CONCHO

June 28, 2021

Oil Conservation Division, District II
811 S. First St.
Artesia, NM 88210

Bureau of Land Management, CFO
620 E. Green St.
Carlsbad, NM 88220

Re: Deferral Request
Hambone Federal Com 26H (11.19.20)
Tracking #NRM2035060074
GPS: 32.0504, -104.0071
Unit Letter N, Section 08, Township 26 South, Range 29 East
Eddy County, New Mexico

To Whom it May Concern,

COG Operating, LLC (COG) is pleased to submit the following closure report in response to a release that occurred at the Hambone Federal Com 26H located in Unit Letter N, Section 08, Township 26 South, Range 29 East in Eddy County, New Mexico. The spill site coordinates are 32.0504, -104.0071.

BACKGROUND

The release was discovered on November 19, 2020, and a C-141 initial report was submitted and approved by the New Mexico Oil Conservation Division (NMOCD). The release was caused by a half pit frac tank that overflowed onto the pad. A vacuum truck was dispatched immediately to remove all freestanding fluids. Approximately twenty-three (23) barrels of produced water was released, and eighteen (18) barrels of fluid were recovered. The initial C-141 is shown in Appendix A.

GROUNDWATER AND REGULATORY

According to the New Mexico Office of State Engineer (NMOSE) there is no POD's located within a half mile of the release area. The NMOSE Map is shown in Appendix B.

An evaluation and site determinations were performed in accordance to the New Mexico Oil Conservation Division (NMOCD) Rule (Title 19 Chapter 15 Part 29) for releases on oil and gas development and production facilities in New Mexico (effective August 14, 2018). According to the site character evaluation, the release area is in medium karst. No other receptors (water wells, playas, water course, lake beds or ordinance boundaries) were located within each specific boundaries or distance from the site.

The groundwater data and the site characterization evaluation data is summarized in Appendix B. The delineation and closure criteria are listed below:

General Site Characterization and Groundwater:

Site Characterization	Average Groundwater Depth (ft.)
Medium Karst	50-100 ft

Delineation and Closure Criteria:

Remedial Action Levels (RALs)	
Chlorides	600 mg/kg
TPH (GRO and DRO and MRO)	100 mg/kg
Benzene	10 mg/kg
Total BTEX	50 mg/kg

INITIAL ASSESSMENT

- The release area was delineated during initial sampling at six locations (T-1 thru T-6,). Results indicated chloride impact within the top foot around T-1 and T-3 thru T-6. The chlorides found at T-2 were below NMOCD closure levels. Table 1 shows sample depths and analytical results.

REMEDIAL ACTIONS

- The impacted area around T-1 thru T-3 and T-5 and T-6 was excavated to a depth of one and half (1.5) feet BGS.
- The impacted area around T-4 was initially excavated to two and a half (2.5) feet BGS.
- Table 1 shows the sample depths and analytical results.
- All the excavated material was hauled to an NMOCD approved solid waste disposal facility.

SAMPLING AND BACKFILLING

- Confirmation soil samples were taken from bottom and sidewalls of the excavation per NMAC 19.15.29.
- The areas around CS-13, CS-31, CS-14, were excavated an additional half foot and re-sampled due to samples indicating levels above NMOCD closure criteria.
- Seventeen (17) sidewall samples were taken. Samples (SW-1 thru SW-7) indicated levels below NMOCD closure levels. Samples (SW-8 thru SW-17) indicated levels above NMOCD closure criteria. The areas around SW-8 thru SW-10 and SW13 thru SW-17 were excavated an additional foot horizontally and resampled on February 9, 2021. The results indicated NMOCD closure criteria levels had been met.
- Sidewall Samples (SW-11 and SW-12) were unable to be further excavated due to the proximity to the wellhead.
- The site was backfilled with non-contaminated material with concentrations below 600 mg/kg of chlorides.
- The analytical data shown in Table 1 show that the release area meets NMOCD closure criteria (NMAC 19.15.29.12(E) Table I).

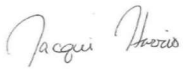
REQUEST FOR DEFERRAL

The impacted area near sample locations SW-11 and SW-12 are in the immediate vicinity of the wellhead. Due to the location of the contamination up against the wellhead and further remediation

causing a major facility deconstruction, COG respectfully requests that the New Mexico Oil Conservation Division and the Bureau of Land Management approve the deferral request for the Hambone Federal Com 26H release that occurred on 11/19/20 (Tracking # NRM2035060074).

Should you have any questions or concerns on the closure report, please do not hesitate to contact me.

Sincerely,

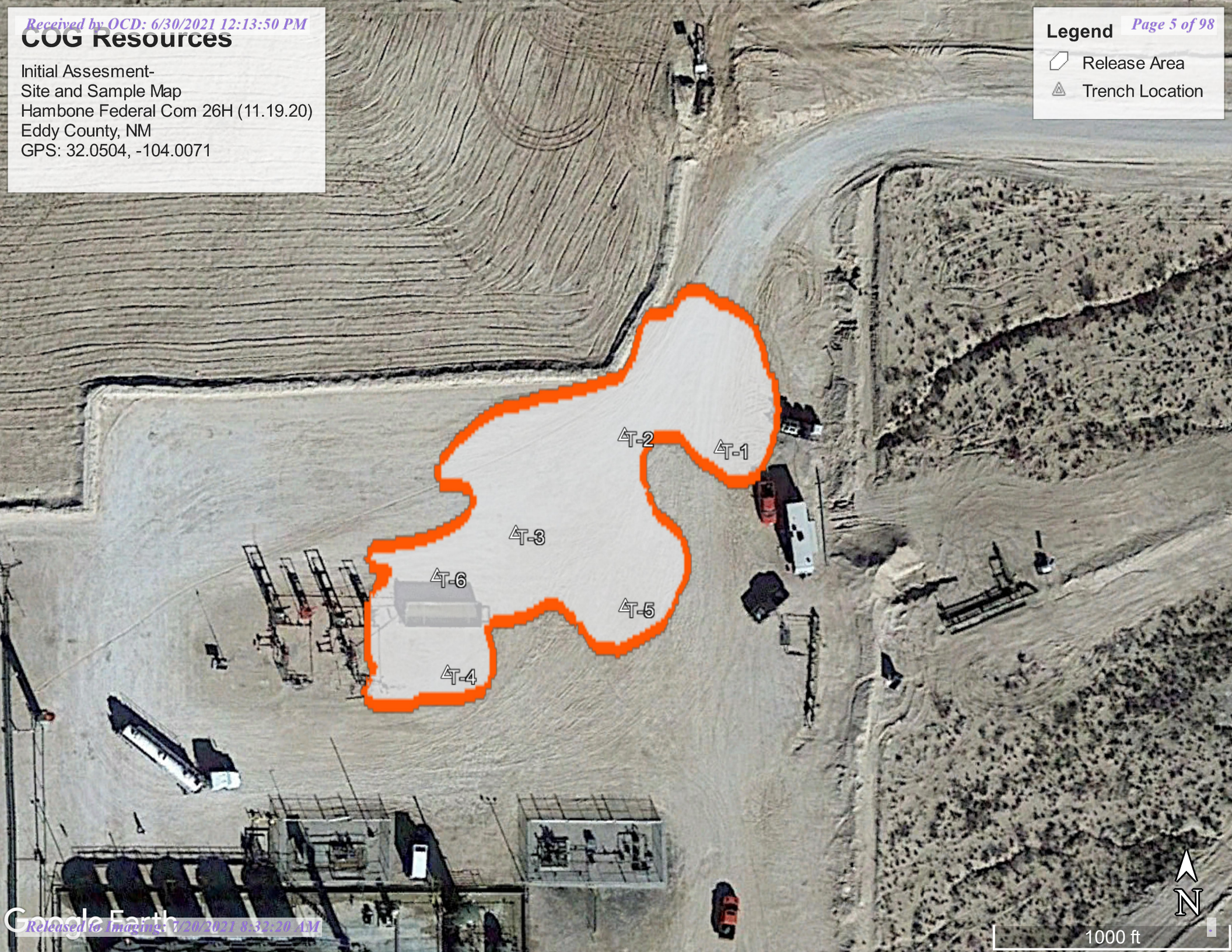


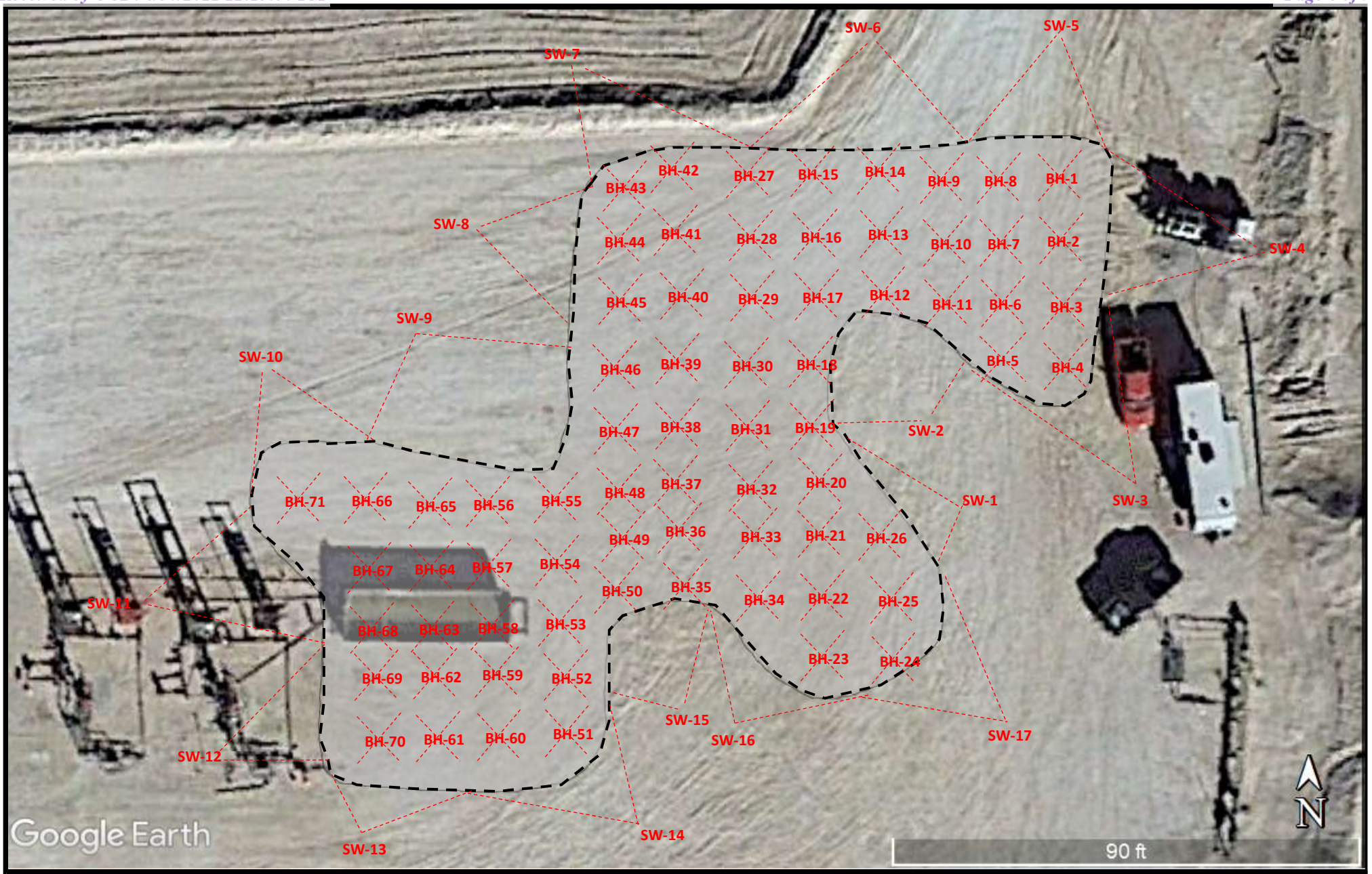
Jacqui Harris
Environmental Coordinator
Jacqui.Harris@conocophillips.com

Maps

COG Resources

Initial Assesment-
Site and Sample Map
Hambone Federal Com 26H (11.19.20)
Eddy County, NM
GPS: 32.0504, -104.0071





Legend:

Composite Sample Location

Excavated Area

Figure 3

Site and Sample Location Map

COG Operating, LLC

Hambone Federal Com 26H (11.19.20)

GPS: 32.0504, -104.0071

Eddy County, New Mexico

eTECH Environmental & Safety Solutions, Inc.

Drafted: jwl Checked: jh Date: 6/28/21

Table of Analytical Data

Table 1
COG Operating LLC.
Hambone Federal Com 26H (11.19.20)-Analytical Data
Eddy County, New Mexico

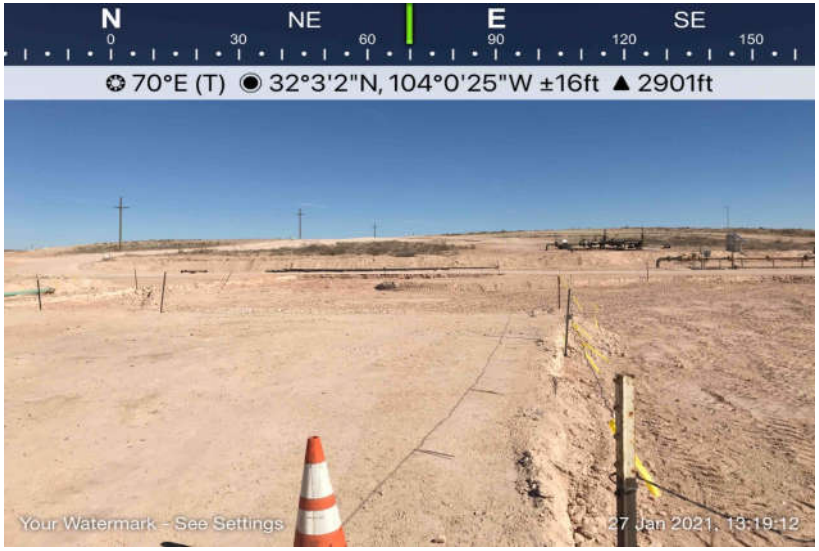
	Sample ID	Sample Date	Soil Status		TPH (mg/kg)							Benzene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	MRO	*Total*	GRO	DRO	*Total*			
	Average Depth to Groundwater (ft) - 51'-100' Medium Karst													
	NMOCD RAL Limits (mg/kg)				-	-	-	***100***	-	-	***100***	***10***	***50***	***600***
Intitial Assessment	T-1 @ 6"	1/7/21			<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<0.00200	<0.00200	197
	T-1 @ 1'	1/7/21			<50.1	4660	222	**4880**	<50.1	4660	**4660**	<0.00199	<0.00199	**40500**
	T-2 @ 6"	1/7/21			<50.1	<50.1	<50.1	<50.1	<50.1	<50.1	<50.1	<0.00202	<0.00202	155
	T-2 @ 1'	1/7/21			<50.1	<50.1	<50.1	<50.1	<50.1	<50.1	<50.1	<0.00200	<0.00200	283
	T-3 @ 6"	1/7/21			<49.8	<49.8	<49.8	<49.8	<49.8	<49.8	<49.8	<0.00202	<0.00202	292
	T-3 @ 1'	1/7/21			<50.0	81.9	<50.0	81.9	<50.0	81.9	81.9	<0.00199	<0.00199	**35300**
	T-4 @ 6"	1/7/21			<49.8	<49.8	<49.8	<49.8	<49.8	<49.8	<49.8	<0.00200	<0.00200	**703**
	T-4 @ 1'	1/7/21			<50.0	4880	574	**5450**	<50.0	4880	**4880**	<0.00202	<0.00202	**43300**
	T-5 @ 6"	1/7/21			<50.1	79.4	54.9	**134**	<50.1	79.4	79.4	<0.00200	<0.00200	**29900**
	T-5 @ 1'	1/7/21			<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<0.00200	<0.00200	**29800**
	T-6 @ 6"	1/7/21			<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	412
	T-6 @ 1'	1/7/21			<50.0	328	65.8	**394**	<50.0	328	**328**	<0.00200	<0.00200	**35000**

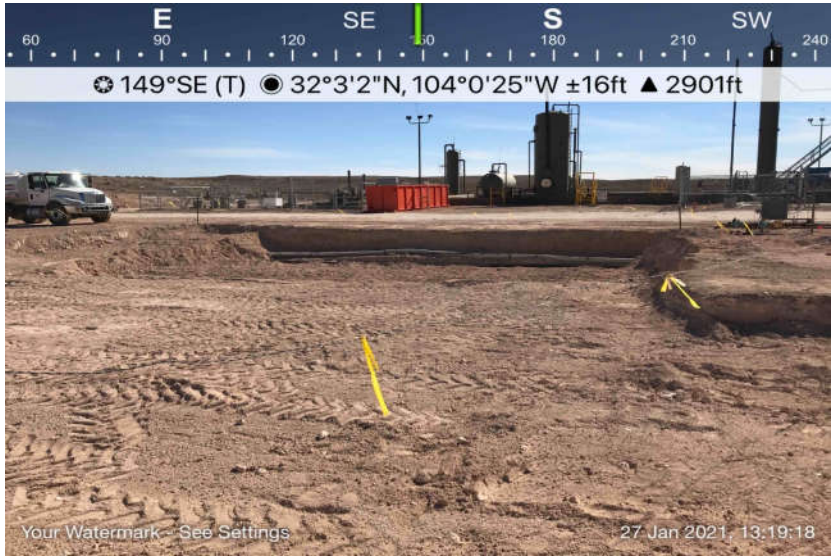
Table 1
COG Operating LLC.
Hambone Federal Com 26H (11.19.20)-Analytical Data
Eddy County, New Mexico

	Sample ID	Sample Date	Soil Status		TPH (mg/kg)							Benzene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	MRO	*Total*	GRO	DRO	*Total*			
	Average Depth to Groundwater (ft) - 51'-100' Medium Karst													
	NMOCD RAL Limits (mg/kg)				-	-	-	***100***	-	-	***100***	***10***	***50***	***600***
Confirmation Samples	CS-1	1/27/21	X		<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	273
	CS-2	1/27/21	X		<50.0	52.7	<50.0	52.7	<50.0	52.7	52.7	<0.00200	<0.00200	283
	CS-3	1/27/21	X		<49.8	<49.8	<49.8	<49.8	<49.8	<49.8	<49.8	<0.00202	<0.00202	283
	CS-4	1/27/21	X		<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	264
	CS-5	1/27/21	X		<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<0.00199	<0.00199	274
	CS-6	1/27/21	X		<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<0.00202	<0.00202	289
	CS-7	1/27/21	X		<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<0.00198	<0.00198	248
	CS-8	1/27/21	X		<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	257
	CS-9	1/27/21	X		<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<0.00199	<0.00199	268
	CS-10	1/27/21	X		<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	290
	CS-11	1/27/21	X		<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<0.00199	<0.00199	322
	CS-12	1/27/21	X		<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	230
	CS-13	1/27/21		X	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<0.00199	<0.00199	**663**
		2/9/21	X		<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<0.00201	<0.00201	194
	CS-14	1/27/21	X		<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<0.00200	<0.00200	509
	CS-15	1/27/21	X		<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<0.00198	<0.00198	575
	CS-16	1/27/21	X		<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<0.00198	<0.00198	577
	CS-17	1/27/21	X		<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<0.00200	<0.00200	592
	CS-18	1/27/21	X		<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	484
	CS-19	1/27/21	X		<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<0.00198	<0.00198	549
	CS-20	1/27/21	X		<49.8	<49.8	<49.8	<49.8	<49.8	<49.8	<49.8	<0.00200	<0.00200	239
	CS-21	1/27/21	X		<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<0.00202	<0.00202	525
	CS-22	1/27/21	X		<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<0.00202	<0.00202	534
	CS-23	1/27/21	X		<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	571
	CS-24	1/27/21	X		<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<0.00199	<0.00199	551
	CS-25	1/27/21	X		<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	433
	CS-26	1/27/21	X		<49.9	67.2	<49.9	67.2	<49.9	67.2	67.2	<0.00198	<0.00198	591
	CS-27	1/27/21	X		<49.9	70.9	<49.9	70.9	<49.9	70.9	70.9	<0.00200	<0.00200	539
	CS-28	1/27/21	X		<49.9	90.1	<49.9	90.1	<49.9	90.1	90.1	<0.00192	<0.00192	575
	CS-29	1/27/21	X		<50.0	81.4	<50.0	81.4	<50.0	81.4	81.4	<0.00202	<0.00202	552
	CS-30	1/27/21	X		<50.0	81.7	<50.0	81.7	<50.0	81.7	81.7	<0.00201	<0.00201	490

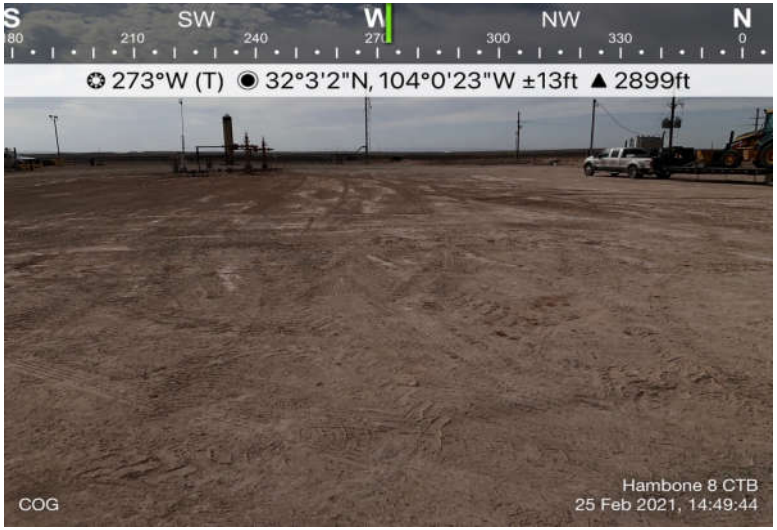
Sample ID	Sample Date	Soil Status		TPH (mg/kg)							Benzene	Total BTEX	Chloride
		In-Situ	Removed	GRO	DRO	MRO	*Total*	GRO	DRO	*Total*	(mg/kg)	(mg/kg)	(mg/kg)
Average Depth to Groundwater (ft) - 51'-100' Medium Karst													
NMOCD RAL Limits (mg/kg)				-	-	-	*100*	-	-	*100*	*10*	*50*	*600*
Confirmation Samples													
CS-31	1/27/21		X	<49.9	194	<49.9	**194**	<49.9	194	**194**	<0.00202	<0.00202	552
	2/9/21	X		<50.2	<50.2	<50.2	<50.2	<50.2	<50.2	<50.2	<0.00199	<0.00199	200
CS-32	1/27/21	X		<50.0	71.4	<50.0	71.4	<50.0	71.4	71.4	<0.00200	<0.00200	540
CS-33	1/27/21	X		<49.9	75.6	<49.9	75.6	<49.9	75.6	75.6	<0.00200	<0.00200	538
CS-34	1/27/21	X		<49.8	84.3	<49.8	84.3	<49.8	84.3	84.3	<0.00198	<0.00198	554
CS-35	1/27/21	X		<50.0	85.1	<50.0	85.1	<50.0	85.1	85.1	<0.00198	<0.00198	543
CS-36	1/27/21	X		<50.0	58.5	<50.0	58.5	<50.0	58.5	58.5	<0.00200	<0.00200	566
CS-37	1/27/21	X		<49.9	67.1	<49.9	67.1	<49.9	67.1	67.1	<0.00202	<0.00202	563
CS-38	1/27/21	X		<50.0	58.0	<50.0	58.0	<50.0	58.0	58.0	<0.00198	<0.00198	574
CS-39	1/27/21	X		<49.9	70.9	<49.9	70.9	<49.9	70.9	70.9	<0.00198	<0.00198	597
CS-40	1/27/21	X		<49.8	74.1	<49.8	74.1	<49.8	74.1	74.1	<0.00200	<0.00200	541
CS-41	1/27/21		X	<49.9	55.9	<49.9	55.9	<49.9	55.9	55.9	<0.00200	<0.00200	**778**
	2/9/21	X		<50.1	<50.1	<50.1	<50.1	<50.1	<50.1	<50.1	<0.00200	<0.00200	192
CS-42	1/27/21	X		<49.9	51.3	<49.9	51.3	<49.9	51.3	51.3	<0.00201	<0.00201	521
CS-43	1/27/21	X		<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	534
CS-44	1/27/21	X		<50.0	54.5	<50.0	54.5	<50.0	54.5	54.5	<0.00198	<0.00198	505
CS-45	1/27/21	X		<49.9	53.4	<49.9	53.4	<49.9	53.4	53.4	<0.00200	<0.00200	518
CS-46	1/27/21	X		<50.0	54.6	<50.0	54.6	<50.0	54.6	54.6	<0.00198	<0.00198	566
CS-47	1/27/21	X		<50.0	51.5	<50.0	51.5	<50.0	51.5	51.5	<0.00200	<0.00200	409
CS-48	1/27/21	X		<49.9	59.6	<49.9	59.6	<49.9	59.6	59.6	<0.00198	<0.00198	482
CS-49	1/27/21	X		<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<0.00199	<0.00199	475
CS-50	1/27/21	X		<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<0.00199	<0.00199	359
CS-51	1/27/21	X		<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<0.00200	<0.00200	395
CS-52	1/27/21	X		<49.8	<49.8	<49.8	<49.8	<49.8	<49.8	<49.8	<0.00200	<0.00200	385
CS-53	1/27/21	X		<50.0	59.9	<50.0	59.9	<50.0	59.9	59.9	<0.00202	0.00670	430
CS-54	1/27/21	X		<49.8	<49.8	<49.8	<49.8	<49.8	<49.8	<49.8	<0.00198	<0.00198	314
CS-55	1/27/21	X		<49.9	51.4	<49.9	51.4	<49.9	51.4	51.4	<0.00198	<0.00198	407
CS-56	1/27/21	X		<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<0.00198	0.00601	453
CS-57	1/27/21	X		<50.0	52.7	<50.0	52.7	<50.0	52.7	52.7	<0.00202	<0.00202	470
CS-58	1/27/21	X		<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<0.00202	<0.00202	461
CS-59	1/27/21	X		<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	459
CS-60	1/27/21	X		<50.0	69.5	<50.0	69.5	<50.0	69.5	69.5	<0.00198	<0.00198	487
CS-61	1/27/21	X		<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	406
CS-62	1/27/21	X		<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<0.00200	<0.00200	462
CS-63	1/27/21	X		<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<0.00199	<0.00199	434
CS-64	1/27/21	X		<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	501

PHOTOS- EXCAVATION





PHOTOS- BACKFILLED



	Sample ID	Sample Date	Soil Status		TPH (mg/kg)							Benzene	Total BTEX	Chloride
			In-Situ	Removed	GRO	DRO	MRO	*Total*	GRO	DRO	*Total*	(mg/kg)	(mg/kg)	(mg/kg)
	Average Depth to Groundwater (ft) - 51'-100' Medium Karst													
	NMOCD RAL Limits (mg/kg)				-	-	-	***100***	-	-	***100***	***10***	***50***	***600***
Confirmation Samples	CS-65	1/27/21	X		<50.0	56.3	<50.0	56.3	<50.0	56.3	56.3	<0.00199	<0.00199	456
	CS-66	1/27/21	X		<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<0.00198	<0.00198	474
	CS-67	1/27/21	X		<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	515
	CS-68	1/27/21	X		<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<0.00200	<0.00200	483
	CS-69	1/27/21	X		<50.0	51.7	<50.0	51.7	<50.0	51.7	51.7	<0.00202	<0.00202	528
	CS-70	1/27/21	X		<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<0.00200	<0.00200	490
	CS-71	1/27/21	X		<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<0.00202	<0.00202	481
	SW-1	1/27/21	X		<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	520
	SW-2	1/27/21	X		<50.0	52.6	<50.0	52.6	<50.0	52.6	52.6	<0.00200	<0.00200	516
	SW-3	1/27/21	X		<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<0.00199	<0.00199	479
	SW-4	1/27/21	X		<49.8	<49.8	<49.8	<49.8	<49.8	<49.8	<49.8	<0.00200	<0.00200	469
	SW-5	1/27/21	X		<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<0.00200	<0.00200	517
	SW-6	1/27/21	X		<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<49.9	<0.00200	<0.00200	512
	SW-7	1/27/21	X		<49.8	<49.8	<49.8	<49.8	<49.8	<49.8	<49.8	<0.00200	<0.00200	460
	SW-8	1/27/21		X	<50.0	415	68.7	**484**	<50.0	415	**415**	<0.00202	<0.00202	378
		2/9/21	X		<50.1	<50.1	<50.1	<50.1	<50.1	<50.1	<50.1	<0.00200	<0.00200	258
	SW-9	1/27/21		X	<49.9	224	<49.9	**224**	<49.9	224	**224**	<0.00202	<0.00202	422
		2/9/21	X		<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<0.00199	<0.00199	307
	SW-10	1/27/21		X	<50.0	459	73.8	**533**	<50.0	459	**459**	<0.00198	<0.00198	488
		2/9/21	X		<49.8	<49.8	<49.8	<49.8	<49.8	<49.8	<49.8	<0.00200	<0.00200	287
Deferral	SW-11	1/27/21	X		<50.0	682	111	**793**	<50.0	682	**682**	<0.00200	<0.00200	534
Deferral	SW-12	1/27/21	X		<49.9	452	69.8	**522**	<49.9	452	452	<0.00201	<0.00201	460
Confirmation Samples	SW-13	1/27/21		X	<49.8	542	84.6	**627**	<49.8	542	**542**	<0.00202	<0.00202	500
		2/9/21	X		<50.1	<50.1	<50.1	<50.1	<50.1	<50.1	<50.1	<0.00200	<0.00200	296
	SW-14	1/27/21		X	<50.0	487	71.6	**559**	<50.0	487	**487**	<0.00199	<0.00199	520
		2/9/21	X		<50.1	<50.1	<50.1	<50.1	<50.1	<50.1	<50.1	<0.00202	<0.00202	235
	SW-15	1/27/21		X	<50.0	476	68.0	**544**	<50.0	476	**476**	<0.00199	<0.00199	434
		2/9/21	X		<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<0.00202	<0.00202	235
	SW-16	1/27/21		X	<49.9	483	67.6	**551**	<49.9	483	**483**	<0.00200	<0.00200	443
		2/9/21	X		<50.1	<50.1	<50.1	<50.1	<50.1	<50.1	<50.1	<0.00200	<0.00200	281
	SW-17	1/27/21		X	<50.0	728	117	**845**	<50.0	728	**728**	<0.00200	<0.00200	467
		2/9/21	X		<50.1	<50.1	<50.1	<50.1	<50.1	<50.1	<50.1	<0.00200	<0.00200	255

Appendix A

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 Department

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

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	OGRID
Contact Name	Contact Telephone
Contact email	Incident # *(assigned by OCD)*
Contact mailing address	

Location of Release Source

Latitude _____ Longitude _____
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Site Type
Date Release Discovered	API# *(if applicable)*

Unit Letter	Section	Township	Range	County

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☐ Private (*Name:* _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)
Cause of Release		

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

☐ The source of the release has been stopped.
☐ The impacted area has been secured to protect human health and the environment.
☐ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
☐ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

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

Printed Name _____ Title: _____

Signature:  Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	_____ (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☐ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☐ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☐ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☐ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☐ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☐ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☐ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☐ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☐ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☐ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☐ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☐ No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: ***Each of the following items must be included in the report.***

- ☐ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☐ Field data
- ☐ Data table of soil contaminant concentration data
- ☐ Depth to water determination
- ☐ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☐ Boring or excavation logs
- ☐ Photographs including date and GIS information
- ☐ Topographic/Aerial maps
- ☐ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

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

Printed Name: _____ Title: _____

Signature: Jacqui Harris _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

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

☐ Extents of contamination must be fully delineated.

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

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

Printed Name: _____ Title: _____

Signature: Jacqui Harris _____ Date: _____

email: _____ Telephone: _____

OCD Only

Received by: _____ Date: _____

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

Signature: Chad Hensley _____ Date: _____

Appendix B

Hambone Fed Com 26H-Topo

6/27/2021, 10:39:09 AM

Karst Occurance Areas

- High
- Low
- Medium
- Mine Workings

1:18,056

0 0.17 0.35 0.7 mi

0 0.28 0.55 1.1 km

Bureau of Land Management, Texas Parks & Wildlife, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA

Web AppBuilder for ArcGIS

Bureau of Land Management, Texas Parks & Wildlife, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA |

Hambone Fed Com 26H- 1/2 Mi Radius

6/27/2021, 10:16:43 AM

GIS WATERS PODs

- Active
- Pending
- OSE District Boundary

New Mexico State Trust Lands

- Subsurface Estate
- Both Estates
- SiteBoundaries

1:18,056

0 0.17 0.35 0.7 mi

0 0.28 0.55 1.1 km

Esri, HERE, iPC, U.S. Department of Energy Office of Legacy Management, Esri, HERE, Garmin, iPC, Maxar

Printed from Public Web Map
Unofficial Map from OSE POD Locations Web Application

National Flood Hazard Layer FIRMette

FEMA

104°0'44"W 32°3'17"N

104°0'7"W 32°2'46"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/27/2021 at 12:30 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Appendix C

eurofins | Environment Testing Xenco

Certificate of Analysis Summary 684054

COG Operating LLC, Artesia, NM

Project Name: Hambone Federal Com 26H

Project Id:

Contact: Jacqui Harris

Project Location: Eddy, New Mexico

Date Received in Lab: Fri 01.08.2021 16:31

Report Date: 01.12.2021 08:52

Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	684054-001		684054-002		684054-003		684054-004		684054-005		684054-006	
	Field Id:	T-1 @ 6"		T-1 @ 1"		T-2 @ 6"		T-2 @ 1"		T-3 @ 6"		T-3 @ 1"	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	01.07.2021 00:00		01.07.2021 00:00		01.07.2021 00:00		01.07.2021 00:00		01.07.2021 00:00		01.07.2021 00:00	
BTEX by EPA 8021B	***Extracted:***	01.08.2021 17:48		01.08.2021 17:48		01.08.2021 17:48		01.08.2021 17:48		01.08.2021 17:48		01.08.2021 17:48	
	Analyzed:	01.09.2021 07:07		01.09.2021 07:29		01.09.2021 07:51		01.09.2021 08:14		01.09.2021 08:36		01.09.2021 08:59	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199
Toluene		<0.00200	0.00200	<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199
Ethylbenzene		<0.00200	0.00200	<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199
m,p-Xylenes		<0.00401	0.00401	<0.00398	0.00398	<0.00403	0.00403	<0.00401	0.00401	<0.00405	0.00405	<0.00398	0.00398
o-Xylene		<0.00200	0.00200	<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199
Total Xylenes		<0.00200	0.00200	<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199
Total BTEX		<0.00200	0.00200	<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199
Chloride by EPA 300	***Extracted:***	01.08.2021 18:15		01.08.2021 18:15		01.08.2021 18:15		01.08.2021 18:15		01.08.2021 18:15		01.08.2021 18:15	
	Analyzed:	01.09.2021 08:17		01.09.2021 08:35		01.09.2021 08:41		01.09.2021 08:47		01.09.2021 08:53		01.09.2021 09:11	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		197	9.90	40500	990	155	10.0	283	9.94	292	9.96	35300	996
TPH By SW8015 Mod	***Extracted:***	01.08.2021 18:39		01.08.2021 18:39		01.08.2021 18:39		01.08.2021 18:39		01.08.2021 18:39		01.08.2021 18:39	
	Analyzed:	01.09.2021 02:32		01.09.2021 03:32		01.09.2021 03:52		01.09.2021 04:11		01.09.2021 04:31		01.09.2021 04:51	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons		<49.9	49.9	<50.1	50.1	<50.1	50.1	<50.1	50.1	<49.8	49.8	<50.0	50.0
Diesel Range Organics		<49.9	49.9	4660	50.1	<50.1	50.1	<50.1	50.1	<49.8	49.8	81.9	50.0
Motor Oil Range Hydrocarbons (MRO)		<49.9	49.9	222	50.1	<50.1	50.1	<50.1	50.1	<49.8	49.8	<50.0	50.0
Total TPH		<49.9	49.9	4880	50.1	<50.1	50.1	<50.1	50.1	<49.8	49.8	81.9	50.0

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer

eurofins | Environment Testing Xenco

Certificate of Analysis Summary 684054

COG Operating LLC, Artesia, NM

Project Name: Hambone Federal Com 26H

Project Id:

Contact: Jacqui Harris

Project Location: Eddy, New Mexico

Date Received in Lab: Fri 01.08.2021 16:31

Report Date: 01.12.2021 08:52

Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	684054-007		684054-008		684054-009		684054-010		684054-011		684054-012	
	Field Id:	T-4 @ 6"		T-4 @ 1"		T-5 @ 6"		T-5 @ 1"		T-6 @ 1"		T-6 @ 1"	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	01.07.2021 00:00		01.07.2021 00:00		01.07.2021 00:00		01.07.2021 00:00		01.07.2021 00:00		01.07.2021 00:00	
BTEX by EPA 8021B	***Extracted:***	01.08.2021 17:48		01.08.2021 17:48		01.08.2021 17:48		01.08.2021 17:48		01.08.2021 17:00		01.08.2021 17:00	
	Analyzed:	01.09.2021 09:21		01.09.2021 09:43		01.09.2021 10:06		01.09.2021 10:28		01.09.2021 08:14		01.09.2021 08:37	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200
Toluene		<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200
Ethylbenzene		<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200
m,p-Xylenes		<0.00399	0.00399	<0.00403	0.00403	<0.00399	0.00399	<0.00399	0.00399	<0.00401	0.00401	<0.00399	0.00399
o-Xylene		<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200
Total Xylenes		<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200
Total BTEX		<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200
Chloride by EPA 300	***Extracted:***	01.08.2021 18:15		01.08.2021 18:15		01.08.2021 18:15		01.08.2021 18:15		01.08.2021 18:15		01.08.2021 18:15	
	Analyzed:	01.09.2021 09:17		01.09.2021 09:23		01.09.2021 09:29		01.09.2021 09:35		01.09.2021 09:41		01.09.2021 09:58	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		703	10.0	43300	1000	29900	994	29800	1000	412	9.98	35000	990
TPH By SW8015 Mod	***Extracted:***	01.08.2021 18:39		01.08.2021 18:39		01.08.2021 18:39		01.08.2021 18:39		01.08.2021 18:39		01.08.2021 18:39	
	Analyzed:	01.09.2021 05:11		01.09.2021 05:31		01.09.2021 05:51		01.09.2021 06:11		01.09.2021 06:51		01.09.2021 07:10	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons		<49.8	49.8	<50.0	50.0	<50.1	50.1	<49.9	49.9	<50.0	50.0	<50.0	50.0
Diesel Range Organics		<49.8	49.8	4880	50.0	79.4	50.1	<49.9	49.9	<50.0	50.0	328	50.0
Motor Oil Range Hydrocarbons (MRO)		<49.8	49.8	574	50.0	54.9	50.1	<49.9	49.9	<50.0	50.0	65.8	50.0
Total TPH		<49.8	49.8	5450	50.0	134	50.1	<49.9	49.9	<50.0	50.0	394	50.0

BRL - Below Reporting Limit

Jessica Kramer

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Analytical Report 684054

for

COG Operating LLC

Project Manager: Jacqui Harris

Hambone Federal Com 26H

01.12.2021

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-24)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-20-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)

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01.12.2021

Project Manager: **Jacqui Harris**
COG Operating LLC
2407 Pecos Avenue
Artesia, NM 88210

Reference: Eurofins Xenco, LLC Report No(s): **684054**
Hambone Federal Com 26H
Project Address: Eddy, New Mexico

Jacqui Harris:

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 Eurofins Xenco, LLC Report Number(s) 684054. 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 Eurofins Xenco, LLC. 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. 684054 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 Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Jessica Kramer

Jessica Kramer
Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

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Sample Cross Reference 684054

COG Operating LLC, Artesia, NM

Hambone Federal Com 26H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
T-1 @ 6"	S	01.07.2021 00:00		684054-001
T-1 @ 1"	S	01.07.2021 00:00		684054-002
T-2 @ 6"	S	01.07.2021 00:00		684054-003
T-2 @ 1"	S	01.07.2021 00:00		684054-004
T-3 @ 6"	S	01.07.2021 00:00		684054-005
T-3 @ 1"	S	01.07.2021 00:00		684054-006
T-4 @ 6"	S	01.07.2021 00:00		684054-007
T-4 @ 1"	S	01.07.2021 00:00		684054-008
T-5 @ 6"	S	01.07.2021 00:00		684054-009
T-5 @ 1"	S	01.07.2021 00:00		684054-010
T-6 @ 1"	S	01.07.2021 00:00		684054-011
T-6 @ 1"	S	01.07.2021 00:00		684054-012

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CASE NARRATIVE

Client Name: COG Operating LLC

Project Name: Hambone Federal Com 26H

Project ID:
Work Order Number(s): *684054*

Report Date: *01.12.2021*
Date Received: *01.08.2021*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

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Certificate of Analytical Results 684054

COG Operating LLC, Artesia, NM

Hambone Federal Com 26H

Sample Id:	**T-1 @ 6''**	Matrix:	Soil	Date Received:	01.08.2021 16:31
Lab Sample Id:	684054-001	Date Collected:	01.07.2021 00:00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	01.08.2021 18:15	% Moisture:	
Seq Number:	3147357			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**197**	9.90	mg/kg	01.09.2021 08:17		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	01.08.2021 18:39	% Moisture:	
Seq Number:	3147411			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<49.9	49.9	mg/kg	01.09.2021 02:32	U	1
Diesel Range Organics	C10C28DRO	<49.9	49.9	mg/kg	01.09.2021 02:32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.09.2021 02:32	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.09.2021 02:32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	01.09.2021 02:32	
o-Terphenyl	84-15-1	106	%	70-135	01.09.2021 02:32	

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Certificate of Analytical Results 684054

COG Operating LLC, Artesia, NM

Hambone Federal Com 26H

Sample Id:	**T-1 @ 6''**	Matrix:	Soil	Date Received:	01.08.2021 16:31
Lab Sample Id:	684054-001	Date Collected:	01.07.2021 00:00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	01.08.2021 17:48	% Moisture:	
Seq Number:	3147344			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.09.2021 07:07	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.09.2021 07:07	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.09.2021 07:07	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	01.09.2021 07:07	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.09.2021 07:07	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.09.2021 07:07	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.09.2021 07:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	90	%	70-130	01.09.2021 07:07	
1,4-Difluorobenzene	540-36-3	99	%	70-130	01.09.2021 07:07	

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Certificate of Analytical Results 684054

COG Operating LLC, Artesia, NM

Hambone Federal Com 26H

Sample Id:	**T-1 @ 1''**	Matrix:	Soil	Date Received:	01.08.2021 16:31
Lab Sample Id:	684054-002	Date Collected:	01.07.2021 00:00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	01.08.2021 18:15	% Moisture:	
Seq Number:	3147357			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**40500**	990	mg/kg	01.09.2021 08:35		100

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	01.08.2021 18:39	% Moisture:	
Seq Number:	3147411			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<50.1	50.1	mg/kg	01.09.2021 03:32	U	1
Diesel Range Organics	C10C28DRO	**4660**	50.1	mg/kg	01.09.2021 03:32		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**222**	50.1	mg/kg	01.09.2021 03:32		1
Total TPH	PHC635	**4880**	50.1	mg/kg	01.09.2021 03:32		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	01.09.2021 03:32	
o-Terphenyl	84-15-1	90	%	70-135	01.09.2021 03:32	

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Certificate of Analytical Results 684054

COG Operating LLC, Artesia, NM

Hambone Federal Com 26H

Sample Id:	**T-1 @ 1''**	Matrix:	Soil	Date Received:	01.08.2021 16:31
Lab Sample Id:	684054-002	Date Collected:	01.07.2021 00:00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	01.08.2021 17:48	% Moisture:	
Seq Number:	3147344			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	01.09.2021 07:29	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	01.09.2021 07:29	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	01.09.2021 07:29	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	01.09.2021 07:29	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	01.09.2021 07:29	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	01.09.2021 07:29	U	1
Total BTEX		<0.00199	0.00199	mg/kg	01.09.2021 07:29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	92	%	70-130	01.09.2021 07:29	
4-Bromofluorobenzene	460-00-4	83	%	70-130	01.09.2021 07:29	

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Certificate of Analytical Results 684054

COG Operating LLC, Artesia, NM

Hambone Federal Com 26H

Sample Id:	**T-2 @ 6''**	Matrix:	Soil	Date Received:	01.08.2021 16:31
Lab Sample Id:	684054-003	Date Collected:	01.07.2021 00:00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	01.08.2021 18:15	% Moisture:	
Seq Number:	3147357			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**155**	10.0	mg/kg	01.09.2021 08:41		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	01.08.2021 18:39	% Moisture:	
Seq Number:	3147411			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<50.1	50.1	mg/kg	01.09.2021 03:52	U	1
Diesel Range Organics	C10C28DRO	<50.1	50.1	mg/kg	01.09.2021 03:52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	01.09.2021 03:52	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	01.09.2021 03:52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	01.09.2021 03:52	
o-Terphenyl	84-15-1	108	%	70-135	01.09.2021 03:52	

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Certificate of Analytical Results 684054

COG Operating LLC, Artesia, NM

Hambone Federal Com 26H

Sample Id:	**T-2 @ 6''**	Matrix:	Soil	Date Received:	01.08.2021 16:31
Lab Sample Id:	684054-003	Date Collected:	01.07.2021 00:00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	01.08.2021 17:48	% Moisture:	
Seq Number:	3147344			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	01.09.2021 07:51	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	01.09.2021 07:51	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	01.09.2021 07:51	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	01.09.2021 07:51	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	01.09.2021 07:51	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	01.09.2021 07:51	U	1
Total BTEX		<0.00202	0.00202	mg/kg	01.09.2021 07:51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	01.09.2021 07:51	
4-Bromofluorobenzene	460-00-4	94	%	70-130	01.09.2021 07:51	

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Certificate of Analytical Results 684054

COG Operating LLC, Artesia, NM

Hambone Federal Com 26H

Sample Id:	**T-2 @ 1''**	Matrix:	Soil	Date Received:	01.08.2021 16:31
Lab Sample Id:	684054-004	Date Collected:	01.07.2021 00:00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	01.08.2021 18:15	% Moisture:	
Seq Number:	3147357			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**283**	9.94	mg/kg	01.09.2021 08:47		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	01.08.2021 18:39	% Moisture:	
Seq Number:	3147411			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<50.1	50.1	mg/kg	01.09.2021 04:11	U	1
Diesel Range Organics	C10C28DRO	<50.1	50.1	mg/kg	01.09.2021 04:11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	01.09.2021 04:11	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	01.09.2021 04:11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	01.09.2021 04:11	
o-Terphenyl	84-15-1	112	%	70-135	01.09.2021 04:11	

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Certificate of Analytical Results 684054

COG Operating LLC, Artesia, NM

Hambone Federal Com 26H

Sample Id:	**T-2 @ 1''**	Matrix:	Soil	Date Received:	01.08.2021 16:31
Lab Sample Id:	684054-004	Date Collected:	01.07.2021 00:00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	01.08.2021 17:48	% Moisture:	
Seq Number:	3147344			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.09.2021 08:14	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.09.2021 08:14	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.09.2021 08:14	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	01.09.2021 08:14	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.09.2021 08:14	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.09.2021 08:14	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.09.2021 08:14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	89	%	70-130	01.09.2021 08:14	
1,4-Difluorobenzene	540-36-3	97	%	70-130	01.09.2021 08:14	

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Certificate of Analytical Results 684054

COG Operating LLC, Artesia, NM

Hambone Federal Com 26H

Sample Id:	**T-3 @ 6''**	Matrix:	Soil	Date Received:	01.08.2021 16:31
Lab Sample Id:	684054-005	Date Collected:	01.07.2021 00:00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	01.08.2021 18:15	% Moisture:	
Seq Number:	3147357			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**292**	9.96	mg/kg	01.09.2021 08:53		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	01.08.2021 18:39	% Moisture:	
Seq Number:	3147411			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<49.8	49.8	mg/kg	01.09.2021 04:31	U	1
Diesel Range Organics	C10C28DRO	<49.8	49.8	mg/kg	01.09.2021 04:31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	01.09.2021 04:31	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	01.09.2021 04:31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	129	%	70-135	01.09.2021 04:31	
o-Terphenyl	84-15-1	110	%	70-135	01.09.2021 04:31	

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Certificate of Analytical Results 684054

COG Operating LLC, Artesia, NM

Hambone Federal Com 26H

Sample Id:	**T-3 @ 6''**	Matrix:	Soil	Date Received:	01.08.2021 16:31
Lab Sample Id:	684054-005	Date Collected:	01.07.2021 00:00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	01.08.2021 17:48	% Moisture:	
Seq Number:	3147344			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	01.09.2021 08:36	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	01.09.2021 08:36	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	01.09.2021 08:36	U	1
m,p-Xylenes	179601-23-1	<0.00405	0.00405	mg/kg	01.09.2021 08:36	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	01.09.2021 08:36	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	01.09.2021 08:36	U	1
Total BTEX		<0.00202	0.00202	mg/kg	01.09.2021 08:36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	01.09.2021 08:36	
4-Bromofluorobenzene	460-00-4	90	%	70-130	01.09.2021 08:36	

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Certificate of Analytical Results 684054

COG Operating LLC, Artesia, NM

Hambone Federal Com 26H

Sample Id:	**T-3 @ 1''**	Matrix:	Soil	Date Received:	01.08.2021 16:31
Lab Sample Id:	684054-006	Date Collected:	01.07.2021 00:00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	01.08.2021 18:15	% Moisture:	
Seq Number:	3147357			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**35300**	996	mg/kg	01.09.2021 09:11		100

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	01.08.2021 18:39	% Moisture:	
Seq Number:	3147411			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<50.0	50.0	mg/kg	01.09.2021 04:51	U	1
Diesel Range Organics	C10C28DRO	**81.9**	50.0	mg/kg	01.09.2021 04:51		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.09.2021 04:51	U	1
Total TPH	PHC635	**81.9**	50.0	mg/kg	01.09.2021 04:51		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	01.09.2021 04:51	
o-Terphenyl	84-15-1	106	%	70-135	01.09.2021 04:51	

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Sample Id:	**T-3 @ 1''**	Matrix:	Soil	Date Received:	01.08.2021 16:31
Lab Sample Id:	684054-006	Date Collected:	01.07.2021 00:00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	01.08.2021 17:48	% Moisture:	
Seq Number:	3147344			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	01.09.2021 08:59	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	01.09.2021 08:59	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	01.09.2021 08:59	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	01.09.2021 08:59	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	01.09.2021 08:59	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	01.09.2021 08:59	U	1
Total BTEX		<0.00199	0.00199	mg/kg	01.09.2021 08:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	01.09.2021 08:59	
4-Bromofluorobenzene	460-00-4	93	%	70-130	01.09.2021 08:59	

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Sample Id:	**T-4 @ 6''**	Matrix:	Soil	Date Received:	01.08.2021 16:31
Lab Sample Id:	684054-007	Date Collected:	01.07.2021 00:00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	01.08.2021 18:15	% Moisture:	
Seq Number:	3147357			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**703**	10.0	mg/kg	01.09.2021 09:17		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	01.08.2021 18:39	% Moisture:	
Seq Number:	3147411			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<49.8	49.8	mg/kg	01.09.2021 05:11	U	1
Diesel Range Organics	C10C28DRO	<49.8	49.8	mg/kg	01.09.2021 05:11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	01.09.2021 05:11	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	01.09.2021 05:11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	01.09.2021 05:11	
o-Terphenyl	84-15-1	96	%	70-135	01.09.2021 05:11	

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Sample Id:	**T-4 @ 6''**	Matrix:	Soil	Date Received:	01.08.2021 16:31
Lab Sample Id:	684054-007	Date Collected:	01.07.2021 00:00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	01.08.2021 17:48	% Moisture:	
Seq Number:	3147344			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.09.2021 09:21	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.09.2021 09:21	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.09.2021 09:21	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	01.09.2021 09:21	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.09.2021 09:21	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.09.2021 09:21	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.09.2021 09:21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	94	%	70-130	01.09.2021 09:21	
1,4-Difluorobenzene	540-36-3	100	%	70-130	01.09.2021 09:21	

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Sample Id: **T-4 @ 1''** Matrix: Soil Date Received:01.08.2021 16:31

Lab Sample Id: 684054-008 Date Collected: 01.07.2021 00:00

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB

Analyst: MAB Date Prep: 01.08.2021 18:15 % Moisture:

Seq Number: 3147357 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**43300**	1000	mg/kg	01.09.2021 09:23		100

Analytical Method: TPH By SW8015 Mod Prep Method: SW8015P

Tech: MAB

Analyst: CAC Date Prep: 01.08.2021 18:39 % Moisture:

Seq Number: 3147411 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<50.0	50.0	mg/kg	01.09.2021 05:31	U	1
Diesel Range Organics	C10C28DRO	**4880**	50.0	mg/kg	01.09.2021 05:31		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**574**	50.0	mg/kg	01.09.2021 05:31		1
Total TPH	PHC635	**5450**	50.0	mg/kg	01.09.2021 05:31		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	123	%	70-135	01.09.2021 05:31	
o-Terphenyl	84-15-1	104	%	70-135	01.09.2021 05:31	

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Sample Id:	**T-4 @ 1''**	Matrix:	Soil	Date Received:	01.08.2021 16:31
Lab Sample Id:	684054-008	Date Collected:	01.07.2021 00:00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	01.08.2021 17:48	% Moisture:	
Seq Number:	3147344			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	01.09.2021 09:43	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	01.09.2021 09:43	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	01.09.2021 09:43	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	01.09.2021 09:43	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	01.09.2021 09:43	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	01.09.2021 09:43	U	1
Total BTEX		<0.00202	0.00202	mg/kg	01.09.2021 09:43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	75	%	70-130	01.09.2021 09:43	
1,4-Difluorobenzene	540-36-3	103	%	70-130	01.09.2021 09:43	

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Sample Id:	**T-5 @ 6''**	Matrix:	Soil	Date Received:	01.08.2021 16:31
Lab Sample Id:	684054-009	Date Collected:	01.07.2021 00:00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	01.08.2021 18:15	% Moisture:	
Seq Number:	3147357			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**29900**	994	mg/kg	01.09.2021 09:29		100

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	01.08.2021 18:39	% Moisture:	
Seq Number:	3147411			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<50.1	50.1	mg/kg	01.09.2021 05:51	U	1
Diesel Range Organics	C10C28DRO	**79.4**	50.1	mg/kg	01.09.2021 05:51		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**54.9**	50.1	mg/kg	01.09.2021 05:51		1
Total TPH	PHC635	**134**	50.1	mg/kg	01.09.2021 05:51		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	01.09.2021 05:51	
o-Terphenyl	84-15-1	94	%	70-135	01.09.2021 05:51	

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Sample Id:	**T-5 @ 6''**	Matrix:	Soil	Date Received:	01.08.2021 16:31
Lab Sample Id:	684054-009	Date Collected:	01.07.2021 00:00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	01.08.2021 17:48	% Moisture:	
Seq Number:	3147344			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.09.2021 10:06	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.09.2021 10:06	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.09.2021 10:06	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	01.09.2021 10:06	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.09.2021 10:06	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.09.2021 10:06	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.09.2021 10:06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	90	%	70-130	01.09.2021 10:06	
1,4-Difluorobenzene	540-36-3	99	%	70-130	01.09.2021 10:06	

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Sample Id:	**T-5 @ 1''**	Matrix:	Soil	Date Received:	01.08.2021 16:31
Lab Sample Id:	684054-010	Date Collected:	01.07.2021 00:00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	01.08.2021 18:15	% Moisture:	
Seq Number:	3147357			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**29800**	1000	mg/kg	01.09.2021 09:35		100

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	01.08.2021 18:39	% Moisture:	
Seq Number:	3147411			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<49.9	49.9	mg/kg	01.09.2021 06:11	U	1
Diesel Range Organics	C10C28DRO	<49.9	49.9	mg/kg	01.09.2021 06:11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.09.2021 06:11	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	01.09.2021 06:11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	01.09.2021 06:11	
o-Terphenyl	84-15-1	101	%	70-135	01.09.2021 06:11	

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Sample Id:	**T-5 @ 1''**	Matrix:	Soil	Date Received:	01.08.2021 16:31
Lab Sample Id:	684054-010	Date Collected:	01.07.2021 00:00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	01.08.2021 17:48	% Moisture:	
Seq Number:	3147344			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.09.2021 10:28	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.09.2021 10:28	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.09.2021 10:28	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	01.09.2021 10:28	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.09.2021 10:28	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.09.2021 10:28	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.09.2021 10:28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	92	%	70-130	01.09.2021 10:28	
1,4-Difluorobenzene	540-36-3	99	%	70-130	01.09.2021 10:28	

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Sample Id:	**T-6 @ 1''**	Matrix:	Soil	Date Received:	01.08.2021 16:31
Lab Sample Id:	684054-011	Date Collected:	01.07.2021 00:00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	01.08.2021 18:15	% Moisture:	
Seq Number:	3147357			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**412**	9.98	mg/kg	01.09.2021 09:41		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	01.08.2021 18:39	% Moisture:	
Seq Number:	3147411			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<50.0	50.0	mg/kg	01.09.2021 06:51	U	1
Diesel Range Organics	C10C28DRO	<50.0	50.0	mg/kg	01.09.2021 06:51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.09.2021 06:51	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.09.2021 06:51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	125	%	70-135	01.09.2021 06:51	
o-Terphenyl	84-15-1	106	%	70-135	01.09.2021 06:51	

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Sample Id:	**T-6 @ 1''**	Matrix:	Soil	Date Received:	01.08.2021 16:31
Lab Sample Id:	684054-011	Date Collected:	01.07.2021 00:00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	01.08.2021 17:00	% Moisture:	
Seq Number:	3147345			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.09.2021 08:14	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.09.2021 08:14	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.09.2021 08:14	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	01.09.2021 08:14	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.09.2021 08:14	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.09.2021 08:14	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.09.2021 08:14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	108	%	70-130	01.09.2021 08:14	
4-Bromofluorobenzene	460-00-4	119	%	70-130	01.09.2021 08:14	

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Sample Id:	**T-6 @ 1''**	Matrix:	Soil	Date Received:	01.08.2021 16:31
Lab Sample Id:	684054-012	Date Collected:	01.07.2021 00:00		

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	01.08.2021 18:15	% Moisture:	
Seq Number:	3147357			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**35000**	990	mg/kg	01.09.2021 09:58		100

Analytical Method:	TPH By SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	01.08.2021 18:39	% Moisture:	
Seq Number:	3147411			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons	PHC610	<50.0	50.0	mg/kg	01.09.2021 07:10	U	1
Diesel Range Organics	C10C28DRO	**328**	50.0	mg/kg	01.09.2021 07:10		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**65.8**	50.0	mg/kg	01.09.2021 07:10		1
Total TPH	PHC635	**394**	50.0	mg/kg	01.09.2021 07:10		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	01.09.2021 07:10	
o-Terphenyl	84-15-1	98	%	70-135	01.09.2021 07:10	

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Sample Id:	**T-6 @ 1''**	Matrix:	Soil	Date Received:	01.08.2021 16:31
Lab Sample Id:	684054-012	Date Collected:	01.07.2021 00:00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	01.08.2021 17:00	% Moisture:	
Seq Number:	3147345			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.09.2021 08:37	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.09.2021 08:37	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.09.2021 08:37	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	01.09.2021 08:37	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.09.2021 08:37	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.09.2021 08:37	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.09.2021 08:37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	72	%	70-130	01.09.2021 08:37	
1,4-Difluorobenzene	540-36-3	109	%	70-130	01.09.2021 08:37	

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Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

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

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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QC Summary 684054

COG Operating LLC

Hambone Federal Com 26H

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3147357 — Matrix: Solid — Date Prep: 01.08.2021
MB Sample Id: 7718857-1-BLK — LCS Sample Id: 7718857-1-BKS — LCSD Sample Id: 7718857-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	261	104	262	105	90-110	0	20	mg/kg	01.09.2021 08:05	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3147357 — Matrix: Soil — Date Prep: 01.08.2021
Parent Sample Id: 684054-001 — MS Sample Id: 684054-001 S — MSD Sample Id: 684054-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	197	199	407	106	408	106	90-110	0	20	mg/kg	01.09.2021 08:23	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3147357 — Matrix: Soil — Date Prep: 01.08.2021
Parent Sample Id: 684054-011 — MS Sample Id: 684054-011 S — MSD Sample Id: 684054-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	412	200	623	106	623	106	90-110	0	20	mg/kg	01.09.2021 09:47	

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3147411 — Matrix: Solid — Date Prep: 01.08.2021
MB Sample Id: 7718845-1-BLK — LCS Sample Id: 7718845-1-BKS — LCSD Sample Id: 7718845-1-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	<50.0	1000	1080	108	1020	102	70-135	6	35	mg/kg	01.09.2021 01:53	
Diesel Range Organics	<50.0	1000	1060	106	1050	105	70-135	1	35	mg/kg	01.09.2021 01:53	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	95		98		86		70-135	%	01.09.2021 01:53
o-Terphenyl	108		86		83		70-135	%	01.09.2021 01:53

Analytical Method: TPH By SW8015 Mod — Prep Method: SW8015P
Seq Number: 3147411 — Matrix: Solid — Date Prep: 01.08.2021
MB Sample Id: 7718845-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	01.09.2021 01:33	

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

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QC Summary 684054

COG Operating LLC

Hambone Federal Com 26H

Analytical Method: **TPH By SW8015 Mod** Prep Method: SW8015P
Seq Number: 3147411 Matrix: Soil Date Prep: 01.08.2021
Parent Sample Id: 684054-001 MS Sample Id: 684054-001 S MSD Sample Id: 684054-001 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	<50.0	999	1150	115	1200	120	70-135	4	35	mg/kg	01.09.2021 02:52	
Diesel Range Organics	<50.0	999	1180	118	1190	119	70-135	1	35	mg/kg	01.09.2021 02:52	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	109		128		70-135	%	01.09.2021 02:52
o-Terphenyl	112		108		70-135	%	01.09.2021 02:52

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3147344 Matrix: Solid Date Prep: 01.08.2021
MB Sample Id: 7718767-1-BLK LCS Sample Id: 7718767-1-BKS LCSD Sample Id: 7718767-1-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	0.0984	98	0.108	108	70-130	9	35	mg/kg	01.09.2021 00:03	
Toluene	<0.00200	0.100	0.0940	94	0.102	102	70-130	8	35	mg/kg	01.09.2021 00:03	
Ethylbenzene	<0.00200	0.100	0.0857	86	0.0928	93	71-129	8	35	mg/kg	01.09.2021 00:03	
m,p-Xylenes	<0.00400	0.200	0.174	87	0.187	94	70-135	7	35	mg/kg	01.09.2021 00:03	
o-Xylene	<0.00200	0.100	0.0871	87	0.0940	94	71-133	8	35	mg/kg	01.09.2021 00:03	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		94		95		70-130	%	01.09.2021 00:03
4-Bromofluorobenzene	87		88		88		70-130	%	01.09.2021 00:03

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3147345 Matrix: Solid Date Prep: 01.08.2021
MB Sample Id: 7718847-1-BLK LCS Sample Id: 7718847-1-BKS LCSD Sample Id: 7718847-1-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	0.101	101	0.102	102	70-130	1	35	mg/kg	01.09.2021 00:41	
Toluene	<0.00200	0.100	0.0961	96	0.0947	95	70-130	1	35	mg/kg	01.09.2021 00:41	
Ethylbenzene	<0.00200	0.100	0.0992	99	0.0996	100	71-129	0	35	mg/kg	01.09.2021 00:41	
m,p-Xylenes	<0.00400	0.200	0.199	100	0.204	102	70-135	2	35	mg/kg	01.09.2021 00:41	
o-Xylene	<0.00200	0.100	0.102	102	0.101	101	71-133	1	35	mg/kg	01.09.2021 00:41	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		102		100		70-130	%	01.09.2021 00:41
4-Bromofluorobenzene	112		109		108		70-130	%	01.09.2021 00:41

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec

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QC Summary 684054

COG Operating LLC

Hambone Federal Com 26H

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A

Seq Number: 3147344 Matrix: Soil Date Prep: 01.08.2021

Parent Sample Id: 683921-007 MS Sample Id: 683921-007 S MSD Sample Id: 683921-007 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	0.0903	89	0.100	100	70-130	10	35	mg/kg	01.09.2021 00:48	
Toluene	<0.00202	0.101	0.0912	90	0.0955	96	70-130	5	35	mg/kg	01.09.2021 00:48	
Ethylbenzene	<0.00202	0.101	0.0863	85	0.0875	88	71-129	1	35	mg/kg	01.09.2021 00:48	
m,p-Xylenes	<0.00403	0.202	0.177	88	0.177	88	70-135	0	35	mg/kg	01.09.2021 00:48	
o-Xylene	<0.00202	0.101	0.0865	86	0.0883	88	71-133	2	35	mg/kg	01.09.2021 00:48	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	90		95		70-130	%	01.09.2021 00:48
4-Bromofluorobenzene	88		87		70-130	%	01.09.2021 00:48

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A

Seq Number: 3147345 Matrix: Soil Date Prep: 01.08.2021

Parent Sample Id: 683993-001 MS Sample Id: 683993-001 S MSD Sample Id: 683993-001 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	0.107	106	0.0953	94	70-130	12	35	mg/kg	01.09.2021 01:26	
Toluene	<0.00202	0.101	0.0997	99	0.0837	83	70-130	17	35	mg/kg	01.09.2021 01:26	
Ethylbenzene	<0.00202	0.101	0.104	103	0.0853	84	71-129	20	35	mg/kg	01.09.2021 01:26	
m,p-Xylenes	<0.00404	0.202	0.214	106	0.175	87	70-135	20	35	mg/kg	01.09.2021 01:26	
o-Xylene	<0.00202	0.101	0.105	104	0.0871	86	71-133	19	35	mg/kg	01.09.2021 01:26	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		103		70-130	%	01.09.2021 01:26
4-Bromofluorobenzene	112		111		70-130	%	01.09.2021 01:26

MS/MSD Percent Recovery	[D] = 100*(C-A) / B	LCS = Laboratory Control Sample	MS = Matrix Spike
Relative Percent Difference	RPD = 200* | (C-E) / (C+E) |	A = Parent Result	B = Spike Added
LCS/LCSD Recovery	[D] = 100 * (C) / [B]	C = MS/LCS Result	D = MSD/LCSD % Rec
Log Difference	Log Diff. = Log(Sample Duplicate) - Log(Original Sample)	E = MSD/LCSD Result	

684054

Page 1 of 2

Analysis Request of Chain of Custody Record

CONCHO

One Concho Center/600/Illinois Avenue/Midland, Texas

Tel (432) 683-7443

Client Name:	COG	Site Manager:	Jacqui Harris
Project Name:	Hambone Federal Com 26H		
Project Location: (County, state)	Eddy, NM	Project #:	
Invoice to:	Jacqui Harris		
Receiving Laboratory:		Sampler Name:	Jacqui Harris
Comments:			

ANALYSIS REQUEST

(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX: WATER	MATRIX: SOIL	PRESERVATIVE METHOD: HCL	PRESERVATIVE METHOD: HNO_3	PRESERVATIVE METHOD: ICE	# CONTAINERS	(C)omposite/(G)rab	TPH 8015M (GRO - DRO - MRO)	BTEX 8021B	Chloride
	T-1 @ 6"	1/7/2021			X			X			X	X	X
	T-1 @ 1'	1/7/2021			X			X			X	X	X
	T-2 @ 6"	1/7/2021			X			X			X	X	X
	T-2 @ 1'	1/7/2021			X			X			X	X	X
	T-3 @ 6"	1/7/2021			X			X			X	X	X
	T-3 @ 1'	1/7/2021			X			X			X	X	X
	T-4 @ 6"	1/7/2021			X			X			X	X	X
	T-4 @ 1'	1/7/2021			X			X			X	X	X
	T-5 @ 6"	1/7/2021			X			X			X	X	X
	T-5 @ 1'	1/7/2021			X			X			X	X	X

Relinquished by: Jacqui Harris	Date: 1/8/21	Time: 16:31	Received by: Cloe Clifton
Relinquished by:	Date:	Time:	Received by:
Relinquished by:	Date:	Time:	Received by:

Date: 1-8-21 Time: 1631

Date: Time:

Date: Time:

LAB USE ONLY

Sample Temperature: 6.0/5-8

REMARKS:

- [x] RUSH: Same Day 24 hr (48 hr) 72 hr
- [ ] Rush Charges Authorized
- [ ] Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

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Analysis Request of Chain of Custody Record

CONCHO

One Concho Center/600/Illinois Avenue/Midland, Texas

Tel (432) 683-7443

Client Name: COG	Site Manager: Jacqui Harris
Project Name: Hambone Federal Com 26H	
Project Location: (County, state) Eddy, NM	Project #:
Invoice to: Jacqui Harris	
Receiving Laboratory:	Sampler Name: Jacqui Harris
Comments:	

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: DATE	SAMPLING TIME	MATRIX: WATER	MATRIX: SOIL	PRESERVATIVE METHOD: HCL	PRESERVATIVE METHOD: HNO_3	PRESERVATIVE METHOD: ICE	# CONTAINERS	(C)omposite/(G)rab	ANALYSIS REQUEST (Circle or Specify Method No.): TPH 8015M (GRO - DRO - MRO)	BTEX 8021B	Chloride
	T-6 @ 6"	1/7/2021			X			X			X	X	X
	T-6 @ 1'	1/7/2021			X			X			X	X	X

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Jacqui Harris	1/8/21	16:31	[signature]	1.8.21	1631
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY

Sample Temperature: 6.0/5.8

REMARKS:

- [X] RUSH: Same Day 24 hr (48 hr) 72 hr
- [ ] Rush Charges Authorized
- [ ] Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

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Analysis Request of Chain of Custody Record

CONCHO

One Concho Center/600/Illinois Avenue/Midland, Texas
Tel (432) 683-7443

Client Name: COG-Carlsbad	**Site Manager:** Jacqui Harris
Project Name: Hambone Fed Com 26H	
Project Location: (county, state) Eddy County, New Mexico	**Project #:**
Invoice to: COG	
Receiving Laboratory:	**Sampler Name:** Jacqui Harris
Comments:	

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD	PRESERVATIVE METHOD	# CONTAINERS	(C)omposite/(G)rab	TPH 8015M (GRO - DRO - MRO)	BTEX 8021B	Chloride	Hold
	CS-1	1/27/2021			X				X					X	X	X	
	CS-2	1/27/2021			X				X					X	X	X	
	CS-3	1/27/2021			X				X					X	X	X	
	CS-4	1/27/2021			X				X					X	X	X	
	CS-5	1/27/2021			X				X					X	X	X	
	CS-6	1/27/2021			X				X					X	X	X	
	CS-7	1/27/2021			X				X					X	X	X	
	CS-8	1/27/2021			X				X					X	X	X	
	CS-9	1/27/2021			X				X					X	X	X	
	CS-10	1/27/2021			X				X					X	X	X	

Relinquished by:	Date:	Time:	Received by: Date: Time:
Relinquished by:	Date:	Time:	Received by: Date: Time:
Relinquished by:	Date:	Time:	Received by: Date: Time:

LAB USE ONLY

Sample Temperature

REMARKS:

Standard 5 Day

☐ **RUSH**: Same Day 24 hr 48 hr 72 hr

☐ Rush Charges Authorized

☐ Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

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Analysis Request of Chain of Custody Record

CONCHO

One Concho
Center/600/Illinois
Avenue/Midland, Texas
Tel (432) 683-7443

Client Name: COG-Carlsbad	**Site Manager:** Jacqui Harris
Project Name: Hambone Fed Com 26H	
Project Location: (county, state) Eddy County, New Mexico	**Project #:**
Invoice to: COG	
Receiving Laboratory:	**Sampler Name:** Jacqui Harris
Comments:	

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: DATE	SAMPLING TIME	MATRIX: WATER	MATRIX: SOIL	MATRIX:	PRESERVATIVE METHOD: HCL	PRESERVATIVE METHOD: HNO_3	PRESERVATIVE METHOD: ICE	PRESERVATIVE METHOD:	PRESERVATIVE METHOD:	# CONTAINERS	(C)omposite/(G)rab	TPH 8015M (GRO - DRO - MRO)	BTEX 8021B	Chloride	Hold
	CS-11	1/27/2021			X				X					X	X	X	
	CS-12	1/27/2021			X				X					X	X	X	
	CS-13	1/27/2021			X				X					X	X	X	
	CS-14	1/27/2021			X				X					X	X	X	
	CS-15	1/27/2021			X				X					X	X	X	
	CS-16	1/27/2021			X				X					X	X	X	
	CS-17	1/27/2021			X				X					X	X	X	
	CS-18	1/27/2021			X				X					X	X	X	X
	CS-19	1/27/2021			X				X					X	X	X	
	CS-20	1/27/2021			X				X					X	X	X	

Relinquished by:	Date:	Time:
Relinquished by:	Date:	Time:
Relinquished by:	Date:	Time:

Received by:	Date:	Time:
Received by:	Date:	Time:
Received by:	Date:	Time:

LAB USE ONLY

Sample Temperature

REMARKS:

Standard 5 Day

☐ **RUSH:** Same Day 24 hr 48 hr 72 hr

☐ Rush Charges Authorized

☐ Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

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Analysis Request of Chain of Custody Record

CONCHO

One Concho
Center/600/Illinois
Avenue/Midland, Texas
Tel (432) 683-7443

Client Name: COG-Carlsbad	**Site Manager:** Jacqui Harris
Project Name: Hambone Fed Com 26H	
Project Location: (county, state) Eddy County, New Mexico	**Project #:**
Invoice to: COG	
Receiving Laboratory:	**Sampler Name:** Jacqui Harris
Comments:	

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: DATE	SAMPLING TIME	MATRIX: WATER	MATRIX: SOIL	MATRIX:	PRESERVATIVE METHOD: HCL	PRESERVATIVE METHOD: HNO_3	PRESERVATIVE METHOD: ICE	PRESERVATIVE METHOD:	PRESERVATIVE METHOD:	# CONTAINERS	(C)omposite/(G)rab	TPH 8015M (GRO - DRO - MRO)	BTEX 8021B	Chloride	Hold
	CS-21	1/27/2021												X	X		
	CS-22	1/27/2021			X				X					X	X	X	
	CS-23	1/27/2021			X				X					X	X	X	
	CS-24	1/27/2021			X				X					X	X	X	
	CS-25	1/27/2021			X				X					X	X	X	
	CS-26	1/27/2021			X				X					X	X	X	
	CS-27	1/27/2021			X				X					X	X	X	X
	CS-28	1/27/2021			X				X					X	X	X	
	CS-29	1/27/2021			X				X					X	X	X	
	CS-30	1/27/2021			X				X					X	X	X	

Relinquished by:	Date:	Time:
Relinquished by:	Date:	Time:
Relinquished by:	Date:	Time:

Received by:	Date:	Time:
Received by:	Date:	Time:
Received by:	Date:	Time:

LAB USE ONLY

Sample Temperature

REMARKS:

Standard 5 Day

☐ **RUSH:** Same Day 24 hr 48 hr 72 hr

☐ Rush Charges Authorized

☐ Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

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Analysis Request of Chain of Custody Record

CONCHO

One Concho
Center/600/Illinois
Avenue/Midland, Texas
Tel (432) 683-7443

Client Name: COG-Carlsbad	**Site Manager:** Jacqui Harris
Project Name: Hambone Fed Com 26H	
Project Location: (county, state) Eddy County, New Mexico	**Project #:**
Invoice to: COG	
Receiving Laboratory:	**Sampler Name:** Jacqui Harris
Comments:	

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD	PRESERVATIVE METHOD	# CONTAINERS	(C)omposite/(G)rab	TPH 8015M (GRO - DRO - MRO)	BTEX 8021B	Chloride	Hold
	CS-31	1/27/2021			X				X					X	X	X	
	CS-32	1/27/2021			X				X					X	X	X	
	CS-33	1/27/2021			X				X					X	X	X	
	CS-34	1/27/2021			X				X					X	X	X	
	CS-35	1/27/2021			X				X					X	X	X	
	CS-36	1/27/2021			X				X					X	X	X	
	CS-37	1/27/2021			X				X					X	X	X	
	CS-38	1/27/2021			X				X					X	X	X	
	CS-39	1/27/2021			X				X					X	X	X	
	CS-40	1/27/2021			X				X					X	X	X	

Relinquished by:	Date:	Time:
Relinquished by:	Date:	Time:
Relinquished by:	Date:	Time:
Received by:	Date:	Time:
Received by:	Date:	Time:
Received by:	Date:	Time:

LAB USE ONLY

Sample Temperature

REMARKS:

Standard 5 Day

☐ **RUSH:** Same Day 24 hr 48 hr 72 hr

☐ Rush Charges Authorized

☐ Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

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Analysis Request of Chain of Custody Record

CONCHO

One Concho
Center/600/Illinois
Avenue/Midland, Texas
Tel (432) 683-7443

Client Name: COG-Carlsbad	**Site Manager:** Jacqui Harris
Project Name: Hambone Fed Com 26H	
Project Location: (county, state) Eddy County, New Mexico	**Project #:**
Invoice to: COG	
Receiving Laboratory:	**Sampler Name:** Jacqui Harris
Comments:	

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: DATE	SAMPLING TIME	MATRIX: WATER	MATRIX: SOIL	MATRIX:	PRESERVATIVE METHOD: HCL	PRESERVATIVE METHOD: HNO_3	PRESERVATIVE METHOD: ICE	PRESERVATIVE METHOD:	PRESERVATIVE METHOD:	# CONTAINERS	(C)omposite/(G)rab	TPH 8015M (GRO - DRO - MRO)	BTEX 8021B	Chloride	Hold
	CS-41	1/27/2021			X				X					X	X	X	
	CS-42	1/27/2021			X				X					X	X	X	
	CS-43	1/27/2021			X				X					X	X	X	
	CS-44	1/27/2021			X				X					X	X	X	
	CS-45	1/27/2021			X				X					X	X	X	
	CS-46	1/27/2021			X				X					X	X	X	
	CS-47	1/27/2021			X				X					X	X	X	
	CS-48	1/27/2021			X				X					X	X	X	
	CS-49	1/27/2021			X				X					X	X	X	
	CS-50	1/27/2021			X				X					X	X	X	

Relinquished by:	Date:	Time:	Received by: Date: Time:
Relinquished by:	Date:	Time:	Received by: Date: Time:
Relinquished by:	Date:	Time:	Received by: Date: Time:

LAB USE ONLY

Sample Temperature

REMARKS:

Standard 5 Day

☐ **RUSH:** Same Day 24 hr 48 hr 72 hr

☐ Rush Charges Authorized

☐ Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

ORIGINAL COPY

Analysis Request of Chain of Custody Record

CONCHO

One Concho
Center/600/Illinois
Avenue/Midland, Texas
Tel (432) 683-7443

Client Name:	COG-Carlsbad	**Site Manager:**	Jacqui Harris
Project Name:	Hambone Fed Com 26H		
Project Location: (county, state)	Eddy County, New Mexico	**Project #:**	
Invoice to:	COG		
Receiving Laboratory:		**Sampler Name:**	Jacqui Harris
Comments:			

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX: WATER	MATRIX: SOIL	MATRIX:	PRESERVATIVE METHOD: HCL	PRESERVATIVE METHOD: HNO_3	PRESERVATIVE METHOD: ICE	PRESERVATIVE METHOD:	PRESERVATIVE METHOD:	# CONTAINERS	(C)omposite/(G)rab	TPH 8015M (GRO - DRO - MRO)	BTEX 8021B	Chloride	Hold
	CS-51	1/27/2021			X				X					X	X	X	
	CS-52	1/27/2021			X				X					X	X	X	
	CS-53	1/27/2021			X				X					X	X	X	
	CS-54	1/27/2021			X				X					X	X	X	
	CS-55	1/27/2021			X				X					X	X	X	
	CS-56	1/27/2021			X				X					X	X	X	
	CS-57	1/27/2021			X				X					X	X	X	
	CS-58	1/27/2021			X				X					X	X	X	
	CS-59	1/27/2021			X				X					X	X	X	
	CS-60	1/27/2021			X				X					X	X	X	

Relinquished by:	Date: Time:	Received by:	Date: Time:
Relinquished by:	Date: Time:	Received by:	Date: Time:
Relinquished by:	Date: Time:	Received by:	Date: Time:

LAB USE ONLY

Sample Temperature

REMARKS:

Standard 5 Day

☐ **RUSH**: Same Day 24 hr 48 hr 72 hr

☐ Rush Charges Authorized

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(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

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Analysis Request of Chain of Custody Record

CONCHO

One Concho
Center/600/Illinois
Avenue/Midland, Texas
Tel (432) 683-7443

Client Name:	COG-Carlsbad	**Site Manager:**	Jacqui Harris
Project Name:	Hambone Fed Com 26H		
Project Location: (county, state)	Eddy County, New Mexico	**Project #:**	
Invoice to:	COG		
Receiving Laboratory:		**Sampler Name:**	Jacqui Harris
Comments:			

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	MATRIX	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	PRESERVATIVE METHOD	PRESERVATIVE METHOD	# CONTAINERS	(C)omposite/(G)rab	TPH 8015M (GRO - DRO - MRO)	BTEX 8021B	Chloride	Hold
	CS-61	1/27/2021			X				X					X	X	X	
	CS-62	1/27/2021			X				X					X	X	X	
	CS-63	1/27/2021			X				X					X	X	X	
	CS-64	1/27/2021			X				X					X	X	X	
	CS-65	1/27/2021			X				X					X	X	X	
	CS-66	1/27/2021			X				X					X	X	X	
	CS-67	1/27/2021			X				X					X	X	X	
	CS-68	1/27/2021			X				X					X	X	X	
	CS-69	1/27/2021			X				X					X	X	X	
	CS-70	1/27/2021			X				X					X	X	X	

Relinquished by:	Date: Time:	Received by:	Date: Time:
Relinquished by:	Date: Time:	Received by:	Date: Time:
Relinquished by:	Date: Time:	Received by:	Date: Time:

LAB USE ONLY

Sample Temperature

REMARKS:

Standard 5 Day

☐ **RUSH**: Same Day 24 hr 48 hr 72 hr

☐ Rush Charges Authorized

☐ Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

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Analysis Request of Chain of Custody Record

CONCHO

One Concho
Center/600/Illinois
Avenue/Midland, Texas
Tel (432) 683-7443

Client Name: COG-Carlsbad
Site Manager: Jacqui Harris
Project Name: Hambone Fed Com 26H
Project Location: (county, state) Eddy County, New Mexico
Project #:
Invoice to: COG
Receiving Laboratory:
Sampler Name: Jacqui Harris
Comments:

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	# CONTAINERS	(C)omposite/(G)rab	TPH 8015M (GRO - DRO - MRO)	BTEX 8021B	Chloride	Hold
	CS-71	1/27/2021			X			X			X	X	X	
	SW-1	1/27/2021			X			X			X	X	X	
	SW-2	1/27/2021			X			X			X	X	X	
	SW-3	1/27/2021			X			X			X	X	X	
	SW-4	1/27/2021			X			X			X	X	X	
	SW-5	1/27/2021			X			X			X	X	X	
	SW-6	1/27/2021			X			X			X	X	X	
	SW-7	1/27/2021			X			X			X	X	X	
	SW-8	1/27/2021			X			X			X	X	X	
	SW-9	1/27/2021			X			X			X	X	X	

Relinquished by: Date: Time: | Received by: Date: Time:
Relinquished by: Date: Time: | Received by: Date: Time:
Relinquished by: Date: Time: | Received by: Date: Time:

LAB USE ONLY
Sample Temperature

REMARKS:
Standard 5 Day
☐ **RUSH**: Same Day 24 hr 48 hr 72 hr
☐ Rush Charges Authorized
☐ Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

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Analysis Request of Chain of Custody Record

CONCHO

One Concho Center/600/Illinois
Avenue/Midland, Texas
Tel (432) 683-7443

Client Name: COG-Carlsbad
Site Manager: Jacqui Harris
Project Name: Hambone Fed Com 26H
Project Location: (county, state) Eddy County, New Mexico
Project #:
Invoice to: COG
Receiving Laboratory:
Sampler Name: Jacqui Harris
Comments:

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING YEAR: DATE	SAMPLING TIME	MATRIX: WATER	MATRIX: SOIL	MATRIX:	PRESERVATIVE METHOD: HCL	PRESERVATIVE METHOD: HNO_3	PRESERVATIVE METHOD: ICE	PRESERVATIVE METHOD:	PRESERVATIVE METHOD:	# CONTAINERS	(C)omposite/(G)rab	TPH 8015M (GRO - DRO - MRO)	BTEX 8021B	Chloride	Hold
	SW-10	1/27/2021			X				X					X	X	X	
	SW-11	1/27/2021			X				X					X	X	X	
	SW-12	1/27/2021			X				X					X	X	X	
	SW-13	1/27/2021			X				X					X	X	X	
	SW-14	1/27/2021			X				X					X	X	X	
	SW-15	1/27/2021			X				X					X	X	X	
	SW-16	1/27/2021			X				X					X	X	X	
	SW-17	1/27/2021			X				X					X	X	X	

Relinquished by: Date: Time: Received by: Date: Time:
Relinquished by: Date: Time: Received by: Date: Time:
Relinquished by: Date: Time: Received by: Date: Time:

LAB USE ONLY

Sample Temperature

REMARKS:

Standard 5 Day

☐ **RUSH:** Same Day 24 hr 48 hr 72 hr

☐ Rush Charges Authorized

☐ Special Report Limits or TRRP Report

(Circle) HAND DELIVERED FEDEX UPS Tracking #: _____

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eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Xenco, Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Tel: (575)988-3199

Laboratory Job ID: 890-180-1
Client Project/Site: Hambone #26

For:
COG Operating, LLC
One Concho Center
600 W. Illinois Avenue
Midland, Texas 79701

Attn: Jacqui Harris

JKRAMER

Authorized for release by:
2/11/2021 5:16:53 PM

Jessica Kramer, Project Manager
(432)704-5440
jessica.kramer@eurofinset.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: COG Operating, LLC
Project/Site: Hambone #26

Laboratory Job ID: 890-180-1

Table of Contents

Definitions/Glossary

Client: COG Operating, LLC
Project/Site: Hambone #26

Job ID: 890-180-1

Qualifiers

GC VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: COG Operating, LLC
Project/Site: Hambone #26

Job ID: 890-180-1

Job ID: 890-180-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative
890-180-1

Receipt
The samples were received on 2/10/2021 4:18 PM; the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.6°C

GC VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Client Sample Results

Client: COG Operating, LLC
Project/Site: Hambone #26

Job ID: 890-180-1

Client Sample ID: CS-13
Date Collected: 02/09/21 00:00
Date Received: 02/10/21 16:18

Lab Sample ID: 890-180-1
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		02/10/21 17:39	02/10/21 22:46	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		02/10/21 17:39	02/10/21 22:46	1
Toluene	<0.00201	U	0.00201		mg/Kg		02/10/21 17:39	02/10/21 22:46	1
Total BTEX	<0.00201	U	0.00201		mg/Kg		02/10/21 17:39	02/10/21 22:46	1
Xylenes, Total	<0.00201	U	0.00201		mg/Kg		02/10/21 17:39	02/10/21 22:46	1
m,p-Xylenes	<0.00402	U	0.00402		mg/Kg		02/10/21 17:39	02/10/21 22:46	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		02/10/21 17:39	02/10/21 22:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene	*102*		*70 - 130*	*02/10/21 17:39*	*02/10/21 22:46*	*1*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*	*02/10/21 17:39*	*02/10/21 22:46*	*1*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	<49.9	U	49.9		mg/Kg		02/10/21 17:29	02/11/21 04:35	1
Total TPH	<49.9	U	49.9		mg/Kg		02/10/21 17:29	02/11/21 04:35	1
>C10-C28	<49.9	U	49.9		mg/Kg		02/10/21 17:29	02/11/21 04:35	1
>C28-C35	<49.9	U	49.9		mg/Kg		02/10/21 17:29	02/11/21 04:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*86*		*70 - 135*	*02/10/21 17:29*	*02/11/21 04:35*	*1*
o-Terphenyl	*84*		*70 - 135*	*02/10/21 17:29*	*02/11/21 04:35*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**194**		9.90		mg/Kg			02/11/21 04:24	1

Client Sample ID: CS-41
Date Collected: 02/09/21 00:00
Date Received: 02/10/21 16:18

Lab Sample ID: 890-180-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/10/21 17:39	02/10/21 23:53	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/10/21 17:39	02/10/21 23:53	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/10/21 17:39	02/10/21 23:53	1
Total BTEX	<0.00200	U	0.00200		mg/Kg		02/10/21 17:39	02/10/21 23:53	1
Xylenes, Total	<0.00200	U	0.00200		mg/Kg		02/10/21 17:39	02/10/21 23:53	1
m,p-Xylenes	<0.00399	U	0.00399		mg/Kg		02/10/21 17:39	02/10/21 23:53	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/10/21 17:39	02/10/21 23:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene	*105*		*70 - 130*	*02/10/21 17:39*	*02/10/21 23:53*	*1*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*	*02/10/21 17:39*	*02/10/21 23:53*	*1*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	<50.1	U	50.1		mg/Kg		02/10/21 17:29	02/11/21 05:35	1
Total TPH	<50.1	U	50.1		mg/Kg		02/10/21 17:29	02/11/21 05:35	1
>C10-C28	<50.1	U	50.1		mg/Kg		02/10/21 17:29	02/11/21 05:35	1
>C28-C35	<50.1	U	50.1		mg/Kg		02/10/21 17:29	02/11/21 05:35	1

Client Sample Results

Client: COG Operating, LLC
Project/Site: Hambone #26

Job ID: 890-180-1

Client Sample ID: CS-41
Date Collected: 02/09/21 00:00
Date Received: 02/10/21 16:18

Lab Sample ID: 890-180-2
Matrix: Solid

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	102		70 - 135	02/10/21 17:29	02/11/21 05:35	1
o-Terphenyl	99		70 - 135	02/10/21 17:29	02/11/21 05:35	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	192		9.94		mg/Kg			02/11/21 04:41	1

Client Sample ID: CS-31
Date Collected: 02/09/21 00:00
Date Received: 02/10/21 16:18

Lab Sample ID: 890-180-3
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		02/10/21 17:39	02/11/21 00:16	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		02/10/21 17:39	02/11/21 00:16	1
Toluene	<0.00199	U	0.00199		mg/Kg		02/10/21 17:39	02/11/21 00:16	1
Total BTEX	<0.00199	U	0.00199		mg/Kg		02/10/21 17:39	02/11/21 00:16	1
Xylenes, Total	<0.00199	U	0.00199		mg/Kg		02/10/21 17:39	02/11/21 00:16	1
m,p-Xylenes	<0.00398	U	0.00398		mg/Kg		02/10/21 17:39	02/11/21 00:16	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		02/10/21 17:39	02/11/21 00:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene	100		70 - 130	02/10/21 17:39	02/11/21 00:16	1
4-Bromofluorobenzene (Surr)	90		70 - 130	02/10/21 17:39	02/11/21 00:16	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	<50.2	U	50.2		mg/Kg		02/10/21 17:29	02/11/21 05:55	1
Total TPH	<50.2	U	50.2		mg/Kg		02/10/21 17:29	02/11/21 05:55	1
>C10-C28	<50.2	U	50.2		mg/Kg		02/10/21 17:29	02/11/21 05:55	1
>C28-C35	<50.2	U	50.2		mg/Kg		02/10/21 17:29	02/11/21 05:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	104		70 - 135	02/10/21 17:29	02/11/21 05:55	1
o-Terphenyl	101		70 - 135	02/10/21 17:29	02/11/21 05:55	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	200		10.1		mg/Kg			02/11/21 04:47	1

Client Sample ID: SW-8
Date Collected: 02/09/21 00:00
Date Received: 02/10/21 16:18

Lab Sample ID: 890-180-4
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/10/21 17:39	02/11/21 00:38	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/10/21 17:39	02/11/21 00:38	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/10/21 17:39	02/11/21 00:38	1
Total BTEX	<0.00200	U	0.00200		mg/Kg		02/10/21 17:39	02/11/21 00:38	1
Xylenes, Total	<0.00200	U	0.00200		mg/Kg		02/10/21 17:39	02/11/21 00:38	1
m,p-Xylenes	<0.00399	U	0.00399		mg/Kg		02/10/21 17:39	02/11/21 00:38	1

Client Sample Results

Client: COG Operating, LLC
Project/Site: Hambone #26

Job ID: 890-180-1

Client Sample ID: SW-8

Date Collected: 02/09/21 00:00
Date Received: 02/10/21 16:18

Lab Sample ID: 890-180-4
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/10/21 17:39	02/11/21 00:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene	*102*		*70 - 130*	*02/10/21 17:39*	*02/11/21 00:38*	*1*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*	*02/10/21 17:39*	*02/11/21 00:38*	*1*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	<50.1	U	50.1		mg/Kg		02/10/21 17:29	02/11/21 06:15	1
Total TPH	<50.1	U	50.1		mg/Kg		02/10/21 17:29	02/11/21 06:15	1
>C10-C28	<50.1	U	50.1		mg/Kg		02/10/21 17:29	02/11/21 06:15	1
>C28-C35	<50.1	U	50.1		mg/Kg		02/10/21 17:29	02/11/21 06:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*107*		*70 - 135*	*02/10/21 17:29*	*02/11/21 06:15*	*1*
o-Terphenyl	*105*		*70 - 135*	*02/10/21 17:29*	*02/11/21 06:15*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	258		10.0		mg/Kg			02/11/21 04:53	1

Client Sample ID: SW-9

Date Collected: 02/09/21 00:00
Date Received: 02/10/21 16:18

Lab Sample ID: 890-180-5
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		02/10/21 17:39	02/11/21 01:00	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		02/10/21 17:39	02/11/21 01:00	1
Toluene	<0.00199	U	0.00199		mg/Kg		02/10/21 17:39	02/11/21 01:00	1
Total BTEX	<0.00199	U	0.00199		mg/Kg		02/10/21 17:39	02/11/21 01:00	1
Xylenes, Total	<0.00199	U	0.00199		mg/Kg		02/10/21 17:39	02/11/21 01:00	1
m,p-Xylenes	<0.00398	U	0.00398		mg/Kg		02/10/21 17:39	02/11/21 01:00	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		02/10/21 17:39	02/11/21 01:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene	*102*		*70 - 130*	*02/10/21 17:39*	*02/11/21 01:00*	*1*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*	*02/10/21 17:39*	*02/11/21 01:00*	*1*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	<50.0	U	50.0		mg/Kg		02/10/21 17:29	02/11/21 06:35	1
Total TPH	<50.0	U	50.0		mg/Kg		02/10/21 17:29	02/11/21 06:35	1
>C10-C28	<50.0	U	50.0		mg/Kg		02/10/21 17:29	02/11/21 06:35	1
>C28-C35	<50.0	U	50.0		mg/Kg		02/10/21 17:29	02/11/21 06:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*105*		*70 - 135*	*02/10/21 17:29*	*02/11/21 06:35*	*1*
o-Terphenyl	*103*		*70 - 135*	*02/10/21 17:29*	*02/11/21 06:35*	*1*

Client Sample Results

Client: COG Operating, LLC
Project/Site: Hambone #26

Job ID: 890-180-1

Client Sample ID: SW-9
Date Collected: 02/09/21 00:00
Date Received: 02/10/21 16:18

Lab Sample ID: 890-180-5
Matrix: Solid

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	307		10.0		mg/Kg			02/11/21 04:58	1

Client Sample ID: SW-10
Date Collected: 02/09/21 00:00
Date Received: 02/10/21 16:18

Lab Sample ID: 890-180-6
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/10/21 17:39	02/11/21 01:45	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/10/21 17:39	02/11/21 01:45	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/10/21 17:39	02/11/21 01:45	1
Total BTEX	<0.00200	U	0.00200		mg/Kg		02/10/21 17:39	02/11/21 01:45	1
Xylenes, Total	<0.00200	U	0.00200		mg/Kg		02/10/21 17:39	02/11/21 01:45	1
m,p-Xylenes	<0.00400	U	0.00400		mg/Kg		02/10/21 17:39	02/11/21 01:45	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/10/21 17:39	02/11/21 01:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene	*101*		*70 - 130*	*02/10/21 17:39*	*02/11/21 01:45*	*1*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*02/10/21 17:39*	*02/11/21 01:45*	*1*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	<49.8	U	49.8		mg/Kg		02/10/21 17:29	02/11/21 12:26	1
Total TPH	<49.8	U	49.8		mg/Kg		02/10/21 17:29	02/11/21 12:26	1
>C10-C28	<49.8	U	49.8		mg/Kg		02/10/21 17:29	02/11/21 12:26	1
>C28-C35	<49.8	U	49.8		mg/Kg		02/10/21 17:29	02/11/21 12:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 135*	*02/10/21 17:29*	*02/11/21 12:26*	*1*
o-Terphenyl	*102*		*70 - 135*	*02/10/21 17:29*	*02/11/21 12:26*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	287		9.96		mg/Kg			02/11/21 05:15	1

Client Sample ID: SW-13
Date Collected: 02/09/21 00:00
Date Received: 02/10/21 16:18

Lab Sample ID: 890-180-7
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/10/21 17:39	02/11/21 02:08	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/10/21 17:39	02/11/21 02:08	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/10/21 17:39	02/11/21 02:08	1
Total BTEX	<0.00200	U	0.00200		mg/Kg		02/10/21 17:39	02/11/21 02:08	1
Xylenes, Total	<0.00200	U	0.00200		mg/Kg		02/10/21 17:39	02/11/21 02:08	1
m,p-Xylenes	<0.00401	U	0.00401		mg/Kg		02/10/21 17:39	02/11/21 02:08	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/10/21 17:39	02/11/21 02:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene	*101*		*70 - 130*	*02/10/21 17:39*	*02/11/21 02:08*	*1*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*02/10/21 17:39*	*02/11/21 02:08*	*1*

Client Sample Results

Client: COG Operating, LLC
Project/Site: Hambone #26

Job ID: 890-180-1

Client Sample ID: SW-13

Date Collected: 02/09/21 00:00
Date Received: 02/10/21 16:18

Lab Sample ID: 890-180-7
Matrix: Solid

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	<50.1	U	50.1		mg/Kg		02/10/21 17:29	02/11/21 07:35	1
Total TPH	<50.1	U	50.1		mg/Kg		02/10/21 17:29	02/11/21 07:35	1
>C10-C28	<50.1	U	50.1		mg/Kg		02/10/21 17:29	02/11/21 07:35	1
>C28-C35	<50.1	U	50.1		mg/Kg		02/10/21 17:29	02/11/21 07:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*98*		*70 - 135*	*02/10/21 17:29*	*02/11/21 07:35*	*1*
o-Terphenyl	*95*		*70 - 135*	*02/10/21 17:29*	*02/11/21 07:35*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**296**		9.90		mg/Kg			02/11/21 05:21	1

Client Sample ID: SW-14

Date Collected: 02/09/21 00:00
Date Received: 02/10/21 16:18

Lab Sample ID: 890-180-8
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		02/10/21 17:39	02/11/21 02:30	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		02/10/21 17:39	02/11/21 02:30	1
Toluene	<0.00202	U	0.00202		mg/Kg		02/10/21 17:39	02/11/21 02:30	1
Total BTEX	<0.00202	U	0.00202		mg/Kg		02/10/21 17:39	02/11/21 02:30	1
Xylenes, Total	<0.00202	U	0.00202		mg/Kg		02/10/21 17:39	02/11/21 02:30	1
m,p-Xylenes	<0.00403	U	0.00403		mg/Kg		02/10/21 17:39	02/11/21 02:30	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		02/10/21 17:39	02/11/21 02:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene	*104*		*70 - 130*	*02/10/21 17:39*	*02/11/21 02:30*	*1*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*	*02/10/21 17:39*	*02/11/21 02:30*	*1*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	<50.1	U	50.1		mg/Kg		02/10/21 17:29	02/11/21 07:55	1
Total TPH	<50.1	U	50.1		mg/Kg		02/10/21 17:29	02/11/21 07:55	1
>C10-C28	<50.1	U	50.1		mg/Kg		02/10/21 17:29	02/11/21 07:55	1
>C28-C35	<50.1	U	50.1		mg/Kg		02/10/21 17:29	02/11/21 07:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*106*		*70 - 135*	*02/10/21 17:29*	*02/11/21 07:55*	*1*
o-Terphenyl	*103*		*70 - 135*	*02/10/21 17:29*	*02/11/21 07:55*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**235**		9.90		mg/Kg			02/11/21 05:27	1

Client Sample Results

Client: COG Operating, LLC
Project/Site: Hambone #26

Job ID: 890-180-1

Client Sample ID: SW-15

Date Collected: 02/09/21 00:00
Date Received: 02/10/21 16:18

Lab Sample ID: 890-180-9
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		02/10/21 17:39	02/11/21 02:53	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		02/10/21 17:39	02/11/21 02:53	1
Toluene	<0.00202	U	0.00202		mg/Kg		02/10/21 17:39	02/11/21 02:53	1
Total BTEX	<0.00202	U	0.00202		mg/Kg		02/10/21 17:39	02/11/21 02:53	1
Xylenes, Total	<0.00202	U	0.00202		mg/Kg		02/10/21 17:39	02/11/21 02:53	1
m,p-Xylenes	<0.00404	U	0.00404		mg/Kg		02/10/21 17:39	02/11/21 02:53	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		02/10/21 17:39	02/11/21 02:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene	*103*		*70 - 130*	*02/10/21 17:39*	*02/11/21 02:53*	*1*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*	*02/10/21 17:39*	*02/11/21 02:53*	*1*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	<50.0	U	50.0		mg/Kg		02/10/21 17:29	02/11/21 08:15	1
Total TPH	<50.0	U	50.0		mg/Kg		02/10/21 17:29	02/11/21 08:15	1
>C10-C28	<50.0	U	50.0		mg/Kg		02/10/21 17:29	02/11/21 08:15	1
>C28-C35	<50.0	U	50.0		mg/Kg		02/10/21 17:29	02/11/21 08:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*114*		*70 - 135*	*02/10/21 17:29*	*02/11/21 08:15*	*1*
o-Terphenyl	*113*		*70 - 135*	*02/10/21 17:29*	*02/11/21 08:15*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**235**		10.0		mg/Kg			02/11/21 05:32	1

Client Sample ID: SW-16

Date Collected: 02/09/21 00:00
Date Received: 02/10/21 16:18

Lab Sample ID: 890-180-10
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/10/21 17:39	02/11/21 03:15	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/10/21 17:39	02/11/21 03:15	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/10/21 17:39	02/11/21 03:15	1
Total BTEX	<0.00200	U	0.00200		mg/Kg		02/10/21 17:39	02/11/21 03:15	1
Xylenes, Total	<0.00200	U	0.00200		mg/Kg		02/10/21 17:39	02/11/21 03:15	1
m,p-Xylenes	<0.00401	U	0.00401		mg/Kg		02/10/21 17:39	02/11/21 03:15	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/10/21 17:39	02/11/21 03:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene	*99*		*70 - 130*	*02/10/21 17:39*	*02/11/21 03:15*	*1*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*	*02/10/21 17:39*	*02/11/21 03:15*	*1*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	<50.1	U	50.1		mg/Kg		02/10/21 17:29	02/11/21 08:35	1
Total TPH	<50.1	U	50.1		mg/Kg		02/10/21 17:29	02/11/21 08:35	1
>C10-C28	<50.1	U	50.1		mg/Kg		02/10/21 17:29	02/11/21 08:35	1
>C28-C35	<50.1	U	50.1		mg/Kg		02/10/21 17:29	02/11/21 08:35	1

Client Sample Results

Client: COG Operating, LLC
Project/Site: Hambone #26

Job ID: 890-180-1

Client Sample ID: SW-16

Date Collected: 02/09/21 00:00
Date Received: 02/10/21 16:18

Lab Sample ID: 890-180-10
Matrix: Solid

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*112*		*70 - 135*	*02/10/21 17:29*	*02/11/21 08:35*	*1*
o-Terphenyl	*110*		*70 - 135*	*02/10/21 17:29*	*02/11/21 08:35*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**281**		9.94		mg/Kg			02/11/21 05:38	1

Client Sample ID: SW-17

Date Collected: 02/09/21 00:00
Date Received: 02/10/21 16:18

Lab Sample ID: 890-180-11
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/10/21 17:39	02/11/21 03:37	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/10/21 17:39	02/11/21 03:37	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/10/21 17:39	02/11/21 03:37	1
Total BTEX	<0.00200	U	0.00200		mg/Kg		02/10/21 17:39	02/11/21 03:37	1
Xylenes, Total	<0.00200	U	0.00200		mg/Kg		02/10/21 17:39	02/11/21 03:37	1
m,p-Xylenes	<0.00401	U	0.00401		mg/Kg		02/10/21 17:39	02/11/21 03:37	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/10/21 17:39	02/11/21 03:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene	*103*		*70 - 130*	*02/10/21 17:39*	*02/11/21 03:37*	*1*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*	*02/10/21 17:39*	*02/11/21 03:37*	*1*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	<50.1	U	50.1		mg/Kg		02/10/21 17:29	02/11/21 08:55	1
Total TPH	<50.1	U	50.1		mg/Kg		02/10/21 17:29	02/11/21 08:55	1
>C10-C28	<50.1	U	50.1		mg/Kg		02/10/21 17:29	02/11/21 08:55	1
>C28-C35	<50.1	U	50.1		mg/Kg		02/10/21 17:29	02/11/21 08:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*103*		*70 - 135*	*02/10/21 17:29*	*02/11/21 08:55*	*1*
o-Terphenyl	*101*		*70 - 135*	*02/10/21 17:29*	*02/11/21 08:55*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**255**		9.94		mg/Kg			02/11/21 05:44	1

Surrogate Summary

Client: COG Operating, LLC
Project/Site: Hambone #26

Job ID: 890-180-1

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	DFBZ1 (70-130)	BFB1 (70-130)
890-180-1	CS-13	102	88
890-180-1 MS	CS-13	103	86
890-180-1 MSD	CS-13	99	86
890-180-2	CS-41	105	93
890-180-3	CS-31	100	90
890-180-4	SW-8	102	86
890-180-5	SW-9	102	92
890-180-6	SW-10	101	90
890-180-7	SW-13	101	90
890-180-8	SW-14	104	93
890-180-9	SW-15	103	91
890-180-10	SW-16	99	95
890-180-11	SW-17	103	93
LCS 890-242/2-A	Lab Control Sample	99	83
LCSD 890-242/3-A	Lab Control Sample Dup	98	85
MB 890-242/1-A	Method Blank	103	90

Surrogate Legend

DFBZ = 1,4-Difluorobenzene
BFB = 4-Bromofluorobenzene (Surr)

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-135)	OTPH1 (70-135)
890-180-1	CS-13	86	84
890-180-1 MS	CS-13	116	105
890-180-1 MSD	CS-13	116	105
890-180-2	CS-41	102	99
890-180-3	CS-31	104	101
890-180-4	SW-8	107	105
890-180-5	SW-9	105	103
890-180-6	SW-10	102	102
890-180-7	SW-13	98	95
890-180-8	SW-14	106	103
890-180-9	SW-15	114	113
890-180-10	SW-16	112	110
890-180-11	SW-17	103	101
LCS 890-241/2-A	Lab Control Sample	113	104
LCSD 890-241/3-A	Lab Control Sample Dup	110	98
MB 890-241/1-A	Method Blank	99	97

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: COG Operating, LLC
Project/Site: Hambone #26

Job ID: 890-180-1

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 890-242/1-A
Matrix: Solid
Analysis Batch: 234

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 242

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		02/10/21 17:39	02/10/21 21:39	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		02/10/21 17:39	02/10/21 21:39	1
Toluene	<0.00200	U	0.00200		mg/Kg		02/10/21 17:39	02/10/21 21:39	1
Total BTEX	<0.00200	U	0.00200		mg/Kg		02/10/21 17:39	02/10/21 21:39	1
Xylenes, Total	<0.00200	U	0.00200		mg/Kg		02/10/21 17:39	02/10/21 21:39	1
m,p-Xylenes	<0.00400	U	0.00400		mg/Kg		02/10/21 17:39	02/10/21 21:39	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		02/10/21 17:39	02/10/21 21:39	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Difluorobenzene	*103*		*70 - 130*	*02/10/21 17:39*	*02/10/21 21:39*	*1*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*	*02/10/21 17:39*	*02/10/21 21:39*	*1*

Lab Sample ID: LCS 890-242/2-A
Matrix: Solid
Analysis Batch: 234

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 242

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.100	0.1059		mg/Kg		106	70 - 130
Ethylbenzene	0.100	0.1000		mg/Kg		100	71 - 129
Toluene	0.100	0.1060		mg/Kg		106	70 - 130
m,p-Xylenes	0.200	0.1962		mg/Kg		98	70 - 135
o-Xylene	0.100	0.1010		mg/Kg		101	71 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Difluorobenzene	*99*		*70 - 130*
4-Bromofluorobenzene (Surr)	*83*		*70 - 130*

Lab Sample ID: LCSD 890-242/3-A
Matrix: Solid
Analysis Batch: 234

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 242

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	0.100	0.1042		mg/Kg		104	70 - 130	2	35
Ethylbenzene	0.100	0.1015		mg/Kg		102	71 - 129	2	35
Toluene	0.100	0.1065		mg/Kg		107	70 - 130	1	35
m,p-Xylenes	0.200	0.1995		mg/Kg		100	70 - 135	2	35
o-Xylene	0.100	0.1020		mg/Kg		102	71 - 133	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,4-Difluorobenzene	*98*		*70 - 130*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*

Lab Sample ID: 890-180-1 MS
Matrix: Solid
Analysis Batch: 234

Client Sample ID: CS-13
Prep Type: Total/NA
Prep Batch: 242

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00201	U	0.100	0.1043		mg/Kg		104	70 - 130

QC Sample Results

Client: COG Operating, LLC
Project/Site: Hambone #26

Job ID: 890-180-1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 890-180-1 MS
Matrix: Solid
Analysis Batch: 234

Client Sample ID: CS-13
Prep Type: Total/NA
Prep Batch: 242

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	<0.00201	U	0.100	0.09862		mg/Kg		98	71 - 129
Toluene	<0.00201	U	0.100	0.1032		mg/Kg		103	70 - 130
m,p-Xylenes	<0.00402	U	0.200	0.1927		mg/Kg		96	70 - 135
o-Xylene	<0.00201	U	0.100	0.09949		mg/Kg		99	71 - 133

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,4-Difluorobenzene	*103*		*70 - 130*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*

Lab Sample ID: 890-180-1 MSD
Matrix: Solid
Analysis Batch: 234

Client Sample ID: CS-13
Prep Type: Total/NA
Prep Batch: 242

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0992	0.1073		mg/Kg		108	70 - 130	3	35
Ethylbenzene	<0.00201	U	0.0992	0.1010		mg/Kg		102	71 - 129	2	35
Toluene	<0.00201	U	0.0992	0.1057		mg/Kg		107	70 - 130	2	35
m,p-Xylenes	<0.00402	U	0.198	0.1959		mg/Kg		99	70 - 135	2	35
o-Xylene	<0.00201	U	0.0992	0.1017		mg/Kg		103	71 - 133	2	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,4-Difluorobenzene	*99*		*70 - 130*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 890-241/1-A
Matrix: Solid
Analysis Batch: 232

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 241

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C6-C10	<50.0	U	50.0		mg/Kg		02/10/21 17:29	02/11/21 03:35	1
Total TPH	<50.0	U	50.0		mg/Kg		02/10/21 17:29	02/11/21 03:35	1
>C10-C28	<50.0	U	50.0		mg/Kg		02/10/21 17:29	02/11/21 03:35	1
>C28-C35	<50.0	U	50.0		mg/Kg		02/10/21 17:29	02/11/21 03:35	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*99*		*70 - 135*	*02/10/21 17:29*	*02/11/21 03:35*	*1*
o-Terphenyl	*97*		*70 - 135*	*02/10/21 17:29*	*02/11/21 03:35*	*1*

Lab Sample ID: LCS 890-241/2-A
Matrix: Solid
Analysis Batch: 232

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 241

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C6-C10	1000	1034		mg/Kg		103	70 - 135
>C10-C28	1000	1035		mg/Kg		103	70 - 135

QC Sample Results

Client: COG Operating, LLC
Project/Site: Hambone #26

Job ID: 890-180-1

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 890-241/2-A
Matrix: Solid
Analysis Batch: 232

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 241

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	113		70 - 135
o-Terphenyl	104		70 - 135

Lab Sample ID: LCSD 890-241/3-A
Matrix: Solid
Analysis Batch: 232

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 241

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C6-C10			1000	1053		mg/Kg		105	70 - 135	2	25
>C10-C28			1000	1046		mg/Kg		105	70 - 135	1	25

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	110		70 - 135
o-Terphenyl	98		70 - 135

Lab Sample ID: 890-180-1 MS
Matrix: Solid
Analysis Batch: 232

Client Sample ID: CS-13
Prep Type: Total/NA
Prep Batch: 241

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
C6-C10	<49.9	U	1010	1058		mg/Kg		105	70 - 135
Total TPH	<49.9	U	2010	2105		mg/Kg		105	
>C10-C28	<49.9	U	1010	1047		mg/Kg		104	70 - 135

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	116		70 - 135
o-Terphenyl	105		70 - 135

Lab Sample ID: 890-180-1 MSD
Matrix: Solid
Analysis Batch: 232

Client Sample ID: CS-13
Prep Type: Total/NA
Prep Batch: 241

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C6-C10	<49.9	U	1000	1079		mg/Kg		108	70 - 135	2	35
Total TPH	<49.9	U	2000	2157		mg/Kg		108		2	
>C10-C28	<49.9	U	1000	1078		mg/Kg		108	70 - 135	3	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	116		70 - 135
o-Terphenyl	105		70 - 135

QC Sample Results

Client: COG Operating, LLC
Project/Site: Hambone #26

Job ID: 890-180-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 890-243/1-A
Matrix: Solid
Analysis Batch: 239

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<10.0	U	10.0		mg/Kg			02/11/21 04:07	1

Lab Sample ID: LCS 890-243/2-A
Matrix: Solid
Analysis Batch: 239

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			500	527.5		mg/Kg		105	90 - 110		

Lab Sample ID: LCSD 890-243/3-A
Matrix: Solid
Analysis Batch: 239

Client Sample ID: Lab Control Sample Dup
Prep Type: Soluble

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			500	525.7		mg/Kg		105	90 - 110	0	20

Lab Sample ID: 890-180-1 MS
Matrix: Solid
Analysis Batch: 239

Client Sample ID: CS-13
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	194		504	716.7		mg/Kg		104	90 - 110		

Lab Sample ID: 890-180-1 MSD
Matrix: Solid
Analysis Batch: 239

Client Sample ID: CS-13
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	194		499	710.7		mg/Kg		104	90 - 110	1	20

Lab Sample ID: 890-180-11 MS
Matrix: Solid
Analysis Batch: 239

Client Sample ID: SW-17
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	255		502	770.8		mg/Kg		103	90 - 110		

Lab Sample ID: 890-180-11 MSD
Matrix: Solid
Analysis Batch: 239

Client Sample ID: SW-17
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	255		504	774.4		mg/Kg		103	90 - 110	0	20

QC Association Summary

Client: COG Operating, LLC
Project/Site: Hambone #26

Job ID: 890-180-1

GC VOA

Analysis Batch: 234

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-180-1	CS-13	Total/NA	Solid	8021B	242
890-180-2	CS-41	Total/NA	Solid	8021B	242
890-180-3	CS-31	Total/NA	Solid	8021B	242
890-180-4	SW-8	Total/NA	Solid	8021B	242
890-180-5	SW-9	Total/NA	Solid	8021B	242
890-180-6	SW-10	Total/NA	Solid	8021B	242
890-180-7	SW-13	Total/NA	Solid	8021B	242
890-180-8	SW-14	Total/NA	Solid	8021B	242
890-180-9	SW-15	Total/NA	Solid	8021B	242
890-180-10	SW-16	Total/NA	Solid	8021B	242
890-180-11	SW-17	Total/NA	Solid	8021B	242
MB 890-242/1-A	Method Blank	Total/NA	Solid	8021B	242
LCS 890-242/2-A	Lab Control Sample	Total/NA	Solid	8021B	242
LCSD 890-242/3-A	Lab Control Sample Dup	Total/NA	Solid	8021B	242
890-180-1 MS	CS-13	Total/NA	Solid	8021B	242
890-180-1 MSD	CS-13	Total/NA	Solid	8021B	242

Prep Batch: 242

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-180-1	CS-13	Total/NA	Solid	5035	
890-180-2	CS-41	Total/NA	Solid	5035	
890-180-3	CS-31	Total/NA	Solid	5035	
890-180-4	SW-8	Total/NA	Solid	5035	
890-180-5	SW-9	Total/NA	Solid	5035	
890-180-6	SW-10	Total/NA	Solid	5035	
890-180-7	SW-13	Total/NA	Solid	5035	
890-180-8	SW-14	Total/NA	Solid	5035	
890-180-9	SW-15	Total/NA	Solid	5035	
890-180-10	SW-16	Total/NA	Solid	5035	
890-180-11	SW-17	Total/NA	Solid	5035	
MB 890-242/1-A	Method Blank	Total/NA	Solid	5035	
LCS 890-242/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 890-242/3-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-180-1 MS	CS-13	Total/NA	Solid	5035	
890-180-1 MSD	CS-13	Total/NA	Solid	5035	

GC Semi VOA

Analysis Batch: 232

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-180-1	CS-13	Total/NA	Solid	8015B NM	241
890-180-2	CS-41	Total/NA	Solid	8015B NM	241
890-180-3	CS-31	Total/NA	Solid	8015B NM	241
890-180-4	SW-8	Total/NA	Solid	8015B NM	241
890-180-5	SW-9	Total/NA	Solid	8015B NM	241
890-180-6	SW-10	Total/NA	Solid	8015B NM	241
890-180-7	SW-13	Total/NA	Solid	8015B NM	241
890-180-8	SW-14	Total/NA	Solid	8015B NM	241
890-180-9	SW-15	Total/NA	Solid	8015B NM	241
890-180-10	SW-16	Total/NA	Solid	8015B NM	241
890-180-11	SW-17	Total/NA	Solid	8015B NM	241

QC Association Summary

Client: COG Operating, LLC
Project/Site: Hambone #26

Job ID: 890-180-1

GC Semi VOA (Continued)

Analysis Batch: 232 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 890-241/1-A	Method Blank	Total/NA	Solid	8015B NM	241
LCS 890-241/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	241
LCSD 890-241/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	241
890-180-1 MS	CS-13	Total/NA	Solid	8015B NM	241
890-180-1 MSD	CS-13	Total/NA	Solid	8015B NM	241

Prep Batch: 241

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-180-1	CS-13	Total/NA	Solid	8015NM Prep	
890-180-2	CS-41	Total/NA	Solid	8015NM Prep	
890-180-3	CS-31	Total/NA	Solid	8015NM Prep	
890-180-4	SW-8	Total/NA	Solid	8015NM Prep	
890-180-5	SW-9	Total/NA	Solid	8015NM Prep	
890-180-6	SW-10	Total/NA	Solid	8015NM Prep	
890-180-7	SW-13	Total/NA	Solid	8015NM Prep	
890-180-8	SW-14	Total/NA	Solid	8015NM Prep	
890-180-9	SW-15	Total/NA	Solid	8015NM Prep	
890-180-10	SW-16	Total/NA	Solid	8015NM Prep	
890-180-11	SW-17	Total/NA	Solid	8015NM Prep	
MB 890-241/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 890-241/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 890-241/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-180-1 MS	CS-13	Total/NA	Solid	8015NM Prep	
890-180-1 MSD	CS-13	Total/NA	Solid	8015NM Prep	

HPLC/IC

Analysis Batch: 239

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-180-1	CS-13	Soluble	Solid	300.0	243
890-180-2	CS-41	Soluble	Solid	300.0	243
890-180-3	CS-31	Soluble	Solid	300.0	243
890-180-4	SW-8	Soluble	Solid	300.0	243
890-180-5	SW-9	Soluble	Solid	300.0	243
890-180-6	SW-10	Soluble	Solid	300.0	243
890-180-7	SW-13	Soluble	Solid	300.0	243
890-180-8	SW-14	Soluble	Solid	300.0	243
890-180-9	SW-15	Soluble	Solid	300.0	243
890-180-10	SW-16	Soluble	Solid	300.0	243
890-180-11	SW-17	Soluble	Solid	300.0	243
MB 890-243/1-A	Method Blank	Soluble	Solid	300.0	243
LCS 890-243/2-A	Lab Control Sample	Soluble	Solid	300.0	243
LCSD 890-243/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	243
890-180-1 MS	CS-13	Soluble	Solid	300.0	243
890-180-1 MSD	CS-13	Soluble	Solid	300.0	243
890-180-11 MS	SW-17	Soluble	Solid	300.0	243
890-180-11 MSD	SW-17	Soluble	Solid	300.0	243

Leach Batch: 243

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-180-1	CS-13	Soluble	Solid	DI Leach	

QC Association Summary

Client: COG Operating, LLC
Project/Site: Hambone #26

Job ID: 890-180-1

HPLC/IC (Continued)

Leach Batch: 243 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-180-2	CS-41	Soluble	Solid	DI Leach	
890-180-3	CS-31	Soluble	Solid	DI Leach	
890-180-4	SW-8	Soluble	Solid	DI Leach	
890-180-5	SW-9	Soluble	Solid	DI Leach	
890-180-6	SW-10	Soluble	Solid	DI Leach	
890-180-7	SW-13	Soluble	Solid	DI Leach	
890-180-8	SW-14	Soluble	Solid	DI Leach	
890-180-9	SW-15	Soluble	Solid	DI Leach	
890-180-10	SW-16	Soluble	Solid	DI Leach	
890-180-11	SW-17	Soluble	Solid	DI Leach	
MB 890-243/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 890-243/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 890-243/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-180-1 MS	CS-13	Soluble	Solid	DI Leach	
890-180-1 MSD	CS-13	Soluble	Solid	DI Leach	
890-180-11 MS	SW-17	Soluble	Solid	DI Leach	
890-180-11 MSD	SW-17	Soluble	Solid	DI Leach	

Lab Chronicle

Client: COG Operating, LLC
Project/Site: Hambone #26

Job ID: 890-180-1

Client Sample ID: CS-13
Date Collected: 02/09/21 00:00
Date Received: 02/10/21 16:18

Lab Sample ID: 890-180-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			242	02/10/21 17:39	MC	XC
Total/NA	Analysis	8021B		1	234	02/10/21 22:46	PXS	XC
Total/NA	Prep	8015NM Prep			241	02/10/21 17:29	MC	XC
Total/NA	Analysis	8015B NM		1	232	02/11/21 04:35	T1S	XC
Soluble	Leach	DI Leach			243	02/10/21 18:32	MC	XC
Soluble	Analysis	300.0		1	239	02/11/21 04:24	A1S	XC

Client Sample ID: CS-41
Date Collected: 02/09/21 00:00
Date Received: 02/10/21 16:18

Lab Sample ID: 890-180-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			242	02/10/21 17:39	MC	XC
Total/NA	Analysis	8021B		1	234	02/10/21 23:53	PXS	XC
Total/NA	Prep	8015NM Prep			241	02/10/21 17:29	MC	XC
Total/NA	Analysis	8015B NM		1	232	02/11/21 05:35	T1S	XC
Soluble	Leach	DI Leach			243	02/10/21 18:32	MC	XC
Soluble	Analysis	300.0		1	239	02/11/21 04:41	A1S	XC

Client Sample ID: CS-31
Date Collected: 02/09/21 00:00
Date Received: 02/10/21 16:18

Lab Sample ID: 890-180-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			242	02/10/21 17:39	MC	XC
Total/NA	Analysis	8021B		1	234	02/11/21 00:16	PXS	XC
Total/NA	Prep	8015NM Prep			241	02/10/21 17:29	MC	XC
Total/NA	Analysis	8015B NM		1	232	02/11/21 05:55	T1S	XC
Soluble	Leach	DI Leach			243	02/10/21 18:32	MC	XC
Soluble	Analysis	300.0		1	239	02/11/21 04:47	A1S	XC

Client Sample ID: SW-8
Date Collected: 02/09/21 00:00
Date Received: 02/10/21 16:18

Lab Sample ID: 890-180-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			242	02/10/21 17:39	MC	XC
Total/NA	Analysis	8021B		1	234	02/11/21 00:38	PXS	XC
Total/NA	Prep	8015NM Prep			241	02/10/21 17:29	MC	XC
Total/NA	Analysis	8015B NM		1	232	02/11/21 06:15	T1S	XC
Soluble	Leach	DI Leach			243	02/10/21 18:32	MC	XC
Soluble	Analysis	300.0		1	239	02/11/21 04:53	A1S	XC

Lab Chronicle

Client: COG Operating, LLC
Project/Site: Hambone #26

Job ID: 890-180-1

Client Sample ID: SW-9
Date Collected: 02/09/21 00:00
Date Received: 02/10/21 16:18

Lab Sample ID: 890-180-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			242	02/10/21 17:39	MC	XC
Total/NA	Analysis	8021B		1	234	02/11/21 01:00	PXS	XC
Total/NA	Prep	8015NM Prep			241	02/10/21 17:29	MC	XC
Total/NA	Analysis	8015B NM		1	232	02/11/21 06:35	T1S	XC
Soluble	Leach	DI Leach			243	02/10/21 18:32	MC	XC
Soluble	Analysis	300.0		1	239	02/11/21 04:58	A1S	XC

Client Sample ID: SW-10
Date Collected: 02/09/21 00:00
Date Received: 02/10/21 16:18

Lab Sample ID: 890-180-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			242	02/10/21 17:39	MC	XC
Total/NA	Analysis	8021B		1	234	02/11/21 01:45	PXS	XC
Total/NA	Prep	8015NM Prep			241	02/10/21 17:29	MC	XC
Total/NA	Analysis	8015B NM		1	232	02/11/21 12:26	T1S	XC
Soluble	Leach	DI Leach			243	02/10/21 18:32	MC	XC
Soluble	Analysis	300.0		1	239	02/11/21 05:15	A1S	XC

Client Sample ID: SW-13
Date Collected: 02/09/21 00:00
Date Received: 02/10/21 16:18

Lab Sample ID: 890-180-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			242	02/10/21 17:39	MC	XC
Total/NA	Analysis	8021B		1	234	02/11/21 02:08	PXS	XC
Total/NA	Prep	8015NM Prep			241	02/10/21 17:29	MC	XC
Total/NA	Analysis	8015B NM		1	232	02/11/21 07:35	T1S	XC
Soluble	Leach	DI Leach			243	02/10/21 18:32	MC	XC
Soluble	Analysis	300.0		1	239	02/11/21 05:21	A1S	XC

Client Sample ID: SW-14
Date Collected: 02/09/21 00:00
Date Received: 02/10/21 16:18

Lab Sample ID: 890-180-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			242	02/10/21 17:39	MC	XC
Total/NA	Analysis	8021B		1	234	02/11/21 02:30	PXS	XC
Total/NA	Prep	8015NM Prep			241	02/10/21 17:29	MC	XC
Total/NA	Analysis	8015B NM		1	232	02/11/21 07:55	T1S	XC
Soluble	Leach	DI Leach			243	02/10/21 18:32	MC	XC
Soluble	Analysis	300.0		1	239	02/11/21 05:27	A1S	XC

Lab Chronicle

Client: COG Operating, LLC
Project/Site: Hambone #26

Job ID: 890-180-1

Client Sample ID: SW-15
Date Collected: 02/09/21 00:00
Date Received: 02/10/21 16:18

Lab Sample ID: 890-180-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			242	02/10/21 17:39	MC	XC
Total/NA	Analysis	8021B		1	234	02/11/21 02:53	PXS	XC
Total/NA	Prep	8015NM Prep			241	02/10/21 17:29	MC	XC
Total/NA	Analysis	8015B NM		1	232	02/11/21 08:15	T1S	XC
Soluble	Leach	DI Leach			243	02/10/21 18:32	MC	XC
Soluble	Analysis	300.0		1	239	02/11/21 05:32	A1S	XC

Client Sample ID: SW-16
Date Collected: 02/09/21 00:00
Date Received: 02/10/21 16:18

Lab Sample ID: 890-180-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			242	02/10/21 17:39	MC	XC
Total/NA	Analysis	8021B		1	234	02/11/21 03:15	PXS	XC
Total/NA	Prep	8015NM Prep			241	02/10/21 17:29	MC	XC
Total/NA	Analysis	8015B NM		1	232	02/11/21 08:35	T1S	XC
Soluble	Leach	DI Leach			243	02/10/21 18:32	MC	XC
Soluble	Analysis	300.0		1	239	02/11/21 05:38	A1S	XC

Client Sample ID: SW-17
Date Collected: 02/09/21 00:00
Date Received: 02/10/21 16:18

Lab Sample ID: 890-180-11
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			242	02/10/21 17:39	MC	XC
Total/NA	Analysis	8021B		1	234	02/11/21 03:37	PXS	XC
Total/NA	Prep	8015NM Prep			241	02/10/21 17:29	MC	XC
Total/NA	Analysis	8015B NM		1	232	02/11/21 08:55	T1S	XC
Soluble	Leach	DI Leach			243	02/10/21 18:32	MC	XC
Soluble	Analysis	300.0		1	239	02/11/21 05:44	A1S	XC

Laboratory References:
XC = Eurofins Xenco, Carlsbad, 1089 N Canal St., Carlsbad, NM 88220, TEL (575)988-3199

Accreditation/Certification Summary

Client: COG Operating, LLC
Project/Site: Hambone #26

Job ID: 890-180-1

Laboratory: Eurofins Xenco, Carlsbad

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Louisiana	NELAP	05092	06-30-21

Method Summary

Client: COG Operating, LLC
Project/Site: Hambone #26

Job ID: 890-180-1

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XC
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	XC
300.0	Anions, Ion Chromatography	MCAWW	XC
5035	Closed System Purge and Trap	SW846	XC
8015NM Prep	Microextraction	SW846	XC
DI Leach	Deionized Water Leaching Procedure	ASTM	XC

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

XC = Eurofins Xenco, Carlsbad, 1089 N Canal St., Carlsbad, NM 88220, TEL (575)988-3199

Sample Summary

Client: COG Operating, LLC
Project/Site: Hambone #26

Job ID: 890-180-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
890-180-1	CS-13	Solid	02/09/21 00:00	02/10/21 16:18	
890-180-2	CS-41	Solid	02/09/21 00:00	02/10/21 16:18	
890-180-3	CS-31	Solid	02/09/21 00:00	02/10/21 16:18	
890-180-4	SW-8	Solid	02/09/21 00:00	02/10/21 16:18	
890-180-5	SW-9	Solid	02/09/21 00:00	02/10/21 16:18	
890-180-6	SW-10	Solid	02/09/21 00:00	02/10/21 16:18	
890-180-7	SW-13	Solid	02/09/21 00:00	02/10/21 16:18	
890-180-8	SW-14	Solid	02/09/21 00:00	02/10/21 16:18	
890-180-9	SW-15	Solid	02/09/21 00:00	02/10/21 16:18	
890-180-10	SW-16	Solid	02/09/21 00:00	02/10/21 16:18	
890-180-11	SW-17	Solid	02/09/21 00:00	02/10/21 16:18	

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890-180 Chain of Custody

Environmental Analysis Request/Chain of Custody

Pg 1 of 2

Acct. # _____ Group # _____ Sample # _____

Client: COG			
Project Name/#: Hambone #26	Site ID #:		
Project Manager: Jacqui Harris	P.O. #:		
Sampler: Jacqui Harris	PWSID #:		
Phone #: 575-496-0780	Quote #:		
State where samples were collected: Eddy, NM	For Compliance: Yes ☐ No ☐		

Sample Identification	Collection Date	Collection Time	Grab	Composite	Matrix: Soil/Sediment	Tissue	Water: Potable	Ground	Surface	NPDES	Other:	Total # of Containers	Analyses Requested: Chloride	TPH (GRO, DRO, MRO)	BTEX
CS-13	2/9/21				X								1	1	1
CS-41	"				X										
CS-31	"				X										
SW-8	"				X										
SW-9	"				X										
SW-10	"				X										
SW-13	"				X										
SW-14	"				X										
SW-15	"				X										
SW-16	↓				X								↓	↓	↓

Preservation and Filtration Codes

Preservation Codes: H = HCl; T = Thiosulfate; N = HNO_3; B = NaOH; S = H_2SO_4; P = H_3PO_4; F = Field Filtered; O = Other

For Lab Use Only

SF #: _____

SCR #: _____

Remarks

Turnaround Time Requested (TAT) (please check): Standard ☐ Rush ☑

(Rush TAT is subject to laboratory approval and surcharges.) 24hr

Date results are needed:

Rush results requested by (please check): E-Mail ☐ Phone ☐

E-mail Address:

Phone:

~~Data Package Options~~ (please check if required)

Type I (Validation/non-CLP) ☐ MA MCP ☐

Type III (Reduced non-CLP) ☐ CT RCP ☐

Type VI (Raw Data Only) ☐ TX TRRP-13 ☐

NJ DKQP ☐ NYSDEC Category ☐ A or ☐ B

EDD Required? Yes ☐ No ☐ If yes, format: _____

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	2/10/21	15:55			
Relinquished by:	Date	Time	Received by:	Date	Time
Cloe Cuff	2.10.21	1555			
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 Commercial Carrier:

UPS _____ FedEx _____ Other _____

Temperature upon receipt 1.8/1.6 °C

180

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Lancaster Laboratories Environmental

Environmental Analysis Request/Chain of Custody

Pg 2 of 2

2/11/2021

Acct. # ________ Group # ________ Sample # ________

Client: COG
Project Name/#: Hamborne #26 | Site ID #:
Project Manager: Jacqui Harris | P.O. #:
Sampler: Jacqui Harris | PWSID #:
Phone #: 575-496-0780 | Quote #:
State where samples were collected: Eddy, NM | For Compliance: Yes ☐ No ☐

Matrix: Soil ☒ Sediment ☐ Tissue ☐; Water: Potable ☐ Ground ☐ NPDES ☐ Surface ☐; Other:

For Lab Use Only
SF #: ________
SCR #: ________

Preservation Codes
H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 P = H_3PO_4
F = Field Filtered O = Other

Sample Identification	Collection Date	Collection Time	Grab	Composite	Soil	Water	Other	Total # of Containers	Chloride	TPH (GRO, DRO, MRO)	BTEX	Remarks
SW-17	2/9/21				X				✓	✓	✓	

Turnaround Time Requested (TAT) (please check): Standard ☐ Rush ☒
(Rush TAT is subject to laboratory approval and surcharges.) 24 hr
Date results are needed:
Rush results requested by (please check): E-Mail ☐ Phone ☐
E-mail Address:
Phone:

Data Package Options (please check if required)
Type I (Validation/non-CLP) ☐ MA MCP ☐
Type III (Reduced non-CLP) ☐ CT RCP ☐
Type VI (Raw Data Only) ☐ TX TRRP-13 ☐
NJ DKQP ☐ NYSDEC Category ☐ A or ☐ B
EDD Required? Yes ☐ No ☐ If yes, format: ________

Relinquished by	Date	Time	Received by	Date	Time
[signature]	2/10/21	15:55			
Cloe Clifton [signature]	2-10-21	1555			

Relinquished by Commercial Carrier:
UPS ______ FedEx ______ Other ______

Temperature upon receipt 1.8/1.6 °C

Eurofins Lancaster Laboratories Environmental, LLC • 2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300

7045 0717

Login Sample Receipt Checklist

Client: COG Operating, LLC

Job Number: 890-180-1
SDG Number:

Login Number: 180
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 34464

CONDITIONS

Operator:	OGRID:
COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	229137
	Action Number: 34464
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
chensley	COG's deferral requests to complete final remediation during any future major construction/alteration or final plugging and abandonment, whichever occurs first is approved. The deferred C-141 will be accepted for record and marked accordingly. The release will remain open in OCD database files and reflect an open environmental issue.	7/20/2021