis Process Knowledge Other (Provide description above)

Driver/ Agent Signature _____ R360 Representative Signature _____

Customer Approval _____

THIS IS NOT AN INVOICE!

Approved By: _____ Date: _____

10/12/2017 1:30:57 PM

16UJ9A00V7U1



Customer: COG OPERATING LLC
 Customer #: CR12120
 Ordered by: RECECCA HASKELL
 AFE #: _____
 PO #: _____
 Manifest #: NA
 Manif. Date: 10/12/2017
 Hauler: GOLD SPEED TRUCKING LLC
 Driver: SEVERO
 Truck #: 08
 Card #: _____
 Job Ref #: _____

Ticket #: 700-840387
 Bid #: O6UJ9A00092L
 Date: 10/12/2017
 Generator: COG OPERATING LLC
 Generator #: _____
 Well Ser. #: 37269
 Well Name: LOCO HILLS SWD 33
 Well #: 004
 Field #: _____
 Rig: NON-DRILLING
 County: EDDY (NM)

Permian Basin

Facility: CRI

Product / Service

Quantity Units

20.00 yards

Contaminated Soil (RCRA Exempt)

Cell pH CI Cond. %Solids TDS PCI/GM MR/HR H2S % Oil Weight

Lab Analysis: 50/51 0.00 0.00 0.00 0.00 0

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.

RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):

MSDS Information RCRA Hazardous Waste Analysis Process Knowledge Other (Provide description above)

Driver/ Agent Signature _____ R360 Representative Signature _____

Customer Approval _____

THIS IS NOT AN INVOICE!

Approved By: _____ Date: _____

10/12/2017 1:22:23 PM

16UJ9A00V7U2



Customer: COG OPERATING LLC
 Customer #: CR12120
 Ordered by: BECKY HASKELL
 AFE #: _____
 PO #: _____
 Manifest #: NA
 Manif. Date: 10/12/2017
 Hauler: K & N TRUCKING
 Driver: JOSE
 Truck #: _____
 Card #: _____
 Job Ref #: _____

Ticket #: 700-840344
 Bid #: 06UJ9A00092L
 Date: 10/12/2017
 Generator: COG OPERATING LLC
 Generator #: _____
 Well Ser #: 37269
 Well Name: LOCO HILLS SWD 33
 Well #: 004
 Field: _____
 Field #: _____
 Rig: _____
 County: NON-DRILLING
 EDDY (NM)

Permian Basin

Facility: CRI

Product / Service

Quantity Units

Contaminated Soil (RCRA Exempt)		20.00 yards	
Cell	pH	TDS	MR/HR
50	0.00	0.00	0.00
Lab Analysis: 50/51 0.00 0.00 0.00 0.00			

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:
 RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.

RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):
 MSDS Information RCRA Hazardous Waste Analysis Process Knowledge Other (Provide description above)

Driver/ Agent Signature

R360 Representative Signature

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____

Date: _____



Customer: COG OPERATING LLC
 Customer #: CR12120
 Ordered by: REBECCA HASKELL
 AFE #: _____
 PO #: _____
 Manifest #: NA
 Manif. Date: 10/12/2017
 Hauler: M & K OILFIELD
 Driver: ISMAEL
 Truck #: 10
 Card #: _____
 Job Ref #: _____

Ticket #: 700-840386
 Bid #: 06UJ9A00092L
 Date: 10/12/2017
 Generator: COG OPERATING LLC
 Generator #: _____
 Well Ser #: 37269
 Well Name: LOCO HILLS SWD 33
 Well #: 004
 Field: _____
 Field #: _____
 Rig: _____
 County: NON-DRILLING
 EDDY (NM)

Permian Basin

Facility: CRI

Product / Service

Quantity Units

Contaminated Soil (RCRA Exempt)		20.00 yards	
Cell	pH	TDS	MR/HR
50/51	0.00	0.00	0.00
Lab Analysis: 50/51 0.00 0.00 0.00 0.00			

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:
 RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.

RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):
 MSDS Information RCRA Hazardous Waste Analysis Process Knowledge Other (Provide description above)

Driver/ Agent Signature

R360 Representative Signature

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____

Date: _____



Customer: COG OPERATING LLC
 Customer #: CR12120
 Ordered by: REBECCA HASKELL
 AFE #: _____
 PO #: _____

Ticket #: 700-840384
 Bid #: 06UJA00092L
 Date: 10/12/2017
 Generator: COG OPERATING LLC
 Generator #: _____
 Well Ser. #: 37269
 Well Name: LOCO HILLS SWD 33
 Well #: 004

Manifest #: NA
 Manif. Date: 10/12/2017
 Hauler: M & K OILFIELD
 Driver: JULIAN
 Truck #: 249
 Card #: _____
 Job Ref #: _____

Customer: COG OPERATING LLC
 Customer #: CR12120
 Ordered by: REBECCA HASKELL
 AFE #: _____
 PO #: _____

Ticket #: 700-840338
 Bid #: 06UJA00092L
 Date: 10/12/2017
 Generator: COG OPERATING LLC
 Generator #: _____
 Well Ser. #: 37269
 Well Name: LOCO HILLS SWD 33
 Well #: 004

Field #: _____
 Rig: NON-DRILLING
 County: EDDY (NM)
 Job Ref #: _____

Permian Basin

Facility: CRI

Product / Service

Contaminated Soil (RCRA Exempt)

Cell	pH	CI	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
50/51	0.00	0.00	0.00	0	0	20.00	yards			

Lab Analysis: 50/51 0.00 0.00 0.00 0 0 20.00 yards

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:
 RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.

RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate item(s):
 — MSDS Information — RCRA Hazardous Waste Analysis — Process Knowledge — Other (Provide description above)

Driver/ Agent Signature

R360 Representative Signature

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____ Date: _____



Customer: COG OPERATING LLC
 Customer #: CR12120
 Ordered by: REBECCA HASKELL
 AFE #: _____
 PO #: _____

Ticket #: 700-840338
 Bid #: 06UJA00092L
 Date: 10/12/2017
 Generator: COG OPERATING LLC
 Generator #: _____
 Well Ser. #: 37269
 Well Name: LOCO HILLS SWD 33
 Well #: 004

Field #: _____
 Rig: NON-DRILLING
 County: EDDY (NM)
 Job Ref #: _____

Permian Basin

Facility: CRI

Product / Service

Contaminated Soil (RCRA Exempt)

Cell	pH	CI	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
50/51	0.00	0.00	0.00	0	0	20.00	yards			

Lab Analysis: 50/51 0.00 0.00 0.00 0 0 20.00 yards

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:
 RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.

RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate item(s):
 — MSDS Information — RCRA Hazardous Waste Analysis — Process Knowledge — Other (Provide description above)

Driver/ Agent Signature

R360 Representative Signature

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____ Date: _____

09



Customer: COG OPERATING LLC
 Customer #: CRI2120
 Ordered by: REBECCA HASKELL
 AFE #:
 PO #:
 Manifest #: NA
 Manif. Date: 10/12/2017
 Hauler: M & K OILFIELD
 Driver: CIRO
 Truck # 9
 Card #
 Job Ref #

Ticket #: 700-840375
 Bid #: 06UJ9A00092L
 Date: 10/12/2017
 Generator: COG OPERATING LLC
 Generator #: 37269
 Well Ser. #: LOCO HILLS SWD 33
 Well #: 004
 Field: NON-DRILLING
 Rig: EDDY (NM)
 County

Permian Basin

Facility: CRI

Product / Service

Contaminated Soil (RCRA Exempt) 20.00 yards

Cell	pH	CI	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
Lab Analysis:	50/51	0.00	0.00	0	0					

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:
 RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.

— RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate item(s):

— MSDS Information — RCRA Hazardous Waste Analysis — Process Knowledge — Other (Provide description above)

Driver/ Agent Signature

R360 Representative Signature

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____

Date: _____

61



Customer: COG OPERATING LLC
 Customer #: CRI2120
 Ordered by: BECKY HASKELL
 AFE #:
 PO #:
 Manifest #: NA
 Manif. Date: 10/12/2017
 Hauler: M & K OILFIELD
 Driver: RICARDO
 Truck # 11
 Card #
 Job Ref #

Ticket #: 700-840372
 Bid #: 06UJ9A00092L
 Date: 10/12/2017
 Generator: COG OPERATING LLC
 Generator #: 37269
 Well Ser. #: LOCO HILLS SWD 33
 Well #: 004
 Field: NON-DRILLING
 Rig: EDDY (NM)
 County

Permian Basin

Facility: CRI

Product / Service

Contaminated Soil (RCRA Exempt) 20.00 yards

Cell	pH	CI	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
Lab Analysis:	50	0.00	0.00	0	0					

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:
 RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.

— RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate item(s):

— MSDS Information — RCRA Hazardous Waste Analysis — Process Knowledge — Other (Provide description above)

Driver/ Agent Signature

R360 Representative Signature

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____

Date: _____

11



Customer: COG OPERATING LLC
 Customer #: CR12120
 Ordered by: BECKY HASKELL
 AFE #: _____
 PO #: _____
 Manifest #: NA
 Manif. Date: 10/12/2017
 Hauler: M & K OILFIELD
 Driver: RICARDO
 Truck #: 11
 Card #: _____
 Job Ref #: _____

Ticket #: 700-840339
 Bid #: 06LUJ9A00092L
 Date: 10/12/2017
 Generator: COG OPERATING LLC
 Generator #: 37269
 Well Ser. #: LOCO HILLS SWD 33
 Well #: 004
 Field: _____
 Rig: NON-DRILLING
 County: EDDY (NM)

Permian Basin

Facility: CRI

Product / Service

Quantity Units

Contaminated Soil (RCRA Exempt)		20.00 yards								
Cell	pH	Cl	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	%Oil	Weight
Lab Analysis:	50	0.00	0.00	0.00	0					

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

- RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.
- RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):
- MSDS Information
- RCRA Hazardous Waste Analysis
- Process Knowledge
- Other (Provide description above)

Driver/Agent Signature

R360 Representative Signature

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____

Date: _____

11



Customer: COG OPERATING LLC
 Customer #: CR12120
 Ordered by: BECKY HASKELL
 AFE #: _____
 PO #: _____
 Manifest #: NA
 Manif. Date: 10/12/2017
 Hauler: M & K OILFIELD
 Driver: RAMON
 Truck #: 5
 Card #: _____
 Job Ref #: _____

Ticket #: 700-840370
 Bid #: 06LUJ9A00092L
 Date: 10/12/2017
 Generator: COG OPERATING LLC
 Generator #: 37269
 Well Ser. #: LOCO HILLS SWD 33
 Well #: 004
 Field: _____
 Rig: NON-DRILLING
 County: EDDY (NM)

Permian Basin

Facility: CRI

Product / Service

Quantity Units

Contaminated Soil (RCRA Exempt)		20.00 yards								
Cell	pH	Cl	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	%Oil	Weight
Lab Analysis:	50	0.00	0.00	0						

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

- RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.
- RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):
- MSDS Information
- RCRA Hazardous Waste Analysis
- Process Knowledge
- Other (Provide description above)

Driver/Agent Signature

R360 Representative Signature

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____

Date: _____

05



Customer: COG OPERATING LLC
 Customer #: CRI2120
 Ordered by: BECKY HASKELL
 AFE #: _____
 PO #: _____
 Manifest #: NA
 Manif. Date: 10/12/2017
 Hauler: M & K OILFIELD
 Driver: RAMON
 Truck #: 05
 Card #: _____
 Job Ref #: _____

Ticket #: 700-840340
 Bid #: 06UJ9A00092L
 Date: 10/12/2017
 Generator: COG OPERATING LLC
 Generator #: _____
 Well Ser #: 37269
 Well Name: LOCO HILLS SWD 33
 Well #: 004
 Field: _____
 Rig: NON-DRILLING
 County: EDDY (NM)

Permian Basin

Facility: CRI

Product / Service

Contaminated Soil (RCRA Exempt) 20.00 yards

Cell	pH	CI	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	%Oil	Weight
Lab Analysis:	50	0.00	0.00	0.00	0					

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:
 RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.

RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):
 MSDS Information RCRA Hazardous Waste Analysis Process Knowledge Other (Provide description above)

Driver/ Agent Signature

R360 Representative Signature

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____ Date: _____

05

16UJ9A00V7NS

10/12/2017 10:05:10AM



Customer: COG OPERATING LLC
 Customer #: CRI2120
 Ordered by: BECKY HASKELL
 AFE #: _____
 PO #: _____
 Manifest #: NA
 Manif. Date: 10/12/2017
 Hauler: M & K OILFIELD
 Driver: MANUEL
 Truck #: 7
 Card #: _____
 Job Ref #: _____

Ticket #: 700-840367
 Bid #: 06UJ9A00092L
 Date: 10/12/2017
 Generator: COG OPERATING LLC
 Generator #: _____
 Well Ser #: 37269
 Well Name: LOCO HILLS SWD 33
 Well #: 004
 Field: _____
 Rig: NON-DRILLING
 County: EDDY (NM)

Permian Basin

Facility: CRI

Product / Service

Contaminated Soil (RCRA Exempt) 20.00 yards

Cell	pH	CI	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	%Oil	Weight
Lab Analysis:	50	0.00	0.00	0.00	0					

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:
 RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.

RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):
 MSDS Information RCRA Hazardous Waste Analysis Process Knowledge Other (Provide description above)

Driver/ Agent Signature

R360 Representative Signature

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____ Date: _____

07

16UJ9A00V7T4

10/12/2017 12:14:34PM



Customer: COG OPERATING LLC
 Customer #: CR12120
 Ordered by: BECKY HASKELL
 AFE #: _____
 PO #: _____
 Manifest #: NA
 Manif. Date: 10/12/2017
 Hauler: M & K OILFIELD
 Driver: OSCAR
 Truck #: 14
 Card #: _____
 Job Ref #: _____

Ticket #: 700-840366
 Bid #: 06LJ9A00092L
 Date: 10/12/2017
 Generator: COG OPERATING LLC
 Generator #: 37269
 Well Ser. #: LOCO HILLS SWD 33
 Well Name: 004
 Field #: _____
 Rig: NON-DRILLING
 County: EDDY (NM)

Permian Basin

Facility: CRI

Product / Service

Contaminated Soil (RCRA Exempt) 20.00 yards

Cell	pH	CI	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	%Oil	Weight
Lab Analysis:	50	0.00	0.00	0	0	0				

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:
 RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.

RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):
 _____ MSDS Information _____ RCRA Hazardous Waste Analysis _____ Process Knowledge _____ Other (Provide description above)

Driver/Agent Signature

R360 Representative Signature

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____ Date: _____

10/12



Customer: COG OPERATING LLC
 Customer #: CR12120
 Ordered by: REBECCA HASKELL
 AFE #: _____
 PO #: _____
 Manifest #: NA
 Manif. Date: 10/12/2017
 Hauler: M & K OILFIELD
 Driver: MANUEL
 Truck #: 7
 Card #: _____
 Job Ref #: _____

Ticket #: 700-840325
 Bid #: 06LJ9A00092L
 Date: 10/12/2017
 Generator: COG OPERATING LLC
 Generator #: 37269
 Well Ser. #: LOCO HILLS SWD 33
 Well Name: 004
 Field #: _____
 Rig: NON-DRILLING
 County: EDDY (NM)

Permian Basin

Facility: CRI

Product / Service

Contaminated Soil (RCRA Exempt) 20.00 yards

Cell	pH	CI	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	%Oil	Weight
Lab Analysis:	50/51	0.00	0.00	0	0	0				

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:
 RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.

RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):
 _____ MSDS Information _____ RCRA Hazardous Waste Analysis _____ Process Knowledge _____ Other (Provide description above)

Driver/Agent Signature

R360 Representative Signature

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____ Date: _____

10



Customer: COG OPERATING LLC
 Customer #: CR12120
 Ordered by: BECKY HASKELL
 AFE #: _____
 PO #: _____
 Manifest #: NA
 Manif. Date: 10/12/2017
 Hauler: M & K OILFIELD
 Driver: OSCAR
 Truck #: 10
 Card #: _____
 Job Ref #: _____

Ticket #: 700-840328
 Bid #: 06UJ9A00092L
 Date: 10/12/2017
 Generator: COG OPERATING LLC
 Generator #: 37269
 Well Ser. #: LOCO HILLS SWD 33
 Well #: 004
 Field #: _____
 Field #: _____
 Rig: NON-DRILLING
 County: EDDY (NM)

Permian Basin

Facility: CRI

Product / Service

Quantity Units

Contaminated Soil (RCRA Exempt)		20.00 yards								
Cell	pH	CI	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
Lab Analysis:	50	0.00	0.00	0.00	N/A					

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

- RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.
- RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):

MSDS Information RCRA Hazardous Waste Analysis Process Knowledge Other (Provide description above)

Driver/ Agent Signature

R360 Representative Signature

Becky Haskell

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____ Date: _____

Customer: COG OPERATING LLC
 Customer #: CR12120
 Ordered by: REBECCA HASKELL
 AFE #: _____
 PO #: _____
 Manifest #: NA
 Manif. Date: 10/12/2017
 Hauler: M & K OILFIELD
 Driver: JULIAN
 Truck #: 249
 Card #: _____
 Job Ref #: _____

Ticket #: 700-840351
 Bid #: 06UJ9A00092L
 Date: 10/12/2017
 Generator: COG OPERATING LLC
 Generator #: 37269
 Well Ser. #: LOCO HILLS SWD 33
 Well #: 004
 Field #: _____
 Field #: _____
 Rig: NON-DRILLING
 County: EDDY (NM)

Permian Basin

Facility: CRI

Product / Service

Quantity Units

Contaminated Soil (RCRA Exempt)		20.00 yards								
Cell	pH	CI	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
Lab Analysis:	50/51	0.00	0.00	0.00	0					

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

- RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.
- RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):

MSDS Information RCRA Hazardous Waste Analysis Process Knowledge Other (Provide description above)

Driver/ Agent Signature

R360 Representative Signature

Becky Haskell

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____ Date: _____



Customer: COG OPERATING LLC
 Customer #: CRI2120
 Ordered by: REBECCA HASKELL
 AFE #: _____
 PO #: _____
 Manifest #: NA
 Manif. Date: 10/12/2017
 Hauler: M & K OILFIELD
 Driver: JULIAN
 Truck #: 249
 Card #: _____
 Job Ref #: _____

Ticket #: 700-840318
 Bid #: 06UJ9A00092L
 Date: 10/12/2017
 Generator: COG OPERATING LLC
 Generator #: 37269
 Well Ser. #: 10/12/2017
 Well Name: LOCO HILLS SWD 33
 Well #: 004
 Field #: _____
 Rig: NON-DRILLING
 County: EDDY (NM)

Permian Basin

Facility: CRI

Product / Service

Quantity Units
 Contaminated Soil (RCRA Exempt) 20.00 yards

Cell	pH	CI	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
Lab Analysis:	50/51	0.00	0.00	0.00	0	0				

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:
 X RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.

RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate item(s):

- MSDS Information
- RCRA Hazardous Waste Analysis
- Process Knowledge
- Other (Provide description above)

Driver/ Agent Signature

R360 Representative Signature

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____

Date: _____



Customer: COG OPERATING LLC
 Customer #: CRI2120
 Ordered by: REBECCA HASKELL
 AFE #: _____
 PO #: _____
 Manifest #: NA
 Manif. Date: 10/12/2017
 Hauler: M & K OILFIELD
 Driver: ISMAEL
 Truck #: 10
 Card #: _____
 Job Ref #: _____

Ticket #: 700-840352
 Bid #: 06UJ9A00092L
 Date: 10/12/2017
 Generator: COG OPERATING LLC
 Generator #: 37269
 Well Ser. #: 10/12/2017
 Well Name: LOCO HILLS SWD 33
 Well #: 004
 Field #: _____
 Rig: NON-DRILLING
 County: EDDY (NM)

Permian Basin

Facility: CRI

Product / Service

Quantity Units
 Contaminated Soil (RCRA Exempt) 20.00 yards

Cell	pH	CI	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
Lab Analysis:	50/51	0.00	0.00	0.00	0	0				

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:
 X RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.

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- MSDS Information
- RCRA Hazardous Waste Analysis
- Process Knowledge
- Other (Provide description above)

Driver/ Agent Signature

R360 Representative Signature

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____

Date: _____



Customer: COG OPERATING LLC
 Customer # CRI2120
 Ordered by: BECKY HASKELL
 AFE #:
 PO #:
 Manifest #: NA
 Manif. Date: 10/12/2017
 Hauler: M & K OILFIELD
 Driver: ISMAEL
 Truck # 10
 Card #
 Job Ref #

Ticket #: 700-840319
 Bid #: 06UJ9A00092L
 Date: 10/12/2017
 Generator: COG OPERATING LLC
 Generator #: 37269
 Well Ser #: LOCO HILLS SWD 33
 Well #: 004
 Field #: NON-DRILLING
 Rig: EDDY (NM)
 County

Permian Basin

Facility: CRI

Product / Service

Quantity Units

Contaminated Soil (RCRA Exempt) 20.00 yards

Cell	pH	CI	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	%Oil	Weight
Lab Analysis:	50/51	0.00	0.00	0	0					

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:
 RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.

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MSDS Information RCRA Hazardous Waste Analysis Process Knowledge Other (Provide description above)

Driver/ Agent Signature

R360 Representative Signature

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____ Date: _____



Customer: COG OPERATING LLC
 Customer # CRI2120
 Ordered by: REBECCA HASKELL
 AFE #:
 PO #:
 Manifest #: NA
 Manif. Date: 10/12/2017
 Hauler: GOLD SPEED TRUCKING LLC
 Driver: CEVERO
 Truck # 08
 Card #
 Job Ref #

Ticket #: 700-840356
 Bid #: 06UJ9A00092L
 Date: 10/12/2017
 Generator: COG OPERATING LLC
 Generator #: 37269
 Well Ser #: LOCO HILLS SWD 33
 Well #: 004
 Field #: NON-DRILLING
 Rig: EDDY (NM)
 County

Permian Basin

Facility: CRI

Product / Service

Quantity Units

Contaminated Soil (RCRA Exempt) 20.00 yards

Cell	pH	CI	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	%Oil	Weight
Lab Analysis:	50/51	0.00	0.00	0	0					

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:
 RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.

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MSDS Information RCRA Hazardous Waste Analysis Process Knowledge Other (Provide description above)

Driver/ Agent Signature

R360 Representative Signature

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____ Date: _____



Customer: COG OPERATING LLC
 Customer #: CR12120
 Ordered by: REBECCA HASKELL
 AFE #: _____
 PO #: _____
 Manifest #: NA
 Well Ser #: 37269
 Well Name: LOCO HILLS SWD 33
 Hauler: GOLD SPEED TRUCKING LLC
 Driver: SEBERO
 Truck #: 08
 Card #: _____
 Job Ref #: _____

Ticket #: 700-840315
 Bid #: 06LU9A00092L
 Date: 10/12/2017
 Generator: COG OPERATING LLC
 Generator #: _____
 Well Ser #: 37269
 Well Name: LOCO HILLS SWD 33
 Hauler: GOLD SPEED TRUCKING LLC
 Driver: JESUS
 Truck #: 10
 Card #: _____
 Job Ref #: _____

Permian Basin

Facility: CRI

Product / Service _____ Quantity Units 20.00 yards

Contaminated Soil (RCRA Exempt)

Cell	pH	Cl	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	%Oil	Weight
Lab Analysis:	50/51	0.00	0.00	0.00	0	0				

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

- RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.
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- MSDS Information RCRA Hazardous Waste Analysis Process Knowledge Other (Provide description above)

Driver/ Agent Signature _____

R360 Representative Signature _____

Customer Approval _____

THIS IS NOT AN INVOICE!

Approved By: _____ Date: _____

58



Customer: COG OPERATING LLC
 Customer #: CR12120
 Ordered by: BECKY HASKELL
 AFE #: _____
 PO #: _____
 Manifest #: NA
 Well Ser #: 37269
 Well Name: LOCO HILLS SWD 33
 Hauler: GOLD SPEED TRUCKING LLC
 Driver: JESUS
 Truck #: 10
 Card #: _____
 Job Ref #: _____

Ticket #: 700-840355
 Bid #: 06LU9A00092L
 Date: 10/12/2017
 Generator: COG OPERATING LLC
 Generator #: _____
 Well Ser #: 37269
 Well Name: LOCO HILLS SWD 33
 Hauler: GOLD SPEED TRUCKING LLC
 Driver: JESUS
 Truck #: 10
 Card #: _____
 Job Ref #: _____

Permian Basin

Facility: CRI

Product / Service _____ Quantity Units 20.00 yards

Contaminated Soil (RCRA Exempt)

Cell	pH	Cl	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	%Oil	Weight
Lab Analysis:	50	0.00	0.00	0.00	0	0				

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

- RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.
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- MSDS Information RCRA Hazardous Waste Analysis Process Knowledge Other (Provide description above)

Driver/ Agent Signature _____

R360 Representative Signature _____

Customer Approval _____

THIS IS NOT AN INVOICE!

Approved By: _____ Date: 10-12-17

10



Customer: COG OPERATING LLC
 Customer # CR12120
 Ordered by: BECKY HASKELL
 AFE #:
 PO #:
 Manifest #: NA
 Manif. Date: 10/12/2017
 Well Name: GOLD SPEED TRUCKING LLC
 Well #: 10
 Hauler: JESUS
 Driver: 10
 Truck #: 10
 Card #:
 Job Ref #:

Ticket #: 700-840314
 Bid #: O6LJ9A00092L
 Date: 10/12/2017
 Generator: COG OPERATING LLC
 Generator #: 37269
 Well Ser. #: 37269
 Well Name: LOCO HILLS SWD 33
 Well #: 004
 Field #:
 Rig: NON-DRILLING
 County: EDDY (NM)

Permian Basin

Facility: CRI

Product / Service

Contaminated Soil (RCRA Exempt) 20.00 yards

Lab Analysis: 50/51 Cell pH 0.00 Cl 0.00 Cond 0.00 %Solids 0 TDS 0 PCI/GM 0 MR/HR 0 H2S 0 %Oil 0 Weight

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:
 RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.

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 MSDS Information RCRA Hazardous Waste Analysis Process Knowledge Other (Provide description above)

Driver/ Agent Signature

R360 Representative Signature

Customer Approval

THIS IS NOT AN INVOICE!

Approved By:  Date: 10-12-17



Customer: COG OPERATING LLC
 Customer # CR12120
 Ordered by: REBECCA HASKELL
 AFE #:
 PO #:
 Manifest #: NA
 Manif. Date: 10/12/2017
 Well Name: LOCO HILLS SWD 33
 Well #: 004
 Field #:
 Rig: NON-DRILLING
 County: EDDY (NM)

Ticket #: 700-840424
 Bid #: O6LJ9A00092L
 Date: 10/12/2017
 Generator: COG OPERATING LLC
 Generator #: 37269
 Well Ser. #: 37269
 Well Name: LOCO HILLS SWD 33
 Well #: 004
 Field #:
 Rig: NON-DRILLING
 County: EDDY (NM)

Permian Basin

Facility: CRI

Product / Service

Contaminated Soil (RCRA Exempt) 20.00 yards

Lab Analysis: 50/51 Cell pH 0.00 Cl 0.00 Cond 0.00 %Solids 0 TDS 0 PCI/GM 0 MR/HR 0 H2S 0 %Oil 0 Weight

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:
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 MSDS Information RCRA Hazardous Waste Analysis Process Knowledge Other (Provide description above)

Driver/ Agent Signature

R360 Representative Signature

Customer Approval

THIS IS NOT AN INVOICE!

Approved By:  Date: _____



Customer: COG OPERATING LLC
 Customer #: CRI2120
 Ordered by: BECKY HASKELL
 AFE #: _____
 PO #: _____
 Manifest #: NA
 Well Ser. #: 37269
 Well Name: LOCO HILLS SWD 33
 Well #: 004
 Hauler: GOLD SPEED TRUCKING LLC
 Driver: SEVERO
 Truck #: 08
 Card #: _____
 Job Ref #: _____

Ticket #: 700-840433
 Bid #: 06UJ9A00092L
 Date: 10/12/2017
 Generator: COG OPERATING LLC
 Generator #: _____
 Well Ser. #: 37269
 Well Name: LOCO HILLS SWD 33
 Well #: 004
 Field #: _____
 Rig: NON-DRILLING
 County: EDDY (NM)

Permian Basin

Facility: CRI

Product / Service

Contaminated Soil (RCRA Exempt) 20.00 yards

Lab Analysis: 50 Cell pH 0.00 Cl 0.00 Cond. 0.00 %Solids 0 TDS 0 PC/GM 0 MR/HR 0 H2S 0 %Oil 0 Weight

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:
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MSDS Information RCRA Hazardous Waste Analysis Process Knowledge Other (Provide description above)

Driver/ Agent Signature

R360 Representative Signature

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____ Date: _____



Customer: COG OPERATING LLC
 Customer #: CRI2120
 Ordered by: RECECCA HASKELL
 AFE #: _____
 PO #: _____
 Manifest #: NA
 Well Ser. #: 37269
 Well Name: LOCO HILLS SWD 33
 Well #: 004
 Hauler: GOLD SPEED TRUCKING LLC
 Driver: JESUS
 Truck #: 10
 Card #: _____
 Job Ref #: _____

Ticket #: 700-840434
 Bid #: 06UJ9A00092L
 Date: 10/12/2017
 Generator: COG OPERATING LLC
 Generator #: _____
 Well Ser. #: 37269
 Well Name: LOCO HILLS SWD 33
 Well #: 004
 Field #: _____
 Rig: NON-DRILLING
 County: EDDY (NM)

Permian Basin

Facility: CRI

Product / Service

Contaminated Soil (RCRA Exempt) 20.00 yards

Lab Analysis: 50 Cell pH 0.00 Cl 0.00 Cond. 0.00 %Solids 0 TDS 0 PC/GM 0 MR/HR 0 H2S 0 %Oil 0 Weight

Generator Certification Statement of Waste Status

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MSDS Information RCRA Hazardous Waste Analysis Process Knowledge Other (Provide description above)

Driver/ Agent Signature

R360 Representative Signature

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____ Date: 10-12-17



Customer: COG OPERATING LLC
 Customer #: CR12120
 Ordered by: BECKY HASKELL
 AFE #: _____
 PO #: _____
 Manifest #: NA
 Manif. Date: 10/12/2017
 Hauler: M & K OILFIELD
 Driver: RAMON
 Truck #: 05
 Card #: _____
 Job Ref #: _____

Ticket #: 700-840417
 Bid #: 06UJ9A00092L
 Date: 10/12/2017
 Generator: COG OPERATING LLC
 Generator #: 37269
 Well Ser. #: LOCO HILLS SWD 33
 Well Name: 004
 Field #: NON-DRILLING
 Rig: EDDY (NM)
 County: _____

Permian Basin

Facility: CRI

Product / Service

Quantity Units

20.00 yards

Contaminated Soil (RCRA Exempt)

Cell	pH	CI	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	%Oil	Weight
Lab Analysis:	50	0.00	0.00	0.00	N/A					

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

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MSDS Information RCRA Hazardous Waste Analysis Process Knowledge Other (Provide description above)

Driver/ Agent Signature

R360 Representative Signature

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____ Date: _____

16UJ9A00V7VV

10/12/2017 2:58:32PM



Customer: COG OPERATING LLC
 Customer #: CR12120
 Ordered by: BECKY HASKELL
 AFE #: _____
 PO #: _____
 Manifest #: NA
 Manif. Date: 10/12/2017
 Hauler: M & K OILFIELD
 Driver: RICARDO
 Truck #: 11
 Card #: _____
 Job Ref #: _____

Ticket #: 700-840420
 Bid #: 06UJ9A00092L
 Date: 10/12/2017
 Generator: COG OPERATING LLC
 Generator #: 37269
 Well Ser. #: LOCO HILLS SWD 33
 Well Name: 004
 Field #: NON-DRILLING
 Rig: EDDY (NM)
 County: _____

Permian Basin

Facility: CRI

Product / Service

Quantity Units

20.00 yards

Contaminated Soil (RCRA Exempt)

Cell	pH	CI	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	%Oil	Weight
Lab Analysis:	50	0.00	0.00	0.00	0					

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

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MSDS Information RCRA Hazardous Waste Analysis Process Knowledge Other (Provide description above)

Driver/ Agent Signature

R360 Representative Signature

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____ Date: _____

16UJ9A00V7ZA

10/12/2017 3:08:30PM



Permian Basin

Customer: COG OPERATING LLC
 Customer #: CRI2120
 Ordered by: REBECCA HASKELL
 AFE #: _____
 PO #: _____
 Manifest #: NA
 Manif. Date: 10/12/2017
 Hauler: M & K OILFIELD
 Driver: MANUEL
 Truck #: 7
 Card #: _____
 Job Ref #: _____

Ticket #: 700-840409
 Bid #: O6LJ9A00092L
 Date: 10/12/2017
 Generator: COG OPERATING LLC
 Generator #: _____
 Well Ser #: 37269
 Well Name: LOCO HILLS SWD 33
 Well #: 004
 Field #: _____
 Rig: NON-DRILLING
 County: EDDY (NM)

Facility: CRI

Product / Service

Quantity Units
 Contaminated Soil (RCRA Exempt) 20.00 yards

Lab Analysis:	Cell	pH	CI	Cond.	%Solids	TDS	PC/GM	MR/HR	H2S	%Oil	Weight
50/51	0.00	0.00	0.00	0.00	0	0					

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

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- MSDS Information
- RCRA Hazardous Waste Analysis
- Process Knowledge
- Other (Provide description above)

Driver/ Agent Signature

R360 Representative Signature

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____

Date: _____

NM OIL CONSERVATION
ARTESIA DISTRICT

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

State of New Mexico
Energy Minerals and Natural Resources

AUG 23 2017

Form C-141
Revised August 8, 2011

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

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

RECEIVED

Release Notification and Corrective Action

DAB172403A50A

OPERATOR		<input checked="" type="checkbox"/> Initial Report	<input type="checkbox"/> Final Report
Name of Company: COG Operating LLC OGRID # 229137	Contact:	Robert McNeill	
Address: 600 West Illinois Avenue, Midland TX 79701	Telephone No.	432-683-7443	
Facility Name: Loco Hills SWD 33 #004	Facility Type:	SWD	
Surface Owner: Federal	Mineral Owner: Federal	API No.	30-015-37269

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
P	33	17S	30E	840	South	660	East	Eddy

Latitude 32.7860756 Longitude -103.9705276

NATURE OF RELEASE

Type of Release: Oil and Produced Water	Volume of Release: 100 bbl. Oil & 600 bbl. Pw	Volume Recovered: 95 bbl. Oil & 590 Produced Water
Source of Release: Lightning Strike	Date and Hour of Occurrence: August 21, 2017 2:00 am	Date and Hour of Discovery: August 21, 2017 2:00 am
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Ms. Weaver – NMOCD / Ms. Tucker – BLM	
By Whom? Dakota Neel	Date and Hour: August 21, 2017 4:57 pm	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	
If a Watercourse was Impacted, Describe Fully.*		
Describe Cause of Problem and Remedial Action Taken.*		
The release occurred when lightning struck the facility. The facility and equipment were a total loss.		
Describe Area Affected and Cleanup Action Taken.*		
The release remained within the bermed area. A vacuum truck was dispatched to remove all freestanding fluids. Concho will have the spill area sampled to delineate any possible impact from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation activities.		
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.		
Signature: <i>Rebecca Haskell</i>	OIL CONSERVATION DIVISION	
Printed Name: Rebecca Haskell	Approved by Environmental Specialist: <i>Crystal W...</i>	
Title: Senior HSE Coordinator	Approval Date: <i>8/28/17</i>	Expiration Date: <i>N/A</i>
E-mail Address: rhaskell@concho.com	Conditions of Approval: <i>see attached</i>	Attached <input checked="" type="checkbox"/> <i>APP-1359</i>
Date: August 23, 2017 Phone: 432-683-7443		

* Attach Additional Sheets If Necessary

8/28/17 AB

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

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

OPERATOR

Initial Report Final Report

Name of Company: COG Operating LLC OGRID # 229137	Contact: Robert McNeill
Address: 600 West Illinois Avenue, Midland TX 79701	Telephone No. 432-683-7443
Facility Name: Loco Hills SWD 33 #004	Facility Type: SWD

Surface Owner: Federal	Mineral Owner: Federal	API No. 30-015-37269
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LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
P	33	17S	30E	840	South	660	East	Eddy

Latitude 32.7860756 Longitude -103.9705276

NATURE OF RELEASE

Type of Release: Oil and Produced Water	Volume of Release: 100 bbl. Oil & 600 bbl. Pw	Volume Recovered: 95 bbl. Oil & 590 Produced Water
Source of Release: Lightning Strike	Date and Hour of Occurrence: August 21, 2017 2:00 am	Date and Hour of Discovery: August 21, 2017 2:00 am
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Ms. Weaver – NMOCD / Ms. Tucker – BLM	
By Whom? Dakota Neel	Date and Hour: August 21, 2017 4:57 pm	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

The release occurred when lightning struck the facility. The facility and equipment were a total loss.

Describe Area Affected and Cleanup Action Taken.*

The release remained within the bermed area. A vacuum truck was dispatched to remove all freestanding fluids. The site was delineated according to OCD standards and a remediation plan was prepared. Remediation was completed in accordance with the remediation plan approved by the NMOCD and BLM via email on September 29, 2017.

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

Signature: <i>Rebecca Haskell</i>	OIL CONSERVATION DIVISION	
Printed Name: Rebecca Haskell	Approved by Environmental Specialist:	
Title: Senior HSE Coordinator	Approval Date:	Expiration Date:
E-mail Address: rhaskell@concho.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: November 3, 2017 Phone: 432-683-7443		

* Attach Additional Sheets If Necessary