SITE INFORMATION										
	•			Closure Re						
General Site Info	rmation:			LA CHARACA						
Site:			24 Federal C	om #1						
Company:			rating LLC							
Section, Townsh	ip and Range	Unit B	Sec 24	T25S	R26E		1			
Lease Number:		API-30-01			, , ,					
County:		Eddy Cou			· · · · · · · · · · · · · · · · · · ·					
GPS:	· · · · · · · · · · · · · · · · · · ·	<u> </u>	32.12125°	, N		104.24	445° W			
Surface Owner:		Federal								
Mineral Owner:		1-14-1	-		i I I 000 - t		unat an Uus O	VC +		
Directions:				n of Hwy 285 and I 7.7 miles, turn r				o, turn		
			200 Iu. and nave	,, , , , , , , , , , , , , , , , , , ,	igini and have	. 0.2 miles to i	oodion.			
Release Data:		and a series			with the second					
Date Released:	The specific of the second sec	7/11/2012				TREC	EIVED			
Type Release:		Produced					6010-	\		
Source of Contan	nination:	Steel Tan	k			I- APR	23 2013			
Fluid Released:		100 bbls			- 14-81	ļ.				
Fluids Recovered		80 bbls					ARTES'A			
Official Commun	iication:	ellering								
Name:	Pat Ellis				lke Tavare	z				
Company:	COG Operating, LL	C			Tetra Tech			,		
Address:	One Concho Cente	r			1910 N. Bi	g Spring				
P.O. Box	600 W. Illinois Ave.									
City:	Midland Texas, 797	'01			Midland, T	exas				
Phone number:	(432) 686-3023				(432) 682-	4559				
Fax:	(432) 684-7137									
Email:	pellis@conchoreso	urces.com			ike.tavare	z@tetratech.	.com			
	The second of the second of the second of									
Banking Criteria	"我多,在某些是'新疆				All and the second		AL PARTY MARCH			

Depth to Groundwater:	Ranking Score	Site Data
<50 ft	20	20
50-99 ft	10	
>100 ft.	0	
WellHead Protection:	Ranking Score	Site Data
Water Source <1,000 ft., Private <200 ft.	20	
Water Source >1,000 ft., Private >200 ft.	0	0
Surface Body of Water:	Ranking Score	Site Data
<200 ft.	20	
200 ft - 1,000 ft.	10	
>1,000 ft.	0	0
Total Ranking Score: A	cceptable Soil RRAL (n	ng/kg)
Benz		TPH



March 12, 2013

Mr. Mike Bratcher **Environmental Engineer Specialist** Oil Conservation Division, District 2 811 S. First Street Artesia, New Mexico 88210



Closure Report for the COG Operating LLC., Lightning 24 Federal Com Re: #1 Tank Battery, Unit B, Section 24, Township 25 South, Range 26 East, **Eddy County, New Mexico.**

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC. (COG) to assess a spill from the Lightning 24 Federal Com #1 Tank Battery located in Unit B. Section 24, Township 25 South, Range 26 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.12125°, W 104.24445°. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico C-141 Initial Report, the leak was discovered on July 11, 2012 and released approximately one hundred (100) barrels of produced water from a water tank with eighty (80) barrels of standing fluids recovered. The spill was entirely contained within the firewalls of the tank battery and measured approximately 15' X 55'. The initial C-141 form is enclosed in Appendix A.

Groundwater

No water wells were listed within Section 24. According to the NMOCD groundwater map, the average depth to groundwater in this area is approximately less than 50' below surface. The groundwater data is shown in Appendix B

Regulatory

A risk-based evaluation was performed for the Site in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases, dated August 13, 1993. The guidelines require a risk-



based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene). Based upon the depth to groundwater, the proposed RRAL for TPH is 100 mg/kg.

Soil Assessment and Analytical Results

On August 30, 2012, Tetra Tech personnel inspected and sampled the spill area. Two (2) auger holes (AH-1 and AH-2) were installed using a stainless steel hand auger to assess the impacted soils. Selected samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The sampling results are summarized in Table 1. The auger hole locations are shown on Figure 3.

Referring to Table 1, the area of AH-2 samples exceeded the TPH RRAL with concentrations of 2,844 mg/kg at 0-3", but declined to 365 mg/kg at 3"-6" below surface. In addition, elevated chloride concentrations at 0-3" were detected with chloride concentrations of 8,980 mg/kg (AH-1) and 1,810 mg/kg (AH-2). However, the chloride concentrations declined with depth at 3"-6" to 1,430 mg/kg and 449 mg/kg, respectively.

Remedial Activities and Conclusion

On November 28, 2012, Tetra Tech personnel supervised the excavation of the spill area. The excavated areas and depths are highlighted in Table 1 and shown on Figure 4. The spill footprint and final excavation depths of the soil remediation were met as stated in the approved work plan.

According to the BLM, the spill breached the facility firewall and impacted an area south (pad) and north (off pad) of the facility. As shown in Figure 4, the area south of the tank battery was excavated to a depth of approximately 1.0'. Confirmation samples (CS-4, CS-5 and CS-6) were collected north of the facility for evaluation and showed no impact to the area.

Prior to excavating the area inside the tank battery a backhoe trench (T-1) was installed and samples were collected down to 10.0' below surface to define extents. The trench results (T-1) are shown in Table 1. Referring to Table 1, the chloride declined with depth, but was not vertically define showing bottom trench sample of 1,690 mg/kg at 10.0' below surface.



For safety concerns, the area of AH-1 was excavated to a depth of 3.0' below surface and capped with a 40 mil liner. The area AH-2 was excavated to a depth of approximately 1.0' below surface. Once excavated to the appropriate depths, all of the excavated areas were backfilled with clean material to surface grade. Confirmation samples (CS-1, CS-2 and CS-3) were collected and approximately 100 cubic yards were removed and disposed of at the R360 facility.

On January 16, 2013. Tetra Tech personnel supervised the installation of one (1) soil boring to a total depth of 50.0' below surface. The soil boring (SB-1) was installed in the area of AH-1 (T-1) where the chlorides were not vertically defined. The sampling results are summarized in Table 1 and copies of the laboratory analysis and chain-of-custody documentation are included in Appendix C. Referring to Table 1, the soil boring showed chloride concentrations significantly declining with depth at approximately 15.0' below surface.

Based on the remediation activities performed at this location, COG requests closure for this site. The C-141 (Final) is included in Appendix A. If you have any questions or comments concerning the assessment or the remediation activities performed at the site, please call me at (432) 682-4559.

Respectfully submitted,

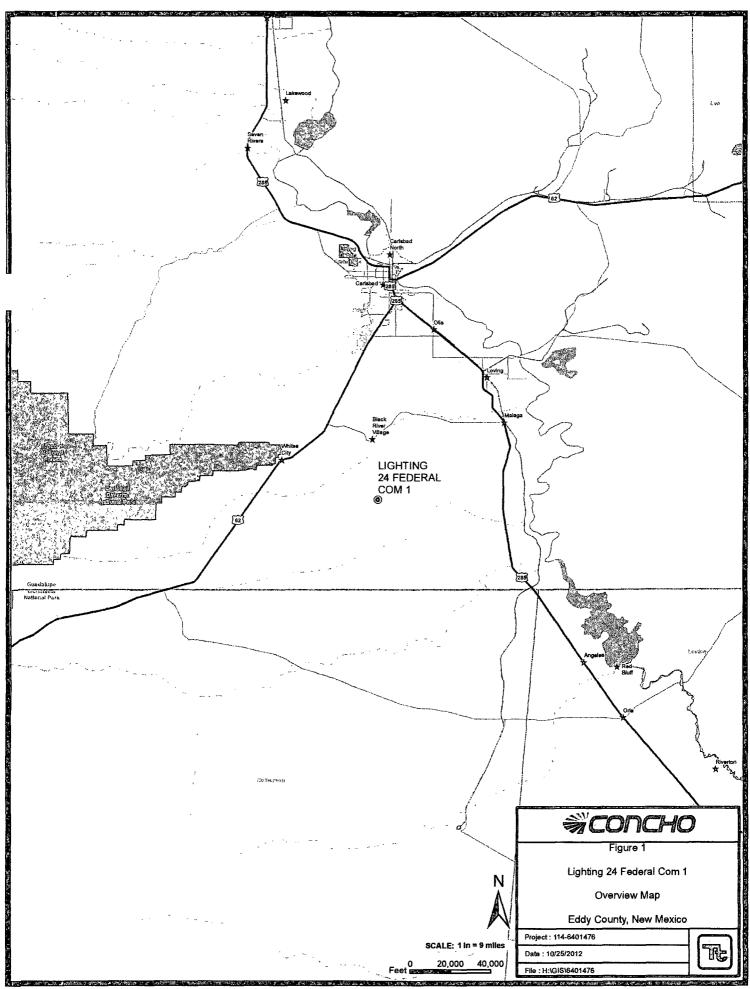
TETRATECH.

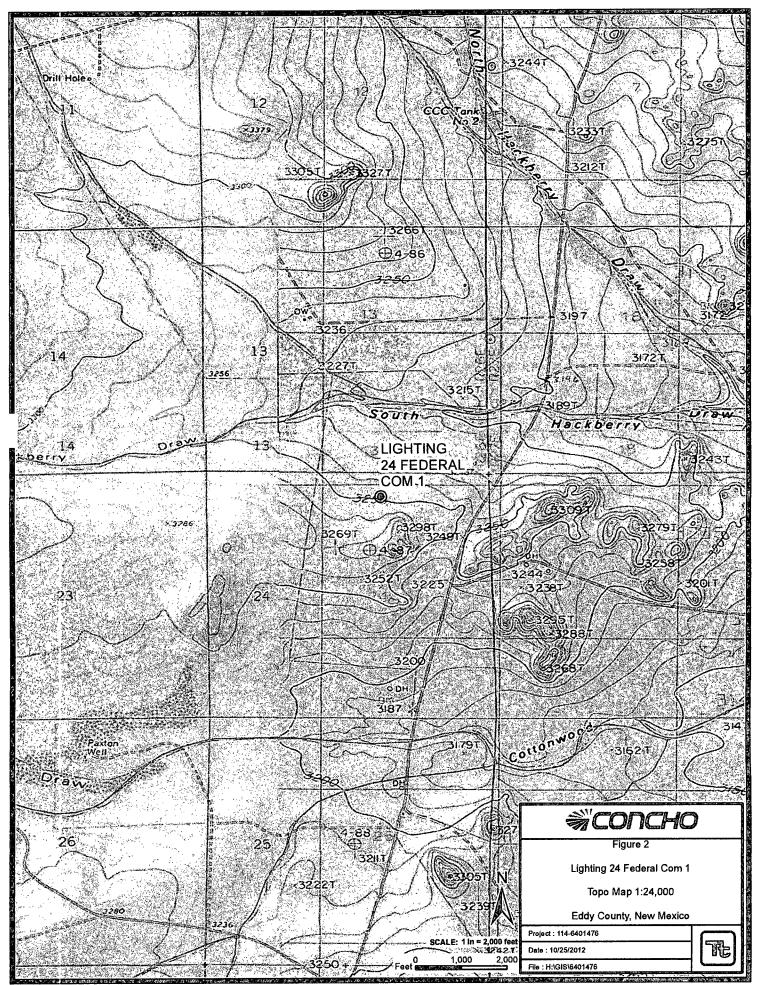
lke Tavarez, Pa

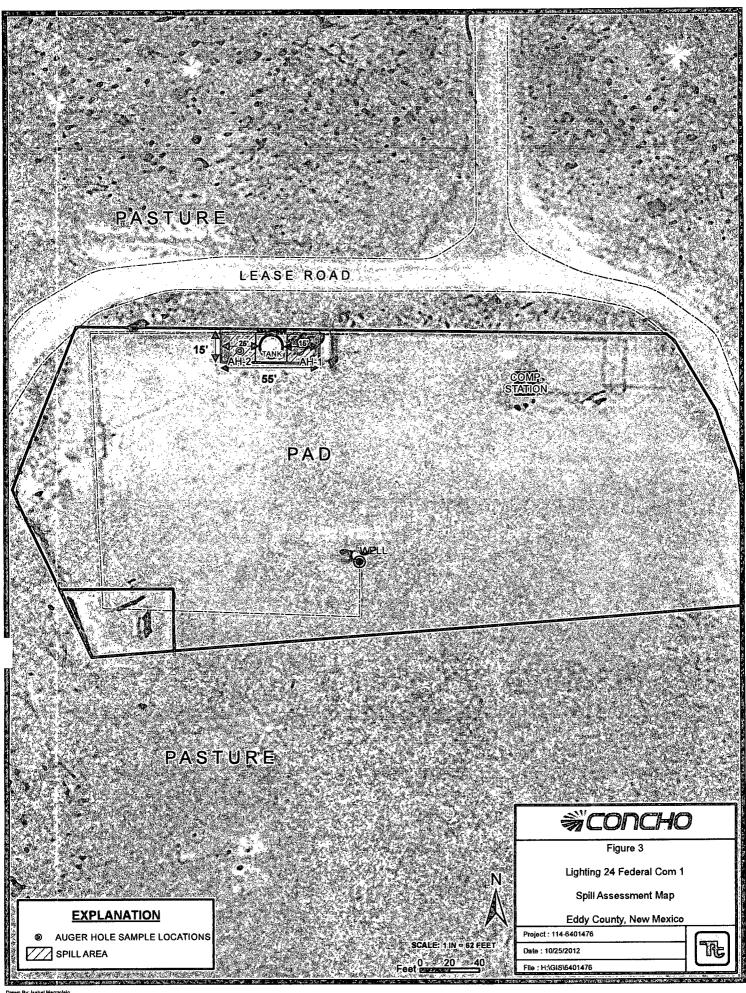
Senior Project Manager

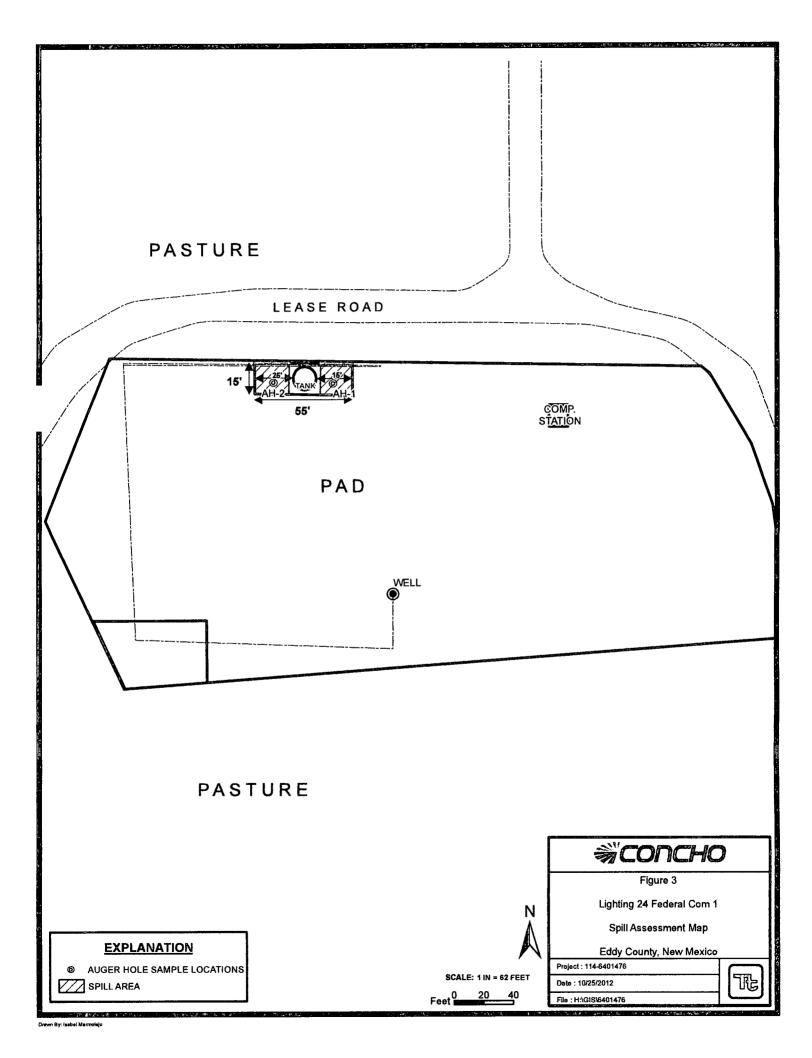
cc: Pat Ellis – COG cc: Jim Amos – BLM

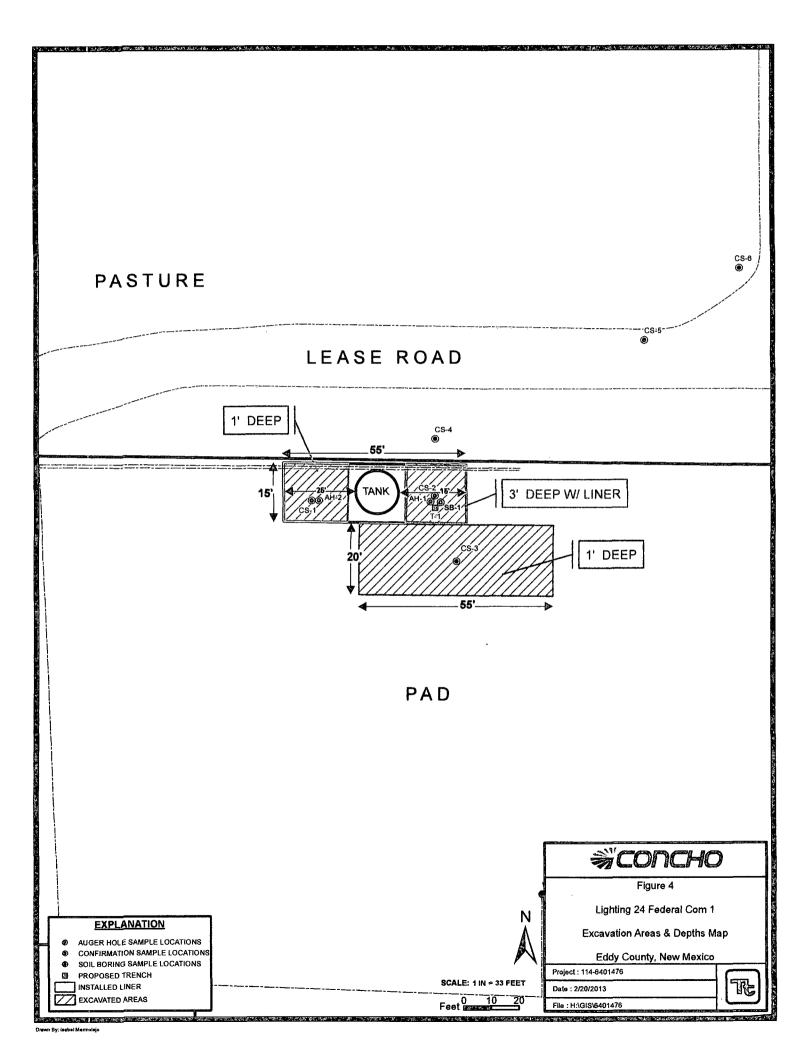
Figures











Tables

Table 1
COG Operating LLC.
Lightning 24 Federal Commingle #1
Eddy County, New Mexico

Samula ID	Commis Data	Samula Danth (4)	Soil	Status	7	ΓPH (mg/k	g)	Benzene	Toluene	Ethlybenzene	Xylene	Total	Chloride
Sample ID	Sample Date	Sample Depth (ft)	In-Situ	Removed	GRO	DRO	Total	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	BTEX (mg/kg)	(mg/kg)
AH-1	8/30/2012	0-3 (inch)		X	17.2	<50.0	17.2	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	8,980
		3-6 (inch)		X	<4.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	1,430
Trench-1	11/29/2012		A Contraction	X \									. 3,550 ::
		3		X		The second secon	4 m				i i	建型起源	658
	"	5	Х		-	-	-	-	-	-	-	-	3,110
	11	7	Х		-	-	-	-	-	-	-	-	9,070
	11	9	Х		-	-	-	-	-	-	-	-	5,870
	II	10	Х			-	-	-	-	-	-	-	1,690
			<u></u>										
CS-1	11/30/2012	3' Bottom Hole			-	-	-	-	-	-	-	-	73.7
SB-1	1/16/2013	4-5	Х		-	-	-	-	-	-	-	-	5,430
	n	6-7	Х		-	-	-	-	-	-	-	-	4,080
	н	9-10	Х		-	-	-	-	-	-	-	-	2,260
	п	14-15	Х		-	-	-	-	-	-	-	-	24.2
	ıı	19-20	Х		1	- ,	-	-	-	-	-	-	745
	11	24-25	Х		-	-	-	-	-	-	-	-	213
		29-30	Х		-	-	-		-	-	-	-	<20.0
	II	39-40	Χ		-	-	-	-	-	-	-	-	145
	H	49-50	Х		-	ı	-	-	-	-	-	-	72.5

Table 1 COG Operating LLC. Lightning 24 Federal Commingle #1 Eddy County, New Mexico

Sample Date	Sample Depth (ft)	Soil Status		7	TPH (mg/k	g)		Toluene	Ethlybenzene	Xylene	Total	Chloride
Sample Date	Sample Depth (It)	In-Situ	Removed	GRO	DRO	Total	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
8/30/2012:	0-3 (inch)	不可能	X	384	2,460	2,844	<1.00	₹<1.00**	<1 :00	7.84	7.84	1,810
	3-6 (inch)		X	<4.00	√365.	365	<0.0200		MILE TO THE TOTAL THE THE TAX AND THE	<0.0200	<0.0200	449
11/30/2012	1' Bottom Hole			-	-	-	-	-	•	-	-	101
12/4/2012	1' Bottom Hole (Pad)			-	-	-	-	-	-	-	-	115
12/4/2012	0-1' (Pasture)			-	-	-	-	-	-	-	-	46.0
12/4/2012	0-1' (Pasture)			-	-	-	-	-	-	_	-	<20.0
12/4/2012	0-1' (Pasture)			-	_	-	-	-	-	-	_	32.2
	11/30/2012 12/4/2012 12/4/2012 12/4/2012	8/30/2012 0-3 (inch) 11/30/2012 1' Bottom Hole 12/4/2012 1' Bottom Hole (Pad) 12/4/2012 0-1' (Pasture) 12/4/2012 0-1' (Pasture)	Sample Date Sample Depth (ft) In-Situ 8/30/2012 0-3 (inch) 11/30/2012 1' Bottom Hole 12/4/2012 1' Bottom Hole (Pad) 12/4/2012 0-1' (Pasture) 12/4/2012 12/4/2012 0-1' (Pasture) 12/4/2012 12/4/2012 12/4/2012 14/4/2012	Sample Date Sample Depth (ft) 8/30/2012 0-3 (inch) X 11/30/2012 1' Bottom Hole X 12/4/2012 1' Bottom Hole (Pad) 12/4/2012 12/4/2012 0-1' (Pasture) 12/4/2012	Sample Date Sample Depth (ft) In-Situ Removed GRO 8/30/2012 0-3 (inch) X 384 " 3-6 (inch) X <4.00	Sample Date Sample Depth (ft) In-Situ Removed GRO DRO 8/30/2012 0-3 (inch) X 384 2,460 11/30/2012 1' Bottom Hole - - 12/4/2012 1' Bottom Hole (Pad) - - 12/4/2012 0-1' (Pasture) - - 12/4/2012 0-1' (Pasture) - -	Sample Date Sample Depth (ft) In-Situ Removed GRO DRO Total 8/30/2012 0-3 (inch) X 384 2,460 2,844 11/30/2012 1' Bottom Hole - - - 12/4/2012 1' Bottom Hole (Pad) - - - 12/4/2012 0-1' (Pasture) - - - 12/4/2012 0-1' (Pasture) - - -	Sample Date Sample Depth (ft) In-Situ Removed GRO DRO Total (mg/kg) 8/30/2012 0-3 (inch) X 384 2,460 2,844 <1.00	Sample Date Sample Depth (ft) In-Situ Removed GRO DRO Total (mg/kg) (mg/kg) 8/30/2012 0-3 (inch) X 384 2,460 2,844 <1.00	Sample Date Sample Depth (ft) In-Situ Removed GRO DRO Total (mg/kg) (mg/kg) (mg/kg) 8/30/2012 0-3 (inch) X 384 2,460 2,844 <1:00	Sample Date Sample Depth (ft) In-Situ Removed GRO DRO Total (mg/kg) (mg/kg) <td> Sample Date Sample Depth (ft) Sample Depth (ft) Removed GRO DRO Total Total Removed (mg/kg) R/30/2012 0-3 (inch) X 384 2,460 2,844 <1.00 <1.00 <1.00 <1.00 <7.84 7.84 <1.84 <1.00 <1.00 <1.00 <1.00 <0.0200 <0.0200 <0.0200 <0.0200 <0.0200 <0.0200 <1.00 <1.00</td>	Sample Date Sample Depth (ft) Sample Depth (ft) Removed GRO DRO Total Total Removed (mg/kg) R/30/2012 0-3 (inch) X 384 2,460 2,844 <1.00 <1.00 <1.00 <1.00 <7.84 7.84 <1.84 <1.00 <1.00 <1.00 <1.00 <0.0200 <0.0200 <0.0200 <0.0200 <0.0200 <0.0200 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00 <1.00

(-) Not Analyzed

Exacavated Depths

Liner Installed

Photos

COG Operating LLC Lightning 24 Federal Com #1 Eddy County, New Mexico





View Northwest - Area of T-1



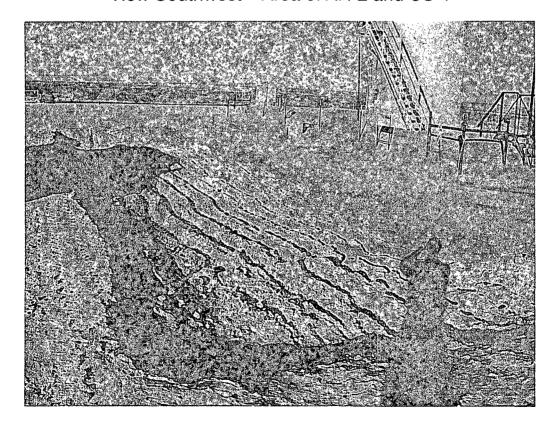
View Northwest – Area of AH-1, T-1 and CS-2

COG Operating LLC Lightning 24 Federal Com #1 Eddy County, New Mexico





View Southwest - Area of AH-2 and CS-1



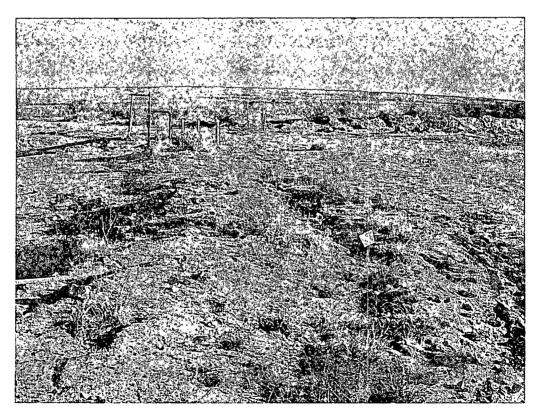
View West - Area of CS-3

COG Operating LLC Lightning 24 Federal Com #1 Eddy County, New Mexico





View North - Area of CS-4



View Northeast - Area of CS-5 and CS-6

Appendix A

District I 1625 N, French Dr., Hobbs, NM 88240 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico Energy Minerals and Natural Resources

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

RECEIVE

Revised October 10, 2003

APR 2 3 2013 Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

side of form

Release Notification and Corrective Action

						OPERA	ГOR		Initia	ıl Report	\boxtimes	Final Re	port
Name of Co	mpany	CO	G Opera	ting LLC		Contact	Pa	t Ellis					
Address	600 V	W. Illinois A	venue, N	Aidland, TX 797	01	Telephone N	No. (432)	230-00	77				
Facility Nar	ne	Lightnin	g 24 Fed	eral Com #1		Facility Typ	e Tank	Batter	ry				
Surface Ow	ner: Feder	al		Mineral Ov	wner			····-	Lease N	lo. (API#)	30-01	5-33001	
				LOCA	TIO	N OF REI	LEASE						
Unit Letter	Section	Township	Range	Feet from the		/South Line	Feet from the	East/V	West Line	County			
В	24	25S	26E			Total formation Basic West					Edd	у	
	J	1,	I	atitude N 32.12	2125°	Longitud	e W 104.24445	5 °					
				NATU	URE	OF RELI	EASE						
Type of Rele	ase: Produc	ed Water				Volume of	Release 100 bbl:	S		Recovered 8			
Source of Re	Source of Release: Steel Tank						lour of Occurrenc	e		Hour of Dis		•	
Was Immedia	eta Notica (Siyon?				07/11/2012 If YES, To			07/11/201	2 2:30p.m.			
was mineur	ate Notice (Yes [No ☐ Not Rec	mired	11 163, 10		Mike B	ratcher—C	OCD			
Z res - No Not Negan						•	•		mos—BL				
									regstonE	LM			
By Whom? N							lour 07/11/2012						
Was a Water	course Reac		Yes 🛭	l No		If YES, Volume Impacting the Watercourse. N/A							
						1							
If a Watercou	ırse was Im	pacted, Descri	ibe Fully.*	·									
Describe Cau	se of Proble	em and Remed	dial Action	n Taken.*									
	developed a	hole which th	ien allowe	d for the release of	fluids	inside the fac	ility. The tank ha	as been	out of servi	ce, cleaned,	and pi	epped for	
repairs.													
Describe Are	a Affected	and Cleanup A	Action Tak	en.*		,,							
Tetra Tech no	ersonnel ins	nected the site	and colle	cted samples to de	fine th	e snills extent	Soil that exceed	ed RRA	I. was rem	oved and ha	uled av	way for	
				surface grade with									
NMOCD for				<u> </u>			•	•		•			
I horoby corti	fu that the i	nformation oi	uan ahaua	is true and comple	to to t	ha hast of mu	knowledge and w	ndarata	ad that nurs	uent to NIM	OCD -	ulos and	
				d/or file certain rel									
public health	or the envir	onment. The	acceptanc	e of a C-141 report	t by the	e NMOCD m	arked as "Final R	eport" d	loes not reli	eve the oper	rator of	liability	
should their of	perations h	ave failed to a	dequately	investigate and rer	nediat	e contaminati	on that pose a thre	eat to gr	ound water	, surface wa	iter, hu	man healtl	1
federal state	nment. In a	odition, NMC vs and/or regu	CD accep	tance of a C-141 re	eport d	oes not reliev	e the operator of i	responsi	ibility for ce	ompliance v	vith an	y otner	
rederar, state,	/ //	V3 und 01 05 u	nations.				OIL CON	SFRV	ATION	DIVISIO	N		
	/ ///	1-11/)				OID COIT	<u>OLDIŲ V</u>	7111011	DIVIDIO	<u> </u>		
Signature: /				}									
Printed Name	e: Ike Tavar	ez M	ert	Ju 006)	Approved by	District Supervise	or:				1.1, 1. 80	
Title: Project	Manager			•		Approval Dat	e:		Expiration 1	Date:			
E mail A	on Ilea Ta	oraz@TatuaT	oh carr	The state of the s							,		
		arez@TetraTe				Conditions of	Approvai:			Attached			
Date:	- 12	- 13	Phone:	(432) 682-4559									

^{*} Attach Additional Sheets If Necessary

District I 1625 N. French Dr., Hobbs, NM 88240 District II 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico **Energy Minerals and Natural Resources**

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

Revised October 10, 2003

Form C-141

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

	Release Notification and Corrective Action											
						OPERA'	TOR			al Report		Final Report
Name of Co		COG OP		· · · · · · · · · · · · · · · · · · ·		Contact		at Ellis				
Address				dland, TX 79701		Telephone l	******	230-00				
Facility Nat	ne	Lightning 2	24 Federa	1 Com #1		Facility Typ	oe Tan	k Batte	ry			
Surface Ow	ner Fede	ral		Mineral O	wner				Lease 1	No. (API#	30-0	15-33001
				LOCA	TIOI	OF RE	LEASE					
Unit Letter	Section	Township	Range	Feet from the	North	South Line	Feet from the	East/\	West Line	County		
В	24	25\$	26E								Eddy	!
<u></u>	L		<u> </u>	Latitude 32 0		-	ude 104 14.667	<u></u>		<u> </u>		
[m cm 1	p. 1			NAT	URE	OF REL				<u> </u>	00111	
Type of Rele Source of Re							Release 100bbls Hour of Occurrence			Recovered Hour of Dis		
Source of Re	icase Siec	I talik				07/11/2012				12 2:30 p.m		
Was Immedia	ate Notice					If YES, To	Whom?					
		\boxtimes	Yes L	No 🗌 Not Re	quired			-	Bratcher-O			
						-			Amos-BLN Gregston-B			
By Whom?	Michelle N	Mullins				Date and I	Hour 07/11/2012					
Was a Water	course Read				·		olume Impacting					
		U	Yes 🛚	I No								
If a Watercou	ırse was lm	pacted, Descr	ibe Fully.*	;			<u> </u>					
Describe Cau	se of Probl	em and Remo	dial Action	n Taken.*								
A steel tank of for repairs.	ieveloped a	hole which th	en allowe	d for the release of	f fluids	inside the fac	cility. The tank ha	as been (taken out o	f service, cl	eaned,	and prepped
Describe Are	a Affected	and Cleanup A	Action Tak	en.*			*					
							2011					
				d from the steel tar I inside the dike w								
				ent a remediation v								
					·		•					
				is true and comple								
				id/or file certain re se of a C-141 repor								
should their o	perations h	ave failed to a	dequately	investigate and re	mediate	contaminati	on that pose a thr	eat to gr	ound water	, surface wa	ter, hu	man health
				tance of a C-141 n	eport de	oes not reliev	e the operator of	responsi	bility for co	ompliance v	ith any	other
federal, state,	or local lay	vs and/or regu	lations.				OIL CON	CEDV	ATION	DIVICIO	\ N I	
							OIL CON	<u> </u>	ATION	DIVISIC	<u> </u>	
Signature:		1-1	-									
Printed Name	. /	Josh	Russo		۱,	Approved by	District Supervise	or:				
						A		<u> </u>		D-4	*************	
Title:		HSE Co	ordinator			Approval Dat	e:	1	Expiration	Date:		
E-mail Addre	ss:	jrusso@concl	horesourc	es.com	•	Conditions of	Approval:			Attached		
Date: 07	7/26/2012	Phone	: 432	-212-2399								

^{*} Attach Additional Sheets If Necessary

Appendix B

Water Well Data Average Depth to Groundwater (ft) COG - Lightning 24 Federal Comm #1 Eddy County, New Mexico

	<u>24</u> S	outh	2	5 East				2	4 Sout	h		26 I	East			2	4 Sou	th	2	27 East	<u>t</u>
3	5 14	4 440	3	2	1	6	63	5	4		3	1	2	1	6	5	4	-	3	2	1
_	209	44	1	1	1 _1	1		.				- 1			. I _	_	- 1		.1	1	- 1
7	8	9	10	11	12 27	7	250	8	450 9		10		11	12	7	8	26 9	4:	10	11	12
																					27
18	17	16	15	14	13 7	18		17	16		15	ŀ	14 30	13	18	17	1	3	15	14	13
			<u></u>		163	650	D	_			<u> </u>				34						31
19	20	21	22	23	24	19		20	21		22	- 1		24 28	19	20	2	1	22	23	24
		ــــــــــــــــــــــــــــــــــــــ	<u> </u>			با		_			_			30	<u> </u>	_			70		
30	29	28	27	26	25 540	30	70	29	46 28		27	30	26	25	30	29	2	3	27	26	25
		1	 		57			<u>_</u>				 					_			<u> </u>	4.
31	32	33	34	35	36	31		32	11 33		34	ľ	35	36	31	32	3	3	34	35	36
			150	500		l		109							L						
	25 S	outh	2	25 East				2	5 Sout	h		26	East			25	5 Sou	th	2	7 East	t
6	5 30	4 46	3 ;	20 2	Ti	6		5	4		3	45	2	1	6	5	4		3	2	1
	⅃	↓	<u> </u>												<u> </u>						
7	8	9	10	111	12	7	60	8	9	45	10	ľ	11	12	7	8	9		10	111	12
			<u> </u>	43	39			<u> </u>													92
18	17	16	15	14	13	18		17	16		15	ľ	14	13	18	17	10	5	15	14	13
19	20	21	22	23	24	19		20	21		22		23	24	19	20	12.		22	23	24
		}	ì	1	70	1		1	1		118	- 1		SITE	•	- }			l	ł	- 1
30	29	28	27	26	25	30		29	28		27	7	26	25	30	29	28	3	27	26	25
31	32	33	34	35	36	31		32	33		34		35	36	31	32	33	-	34	35	36
) i	المحادث	33	34	33	130	31		UZ.	ြိ		34	ľ	~	30	3'	اعدا	19		134	135	130
		<u> </u>													L						
_	26 S	outh	2	5 East				26	Sout	h		26 E	East			26	Sou	th	2	7 East	
3	5	4	3	2	1	6	And Advantage	5	4		3	2	?	1	6	5	4		3	2	1
	 		10	- 144	1	<u> </u>							4			12				-	4.
′	8	9	10	11	12	ľ		8	22 9	Į	10	ין	1	12	'	8	9		10	11	12
-	17	16	15	14	150 13	18		17	16		15		4	13	10-	17				 	1,-
18	1		1'5	'4	1'3	1,8		"	1'6	- 1	15	- ['	*	13	18	17	16		15	14	13
9	29	21	22	23	24	19		20	21		31 22		3	24	19	20	21		22	23	35 24
ð	الحال	 	22	اح	4	119		20	اعا	1	~	۱	٠.	24	ia	20	21			23	124
30	29	28	27	26	25	30		29	28		27	-	6	25	30	29	28		50 27	26	25
	20	120	 	20		30		23	ا ا		<i>-</i> /	ľ	.		30	20	40	,	-	20	23
	32	33	34	35	36	31		32	33		34		5	36	31	32	33		34	35	36

New Mexico State Engineers Well Reports

USGS Well Reports

Geology and Groundwater Conditions in Southern Eddy, County, NM

NMOCD - Groundwater Data

Field water level

New Mexico Water and Infrastructure Data System

Appendix C

Summary Report

Ike Tavarez Tetra Tech

1910 N. Big Spring Street Midland, TX 79705 Report Date: January 25, 2013

Page Number: 1 of 2

Work Order: 13012204

Project Location: Eddy Co., NM

Project Name:

COG/Lightning 24 Fed. Com. #1

Project Number: 114-6401476

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
318926	SB-1 4-5'	soil	2013-01-16	00:00	2013-01-21
318927	SB-1 6-7'	soil	2013-01-16	00:00	2013-01-21
318928	SB-1 9-10'	soil	2013-01-16	00:00	2013-01-21
318929	SB-1 14-15'	soil	2013-01-16	00:00	2013-01-21
318930	SB-1 19-20'	soil	2013-01-16	00:00	2013-01-21
318931	SB-1 24-25'	soil	2013-01-16	00:00	2013-01-21
318932	SB-1 29-30'	soil	2013-01-16	00:00	2013-01-21
318933	SB-1 39-40'	soil	2013-01-16	00:00	2013-01-21
318934	SB-1 49-50'	soil	2013-01-16	00:00	2013-01-21

Sample: 318926 - SB-1 4-5'

Param	Flag	Result	Units	RL
Chloride		5430	mg/Kg	4

Sample: 318927 - SB-1 6-7'

Param	Flag	Result	Units	RL
Chloride		4080	mg/Kg	4

Sample: 318928 - SB-1 9-10'

continued ...

Report Date: Januar	y 25, 2013	Work Order: 13012204	Pag	ge Number: 2 of 2
sample 318928 contin	rued			
Param	Flag	Result	Units	RL
Param	Flag	Result	Units	RL
Chloride		2260	mg/Kg	4
Sample: 318929 -	SB-1 14-15'			
Param	Flag	Result	Units	RL
Chloride		24.2	mg/Kg	4
Sample: 318930 -	SB-1 19-20'			
Param	Flag	Result	Units	RL
Chloride		745	mg/Kg	4
Sample: 318931 -	SB-1 24-25'			
Param	Flag	Result	Units	RL
Chloride		213	mg/Kg	4
Sample: 318932 -	SB-1 29-30'			
Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4
Sample: 318933 -	SB-1 39-40'			
Param	Flag	Result	Units	RL
Chloride		145	mg/Kg	4
Sample: 318934 - 3	SB-1 49-50'			
Param	Flag	Result	Units	RL
Chloride		72.5	mg/Kg	4



6701 Aberdeen Avenue, Suite 9 200 East Suriset Road, Suite E 5002 Basin Street, Suite A1 (BioAquatic) 2501 Mayes Rd., Suite 100 Lubbock, Te El Paso, Te Midland, Te Carrolton, Te

Texas 79922 Texas 79703 Texas 75006 806 • 794 • 1296 915 • 585 • 3443 432 • 689 • 6301

FAX 915 - 585 - 4944 FAX 432 - 689 - 6313

972-242-7750

E-Mail: lab@traceanalysis.com WEB: www.traceanalysis.com

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Ike Tavarez Tetra Tech

1910 N. Big Spring Street Midland, TX, 79705 Report Date:

January 25, 2013

Work Order: 13012204

Project Location:

Eddy Co., NM

Project Name:

COG/Lightning 24 Fed. Com. #1

Project Number: 114-6401476

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

		Date	\mathbf{Time}	Date
Description	Matrix	Taken	Taken	Received
SB-1 4-5'	soil	2013-01-16	00:00	2013-01-21
SB-1 6-7'	soil	2013-01-16	00:00	2013-01-21
SB-1 9-10'	soil	2013-01-16	00:00	2013-01-21
SB-1 14-15'	soil	2013-01-16	00:00	2013-01-21
SB-1 19-20'	soil	2013-01-16	00:00	2013-01-21
SB-1 24-25'	soil	2013-01-16	00:00	2013-01-21
SB-1 29-30'	soil	2013-01-16	00:00	2013-01-21
SB-1 39-40'	soil	2013-01-16	00:00	2013-01-21
SB-1 49-50'	soil	2013-01-16	00:00	2013-01-21
	SB-1 4-5' SB-1 6-7' SB-1 9-10' SB-1 14-15' SB-1 19-20' SB-1 24-25' SB-1 29-30' SB-1 39-40'	SB-1 4-5' soil SB-1 6-7' soil SB-1 9-10' soil SB-1 14-15' soil SB-1 19-20' soil SB-1 24-25' soil SB-1 29-30' soil SB-1 39-40' soil	Description Matrix Taken SB-1 4-5' soil 2013-01-16 SB-1 6-7' soil 2013-01-16 SB-1 9-10' soil 2013-01-16 SB-1 14-15' soil 2013-01-16 SB-1 19-20' soil 2013-01-16 SB-1 24-25' soil 2013-01-16 SB-1 29-30' soil 2013-01-16 SB-1 39-40' soil 2013-01-16	Description Matrix Taken Taken SB-1 4-5' soil 2013-01-16 00:00 SB-1 6-7' soil 2013-01-16 00:00 SB-1 9-10' soil 2013-01-16 00:00 SB-1 14-15' soil 2013-01-16 00:00 SB-1 19-20' soil 2013-01-16 00:00 SB-1 24-25' soil 2013-01-16 00:00 SB-1 29-30' soil 2013-01-16 00:00 SB-1 39-40' soil 2013-01-16 00:00

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 12 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Michael abel

Dr. Blair Leftwich, Director Dr. Michael Abel, Project Manager

Report Contents

Case Narrative	4
analytical Report	ļ
Sample 318926 (SB-1 4-5')	ļ
Sample 318927 (SB-1 6-7')	
Sample 318928 (SB-1 9-10')	
Sample 318929 (SB-1 14-15')	
Sample 318930 (SB-1 19-20')	
Sample 318931 (SB-1 24-25')	
Sample 318932 (SB-1 29-30')	
Sample 318933 (SB-1 39-40')	
Sample 318934 (SB-1 49-50')	
Method Blanks QC Batch 98381 - Method Blank (1)	8
aboratory Control Spikes	•
QC Batch 98381 - LCS (1)	9
QC Batch 98381 - MS (1)	
Calibration Standards	10
QC Batch 98381 - CCV (1)	10
QC Batch 98381 - CCV (2)	
ppendix	13
Report Definitions	1
Laboratory Certifications	
Standard Flags	
Attachments	

Case Narrative

Samples for project COG/Lightning 24 Fed. Com. #1 were received by TraceAnalysis, Inc. on 2013-01-21 and assigned to work order 13012204. Samples for work order 13012204 were received intact at a temperature of 5.8 C.

Samples were analyzed for the following tests using their respective methods.

		Prep	Prep	$_{ m QC}$	Analysis
Test	Method	Batch	Date	Batch	Date
Chloride (Titration)	SM 4500-Cl B	83284	2013-01-22 at 09:31	98381	2013-01-24 at 15:55

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 13012204 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Report Date: January 25, 2013 114-6401476

Work Order: 13012204 COG/Lightning 24 Fed. Com. #1 Page Number: 5 of 12 Eddy Co., NM

Analytical Report

Sample: 318926 - SB-1 4-5'

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 98381 Prep Batch: 83284 Analytical Method: SM 4500-Cl B

Date Analyzed: 2013-01-24 Sample Preparation: 2013-01-22 Prep Method: N/A
Analyzed By: AR
Prepared By: AR

Sample: 318927 - SB-1 6-7'

Laboratory:

Midland

Analysis: Chloride (Titration) QC Batch: 98381 Prep Batch: 83284 Analytical Method:
Date Analyzed:

Sample Preparation:

SM 4500-Cl B 2013-01-24 2013-01-22 Prep Method: N/A
Analyzed By: AR
Prepared By: AR

Sample: 318928 - SB-1 9-10'

Laboratory:

Midland

Analysis: Chloride (Titration)
QC Batch: 98381
Prep Batch: 83284

Analytical Method: Date Analyzed:

Sample Preparation:

SM 4500-Cl B 2013-01-24 2013-01-22 Prep Method: N/A Analyzed By: AR Prepared By: AR

929 - SB-1 14-15' Midland Chloride (Titration) 98381 83284 Flag	Analytical Method: Date Analyzed: Sample Preparation: RI Cert Result	٠	Prep Method: Analyzed By: Prepared By:	N/A AR AR
Chloride (Titration) 98381 83284	Date Analyzed: Sample Preparation: RI	2013-01-24 : 2013-01-22	Analyzed By:	AR
98381 83284	Date Analyzed: Sample Preparation: RI	2013-01-24 : 2013-01-22	Analyzed By:	AR
83284	Sample Preparation:	: 2013-01-22	*	
	RI	٠	Prepared By:	AR
Flag				
Flag	Cert Result			
			Dilution	RL
	. 24.2	2 mg/Kg	5	4.00
930 - SB-1 19-20'				
Midland				
Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
98381	Date Analyzed:	2013-01-24	Analyzed By:	AR
83284	Sample Preparation:	: 2013-01-22	Prepared By:	AR
		ı		
Flag				RL
	745	mg/Kg	10	4.00
931 - SB-1 24-25'				
Midland				
		SM 4500-Cl B		N/A
				AR
83284	Sample Preparation:	2013-01-22	Prepared By:	AR
	RL	ı		
771	~			
Flag	Cert Result		Dilution	$\frac{RL}{4.00}$
	Chloride (Titration) 98381 83284 Flag 931 - SB-1 24-25'	Midland Chloride (Titration) 98381 B3284 Page Analyzed: Sample Preparation: RI Flag Cert Result 745 931 - SB-1 24-25' Midland Chloride (Titration) 98381 Chloride (Titration) 98381 B3284 Analytical Method: Date Analyzed: Sample Preparation:	Midland Chloride (Titration)	Midland Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: 98381 Date Analyzed: 2013-01-24 Analyzed By: 83284 Sample Preparation: 2013-01-22 Prepared By: RL Flag Cert Result Units Dilution 745 mg/Kg 10 931 - SB-1 24-25' Midland Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: 98381 Date Analyzed: 2013-01-24 Analyzed By: 83284 Sample Preparation: 2013-01-22 Prepared By:

Report Date: January 25, 2013 114-6401476

Work Order: 13012204 COG/Lightning 24 Fed. Com. #1

Page Number: 7 of 12 Eddy Co., NM

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride	U		< 20.0	mg/Kg	5	4.00

Sample: 318933 - SB-1 39-40'

Laboratory: Midland

Analysis: Chloride (Titration) QC Batch: 98381 Prep Batch: 83284 Analytical Method: SM 4500-Cl Date Analyzed: 2013-01-24 Sample Preparation: 2013-01-22

 SM 4500-Cl B
 Prep Method:
 N/A

 2013-01-24
 Analyzed By:
 AR

 2013-01-22
 Prepared By:
 AR

Sample: 318934 - SB-1 49-50'

Laboratory: Midland

Analysis: Chloride (Titration)
QC Batch: 98381
Prep Batch: 83284

Analytical Method: SM 4500-Cl B Date Analyzed: 2013-01-24 Sample Preparation: 2013-01-22

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

Report Date: January 25, 2013

114-6401476

Work Order: 13012204 COG/Lightning 24 Fed. Com. #1 Page Number: 8 of 12 Eddy Co., NM

Method Blanks

Method Blank (1)

QC Batch: 98381

QC Batch: 98381 Prep Batch: 83284

001

Date Analyzed: 2013-01-24 QC Preparation: 2013-01-22 Analyzed By: AR Prepared By: AR

 \mathtt{MDL}

Report Date: January 25, 2013

114-6401476

Work Order: 13012204 COG/Lightning 24 Fed. Com. #1 Page Number: 9 of 12 Eddy Co., NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch:

Date Analyzed:

2013-01-24

Analyzed By: AR

Prep Batch: 83284

QC Preparation: 2013-01-22

Prepared By: AR

			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride			2630	mg/Kg	1	2500	< 3.85	105	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			2500	mg/Kg	1	2500	< 3.85	100	85 - 115	5	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1)

Spiked Sample: 318934

QC Batch:

98381

Date Analyzed:

2013-01-24

Analyzed By: AR Prepared By: AR

Prep Batch: 83284 QC Preparation: 2013-01-22

MS Spike Matrix Rec. C Dil. Param Result Units Amount Result Rec. Limit Chloride mg/Kg 2500 72.5108 78.9 - 121

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			MSD			Spike	Matrix		Rec.		RPD
Param	F	C	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			2880	mg/Kg	5	2500	72.5	112	78.9 - 121	4	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Report Date: January 25, 2013

114-6401476

Work Order: 13012204 COG/Lightning 24 Fed. Com. #1 Page Number: 10 of 12 Eddy Co., NM

Calibration Standards

Standard (CCV-1)

QC Batch: 98381

Date Analyzed: 2013-01-24

Analyzed By: AR

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			mg/Kg	100	101	101	85 - 115	2013-01-24

Standard (CCV-2)

QC Batch: 98381

Date Analyzed: 2013-01-24

Analyzed By: AR

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			mg/Kg	100	99.3	99	85 - 115	2013-01-24

Report Date: January 25, 2013 Work Order: 13012204 114-6401476 COG/Lightning 24 Fed. Com. #1 Page Number: 11 of 12

Eddy Co., NM

Appendix

Report Definitions

Name	Definition
$\overline{ ext{MDL}}$	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

Laboratory Certifications

	Certifying	Certification	Laboratory
\mathbf{C}	Authority	Number	Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis

Standard Flags

- F Description
- B Analyte detected in the corresponding method blank above the method detection limit
- H Analyzed out of hold time
- J Estimated concentration
- Jb The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
- Je Estimated concentration exceeding calibration range.
- MI1 Split peak or shoulder peak
- MI2 Instrument software did not integrate
- MI3 Instrument software misidentified the peak
- MI4 Instrument software integrated improperly
- MI5 Baseline correction
- Qc Calibration check outside of laboratory limits.
- Qr RPD outside of laboratory limits
- Qs Spike recovery outside of laboratory limits.
- Qsr Surrogate recovery outside of laboratory limits.
 - U The analyte is not detected above the SDL

Attachments

Report Date: January 25, 2013

114-6401476

Work Order: 13012204 COG/Lightning 24 Fed. Com. #1 Page Number: 12 of 12 Eddy Co., NM

The scanned attachments will follow this page.

Please note, each attachment may consist of more than one page.

l An	alvs	is F	lec	ur	est of Chain of Custod	v F	le	CC	ro	d	L								PAG	3E:	1			OF:	2		
	<u> </u>			7 -		. .					\dashv					(Cir					QUE Meth		lo.)				
					1910 N. Big Spring St. Midland, Texas 79705 (432) 682-4559 • Fax (432) 682-3946							15 (Ext. to C35)		ပံ :	Vr Pa Hg									TDS			
CLIENT NAM	Æ:				SITE MANAGER: Iko Towaret	ERS			SER	VATIVE		TX1005		æ l	S			30/624	70/625					s, pH, TDS			
PROJECT N	0: 01476				ning 24 Federal Com tt	F CONTAINERS	(3/N)					5 MOD.			als Ag As	Volatiles		8240/82	ni. Vol. 82	3/608	3	96.	(Air)	ns/Cation			
LAB I.D. NUMBER	DATE 2013	TIME	MATRIX	GRAB	SAMPLE IDENTIFICATION	NUMBER OF	FILTERED (Y/N)	HNO3	ICE	NONE	BTEX 80218	TPH 8015	PAH 8270	RCRA Metals Ag	TCLP Volatiles	TCLP Semi Votatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608 Pest, 808/608	Chloride	Samma 8	Alpha Beta (Air)	Major Anions/Cations,			
318924	1/110		5	X	5B-1 O-1'	ſ		1_											4		d					Ш	
925	j			1	2-3'	/													X	A	9						
926					4-5'														Т		X						
927					6-7'														\top		X				П		
928					9-10.						T								T	T	Х					\prod	
929				\mathbb{N}	14-15'							П			T				T	Ţ	У		T			\prod	
930					19-20'																Y						
931					24 - 25'																8						
932					29-301																X						
933			1	V	39-40'	W															X						
RELINQUISHED	BY: (Signature	B)			Date: RECEIVED BY: (Signature) Time: Skiewe Tikk			Date: Time:		600	13	_		IPLE		(Print	& Inf	tial)					Date. Time.		-16	-/3	-
RELINQUISHED	آ م	Hitch	· ·		Date: 0 - 3 - 17 RECENEU BY: (Signature) Time: 440			Date: Time:		2111			FE	QEX.		PED B	. 1	BUS			-		RBILL				-
RELINGUISHED	BY: (Signature	9)			Date: HECEL/ED BY: (Signature)			Date: Time:				_ }				ERED		UPS ERS	ON:				THER:	sults	by:		
RECEIVING LAB	ORATORY: _	Trace			RECEIVED BY: (Signature)								,	I	ص!								RU	ЈЅН С	harges	<u> </u>	
ADDRESS: CITY: Middle CONTACT:	md	STATE: _		PHONE		тім	E:					_	•	8 مست	C								AL	rthoriz Yes	ed:	No	
SAMPLE CONDIT	TION WHEN F	RECEIVED:			REMARKS: I klaland, and	***************************************						·····															

An	Analysis Request of Chain of Custody Record														PA	GE:	2			O	F:	2											
																	\dashv					(0				S RE				.)			
			S. S			1910 Midla	N. Big and, Te	Spring xas 79	g St.	946								- 1	(EXI. 10 C33)	d Cr Pb Hg Se	Vr Pd Hg										SO		
CLIENT NAM	ΛE:						MANAGI				8		PI		ERV	/ATIV	Æ	14400	2	Ba Cd	Ba			/624	0/625		ı				PH, TDS		
PROJECT N	O.:		PBC	JEC'	ΓNA	MF:	ke To	utive	<u> </u>					IVIE	EIH	עט		- 1		9	9		S	/8260	.827				ĺ		tions		
114-64	101476	2	Z	براية	bora	ig 24	Fude	ral	Com 1 To NM	*]§	(X)	1	Ì					2	ls Ag	Is Ag	les	Volati	8240	i. Vol	1608	g	١	E	ios	s/Ca		
LAB I.D. NUMBER	DATE 2013	TIME	lu I	GRAB		σ	SAMP	LE IDEN	L NM TIFICATION	v	I I I NUMBER OF CONTAINERS	FILTERED (HC.	HNO3	ice	NONE		BIEX 8021B	PAH 8270	RCRA Metals Ag A	TCLP Meta	TCLP Volatiles	RCI	GC.MS Vol.	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Chlorida	Gamma Sp	Alpha Beta	PLM (Asbestos)	Major Anions/Cations,		
934	ilue		S	K	4	5B-1		,	49.52)'	1)						
				_	L.					· · · · · · · · · · · · · · · · · · ·														L			1		<u> </u>		\perp		
											1						\perp	\perp					\perp					$oldsymbol{ol{ol{ol}}}}}}}}}}}}}}}}}$			\bot		
				1									\downarrow					1	\perp		\downarrow		1			1	\perp				\perp	_	
				\perp	<u> </u>			·		····			4	_				\downarrow				_	$oldsymbol{\perp}$				_	$oldsymbol{\perp}$			_	$oldsymbol{\perp}$	
				_			 						\perp	\downarrow		_	\perp	1	_		\perp	1	\downarrow			_	1	L			\bot	\perp	
				_	_								_		_	\dashv	4	1	-		4	\downarrow	\downarrow			\perp	-	<u> </u>		_	4		
				_							1		\downarrow	4	\dashv	\dashv	_	\downarrow	\bot	\sqcup	4	1	1			_	-	_		\perp	\bot	1	
		_		_				·			\downarrow	_	4	4	_	-	_	\downarrow	1		\dashv	4	+			+	\downarrow	-	Н	_	\downarrow	-	
													\perp								\perp					丄	\perp	_	Ц	Ц	丄		
RELINQUISHED	BY: (Signature)			Dati Tim	16:		RECEIVE	ED BY: (Signat	ure) Tita				ite: _ ne: _		-21- 60l				7	E		nt & I							ite: ne:	7-7	ω-/	2
RELINQUISHED	me T	Hitch			Date Tim	ne: /60			EUBY: (Signat	urej				ne:]	5/	46	5		ر ا	EDE	_		BY:	BUS	5	-			AIRE OTHI	ILL#	:		
RELICOUISHED	BY: (Signatur	9)			Date Tim			BECER	ED/BY: (Signat	ure)	-			ite: ne:						TRA			ED ITACT	UPS PER		:					ilts by:		
RECEIVING LAB ADDRESS:	ORATORY:		70					RECEIVED	BY: (Signature)									1	1	ZL										H Cha orized		{
CITY:	yord	STATE: _		PHON	E:	_ ZIP:		DATE: _			TIM	!E: _																			es /es		No
SAMPLE CONDI	TION WHEN F	RECEIVED:				REMARKS	:																										l

Please fill out all copies - Laboratory retains Yellow copy - Return Orginal copy to Tetra Tech - Project Manager retains Pink copy - Accounting receives Gold copy.

Report Date: December 21, 2012 Work Order: 12121111 Page Number: 1 of 3

Summary Report

Ike Tavarez
Tetra Tech
1010 N. Big Spring

1910 N. Big Spring Street Midland, TX 79705 Report Date: December 21, 2012

Work Order: 12121111

Project Location: NM

Project Name: COG/Lightning 24 Fed. Com. #1

Project Number: 114-6401476

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
316387	Trench-1 1' (AH-1)	soil	2012-11-29	00:00	2012-12-11
316388	Trench-1 3' (AH-1)	soil	2012-11-29	00:00	2012-12-11
316389	Trench-1 5' (AH-1)	soil	2012-11-29	00:00	2012-12-11
316390	Trench-1 7' (AH-1)	soil	2012-11-29	00:00	2012-12-11
316391	Trench-1 9' (AH-1)	soil	2012-11-29	00:00	2012-12-11
316392	Trench-1 10' (AH-1)	soil	2012-11-29	00:00	2012-12-11
316393	CS-1 3' Bottom Hole (AH-1)	soil	2012-11-30	00:00	2012-12-11
316394	CS-2 1' Bottom Hole (AH-2)	soil	2012-11-30	00:00	2012-12-11
316395	CS-3 1' Bottom Hole (Pad)	soil	2012-12-04	00:00	2012-12-11
316396	CS-4 0-1' (Pasture)	soil	2012-12-04	00:00	2012-12-11
316397	CS-5 0-1' (Pasture)	soil	2012-12-04	00:00	2012-12-11
316398	CS-6 0-1' (Pasture)	soil	2012-12-04	00:00	2012-12-11

Sample: 316387 - Trench-1 1' (AH-1)

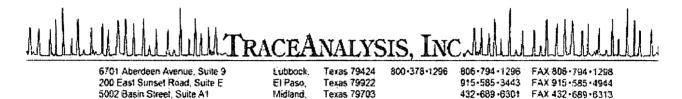
Param	Flag	Result	Units	RL
Chloride		3550	mg/Kg	4

Sample: 316388 - Trench-1 3' (AH-1)

Param	Flag	Result	Units	RL
Chloride		658	mg/Kg	4

Report Date: December 21, 2012	Work Order: 12121111	Page	e Number: 2 of 3
Sample: 316389 - Trench-1 5' (AH-1)			
Param Flag	Result	Units	RL
Chloride	3110	mg/Kg	4
Sample: 316390 - Trench-1 7' (AH-1)			
Param Flag	Result	Units	RL
Chloride	9070	mg/Kg	4
Sample: 316391 - Trench-1 9' (AH-1)			
Param Flag	\mathbf{Result}	Units	RL
Chloride	5870	mg/Kg	4
Sample: 316392 - Trench-1 10' (AH-1)			
<u>Param</u> Flag	Result	Units	RL
Chloride	1690	mg/Kg	4
Sample: 316393 - CS-1 3' Bottom Hol	e (AH-1)		
Param Flag	Result	Units	RL
Chloride	73.7	mg/Kg	4
Sample: 316394 - CS-2 1' Bottom Hol	e (AH-2)		
Param Flag	Result	Units	RL
Chloride	101	mg/Kg	4
Sample: 316395 - CS-3 1' Bottom Hol	e (Pad)		
Param Flag	\mathbf{Result}	Units	RL
Chloride	115	mg/Kg	4
Sample: 316396 - CS-4 0-1' (Pasture)			
Param Flag	Result	Units	RL
Chloride	46.0	mg/Kg	4

Report Date: Dece	ember 21, 2012	Work Order: 12121111	Page	Number: 3 of 3
Sample: 316397	- CS-5 0-1' (Pasture)			
Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4
Sample: 316398	- CS-6 0-1' (Pasture)			
Param	Flag	Result	Units	RL
Chloride		32.2	mg/Kg	4



(BioAquatic) 2501 Mayes Rd., Suite 100. 972-242-7750 Carroliton Texas 75006 E-Mail: lab@traceanalysis.com WEB: www.traceanalysis.com

Certifications

NELAP DoD LELAP WBE HUB **NCTRCA** DBEKansas Oklahoma ISO 17025

Analytical and Quality Control Report

Ike Tavarez Tetra Tech 1910 N. Big Spring Street Midland, TX, 79705

Report Date: December 21, 2012

Work Order: 12121111

Project Location: NM

Project Name: COG/Lightning 24 Fed. Com. #1

Project Number: 114-6401476

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc. Time Data

			Date	1 11116	Date
Sample	Description	Matrix	Taken	Taken	Received
316387	Trench-1 1' (AH-1)	soil	2012-11-29	00:00	2012-12-11
316388	Trench-1 3' (AH-1)	soil	2012-11-29	00:00	2012-12-11
316389	Trench-1 5' (AH-1)	soil	2012-11-29	00:00	2012-12-11
316390	Trench-1 7' (AH-1)	soil	2012-11-29	00:00	2012-12-11
316391	Trench-1 9' (AH-1)	soil	2012-11-29	00:00	2012-12-11
316392	Trench-1 10' (AH-1)	soil	2012-11-29	00:00	2012-12-11
316393	CS-1 3' Bottom Hole (AH-1)	soil	2012-11-30	00:00	2012-12-11
316394	CS-2 1' Bottom Hole (AH-2)	soil	2012-11-30	00:00	2012-12-11
316395	CS-3 1' Bottom Hole (Pad)	soil	2012-12-04	00:00	2012-12-11
316396	CS-4 0-1' (Pasture)	soil	2012-12-04	00:00	2012-12-11
316397	CS-5 0-1' (Pasture)	soil	2012-12-04	00:00	2012-12-11
316398	CS-6 0-1' (Pasture)	soil	2012-12-04	00:00	2012-12-11

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 14 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Michael april

Dr. Blair Leftwich, Director Dr. Michael Abel, Project Manager

Report Contents

Case Narrative	4
Analytical Report	Ę
Sample 316387 (Trench-1 1' (AH-1))	Ę
Sample 316388 (Trench-1 3' (AH-1))	5
Sample 316389 (Trench-1 5' (AH-1))	Ę
Sample 316390 (Trench-1 7' (AH-1))	Ę
Sample 316391 (Trench-1 9' (AH-1))	(
Sample 316392 (Trench-1 10' (AH-1))	f
Sample 316393 (CS-1 3' Bottom Hole (AH-1))	f
Sample 316394 (CS-2 1' Bottom Hole (AH-2))	7
Sample 316395 (CS-3 1' Bottom Hole (Pad))	,
Sample 316396 (CS-4 0-1' (Pasture))	7
Sample 316397 (CS-5 0-1' (Pasture))	7
Sample 316398 (CS-6 0-1' (Pasture))	8
3.6 (1. 1.79) 1	
Method Blanks	•
QC Batch 97585 - Method Blank (1)	
QC Batch 97586 - Method Blank (1)	,
Laboratory Control Spikes	10
QC Batch 97585 - LCS (1)	1(
QC Batch 97586 - LCS (1)	10
QC Batch 97585 - MS (1)	10
QC Batch 97586 - MS (1)	11
Calibration Standards	12
QC Batch 97585 - CCV (1)	
	12
40	12
4 + 1 +	12
QO Вани 31000 - ООУ (2)	
	13
Report Definitions	
Laboratory Certifications	
	13
Attachments	-13

Case Narrative

Samples for project COG/Lightning 24 Fed. Com. #1 were received by TraceAnalysis, Inc. on 2012-12-11 and assigned to work order 12121111. Samples for work order 12121111 were received intact at a temperature of 1.2 C.

Samples were analyzed for the following tests using their respective methods.

		Prep	Prep	$_{ m QC}$	Analysis
Test	Method	Batch	Date	Batch	Date
Chloride (Titration)	SM 4500-Cl B	82663	2012-12-19 at 09:02	97585	2012-12-19 at 16:46
Chloride (Titration)	SM 4500-Cl B	82663	2012-12-19 at 09:02	97586	2012-12-19 at 16:59

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 12121111 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

114-6401476

Work Order: 12121111 COG/Lightning 24 Fed. Com. #1

Analytical Report

Sample: 316387 - Trench-1 1' (AH-1)

Laboratory: Midland

Analysis:

QC Batch: 97585

Chloride (Titration)

Analytical Method: Date Analyzed:

SM 4500-Cl B

Prep Method: N/A Analyzed By: AR

Prep Batch:

82663

2012-12-19 Sample Preparation:

2012-12-19

Prepared By: AR

Page Number: 5 of 14

NM

RL

Cert Result Units Dilution RLParameter Flag Chloride 3550 10 4.00mg/Kg

Sample: 316388 - Trench-1 3' (AH-1)

Laboratory:

Midland

Analysis: Chloride (Titration) 97585

Analytical Method: Date Analyzed:

SM 4500-Cl B 2012-12-19

Prep Method: N/A

QC Batch: Prep Batch: 82663

Sample Preparation: 2012-12-19 Analyzed By: AR Prepared By: AR

RLParameter Flag Cert Result Units Dilution RLChloride 658 mg/Kg 4.00

Sample: 316389 - Trench-1 5' (AH-1)

Laboratory:

Prep Batch:

Midland

82663

Analysis: Chloride (Titration) QC Batch: 97585

Analytical Method: Date Analyzed:

Sample Preparation:

SM 4500-Cl B 2012-12-19 2012-12-19

Prep Method: N/A Analyzed By: AR Prepared By: AR

Parameter Cert Units Dilution RLFlag Result Chloride 3110 10 mg/Kg 4.00

RL

Report Date 114-6401476	e: December 21, 2012		Vork Order: 1: Lightning 24 F		Page Number:	6 of 14 NM
Sample: 31	6390 - Trench-1 7' (AH-1)					
Laboratory:	Midland					
Analysis:	Chloride (Titration)		cal Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	97585		nalyzed:	2012-12-19	Analyzed By:	AR
Prep Batch:	82663	Sample	Preparation:	2012-12-19	Prepared By:	AR
			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride			9070	mg/Kg	10	4.00
Sample: 31 Laboratory: Analysis: QC Batch: Prep Batch:	6391 - Trench-1 9' (AH-1) Midland Chloride (Titration) 97585 82663	Date A	cal Method: nalyzed: Preparation:	SM 4500-Cl B 2012-12-19 2012-12-19	Prep Method: Analyzed By: Prepared By:	N/A AR AR
	T)	a .	RL	··	T-11	2.5
Parameter Chloride	Flag	Cert	Result 5870	Units	Dilution 10	$\frac{RL}{4.00}$
Omoride			0010	mg/Kg	10	4.00
Sample: 31	6392 - Trench-1 10' (AH-1)					
Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (Titration) 97586 82663	Date Ar	cal Method: nalyzed: Preparation:	SM 4500-Cl B 2012-12-19 2012-12-19	Prep Method: Analyzed By: Prepared By:	N/A AR AR
			RL			
Parameter Chloride	Flag	Cert	Result	Units	Dilution	RL
			1690	mg/Kg	10	4.00

Sample: 316393 - CS-1 3' Bottom Hole (AH-1)

Laboratory: Midland

Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A QC Batch: 97586 Date Analyzed: 2012-12-19 Analyzed By: AR Prep Batch: 82663 Sample Preparation: 2012-12-19 Prepared By: AR

Work Order: 12121111 COG/Lightning 24 Fed. Com. #1 Page Number: 7 of 14 NM

Prep Method: N/A

AR

AR

Analyzed By:

Prepared By:

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride	· · · · · · · · · · · · · · · · · · ·		73.7	mg/Kg	5	4.00

Sample: 316394 - CS-2 1' Bottom Hole (AH-2)

Laboratory: Midland

82663

Prep Batch:

Parameter

Chloride

114-6401476

Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B QC Batch: 97586 Date Analyzed: 2012-12-19

Flag

Date Analyzed: 2012-12-19
Sample Preparation: 2012-12-19

 RL
 Cert
 Result
 Units
 Dilution
 RL

 101
 mg/Kg
 5
 4.00

Sample: 316395 - CS-3 1' Bottom Hole (Pad)

Laboratory: Midland

Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A QC Batch: Date Analyzed: 2012-12-19 Analyzed By: AR 97586 Prep Batch: 82663 Sample Preparation: 2012-12-19 Prepared By: AR

Sample: 316396 - CS-4 0-1' (Pasture)

Laboratory: Midland

Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A Date Analyzed: Analyzed By: QC Batch: 2012-12-19 97586 AR Prep Batch: 82663 Sample Preparation: 2012-12-19 Prepared By: AR

114-6401476 COG/Lightning 24 Fed. Com. #1						
Sample: 31	6397 - CS-5 0-1' (Pasture)					
Laboratory: Analysis:	Midland Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A	
QC Batch:	97586	Date Analyzed:	2012-12-19	Analyzed By:	AR	
Prep Batch:	82663	Sample Preparation:	2012-12-19	Prepared By:	AR	
		RL				
Parameter	Flag	Cert Result	Units	Dilution	RL	
Chloride	υ	<20.0	mg/Kg	5	4.00	
Sample: 31	6398 - CS-6 0-1' (Pasture)					
Laboratory:	Midland					
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A	
QC Batch:	97586	Date Analyzed:	2012-12-19	Analyzed By:	AR	
Prep Batch:	82663	Sample Preparation:	2012-12-19	Prepared By:	AR	

RL

Units

mg/Kg

Dilution

5

RL

4.00

Result

32.2

Work Order: 12121111

Page Number: 8 of 14

Report Date: December 21, 2012

Parameter

Chloride

Flag

 Cert

114-6401476

Work Order: 12121111 COG/Lightning 24 Fed. Com. #1 Page Number: 9 of 14

NM

Method Blanks

Method Blank (1)

QC Batch: 97585

QC Batch:

97585

Date Analyzed:

2012-12-19

Analyzed By: AR

Prep Batch:

82663

2012-12-19

Prepared By: AR

QC Preparation:

MDL

Parameter Chloride

Flag Cert

Result < 3.85

Units mg/Kg

RL4

Method Blank (1)

QC Batch: 97586

QC Batch:

97586

Date Analyzed:

2012-12-19

Analyzed By: AR

Prep Batch: 82663

Prepared By: AR

QC Preparation: 2012-12-19

Parameter Chloride

Cert Flag

Result < 3.85

MDL

Units mg/Kg

RL4

114-6401476

Work Order: 12121111 COG/Lightning 24 Fed. Com. #1 Page Number: 10 of 14 NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch:

Date Analyzed:

2012-12-19

Analyzed By: AR

Prep Batch: 82663

QC Preparation: 2012-12-19

Prepared By: AR

			LCS			Spike	Matrix		Rec.
Param	F	C	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride			2620	mg/Kg	1	2500	< 3.85	105	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			2730	mg/Kg	1	2500	< 3.85	109	85 - 115	4	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch:

97586

Date Analyzed:

2012-12-19

Analyzed By: AR

Prep Batch: 82663

QC Preparation: 2012-12-19

Prepared By: AR

			LCS			Spike	Matrix		Rec.
Param	F	C	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride			2700	mg/Kg	1	2500	< 3.85	108	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			Spike	Matrix		Rec.		RPD
Param	F	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			2580	mg/Kg	1	2500	< 3.85	103	85 - 115	4	-20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 316391

QC Batch: Prep Batch: 82663

97585

Date Analyzed:

2012-12-19

QC Preparation: 2012-12-19

Analyzed By: AR

Prepared By: AR

114-6401476

Work Order: 121211111 COG/Lightning 24 Fed. Com. #1 Page Number: 11 of 14 NM

			MS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride			8060	mg/Kg	10	2500	5870	88	78.9 - 121

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			MSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			8190	mg/Kg	10	2500	5870	93	78.9 - 121	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 316398

QC Batch: 97586 Prep Batch: 82663 Date Analyzed: 2012-12-19 QC Preparation: 2012-12-19

Analyzed By: AR

Prepared By: AR

			MS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride			2830	mg/Kg	5	2500	32.2	112	78 9 - 121

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			MSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			2670	mg/Kg	5	2500	32.2	106	78.9 - 121	6	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

114-6401476

Work Order: 12121111 COG/Lightning 24 Fed. Com. #1 Page Number: 12 of 14

Calibration Standards

Standard (CCV-1)

QC Batch: 97585

Date Analyzed: 2012-12-19

Analyzed By: AR

				CCVs	CCVs	CCVs	Percent	ъ.
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2012-12-19

Standard (CCV-2)

QC Batch: 97585

Date Analyzed: 2012-12-19

Analyzed By: AR

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			mg/Kg	100	99.9	100	85 - 115	2012-12-19

Standard (CCV-1)

QC Batch: 97586

Date Analyzed: 2012-12-19

Analyzed By: AR

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			mg/Kg	100	99.9	100	85 - 115	2012-12-19

Standard (CCV-2)

QC Batch: 97586

Date Analyzed: 2012-12-19

Analyzed By: AR

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2012-12-19

Report Date: December 21, 2012 Work Order: 12121111 Page Number: 13 of 14 114-6401476 COG/Lightning 24 Fed. Com. #1 NM

Appendix

Report Definitions

Name	Definition
$\overline{\mathrm{MDL}}$	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

Laboratory Certifications

	Certifying	Certification	Laboratory
\mathbf{C}	Authority	Number	Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis

Standard Flags

- F Description
- B Analyte detected in the corresponding method blank above the method detection limit
- H Analyzed out of hold time
- J Estimated concentration
- Jb The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
- Je Estimated concentration exceeding calibration range.
- MI1 Split peak or shoulder peak
- MI2 Instrument software did not integrate
- MI3 Instrument software misidentified the peak
- MI4 Instrument software integrated improperly
- MI5 Baseline correction
- Qc Calibration check outside of laboratory limits.
- Qr RPD outside of laboratory limits
- Qs Spike recovery outside of laboratory limits.
- Qsr Surrogate recovery outside of laboratory limits.
 - U The analyte is not detected above the SDL

Attachments

Report Date: December 21, 2012 114-6401476

Work Order: 12121111

COG/Lightning 24 Fed. Com. #1

Page Number: 14 of 14

NM

The scanned attachments will follow this page. Please note, each attachment may consist of more than one page.

1010/111

Analysis Request of Chain of Custouy	Record PAGE: 1 2	
	ANALYSIS REQUEST (Circle or Specify Method No.)	
TETRA TECH 1910 N. Big Spring St. Midland, Texas 79705 (432) 682-4559 • Fax (432) 682-3946	(Ext. to C35)	
CLIENT NAME: SITE MANAGER:	PRESERVATIVE	
PROJECT NO.: PROJECT NAME: 114-6401476 COS Lighting 24 Fed Com # 1	N/ AND N/ AND	
LAB I.D. DATE TIME YELL SAMPLE IDENTIFICATION NUMBER 7013	HILTERED (Y/N)	
3/6387 4-29 5 x Treat-1 1' (AHI)		
388 1 1 1 (AHI)		
389 Treach-1 5 (AH-1)		
390 Track-1 7 (AH-1)		Ш
391 Trench-1 9' (AH-1)		Ш
392 1 Trench-1 10' (AH-1)		Ш
393 11-30 CS-1 3' Bottom Holz (AH-1)		
394 11-30 (S-2 1' Battern Hole (AH2)		
395 124 C5-3 1' Bottom Hole (Pal)		
396 121 A 154 0-1 (Fasture)	시 [·첫]	
RELINQUISHED BY: (Signature) Date: 1Z-7-1Z RECEIVED BY: (Signature) Time: 1800 RELINQUISHED BY: (Signature) Date: 12-11-17 RECEIVED BY: (Signature)	Date: 12-11-12 SAMBLED BY: (Print & Ipitial), Date: 12-5-12 Time: 0900 Time: 1300 Date: 11 12 SAMPLE SHIPPED BY: (Circle) AIRBILL #:	
RELINGUISHED BY: (Signature) Time: 1008 RECEIVED BY: (Signature)	Time: 70 0 FEDEX BUS Date: HAND DELIVERED UPS OTHER:	_
RECEIVING LABORATORY: RECEIVED BY: (Signature)	Time: TETRA TECH CONTACT PERSON: Results by:	
ADDRESS: CITY:	TIME: RUSH Charges Authorized: Yes No	
SAMPLE CONDITION WHEN RECEIVED: REMARKS: Muldud all Please fill out all copies - Laboratory retains Yellow copy - Return Orginal copy to Tetr	Tach - Project Manager retains Pink conv - Accounting receives Gold conv	

Analysis Request of Chain of Custouy Record							··				NIA!		GE: S RE		<u>Z</u>				Z					
	-								-				(0	A Circle						Vo.)				
		Midland, Tex	Spring St.							15 (Ext. to C35)	Cr Pb Hg	d Vr Pd Hg Se									DS			
CLIENT NAME:		SITE MANAGE		S.				VATIV	E	TX1005	Ba	Ba Cd			/624	0/625					HO TOS			
PROJECT NO.: PRO	LECT		Taxacez	TAINE	l ⊦		/ETH	IOD T	_	1 1	₽ V	As		89	/8260	. 827					figure			
1	061	i	Lem #1	S	€				_	MOD.	ls Ag	ls Ag	se	Volat	8240	i. Vo	800	,	S.	€				
LAB I.D. DATE TIME XILLEY	77		EIDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	HNO3	ICE	NONE	BTEX 8021B	TPH 8015	RCRA Metals Ag	TCLP Metals Ag	TCLP Volatiles	TCLP Semi Volatiles RCI	GC.MS Vol. 8240/8260/624	GC.MS Sem	PCB's 8080/608	Chloride	Gamma Spec.	Alpha Beta (Alr)	Malor Anions/Cations	ì		
397 12-4 5	×	CS-5 0-1	Pastore	1			×											X						
398 124 5	11	C5-60 0=1	,				X											×	$ \ $					
	\prod																							
							1		Ť	\prod		П		1				1	П	Ť		П	1	
	11					†	T				1	П						1	П	1	7	П	1	1
						T		$ \cdot $		$\dagger \dagger$			1	1	T		1	T			1	П	Ť	
					\top	T	T	\prod	+	$\dag \uparrow$	\dagger		1	1	T	П	1	T			\top	\Box	_	
					1	T				$\dagger \dagger$	\dagger	$ \cdot $	1	1	T		1	T			T		\top	T
	$\dagger \dagger$				+	T	<u> </u>		\dagger	H	T		T	十	T	H	+	T		+	1	П	1	
	$\top \top$				\dagger	T			1	$\dagger \dagger$	T	$ \cdot $	1	1	T	H	1	1		1	T			
RELINQUISHED BY: (Signature)		Date: 12-7-/2 Time: 1805	RECEIVED BY: (Signature)			Date: Time:	_/2	- 11- 690	1/2	;	AMP	LED E	7: (P)	rint & 1	nitial)		7			Dat Tim	e:/	ک-2 130	/2 /-	
RELINQUISHED BY: (Signature)		Date: 12-11-12- Time: 1008	nice (virolay: (Signature)	''		Date: Time:		711	<i>ੀ /</i> ਦੇ ਕ		SAMP FED		IIPPE	D BY:	(Circle BUS		-		-	VIRBI				
REXINQUISHED BY: (Signature)		Date:	BECEIVED BY: (Signature)			Date:		- , ()	0		HAN	D DE			UPS	3			-	OTHE	R: Result	s bv:		
RECEIVING LABORATORY:		Time: F	RECEIVED BY: (Signature)	······································		Time:					=	- k	 ح							ļ.		-	100	
ADDRESS: CITY: Milliand STATE: T. CONTACT: Apardo	PHONE	ZIP:	ATE:	TIN	1E:					_	2		10	Var	= 2	<u></u> -	-			ľ	Autho. Ye	Charg rized: s	N	6
SAMPLE CONDITION WHEN RECEIVED:		REMARKS:	copy - Return Orginal copy to															ممينا	Ge	ld c	2011			

Summary Report

Ike Tavarez Tetra Tech 1910 N. Big Spring Street Midland, TX 79705

Report Date: September 19, 2012

Work Order: 12091209

Project Location: NM

Project Name: COG/Lightning 24 Fed. Com. #1

Project Number: 114-6401476

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
308999	AH-1 0-3 in.	soil	2012-08-30	00:00	2012-09-11
309000	AH-1 3-6 in.	soil	2012-08-30	00:00	2012-09-11
309001	AH-2 0-3 in.	soil	2012-08-30	00:00	2012-09-11
309002	AH-2 3-6 in.	soil	2012-08-30	00:00	2012-09-11

	-]	BTEX		TPH DRO - NEW	TPH GRO
	Benzene	Toluene	Ethylbenzene	Xylene	DRO	GRO
Sample - Field Code	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
308999 - AH-1 0-3 in.	< 0.0200	< 0.0200	< 0.0200	< 0.0200	<50.0 Qs	17.2
309000 - AH-1 3-6 in.	< 0.0200	< 0.0200	< 0.0200	< 0.0200	<50.0 Qs	<4.00
309001 - AH-2 0-3 in.	<1.00 1	<1.00	<1.00	7.84	2460 Qs	384
309002 - AH-2 3-6 in.	< 0.0200	< 0.0200	< 0.0200	< 0.0200	365 Q.	< 4.00

Sample: 308999 - AH-1 0-3 in.

Param	Flag	Result	Units	RL
Chloride	Qs	8980	mg/Kg	5

Sample: 309000 - AH-1 3-6 in.

Param	Flag	Result	Units	RL
Chloride		1430	mg/Kg	5

Sample: 309001 - AH-2 0-3 in.

¹Sample dilution due to surfactants.

Report Date: Sept	ember 19, 2012	Work Order: 120912	09 Page I	Number: 2 of 2
Param	Flag	Result	Units	RL
Chloride		1810	mg/Kg	5
Sample: 309002	- AH-2 3-6 in.			
Param	Flag	Result	Units	RL
Chloride		449	mg/Kg	5



6701 Aberdeen Avenue, Suite 9 200 East Sunset Road, Suite E

El Paso. Midland Texas 79424 Texas 79922 Texas 79703 800-378-1296

806 - 794 - 1296 915-585-3443 432-689-6301 FAX 806 - 794 - 1298 FAX 915 - 585 - 4944

5002 Basin Street, Suite A1 (BioAquatic) 2501 Mayes Ro., Suite 100. Carroliton.

Texas 75006

972-242-7750

FAX 432 - 689 - 6313

E-Mail: tab@traceanalysis.com WEB: www.traceanalysis.com

Certifications

NELAP DoD LELAP \mathbf{DBE} Oklahoma ISO 17025 WBE HUB NCTRCA Kansas

Analytical and Quality Control Report

Ike Tavarez Tetra Tech 1910 N. Big Spring Street Midland, TX, 79705

Report Date: September 19, 2012

Work Order: 12091209

Project Location: NM

Project Name:

COG/Lightning 24 Fed. Com. #1

Project Number:

114-6401476

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
308999	AH-1 0-3 in.	soil	2012-08-30	00:00	2012-09-11
309000	AH-1 3-6 in.	soil	2012-08-30	00:00	2012-09-11
309001	AH-2 0-3 in.	soil	2012-08-30	00:00	2012-09-11
309002	AH-2 3-6 in.	soil	2012-08-30	00:00	2012-09-11

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 22 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

> Dr. Blair Leftwich, Director Dr. Michael Abel, Project Manager

Report Contents

Case Narrative	3
Analytical Report	4
Sample 308999 (AH-1 0-3 in.)	4
Sample 309000 (AH-1 3-6 in.)	5
Sample 309001 (AH-2 0-3 in.)	6
Sample 309002 (AH-2 3-6 in.)	8
Method Blanks	10
QC Batch 94773 - Method Blank (1)	10
QC Batch 94774 - Method Blank (1)	10
QC Batch 94787 - Method Blank (1)	10
QC Batch 94929 - Method Blank (1)	11
QC Batch 94931 - Method Blank (1)	11
Laboratory Control Spikes	12
QC Batch 94773 - LCS (1)	12
QC Batch 94774 - LCS (1)	12
QC Batch 94774 - LCS (1)	13
QC Batch 94773 - xMS (1)	13
-	14
QC Batch 94774 - MS (1)	14
QC Batch 94787 - MS (1)	-
QC Batch 94929 - MS (1)	15
QC Datch 94931 - MS (1)	10
Calibration Standards	17
QC Batch 94773 - CCV (1)	17
QC Batch 94773 - CCV (2)	17
QC Batch 94773 - CCV (3)	17
QC Batch 94774 - CCV (1)	17
QC Batch 94774 - CCV (2)	18
QC Batch 94774 - CCV (3)	18
QC Batch 94787 - CCV (1)	18
QC Batch 94787 - CCV (2)	18
QC Batch 94787 - CCV (3)	19
QC Batch 94929 - ICV (1)	19
QC Batch 94929 - CCV (1)	19
QC Batch 94931 - ICV (1)	19
QC Batch 94931 - CCV (1)	20
Appendix	21
Report Definitions	21
Laboratory Certifications	21
Standard Flags	
Result Comments	
Attachments	21

Case Narrative

Samples for project COG/Lightning 24 Fed. Com. #1 were received by TraceAnalysis, Inc. on 2012-09-11 and assigned to work order 12091209. Samples for work order 12091209 were received intact at a temperature of 2.1 C.

Samples were analyzed for the following tests using their respective methods.

		Prep	Prep	QC	Analysis
Test	Method	Batch	Date	Batch	Date
BTEX	S 8021B	80319	2012-09-13 at 07:34	94773	2012-09-13 at 07:34
Chloride (Titration)	SM 4500-Cl B	80440	2012-09-18 at 09:00	94929	2012-09-18 at 11:00
Chloride (Titration)	SM 4500-Cl B	80442	2012-09-18 at 09:00	94931	2012-09-18 at 11:00
TPH DRO - NEW	S 8015 D	80328	2012-09-13 at 11:00	94787	2012-09-14 at 10:06
TPH GRO	S 8015 D	80319	2012-09-13 at 07:34	94774	2012-09-13 at 07:34

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 12091209 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Work Order: 12091209 COG/Lightning 24 Fed. Com. #1

Analytical Report

Sample: 308999 - AH-1 0-3 in.

Laboratory: Lubbock

114-6401476

Analysis: BTEX QC Batch: 94773 Prep Batch: 80319 Analytical Method: S 8021B
Date Analyzed: 2012-09-13
Sample Preparation: 2012-09-13

Prep Method: S 5035 Analyzed By: JS Prepared By: JS

Page Number: 4 of 22

NM

RLUnits Dilution Parameter Flag Cert Result RLBenzene < 0.0200 mg/Kg 1 0.0200 U Toluene U < 0.0200 mg/Kg 1 0.0200 Ethylbenzene < 0.0200 mg/Kg 1 0.0200 Xylene < 0.0200 mg/Kg 1 0.0200

						Spike	Percent	Recovery
Surrogate	\mathbf{Flag}	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			2.14	mg/Kg	1	2.00	107	70 - 130
4-Bromofluorobenzene (4-BFB)			2.36	mg/Kg	1	2.00	118	70 - 130

Sample: 308999 - AH-1 0-3 in.

Laboratory: Lubbock

Analysis: Chloride (Titration) QC Batch: 94929 Prep Batch: 80440 Analytical Method: SM 4500-Cl B Date Analyzed: 2012-09-18 Sample Preparation: 2012-09-18 Prep Method: N/A Analyzed By: LM Prepared By: LM

Sample: 308999 - AH-1 0-3 in.

Laboratory: Lubbock

Analysis: TPH DRO - NEW
QC Batch: 94787
Prep Batch: 80328

Analytical Method: S 8015 D
Date Analyzed: 2012-09-14
Sample Preparation: 2012-09-13

Prep Method: N/A Analyzed By: CM Prepared By: CM

114-6401476

Work Order: 12091209 COG/Lightning 24 Fed. Com. #1

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			98.6	mg/Kg	1	100	99	70 - 130

Sample: 308999 - AH-1 0-3 in.

Laboratory:

Lubbock

Analysis: QC Batch:

TPH GRO 94774

Analytical Method:

S 8015 D 2012-09-13 Prep Method: S 5035 Analyzed By: JS

Prep Batch:

80319

Date Analyzed: Sample Preparation: 2012-09-13

Prepared By: JS

Page Number: 5 of 22

NM

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
GRO		1	17.2	mg/Kg	1	4.00

						Spike	Percent	Recovery
Surrogate	\mathbf{Flag}	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			2.26	mg/Kg	1	2.00	113	70 - 130
4-Bromofluorobenzene (4-BFB)			2.50	mg/Kg	1	2.00	125	70 - 130

Sample: 309000 - AH-1 3-6 in.

Laboratory: Lubbock

Analysis: BTEX QC Batch: 94773 Prep Batch: 80319

Analytical Method: Date Analyzed:

S 8021B 2012-09-13 Sample Preparation: 2012-09-13 Prep Method: S 5035 Analyzed By: JS Prepared By: JS

			m RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Benzene	υ	1	< 0.0200	mg/Kg	1	0.0200
Toluene.	υ	1	< 0.0200	mg/Kg	1	0.0200
Ethylbenzene	ប	1	< 0.0200	mg/Kg	1	0.0200
Xylene	U	1	< 0.0200	mg/Kg	1	0.0200

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			2.06	mg/Kg	1	2.00	103	70 - 130
4-Bromofluorobenzene (4-BFB)			2.36	mg/Kg	1	2.00	118	70 - 130

Sample: 309000 - AH-1 3-6 in. Laboratory: Lubbock Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A Analyzed By: QC Batch: Date Analyzed: 2012-09-18 94931 LM Prep Batch: 80442 Sample Preparation: 2012-09-18 Prepared By: LMRLCert Result Dilution RLParameter Flag Units Chloride 1430 50 5.00 mg/Kg Sample: 309000 - AH-1 3-6 in. Laboratory: Lubbock Analysis: TPH DRO - NEW Analytical Method: S 8015 D Prep Method: N/A QC Batch: 94787 Date Analyzed: 2012-09-14 Analyzed By: CMPrep Batch: 80328 Sample Preparation: 2012-09-13 Prepared By: CMRLParameter Flag Cert Result Units Dilution RLDRO < 50.0 mg/Kg 50.0 Qs,U Percent Spike Recovery Flag Surrogate Cert Result Units Dilution Amount Recovery Limits n-Tricosane 106 100 106 70 - 130 mg/Kg Sample: 309000 - AH-1 3-6 in. Laboratory: Lubbock Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 94774 Date Analyzed: 2012-09-13 Analyzed By: JS Prep Batch: 80319 Sample Preparation: 2012-09-13 Prepared By: JS RLFlag Cert Parameter Result Units Dilution RL

<4.00

Units

mg/Kg

mg/Kg

Flag

Cert

Result

2.24

2.12

mg/Kg

Dilution

1

1

Spike

Amount

2.00

2.00

Percent

Recovery

112

106

Work Order: 12091209

COG/Lightning 24 Fed. Com. #1

Page Number: 6 of 22

NM

4.00

Recovery

Limits

70 - 130

70 - 130

Report Date: September 19, 2012

114-6401476

GRO

Surrogate

Trifluorotoluene (TFT)

4-Bromofluorobenzene (4-BFB)

Report Date: September 19, 2012 Work Order: 12091209 Page Number: 7 of 22 114-6401476 COG/Lightning 24 Fed. Com. #1 NM

Sample: 309001 - AH-2 0-3 in.

Laboratory: Lubbock Analysis: BTEX

Analysis: BTEX
QC Batch: 94773
Prep Batch: 80319

Analytical Method: S 8021B
Date Analyzed: 2012-09-13
Sample Preparation: 2012-09-13

Prep Method: S 5035 Analyzed By: JS Prepared By: JS

				RL			
Parameter		Flag	Cert	Result	Units	Dilution	m RL
Benzene	1	U	1	<1.00	mg/Kg	50	0.0200
Toluene		U	1	< 1.00	mg/Kg	50	0.0200
Ethylbenzene		U	1	< 1.00	mg/Kg	50	0.0200
Xylene			1	7.84	mg/Kg	50	0.0200

							Spike	Percent	Recovery
Surrogate		Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)	Qar	Qsr		3.21	mg/Kg	50	2.00	160	70 - 130
4-Bromofluorobenzene (4-BFB)	Qsr	Qar		1.25	mg/Kg	50	2.00	62	70 - 130

Sample: 309001 - AH-2 0-3 in.

Laboratory: Lubbock

Analysis: Chloride (Titration)
QC Batch: 94931
Prep Batch: 80442

Analytical Method: SM 4500-Cl B Date Analyzed: 2012-09-18 Sample Preparation: 2012-09-18

Prep Method: N/A Analyzed By: LM Prepared By: LM

			RL			
Parameter	\mathbf{Flag}	Cert	Result	Units	Dilution	RL
Chloride			1810	mg/Kg	50	5.00

Sample: 309001 - AH-2 0-3 in.

Laboratory: Lubbock

Analysis: TPH DRO - NEW QC Batch: 94787
Prep Batch: 80328

Analytical Method: S 8015 D
Date Analyzed: 2012-09-14
Sample Preparation: 2012-09-13

Prep Method: N/A Analyzed By: CM Prepared By: CM

			m RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
DRO	Qs	1	2460	mg/Kg	10	50.0

							Spike	Percent	Recovery
Surrogate		Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
n-Tricosane	Qsr	Qar		446	mg/Kg	10	100	446	70 - 130

114-6401476

Work Order: 12091209 COG/Lightning 24 Fed. Com. #1 Page Number: 8 of 22

NM

Sample: 309001 - AH-2 0-3 in.

Laboratory: Lubbock

Analysis: TPH GRO QC Batch: 94774 Prep Batch: 80319 Analytical Method: S 8015 D
Date Analyzed: 2012-09-13
Sample Preparation: 2012-09-13

Prep Method: S 5035 Analyzed By: JS Prepared By: JS

RL

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			1.86	mg/Kg	50	2.00	93	70 - 130
4-Bromofluorobenzene (4-BFB) Qsr	Qar		26.8	mg/Kg	50	2.00	1340	70 - 130

Sample: 309002 - AH-2 3-6 in.

Laboratory: Lubbock

Analysis: BTEX QC Batch: 94773 Prep Batch: 80319 Analytical Method: S 8021B
Date Analyzed: 2012-09-13
Sample Preparation: 2012-09-13

Prep Method: S 5035 Analyzed By: JS Prepared By: JS

RL Flag Units Parameter Cert Result Dilution RLBenzene < 0.0200 mg/Kg 0.0200 1 U 1 Toluene < 0.0200 0.0200mg/Kg 1 υ Ethylbenzene < 0.0200 mg/Kg 0.0200υ 1 1 Xylene < 0.0200 mg/Kg 1 0.0200υ 1

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			2.18	mg/Kg	1	2.00	109	70 - 130
4-Bromofluorobenzene (4-BFB)			2.30	mg/Kg	1	2.00	115	70 - 130

Sample: 309002 - AH-2 3-6 in.

Laboratory: Lubbock

Analysis: Chloride (Titration) Analytical Method:
QC Batch: 94931 Date Analyzed:
Prep Batch: 80442 Sample Preparation:

SM 4500-Cl B 2012-09-18 2012-09-18

Prep Method: N/A Analyzed By: LM Prepared By: LM

continued ...

Work Order: 12091209 Report Date: September 19, 2012 Page Number: 9 of 22 COG/Lightning 24 Fed. Com. #1 NM 114-6401476 sample 309002 continued ... RLFlag Parameter Cert Result Units Dilution RLRLParameter Flag Cert Result Units Dilution RLChloride 449 mg/Kg 20 5.00 Sample: 309002 - AH-2 3-6 in. Laboratory: Lubbock Analysis: TPH DRO - NEW Analytical Method: S 8015 D Prep Method: N/A QC Batch: 94787 2012-09-14 Analyzed By: CM Date Analyzed: Prep Batch: 80328 Sample Preparation: 2012-09-13 Prepared By: CMRLParameter Flag Cert Result Units Dilution RLDRO 365 50.0 mg/Kg Qв Spike Percent Recovery Units Dilution Surrogate Flag Cert Result Amount Recovery Limits n-Tricosane 126 mg/Kg 1 100 126 70 - 130 Sample: 309002 - AH-2 3-6 in. Laboratory: Lubbock Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 94774 Date Analyzed: 2012-09-13 Analyzed By: JS Prep Batch: 80319 Sample Preparation: 2012-09-13 Prepared By: JS RLFlag Parameter Cert Result Units Dilution RL

<4.00

Units

mg/Kg

mg/Kg

Result

2.29

2.24

U

Flag

1

Cert

mg/Kg

Dilution

1

1

Spike

Amount

2.00

2.00

Percent

Recovery

114

112

4.00

Recovery

Limits

70 - 130

70 - 130

GRO

Surrogate

Trifluorotoluene (TFT)

4-Bromofluorobenzene (4-BFB)

114-6401476

Work Order: 12091209 COG/Lightning 24 Fed. Com. #1

Method Blanks

Method Blank (1)

QC Batch: 94773

QC Batch: 94773

Date Analyzed: 2012-09-13 QC Preparation: 2012-09-13 Analyzed By: J Prepared By: J

Page Number: 10 of 22

NM

Prep Batch: 80319

QC Preparation:

.

MDL Flag Cert Result Units RLParameter < 0.00365 mg/Kg 0.02 Benzene Toluene < 0.00816 mg/Kg 0.02 Ethylbenzene mg/Kg < 0.00560 0.02 Xylene < 0.00460 mg/Kg 0.02

•						\mathbf{Spike}	Percent	Recovery
Surrogate	\mathbf{Flag}	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			2.02	mg/Kg	1	2.00	101	70 - 130
4-Bromofluorobenzene (4-BFB)			1.99	mg/Kg	1	2.00	100	70 - 130

Method Blank (1)

QC Batch: 94774

QC Batch: 94774 Prep Batch: 80319 Date Analyzed: QC Preparation:

2012-09-13 2012-09-13 Analyzed By: JS Prepared By: JS

MDL Parameter Flag Cert Result Units RLGRO < 0.359 mg/Kg Spike Percent Recovery Surrogate Flag Cert Result Units Dilution Amount Recovery Limits Trifluorotoluene (TFT) 2.18 2.00 109 70 - 130 mg/Kg 1

1.99

Method Blank (1)

4-Bromofluorobenzene (4-BFB)

QC Batch: 94787

QC Batch: 94787 Prep Batch: 80328 Date Analyzed: QC Preparation:

2012-09-14 2012-09-13

mg/Kg

1

2.00

Analyzed By: CM Prepared By: CM

70 - 130

100

114-6401476

Work Order: 12091209 COG/Lightning 24 Fed. Com. #1 Page Number: 11 of 22

NM

Parameter	Fla	ъg	Cert		DL sult	Units	RL	
DRO			1	<1	5.3	mg/Kg	50	
Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			108	mg/Kg	1	100	108	70 - 130

Method Blank (1)

QC Batch: 94929

QC Batch: 94929 Prep Batch: 80440 Date Analyzed: 2012-09-18 QC Preparation: 2012-09-18 Analyzed By: LM Prepared By: LM

MDL Place Cort Boselt

Method Blank (1)

QC Batch: 94931

QC Batch: 94931

Date Analyzed: 2

2012-09-18

Analyzed By: LM Prepared By: LM

Prep Batch: 80442 QC Preparation: 2012-09-18

MDL

Report Date: September 19, 2012 Work Order: 12091209 Page Number: 12 of 22 114-6401476 COG/Lightning 24 Fed. Com. #1

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 94773 Date Analyzed: 2012-09-13 Analyzed By: JS
Prep Batch: 80319 QC Preparation: 2012-09-13 Prepared By: JS

			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	$^{\mathrm{C}}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Benzene		1	1.91	mg/Kg	1	2.00	< 0.00365	96	75.4 - 120
Toluene		1	1.94	mg/Kg	1	2.00	< 0.00816	97	74.9 - 120
Ethylbenzene		1	2.09	mg/Kg	1	2.00	< 0.00560	104	78.1 - 120
Xylene		1	6.26	mg/Kg	1	6.00	< 0.00460	104	77.3 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene		1	1.94	mg/Kg	1	2.00	< 0.00365	97	75.4 - 120	2	20
Toluene		1	1.96	mg/Kg	1	2.00	< 0.00816	98	74.9 - 120	1	20
Ethylbenzene		1	2.11	mg/Kg	1	2.00	< 0.00560	106	78.1 - 120	1	20
Xylene		1	6.31	mg/Kg	1	6.00	< 0.00460	105	77.3 - 120	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	1.85	1.95	mg/Kg	1	2.00	92	98	70 - 130
4-Bromofluorobenzene (4-BFB)	1.94	1.98	mg/Kg	1	2.00	97	99	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 94774 Date Analyzed: 2012-09-13 Analyzed By: JS Prep Batch: 80319 QC Preparation: 2012-09-13 Prepared By: JS

			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
GRO		1	20.5	mg/Kg	1	20.0	< 0.359	102	68.9 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

 $continued \dots$

Report Date: September 19, 2012 Work Order: 12091209 Page Number: 13 of 22 114-6401476 COG/Lightning 24 Fed. Com. #1 NM

control spikes continued											
			LCSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
			LCSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	C	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
GRO		1	20.6	mg/Kg	1	20.0	< 0.359	103	68.9 - 120	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	2.02	2.02	mg/Kg	1	2.00	101	101	70 - 130
4-Bromofluorobenzene (4-BFB)	2.07	2.02	mg/Kg	1	2.00	104	101	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 94787 Date Analyzed: 2012-09-14 Analyzed By: CM Prep Batch: 80328 QC Preparation: 2012-09-13 Prepared By: CM

			LCS			Spike	Matrix		Rec.
Param	F	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
DRO		1	243	mg/Kg	1	250	<15.3	97	70 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			LCSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
DRO		1	237	mg/Kg	1	250	<15.3	95	70 - 130	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
n-Tricosane	106	104	mg/Kg	1	100	106	104	70 - 130

Matrix Spike (xMS-1) Spiked Sample:

QC Batch: 94773 Prep Batch: 80319 Date Analyzed: 2012-09-13 QC Preparation: 2012-09-13

QC Preparation: 2012-09-13 Prepared By: JS

Analyzed By: JS

			MS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Benzene		1	1.97	mg/Kg	1	2.00	< 0.00365	98	37.6 - 142

continued ...

114-6401476

Work Order: 12091209 COG/Lightning 24 Fed. Com. #1 Page Number: 14 of 22

matrix spikes continued ...

			MS			\mathbf{Spike}	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Toluene		1	2.16	mg/Kg	1	2.00	< 0.00816	108	38.6 - 153
Ethylbenzene		1	2.38	mg/Kg	1	2.00	< 0.00560	119	36.7 - 172
Xylene		1	7.08	mg/Kg	1	6.00	< 0.00460	118	36.7 - 173

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			MSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene		1	2.09	mg/Kg	1	2.00	< 0.00365	104	37.6 - 142	6	20
Toluene		1	2.32	mg/Kg	1	2.00	< 0.00816	116	38.6 - 153	7	20
Ethylbenzene		1	2.54	mg/Kg	1	2.00	< 0.00560	127	36.7 - 172	6	20
Xylene		1	7.61	mg/Kg	1	6.00	< 0.00460	127	36.7 - 173	7	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MS	MSD			Spike	MS	MSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	2.12	2.18	mg/Kg	1	2	106	109	70 - 130
4-Bromofluorobenzene (4-BFB)	2.18	2.29	mg/Kg	1	2	109	114	70 - 130

Matrix Spike (MS-1)

Spiked Sample: 309005

QC Batch:

94774

Date Analyzed:

2012-09-13

2012-09-13

Analyzed By: JS

Prep Batch: 80319 QC Preparation: Prepared By: JS

			MS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
GRO		1	21.3	mg/Kg	1	20.0	< 0.359	106	68.9 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			MSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	C	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
GRO		1	20.0	mg/Kg	1	20.0	< 0.359	100	68.9 - 120	6	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

	MS	MSD			Spike	MS	MSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	2.08	1.90	mg/Kg	1	2	104	95	70 - 130
4-Bromofluorobenzene (4-BFB)	2.40	2.29	mg/Kg	1	2	120	114	70 - 130

114-6401476

Work Order: 12091209

COG/Lightning 24 Fed. Com. #1

Page Number: 15 of 22 NM

Matrix Spike (MS-1)

Spiked Sample: 308982

QC Batch:

94787

Date Analyzed:

2012-09-14

Analyzed By: CM

Prep Batch: 80328

QC Preparation: 2012-09-13 Prepared By: CM

				MS			Spike	Matrix		Rec.
Param		\mathbf{F}	C	Result	Units	Dil.	Amount	Result	Rec.	Limit
DRO	Qв	Qs	1	21800	mg/Kg	10	250	19100	1080	70 - 130

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

				MSD			Spike	Matrix		Rec.		RPD
Param		\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
DRO	Qв	Qs	1	20100	mg/Kg	10	250	19100	400	70 - 130	8	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			MS	MSD			Spike	MS	MSD	Rec.
Surrogate			Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
n-Tricosane	Qar	Qar	621	590	mg/Kg	10	100	621	590	70 - 130

Matrix Spike (MS-1)

Spiked Sample: 308999

QC Batch:

94929

Date Analyzed:

2012-09-18

Analyzed By: LM

Prep Batch: 80440

QC Preparation:

2012-09-18

Prepared By: LM

				MS			Spike	Matrix		Rec.
Param		\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	Qa	Qв		11100	mg/Kg	500	500	8985.51	423	80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			MSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	C	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			11600	mg/Kg	500	500	8985.51	523	80 - 120	4	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1)

Spiked Sample: 309312

QC Batch:

Date Analyzed:

2012-09-18

Analyzed By: LM

Prep Batch: 80442

QC Preparation:

2012-09-18

Prepared By: LM

114-6401476

Work Order: 12091209 COG/Lightning 24 Fed. Com. #1 Page Number: 16 of 22

			MS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride			511	mg/Kg	10	500	<30.5	102	80 - 120

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

			MSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			506	mg/Kg	10	500	<30.5	101	80 - 120	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Report Date: September 19, 2012 Work Order: 12091209 Page Number: 17 of 22 114-6401476 COG/Lightning 24 Fed. Com. #1 NM

Calibration Standards

Standard (CCV-1)

QC Batch: 94773

Date Analyzed: 2012-09-13

Analyzed By: JS

				CCVs True	CCVs Found	${ m CCVs} \ { m Percent}$	Percent Recovery	Date
Param	\mathbf{Flag}	Cert	\mathbf{Units}	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		1	mg/kg	0.100	0.0998	100	80 - 120	2012-09-13
Toluene		1	mg/kg	0.100	0.102	102	80 - 120	2012-09-13
Ethylbenzene		1	mg/kg	0.100	0.108	108	80 - 120	2012-09-13
Xylene		1	mg/kg	0.300	0.322	107	80 - 120	2012-09-13

Standard (CCV-2)

QC Batch: 94773

Date Analyzed: 2012-09-13

Analyzed By: JS

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0987	99	80 - 120	2012-09-13
Toluene		1	mg/kg	0.100	0.101	101	80 - 120	2012-09-13
Ethylbenzene		1	mg/kg	0.100	0.107	107	80 - 120	2012-09-13
Xylene		1	mg/kg	0.300	0.320	106	80 - 120	2012-09-13

Standard (CCV-3)

QC Batch: 94773

Date Analyzed: 2012-09-13

Analyzed By: JS

				CCVs	CCVs	$\rm CCVs$	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		1	mg/kg	0.100	0.101	101	80 - 120	2012-09-13
Toluene		1	mg/kg	0.100	0.0994	99	80 - 120	2012-09-13
Ethylbenzene		1	mg/kg	0.100	0.105	105	80 - 120	2012-09-13
Xylene		1	mg/kg	0.300	0.310	103	80 - 120	2012-09-13

 Report Date: September 19, 2012
 Work Order: 12091209
 Page Number: 18 of 22

 114-6401476
 COG/Lightning 24 Fed. Com. #1
 NM

 Standard (CCV-1)

 QC Batch: 94774
 Date Analyzed: 2012-09-13
 Analyzed By: JS

CCVs CCVs CCVs Percent True Found Percent Recovery Date Analyzed Param Flag Cert Units Conc. Conc. Recovery Limits GRO mg/Kg 1.00 1.05 105 80 - 120 2012-09-13

Standard (CCV-2)

QC Batch: 94774 Date Analyzed: 2012-09-13 Analyzed By: JS

CCVs CCVs CCVs Percent True Found Percent Recovery Date Units Conc. Conc. Recovery Limits Analyzed Param Flag Cert 0.974 97 80 - 120 2012-09-13 GRO mg/Kg 1.00

Standard (CCV-3)

QC Batch: 94774 Date Analyzed: 2012-09-13 Analyzed By: JS

CCVs CCVs CCVs Percent True Found Percent Date Recovery Flag Units Conc. Conc. Recovery Limits Analyzed Param Cert 1.00 0.948 95 80 - 120 2012-09-13 GRO mg/Kg

Standard (CCV-1)

QC Batch: 94787 Date Analyzed: 2012-09-14 Analyzed By: CM

CCVs CCVs CCVs Percent True Found Percent Recovery Date Param Flag \mathbf{Cert} Units Conc. Conc. Recovery Limits Analyzed DRO mg/Kg 250 258 103 80 - 120 2012-09-14

Standard (CCV-2)

QC Batch: 94787 Date Analyzed: 2012-09-14 Analyzed By: CM

114-6401476

Work Order: 12091209 COG/Lightning 24 Fed. Com. #1 Page Number: 19 of 22

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO	1 1005		mg/Kg	250	240	96	80 - 120	2012-09-14

Standard (CCV-3)

QC Batch: 94787

Date Analyzed: 2012-09-14

Analyzed By: CM

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO		1	mg/Kg	250	220	88	80 - 120	2012-09-14

Standard (ICV-1)

QC Batch: 94929

Date Analyzed: 2012-09-18

Analyzed By: LM

D	F31	Clarit.	TI:4-	ICVs True	ICVs Found	ICVs Percent	Percent Recovery	Date
Param	\mathbf{Flag}	Cert	\mathbf{Units}	Conc.	Conc .	Recovery	Limits	Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2012-09-18

Standard (CCV-1)

QC Batch: 94929

Date Analyzed: 2012-09-18

Analyzed By: LM

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2012-09-18

Standard (ICV-1)

QC Batch: 94931

Date Analyzed: 2012-09-18

Analyzed By: LM

114-6401476

Work Order: 12091209 COG/Lightning 24 Fed. Com. #1 Page Number: 20 of 22

NM

n	TN	Qt	11-24-	ICVs True	ICVs Found	ICVs Percent	Percent Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			mg/Kg	100	99.8	100	85 - 115	2012-09-18

Standard (CCV-1)

QC Batch: 94931

Date Analyzed: 2012-09-18

Analyzed By: LM

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2012-09-18

Report Date: September 19, 2012 Work Order: 12091209 Page Number: 21 of 22 114-6401476 COG/Lightning 24 Fed. Com. #1

Appendix

Report Definitions

Name	Definition
$\overline{\mathrm{MDL}}$	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

Laboratory Certifications

	Certifying	Certification	Laboratory
\mathbf{C}	Authority	Number	Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704219-12-8	Lubbock

Standard Flags

- F Description
- B Analyte detected in the corresponding method blank above the method detection limit
- H Analyzed out of hold time
- J Estimated concentration
- Jb The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
- Je Estimated concentration exceeding calibration range.
- Qc Calibration check outside of laboratory limits.
- Qr RPD outside of laboratory limits
- Qs Spike recovery outside of laboratory limits.
- Qsr Surrogate recovery outside of laboratory limits.
 - U The analyte is not detected above the SDL

Result Comments

1 Sample dilution due to surfactants.

Attachments

Report Date: September 19, 2012 114-6401476

Work Order: 12091209 COG/Lightning 24 Fed. Com. #1 Page Number: 22 of 22

NM

The scanned attachments will follow this page.

Please note, each attachment may consist of more than one page.

1209 1209

Analysis Request of Chain of Custody	Becord	PAGE:) OF:				
	ANAL	ANALYSIS REQUEST (Circle or Specify Method No.)				
TETRATECH 1910 N. Big Spring St. Midland, Texas 79705 (432) 682-4559 • Fax (432) 682-3946	(Ext. to C35) Cr Pb Hg Se Vr Pd Hg Se	82				
CLIENT NAME: COG SITE MANAGER: The Tavever	NETYOO TYTOOG S BB Cd	270/625 ns, pH, TDS				
PROJECT NO.: PROJECT NAME: 114-6401476 COG- Lightning 24 Fed Com 2	Y/N) Y/N) S-MOD. S-MOD. Volatiles Volatiles	ni. Vol. 8 V608 08 ec. (Air) stos)				
LAB I.D. NUMBER DATE TIME WAY BY SAMPLE IDENTIFICATION	FILTERED (Y/N) HCL HNO3 HCE HNO3 NONE NONE BTEX 802HB BTEX 802HB BTEX 802HB TCLP Wetals Ag As Ba TCLP Wetals Ag As Ba TCLP Wetalies TCLP Semi Volatiles RCI GC.MS VOI. 8240/8260/62	GC.MS Semi. Vol. 8270/625 PCB's 8080/608 Pest. 808/608 Chloride Gamma Spec. Alpha Beta (Air) PLM (Asbestos) Major Anlons/Catlons, pH, Tt				
308999 8/30 S X AH-1 0-3"		Maria Ma				
000 %30 5 × AH-1 2"-6"		M				
001 8/20 S X AH-2 U-3"	1 X KYA 1					
002 % 5 × AH-2 3"-6"						
RECLINQUISHED BY: (Signature) Date: 7-11- C- RECEIVED BY: (Signature) Time: 1/4 RECEIVED BY: (Signature) Date: 9 17 112 RECEIVED BY: (Signature)	Date: 9 11 12 SAMPLED BY: (Print & Initial Time: 16:45 MCRUS KVIGUS Date: SAMPLE SHIPPED BY: (Circle	Date: Li / Ryc. Rigulfine: AIRBILL#: 7-0-1				
RELINDUISHED BY: (Signature) Time:	Time: FEDEX BU HAND DELIVERED UP: Tetra Tech Contact Per	AIRBILL #: 2015 IS STATES OTHER: LONG HATE RSON: Results by:				
RECEIVING LABORATORY: RECEIVING LABORATORY: ADDRESS: CITY: M1 dlend STATE: TR ZIP: CONTACT: PHONE: DATE:						
SAMPLE CONDITION WHEN RECEIVED: A. 1 3 1 3 1						