		SI	TE INFORM	ATION	
		Rep	ort Type: W	ork Pla	n
General Site Info	ormation:		days		
Site:		Lusk Deep	Unit #22H		
Company:	-	COG Opera			
Section, Towns	hip and Range	Unit C	Sec 17	T 19S	R 32E
Lease Number:		API No. 30-	025-40705	<u>.</u>	
County:		Lea			
GPS:			32.66682° N		103.79121° W
Surface Owner:		Federal			
Mineral Owner: Directions:		In Rural Lea	County at the inters	ection of Hw	y 243 and CR 126A for 6.75 miles, the spill is on
			e of 126A in the pas IRP-3498	RECEIL	/ED
			E	By OCD; D	or. Oberding at 11:27 am, Apr 09, 2015
Release Data:				HI, W. E.	
Date Released:		12/12/2014			
Type Release:		Produced W	ater		
Source of Contar	mination:	Flowline			
Fluid Released:		150 bbls	=		
Fluids Recovered		70 bbls			
Official Commu	nication:			35 1975	
Name:	Candy Jimenez		Amanda Trujillo		lke Tavarez
Company:	Sweatt Construction	n	COG Operating, L	LC	Tetra Tech
Address:	2401 Pecos Ave.		2407 Pecos Ave.		4000 N. Big Spring
					Ste 401
City:	Artesia, NM		Artesia, NM		Midland, Texas
Phone number:	575-365-8805		575-748-6930		(432) 687-8110
Fax:	575-748-1230				
Email:	c.jimenez@sweattco	nstruction.com	atrujillo@concho	o.com	lke.Tavarez@tetratech.com
Ranking Criteria					
Depth to Groundy <50 ft	vater:		Ranking Score		Site Data
<du ii<="" td=""><td></td><td></td><td>ı 20</td><td></td><td></td></du>			ı 20		

Depth to Groundwater:		Ranking Score		Site Data
<50 ft		20		
50-99 ft		10		
>100 ft.		0		0
WellHead Protection:		Ranking Score	T	Site Data
Water Source <1,000 ft., Private <20	00 ft.	20		
Water Source >1,000 ft., Private >20		0		0
Surface Body of Water:		Ranking Score	1	Site Data
<200 ft.		20		
200 ft - 1,000 ft.		10		
>1,000 ft.		0		0
Total Ranking Sec	re:	0	APPR	OVED Conditionally
	// 6.		By OCD;	Dr. Oberding at 11:59 am, Apr 09, 2015
Stipulations:-	Accept	able Soil RRAL (r	ng/kg)	
Obtain concurrence from BLM	برادر إساطاه فالمثالث التسال			
Obtain concurrence from BLM	Benzene	Total BTEX	TPH	



April 7, 2015

Dr. Tomas Oberding **Environmental Engineer Specialist** Oil Conservation Division, District 1 1625 North French Drive Hobbs, New Mexico 88240

Re: Work Plan for the COG Operating, LLC location Lusk Deep Unit #22H, Unit C, Section 17, Township 19 South, Range 32 East, Lea County, **New Mexico.**

Dr. Oberding:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating, LLC (COG). Inc to assess a spill from the COG Lusk Deep Unit #22H, Unit C, Section 17. Township 19 South, Range 32 East, Lea County, New Mexico (Site). The spill site coordinates are N 32.66682°, W 103.79121°. 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 December 12, 2014, and released approximately 150 barrels produced fluid from a flowline that was punctured by a Sweatt Construction dozer while it was being moved. Approximately 70 bbls of produced water were recovered. The spill initiated in the pasture impacting an area of approximately 200' X 20' and 240' x 20'. The initial C-141 form is enclosed in Appendix A.

Groundwater

No water wells were listed within Section 17. According to the NMOCD groundwater map, the average depth to groundwater in this area is between 400' and 500' 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 5,000 mg/kg.

Soil Assessment and Analytical Results

On February 2, 2014, Tetra Tech personnel installed of eight (8) auger holes (AH-1 through AH-8) using an stainless steel hand auger to assess the 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 the laboratory analysis chain-of-custody documentation are included in Appendix C. The auger hole results are summarized in Table 1 and shown on Figure 3.

Referring to Table 1, none of the samples exceeded the RRAL's for TPH or BTEX. The areas of auger holes (AH-1, AH-2, AH-3, AH-4, AH-5, AH-6, and AH-8) showed chloride concentrations increasing with depth. Auger holes (AH-1, AH-4 and AH-8) showed chloride highs at a bottom hole depth at 2.0'-2.5' below surface of 14,400 mg/kg, 10,600 mg/kg, and 12,900 mg/kg, respectively. Auger holes (AH-2, AH-3, AH-5 and AH-6) showed chloride highs at a bottom hole depth at 3.0'-3.5' below surface of 15,200 mg/kg, 12,700 mg/kg, 11,700 mg/kg, 10,800 mg/kg, respectively. The area of auger hole (AH-7) showed chloride concentrations increasing with depth to 4,310 mg/kg at 3.0'-3.5' below surface before slightly declining to 2,710 mg/kg at 3.5'-4.0' below surface. None of the areas were vertically defined.

On March 3, 2015, Tetra Tech personnel supervised the installation of eight (8) boreholes using an air rotary rig in order to define the vertical extent of the chloride impact. Selected samples were analyzed for chloride by EPA method 300.0. Copies of the laboratory analysis chain-of-custody documentation are included in Appendix C. The borehole results are summarized in Table 1 and shown on Figure 3.

Referring to Table 1, the area of boreholes (BH-3, BH-4, BH-5, BH-6 and BH-8) showed chloride concentrations increasing with depths to 4.0'-5.0' below surface of 10,900 mg/kg, 8,290 mg/kg, 4,980 mg/kg, 7,230 mg/kg, and 12,600 mg/kg, respectively. These areas then declined with depth to bottom hole concentrations of 195 mg/kg at 9.0'-10', 585 mg/kg at 9.0'-10', 99.0 mg/kg at 14'-15', 99.0 mg/kg at 9.0'-10', and 490 mg/kg at 9.0'-10', respectively.



The areas of boreholes (BH-11, BH-2, and BH-7) showed elevated chloride concentrations at 2.0'-3.0' below surface of 7,920 mg/kg, 10,400 mg/kg, and 7,520 mg/kg, respectively. The concentrations declined with depth to bottom hole concentrations of 97.0 mg/kg at 9.0'-10', 386 mg/kg at 19'-20', and <20.0 mg/kg at 14'-15' below surface, respectively. The chloride impact was vertically defined in all areas.

Work Plan

COG proposes to remove the impacted material as highlighted (green) in Table 1 and shown on Figure 4. The areas of auger holes (AH-2, AH-7, and AH-8) will be excavated to a depth of approximately 6.0' to 7.0' below surface. The areas of auger holes (AH-1, AH-3, AH-4, AH-5, and AH-6) will be excavated to a depth of approximately 4.0' to 5.0' below surface. The excavated areas will then be backfilled with clean material and brought to surface grade. The excavated soil will be transported to a proper disposal facility.

The proposed excavation depths may not be reached due to wall cave ins and safety concerns for onsite personnel. In addition, impacted soil around oil and gas equipment, structures or lines may not be feasible or practicable to be removed due to safely concerns. As such, Tetra Tech will excavate the soils to the maximum extent practicable. Any remaining impact not accessible to be removed will be deferred until abandonment.

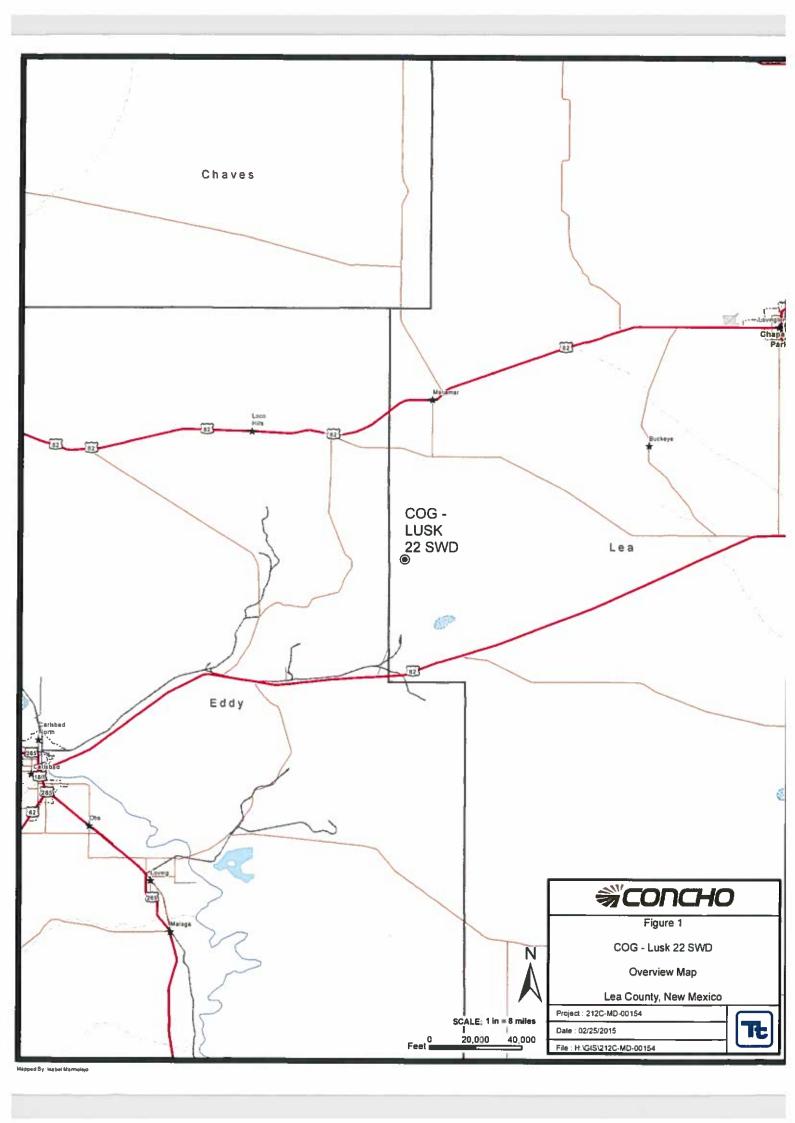
Upon completion, a final report will be submitted to the NMOCD. If you have any questions or comments concerning the assessment or the proposed remediation activities for this site, please call me at (432) 682-4559.

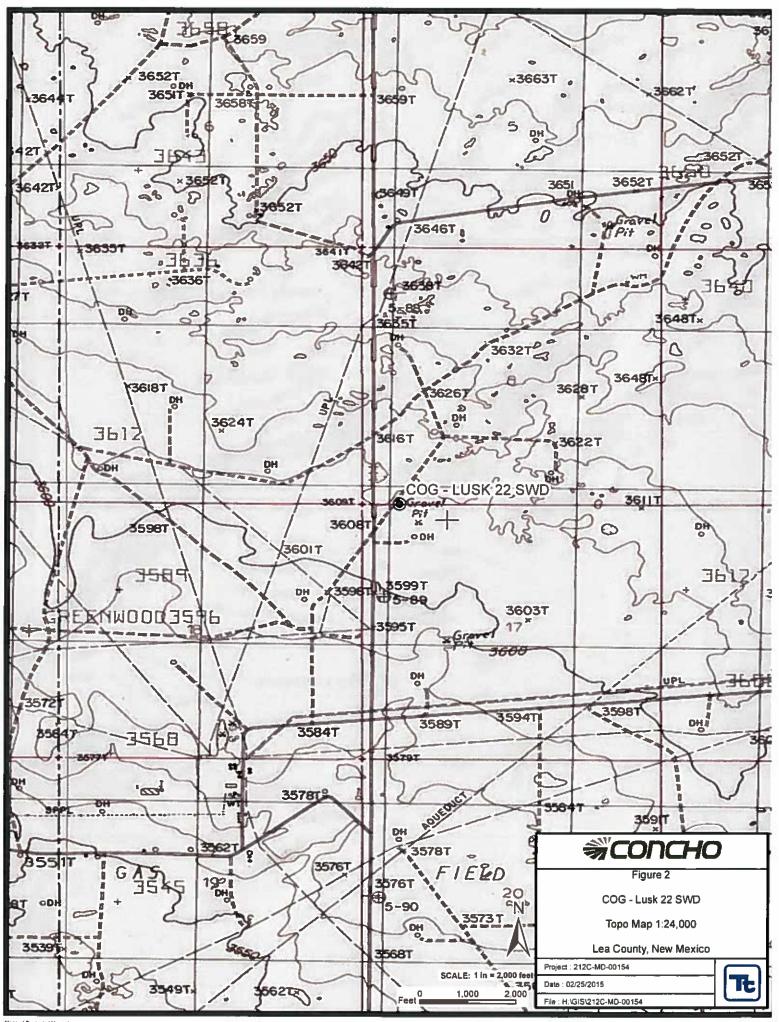
Respectfully, submitted,

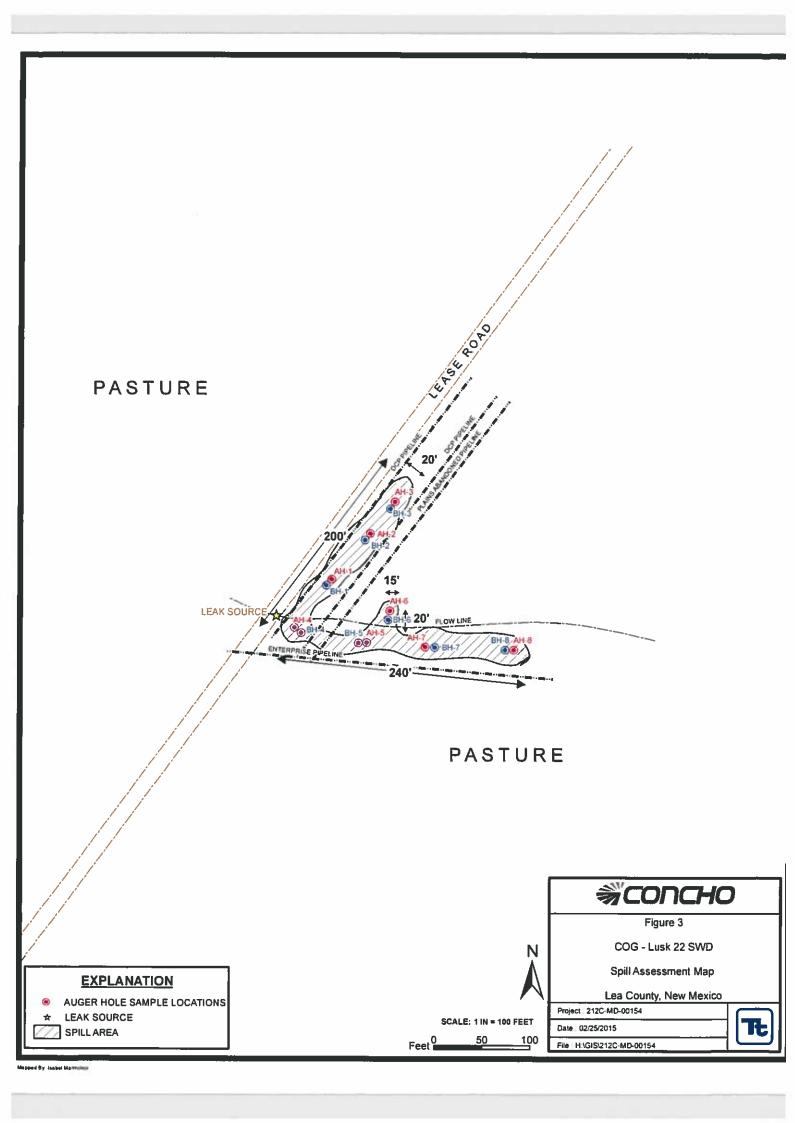
TETRA TÉCH

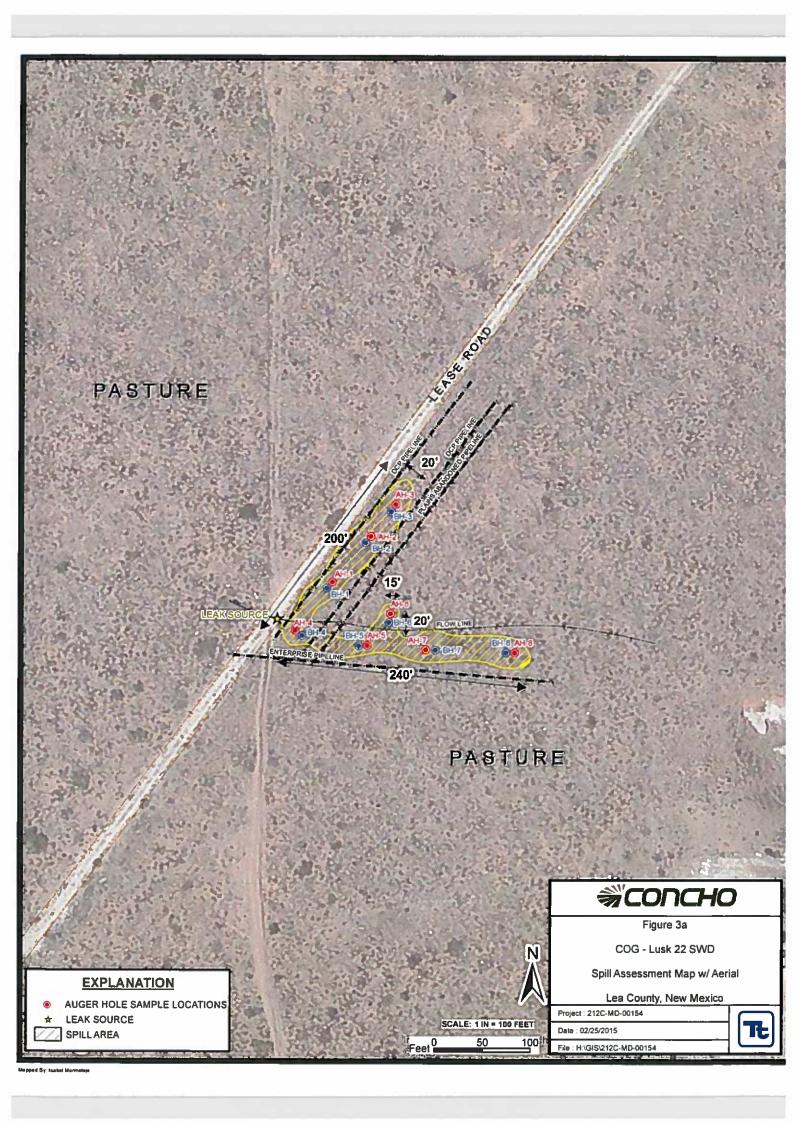
Clair Gonzales, Geologist III emzalus

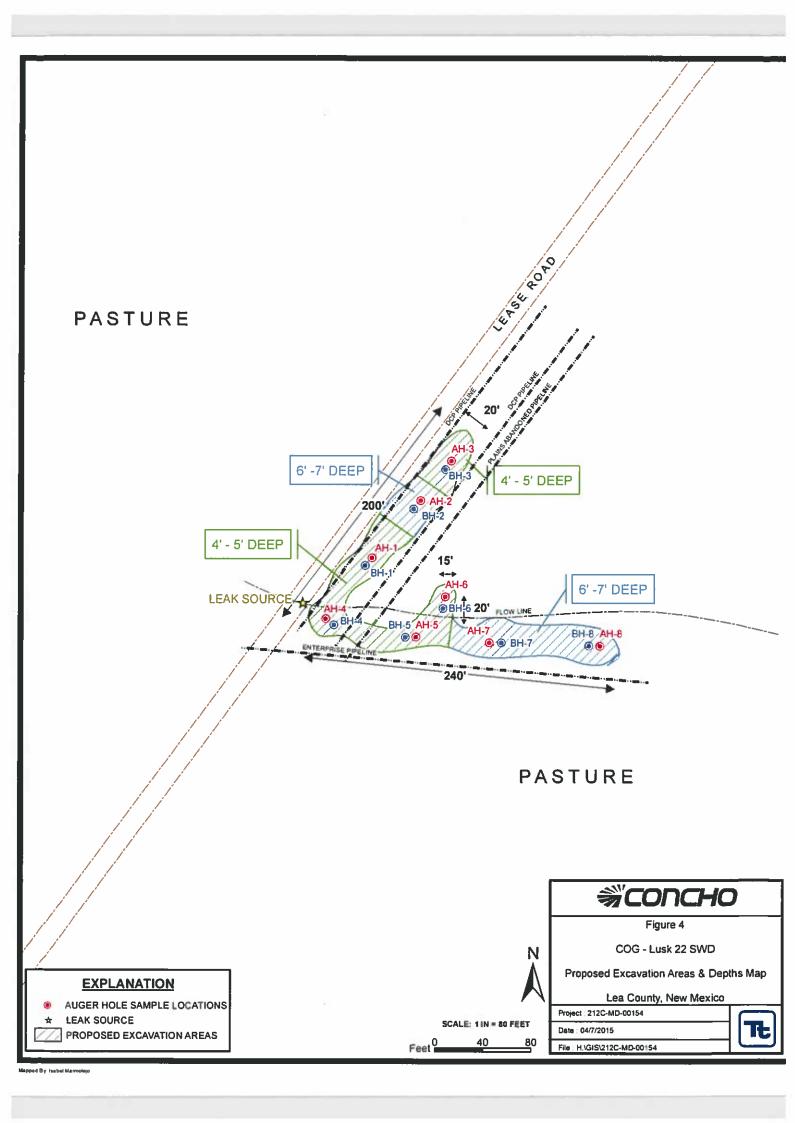
Figures











Tables

Table 1
COG Operating LLC
Lusk 22 Salt Water Disposal
Lea County, New Mexico

d											ġ.							Г	
Chloride	(mg/kg)	97.0	9,100	14,400	1 000	7,920	1,740	97.0	97.0	2,080	3,290	9,100	15,200	10 400	9,950	7,630	870	386	386
Total	(mg/kg)	<0.0200	-						-	<0.0200	120	•	1			1-4	•		•
Xviene	(mg/kg)	<0.0200	•	-	No Decident	-	~	-	1	<0.0200	ı	-	•		-				-
Ethlybenzene	(mg/kg)	<0.0200				1	31		_	<0.0200	ı			467		-	•	•	•
Toluene	(mg/kg)	<0.0200	-		38	3-3		-		<0.0200		•	•				•	-	-
Benzene	(mg/kg)	<0.0200	-					-	•	<0.0200		-	•		1	•	•	-	-
9)	Total	<50.0					-	•	-	<50.0	•					•	-	•	•
TPH (mg/kg)	DRO	<50.0		-	The second			•	-	<50.0		0=0		•	,	-	•	•	,
	GRO	<50.0	-		2 102	l	-	-	-	<50.0	-	-3		1		-	1	_	ŧ
Soil Status	Removed																		
Soil	In-Situ	×	×	×	>	<	×	×	×	×	×	×	×	×	×	×	×	×	×
Sample	Depth (ft)	0-1	1-1.5	2-2.5	0.0	K-3	4-5	2-9	9-10	0-1	1-1.5	2-5.5	3-3.5	2-3	4-5	2-9	9-10	14-15	19-20
Sample	Date	2/2/2015	=	=	3/3/2015	3/3/2013	=	=	=	2/2/2015	=	10	=	3/3/2015	2	=	21	=	2
	Sample ID	AH-1		:	5.00					AH-2				BH-2					

Table 1
COG Operating LLC
Lusk 22 Salt Water Disposal
Lea County, New Mexico

	Sample	Sample	Soil	Soil Status	T	TPH (mg/kg)	3	Benzene	Toluene	Ethlybenzene	Xvlene	Total	Chloride
Sample ID	Date	Depth (ft)	In-Situ	Removed	GRO	DRO	Total	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	BTEX (mg/kg)	(mg/kg)
AH-3	2/2/2015	0-1	×		<50.0	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	97.0
	=	1-1.5	×				r	-		•	11-11		7,700
	=	2-2.5	×			0	1		•				11,600
	=	3-3.5	×		-			-	•	•			12,700
BH-3	3/3/2015	2-3	×			ï	1	-				•	5,760
	=	4-5	×		-	-	-	•		1			10,900
	=	2-9	×		t	1	•	•		1	,	,	98.0
	=	9-10	×		•	-	•	•				,	195
AH-4	2/2/2015	0-1	×		<50.0	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	4,030
	=	1-1.5	×			•			10	•		•	6,590
	=	2-2.5	×			-	•						10,600
		The State of the S	The second		-								
BH-4	3/3/2015	2-3	×		,	1	1					- S	7,120
	=	4-5	×				-		1			٠	8,290
	=	2-9	×			,			1		1		390
	=	9-10	×		•		٠			E.	.00	ī	585

Table 1
COG Operating LLC
Lusk 22 Salt Water Disposal
Lea County, New Mexico

Chloride	(mg/kg)	948	3,030	7,770	11,700		1,660	4,980	594	396	99.0	28.0	28.0	9,980	10,800	4 550	4,000	7,230	99.0	99.0
Total	BTEX (mg/kg)	<0.0200	•	-			_		,			<0.0200			•				•	-
Xviene	(mg/kg)	<0.0200			•			-	ı	•		<0.0200	1	•				-	•	-
Ethlybenzene	(mg/kg)	<0.0200	ı	í	•	45.00	•	1-1	•	•		<0.0200			-8				•	•
Toluene	(mg/kg)	<0.0200	-	ř	-			•	-	•	•	<0.0200	-	1111				1	•	•
Benzene	(mg/kg)	<0.0200		1			1		-	•	•	<0.0200	-		-			1	-	•
g)	Total	<50.0			-		•	-	•	-	-	<50.0	-	1-1	-	•		•	'	•
TPH (mg/kg)	DRO	<50.0		-	-				-	•	•	<50.0		•	ı			•		ı
	GRO	<50.0	- N	= =	-			•	1	-	•	<50.0	•	•	-			•	•	•
Soil Status	Removed				X															
Soil	In-Situ	×	×	×	×	>	<	×	×	×	×	×	×	×	×	×		×	×	×
Sample	Depth (ft)	0-1	1-1.5	2-2.5	3-3.5	0.0	6-3	4-5	6-7	9-10	14-15	0-1	1-1.5	2-2.5	2.5-3	2-3		4-5	2-9	9-10
Sample	Date	2/2/2015	=	=	=	2/2/2014	3/3/2013	=	=	=	=	2/2/2015	=	=	=	3/3/2015	[•	=	=
di di di	Sample ID	AH-5				4 70	c-Lq					AH-6				BH-6				

Table 1
COG Operating LLC
Lusk 22 Salt Water Disposal
Lea County, New Mexico

Cl class	Sample	Sample	Soil	Soil Status	T	TPH (mg/kg)	(1	Benzene	Toluene	Ethlybenzene	Xviene	Total	Chloride
oallible ID	Date	Depth (ft)	In-Situ	Removed	GRO	DRO	Total	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	BTEX (mg/kg)	(mg/kg)
AH-7	2/2/2015	0-1	×		<50.0	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	1,940
	=	1-1.5	×		-	-	ı	•					3,390
	=	2-2.5	×		-	•	ı	•					3,970
	=	3-3.5	×			-	1			ı	1	1	4,310
	=	3.5-4	×		1	(4)		-/		•		,	2,710
			:										
BH-7	3/3/2015	2-3	×		-	1				•	•	-	7,520
	=	4-5	×			1		•			•	•	6,830
	=	6-7	×		-		ı		-	1		1	2,080
	=	9-10	×		-		•	-	,	1	,		<20.0
	<u>e</u>	14-15	×		•	•	ı	1	•	-	-		<20.0
AH-8	2/2/2015	0-1	×		<50.0	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	1,450
	=	1-1.5	×			-	•						6,200
	=	2-2.5	×		1			+		-		1	12,900
			[;										
BH-8	3/3/2015	2-3	×				•	1		-	-		5,100
	=	4-5	×		1		•	-	•				12,600
	=	2-9	×		•	-	-					,	2,160
	=	9-10	×		1	-	-	3			1	84	490
		:											

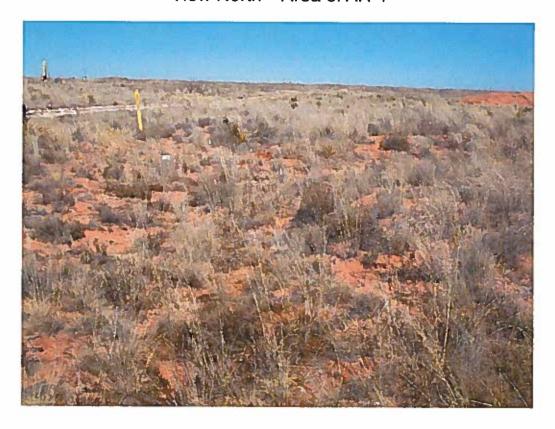
Proposed Excavation Depths Not Analyzed

Photos



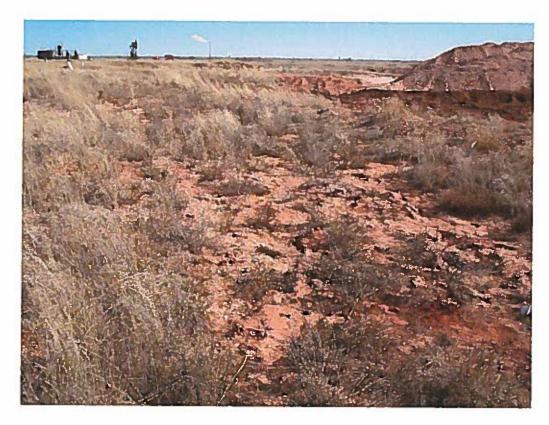


View North - Area of AH-1



View North - Areas of AH-2 and AH-3



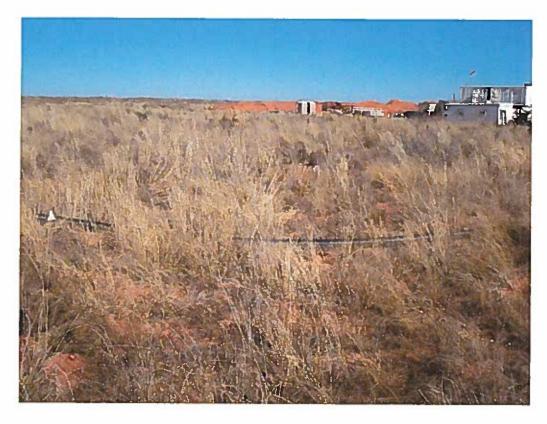


View East - Area of AH-4

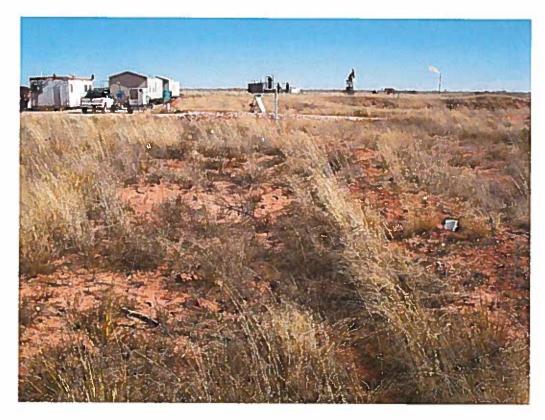


View East - Area of AH-5





View North - Area of AH-6



View East – areas of AH-7 and AH-8





View North - Area of BH-1

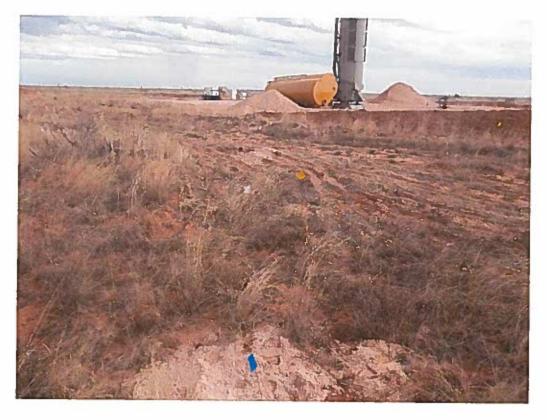


View North - Area of BH-2





View South - Area of BH-3



View East - Area of BH-4 and BH-5





View Northwest - Area of BH-6



View West – Area of BH-7





View West – Area of BH-8

Appendix A

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

HOBBS OCD State of New Mexico JAN Energy Minerals and Natural Resources

Oil Conservation Division RECEIVED 220 South St. Francis Dr.

Santa Fe, NM 87505

Form C-141 Revised August 8, 2011

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

			Rele	ease Notific	atio	n and Co	rrective A	ction	ļ				
			_		15	OPERA	TOR		☑ Initia	l Report		Fina	al Report
Name of Com				1 TV 70701			bert McNeill						
Address: 600 V				a 1 X /9/01		Facility Typ	No. 432-230-007	17					_
Surface Owner				Mineral C					I ADI No	70.025.4	0706		
Dariace Owner	t. I cacia							_	I API NO	. 30-025-4	3703		
Unit Letter S	Section	Township	Range	Feet from the		N OF REI	Feet from the	Fact/V	Vest Line		Cour		
С	17	198	32E	380		North	1770		Vest		Lea	-	
			Latit	ude 32.666820	488752	7 Longitude	e -103.7912193	05425					
				NAT	URE	OF RELI	EASE						
Type of Release						Volume of			Volume R	ecovered:			
Produced Water Source of Releas	_		<u> </u>			150 bbls Date and H	our of Occurrence	p.•	70 bbls	Hour of Dis	covers		
Flowline Was Immediate	Ned - C					12/12/2014	8:00 pm			4 8:00 pm			
was immediate	Notice G		Yes 🔲	No Not Re	quired	If YES, To Tomas Obe	Whom? erding – NMOCD	/ Jeff R	obertson -	BLM			
By Whom? L	ире Сагта	sco				Date and H	our: 12-13-2014						
Was a Watercou	irse Reach	ied?	Yes 🗵	No		If YES, Vo	lume Impacting th	he Wate	rcourse.				
If a Watercourse	was Imp	acted, Descri	be Fully.*										
Describe Cause of	of Probler	n and Remed	ial Action	Taken.*								—	
This release was	coused b	v a third marts	v nontenst	or Sweet Consta	untina .	usina a danau	The delices are sta	سباء استسد	l!:	.L21	_ 5. 5.1		l
This release was caused by a third party contractor, Sweatt Construction, using a dozer. The driver punctured the poly line while moving it. Vacuum trucks were dispatched and all standing fluid was disposed of at NMOCD approved facility.										a trucks			
Describe Area Affected and Cleanup Action Taken.*													
The impacted are	ea is locat	ed in a pastu	e adjacen	t to the location. (Concho	will have the	spill site sampled	to delir	eate any po	ossible cont	amina	lion fr	om the
release and we w	vill presen	t a remediation	on work p	lan to the NMOC	D for ap	proval prior t	o any significant	remedia	tion work.				
I hereby certify to regulations all or	hat the in perators a	formation giv	en above report an	is true and comple d/or file certain re	ete to th	e best of my l	knowledge and ur d perform correct	ive activ	d that pursi	uant to NM	OCD r	ules a	nd
public health or t	the enviro	nment. The	acceptance	e of a C-141 repo	rt by the	: NMOCD ma	arked as "Final Re	port" de	oes not relic	eve the oper	ator o	ſ liabil	lity
or the environme	rations havent. In ad-	ve lailed to a dition, NMO	dequately CD accept	investigate and re ance of a C-141 r	mediate report de	e contamination pes not relieve	on that pose a thre the operator of n	at to gre esponsi	ound water, bility for co	surface wa mpliance w	ter, hu ith an	ıman h v other	iealth r
federal, state, or	local law:	s and/or regul	ations.	<u></u>	•								
	-26			G.			OIL CONS	SERV.	ATION	DIVISIO	N		
Signature:													
Printed Name: A	Amanda T	rujillo		- 1		Approved by	Environmental Sp	ecialist	:				
Title: Senior Env	vironment	al Coordinate)F			Approval Date	e: 1-12-15	1	Expiration I	Date: 3 7/	12-1	<u> </u>	
E-mail Address:	atrujillo@	Concho.com			,	Conditions of	Approval:		•	Attached			
Date: January 9	9, 2015	Phone: 57	5-748-69	10		sies y	lan o gart.	Man	* *	IRP-3	- T)	
Attach Addition										18 ***	1.0	_	9137

JAN 1 3 2015

NTO 1501231968 PTO 1501232141

Appendix B

Water Well Data Average Depth to Groundwater (ft) COG - Lusk Deep Unit #22H

5	15	South 4	13	31 Eas	11	1 -	18 5		-	32 Eas				outh		3 East	
	٦	1"	١	٢	- ['	ľ	5	4	55 3	2	13	6	5	4	3	2	1
	8	9	10	11	12	7 460	8	9	10	11					60		4
	ľ	ľ	1.0	-1''	400	,	ľ	a	110	111	12	7	8 10	9	10	11	12
	17	16	15 98	14	13	82 18	17	16	15	14	13	40		1	62	46	1
	- ''	1.0	1.0	317	1.0	,,,	[''	1	113		13	18	17	16	15	14	11
	20	21	22	23	24	19	20	84 21	22	23	24	19	20	-	-	36	6
					~'		164	1-,		23	24		20	21	22	23	2
	29	28	27	26	25	30	29	28	429 27	26	25	>140 30	100	100	-	-	1
		-	-			00		٦	اءً'	120	23	0.50	29	28	27	26	2
_	32	33	34	35	36	31	32	33	34	35	36	35 31	32	33	34	35	1
	1			261		J		١٠٠	117	00	N	31	32	1000	34	35	3
				201		1	_		1117					177			_
		outh		1 East			19 S	outh	_ 3	32 Eas	t		19 \$	outh	3:	3 East	
	5	4	3	2	1	6	5	4	3	2	1	6	5	4	3	2	1
	SITE	-					_							1		1	
	8	9	10	113	12	7	8	9	10	11	12	7	8	9	10	11	12
_	17	16	15	14	13	18	365 17	16	15	14	13 135	18	17	16	1.5	111	4.
	1		1.4	1			SITE	1.0	1,3	'*				116	15	14	1:
_	20	21	22	23	24	19	20	21	22	23	dry 24	340 19	20	21	22		
	1		I			102	345	1-1		123	27	1,9	20	21	22	23	24
	29	28	27	26	25	30	29	28	27	26	25	30	29	28 130	27	26 92	25
		180				1	"		I-'	120	-	30	29		21	255	25
	32	33	34	35	36	31	32	33	34	35	36	31	32	dry 33	34	85 35	36
	1	101			130		"	I	250			I °'		33	34	33	130
					,,,,,			V	1200		1		185			<u> </u>	_
	20 S	7		1 East			20 S	outh	3	2 East			20 S	outh	33	3 East	
	5	4	3	2	1 1	6	5	4	3	2	1	6	5 325	4	3	2	1
	8	9	110	-	40	1		 	 		21.8		278				
	l°	J ⁹	10	11	12	I ⁷	8	9	10	11	12	7	8	9	10	11	12
	17	16	130 15	-	40	- 1		-	-	╄	\bot						
]''	10	15	14	13	18	17	16	15	14	13	18	17	16	15	14	13
_	20	124		100	-	89		-		1	↓		<u> </u>				
	20	21	22	23	24	19	20	21	22	23	24	19	20	21	22	23	24
_	20	20	107	100	105	<u></u>	-			1	\bot					*	+3
	29	28	27	26	25	30	29	28	27	26	25	30	29	28	27	26	25
	32	22	124	lar.	00	9.9	-	-	12.3	 							L
	32	33	34	35	36 80	31	32	33	34	35	36	31	32	33	34	35	36
			1	1				1			46						1

- 88 New Mexico State Engineers Well Reports
- 105 USGS Well Reports
- 90 Geology and Groundwater Conditions in Southern Lea, County, NM (Report 6) Geology and Groundwater Resources of Eddy County, NM (Report 3)
- 34 NMOCD Groundwater Data
- 121 Abandoned Waterwell (recently measured)

Appendix C

Report Date: February 10, 2015 Work Order: 15020316 Page Number: 1 of 5

Summary Report

Ike Tavarez Tetra Tech 1901 N. Big Spring St. Midland, TX 79705

Report Date: February 10, 2015

Work Order: 15020316

Project Location: Lea County, NM

Project Name: Sweatt/ COG Lusk 22 SWD

Project Number: 212C-MD-00154

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
385753	AH-1 0-1'	soil	2015-02-02	00:00	2015-02-03
385754	AH-1 1-1.5'	soil	2015-02-02	00:00	2015-02-03
385755	AH-1 2-2.5'	soil	2015-02-02	00:00	2015-02-03
385756	AH-2 0-1'	soil	2015-02-02	00:00	2015-02-03
385757	AH-2 1-1.5'	soil	2015-02-02	00:00	2015-02-03
385758	AH-2 2-2.5'	soil	2015-02-02	00:00	2015-02-03
385759	AH-2 3-3.5'	soil	2015-02-02	00:00	2015-02-03
385760	AH-3 0-1'	soil	2015-02-02	00:00	2015-02-03
385761	AH-3 1-1.5'	soil	2015-02-02	00:00	2015-02-03
385762	AH-3 2-2.5'	soil	2015-02-02	00:00	2015-02-03
385763	AH-3 3-3.5'	soil	2015-02-02	00:00	2015-02-03
385764	AH-4 0-1'	soil	2015-02-02	00:00	2015-02-03
385765	AH-4 1-1.5'	soil	2015-02-02	00:00	2015-02-03
385766	AH-4 2-2.5'	soil	2015-02-02	00:00	2015-02-03
385767	AH-5 0-1'	soil	2015-02-02	00:00	2015-02-03
385768	AH-5 1-1.5'	soil	2015-02-02	00:00	2015-02-03
385769	AH-5 2-2.5'	soil	2015-02-02	00:00	2015-02-03
385770	AH-5 3-3.5'	soil	2015-02-02	00:00	2015-02-03
385771	AH-6 0-1'	soil	2015-02-02	00:00	2015-02-03
385772	AH-6 1-1.5'	soil	2015-02-02	00:00	2015-02-03
385773	AH-6 2-2.5'	soil	2015-02-02	00:00	2015-02-03
385774	AH-6 2.5-3	soil	2015-02-02	00:00	2015-02-03
385775	AH-7 0-1'	soil	2015-02-02	00:00	2015-02-03
385776	AH-7 1-1.5'	soil	2015-02-02	00:00	2015-02-03
385777	AH-7 2-2.5'	soil	2015-02-02	00:00	2015-02-03
385778	AH-7 3-3.5'	soil	2015-02-02	00:00	2015-02-03
385779	AH-7 3.5-4'	soil	2015-02-02	00:00	2015-02-03
385780	AH-8 0-1	soil	2015-02-02	00:00	2015-02-03
385781	AH-8 1-1.5'	soil	2015-02-02	00:00	2015-02-03
385782	AH-8 2-2.5'	soil	2015-02-02	00:00	2015-02-03

TraceAnalysis, Inc. • 6701 Aberdeen Ave., Suite 9 • Lubbock, TX 79424-1515 • (806) 794-1296

This is only a summary. Please, refer to the complete report package for quality control data.

Report Date: February 10, 2015 Work Order: 15020316 Page Number: 2 of 5

		1	BTEX		TPH DRO - NEW	TPH GRO
	Benzene	Toluene	Ethylbenzene	Xylene	DRO	GRO
Sample - Field Code	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(nig/Kg)	(mg/Kg)
385753 - AH-1 0-1'	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 50.0	<4.00
385756 - AH-2 0-1'	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 50.0	<4.00
385760 - AH-3 0-1'	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 50.0	<4.00
385764 - AH-4 0-1'	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 50.0	<4.00
385767 - AH-5 0-1'	< 0.0200	< 0.0200	< 0.0200	< 0.0200	<50.0	<4.00
385771 - AH-6 0-1'	< 0.0200	< 0.0200	< 0.0200	< 0.0200	<50.0	<4.00
385775 - AH-7 0-1'	< 0.0200	< 0.0200	< 0.0200	< 0.0200	<50.0	<4.00
385780 - AH-8 0-1'	< 0.0200	< 0.0200	< 0.0200	< 0.0200	<50.0	< 4.00

Sample: 385753 - AH-1 0-1'

Param	Flag	Result	Units	RL
Chloride	- 160	97.0	mg/Kg	5

Sample: 385754 - AH-1 1-1.5'

Param	Flag	Result	Units	RL
Chloride		9100	mg/Kg	5

Sample: 385755 - AH-1 2-2.5'

Param	Flag	Result	Units	RL
Chloride		14400	mg/Kg	5

Sample: 385756 - AH-2 0-1'

Param	Flag	Result	Units	RL
Chloride		2080	mg/Kg	5

Sample: 385757 - AH-2 1-1.5'

Param	Flag	Result	Units	RL
Chloride		3290	mg/Kg	5

Sample: 385758 - AH-2 2-2.5'

Param	Flag	Result	Units	RL
Chloride		9100	mg/Kg	5

Report Date: Febru	uary 10, 2015	Work Order: 15020316	Page 1	Number: 3 of 5		
Sample: 385759	- AH-2 3-3.5'					
Param	Flag	Result	Units	RL		
Chloride		15200	mg/Kg	5		
Sample: 385760	- AH-3 0-1'					
Param	Flag	Result	Units	RL		
Chloride		97.0	mg/Kg	5		
Sample: 385761 -	- AH-3 1-1.5'					
Param	Flag	Result	Units	RL		
Chloride		7700	mg/Kg	5		
Sample: 385762 -	- AH-3 2-2.5'					
Param	Flag	Result	Units	RL		
Chloride		11600	mg/Kg	5		
Sample: 385763 -	· AH-3 3-3.5'					
Param	Flag	Result	Units	RL		
Chloride		12700	mg/Kg	5		
Sample: 385764 -	AH-4 0-1'					
Param	Flag	Result	Units	RL		
Chloride		4030	mg/Kg	5		
Sample: 385765 -	AH-4 1-1.5'					
Param	Flag	Result	Units	RL		
Chloride		6590	mg/Kg	5		
Sample: 385766 -	AH-4 2-2.5'					
D 959	Flag	Result	Units	RL		
Param	riag	result	Onits	11.12		

TraceAnalysis, Inc. • 6701 Aberdeen Ave., Suite 9 • Lubbock, TX 79424-1515 • (806) 794-1296

This is only a summary. Please, refer to the complete report package for quality control data.

Report Date: Febru	: 385768 - AH-5 1-1.5' Flag : 385769 - AH-5 2-2.5' Flag : 385770 - AH-5 3-3.5' Flag	Work Order: 15020316	Page I	Number: 4 of 5				
Sample: 385767	- AH-5 0-1'							
Param	Flag	Result	Units	RL				
Chloride		948	mg/Kg	5				
Sample: 385768	- AH-5 1-1.5'							
Param	Flag	Result	Units	RL				
Chloride		3030	mg/Kg	5				
Sample: 385769 -	- AH-5 2-2.5'							
Param	Flag	Result	Units	RL				
Chloride		7770	mg/Kg	5				
Param		Result	Units	RL				
Chloride		11700	mg/Kg	5				
Sample: 385771 -	· AH-6 0-1'							
Param	Flag	Result	Units	RL				
Chloride		28.0	mg/Kg	5				
Sample: 385772 -	AH-6 1-1.5							
Param	Flag	Result	Units	RL				
Chloride		28.0	mg/Kg	5				
Sample: 385773 -	AH-6 2-2.5'							
Param	Flag	Result	Units	RL				
Chloride		9980	mg/Kg	5				
Sample: 385774 -	AH-6 2.5-3							
Param	Flag	Result	Units	RL				
Chloride		10800	mg/Kg	5				

Report Date: Febr	ple: 385776 - AH-7 1-1.5' m	Work Order: 15020316	Page 1	Page Number: 5 of				
Sample: 385775	- AH-7 0-1'							
Param		Result	ff. ti	to t				
Chloride		1940	Units	RL 5				
Chloride	Q.	1340	mg/Kg					
Sample: 385776	- AH-7 1-1.5'							
Param	Flag	Result	Units	RL				
Chloride	Q#	3390	mg/Kg	5				
Sample: 385777	- AH-7 2-2.5'							
Param	Flag	Result	Units	RL				
Chloride	Qs.	3970	mg/Kg	5				
		Donale	***	DI.				
Param Chloride		Result 4310	Units mg/Kg	RL 5				
Sample: 385779 - Param		Result	Units	RL				
Chloride		2710	mg/Kg	5				
Sample: 385780 -	ATT 0.0 41							
Param Chloride	Flag	Result 1450	Units mg/Kg	RL 5				
Chloride	Flag Qe							
Chloride Sample: 385781 - Param	Flag Q= - AH-8 1-1.5'							
Chloride Sample: 385781 - Param	Flag Q* - AH-8 1-1.5' Flag	1450	mg/Kg	5				
Chloride Sample: 385781 - Param Chloride	Flag Q* - AH-8 1-1.5' Flag Q*	1450 Result	mg/Kg Units	5 RL				
Chloride Sample: 385781 - Param Chloride	Flag Q= - AH-8 1-1.5' Flag Q= - AH-8 2-2.5'	1450 Result	mg/Kg Units	5 RL				



5701 Aberdeen Avenue, Suite 9 200 East Sunset Road, Suite E 5002 Basin Street, Suite A1 (BioAquatic) 2501 Mayes Rd , Suite 100

Texas 79424 Lubbock, El Paso, Texas 79922 Texas 79703 Midland Texas 75006 Carrolton,

806-794-1296 915-585-3443 432-689-6301

FAX 806 - 794 - 1298 FAX 915 - 585 - 4944 FAX 432-689-6313

972-242-7750 E-Mail lab@traceanalysis.com WEB www.traceanalysis.com

Certifications

NELAP DoD LELAP Kansas Oklahoma ISO 17025 **NCTRCA** DBE WBE HUB

Analytical and Quality Control Report

Ike Tavarez Tetra Tech 1901 N. Big Spring St. Midland, TX, 79705

Report Date: February 10, 2015

Work Order:

15020316

Lea County, NM Project Location:

Project Name: Sweatt/ COG Lusk 22 SWD

Project Number: 212C-MD-00154

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
385753	AH-1 0-1'	soil	2015-02-02	00:00	2015-02-03
385754	AH-1 1-1.5'	soil	2015-02-02	00:00	2015-02-03
385755	AH-1 2-2.5'	soil	2015-02-02	00:00	2015-02-03
385756	AH-2 0-1'	soil	2015-02-02	00:00	2015-02-03
385757	AH-2 1-1.5'	soil	2015-02-02	00:00	2015-02-03
385758	AH-2 2-2.5'	soil	2015-02-02	00:00	2015-02-03
385759	AH-2 3-3.5'	soil	2015-02-02	00:00	2015-02-03
385760	AH-3 0-1'	soil	2015-02-02	00:00	2015-02-03
385761	AH-3 1-1.5'	soil	2015-02-02	00:00	2015-02-03
385762	AH-3 2-2.5'	soil	2015-02-02	00:00	2015-02-03
385763	AH-3 3-3.5'	soil	2015-02-02	00:00	2015-02-03
385764	AH-4 0-1'	soil	2015-02-02	00:00	2015-02-03
385765	AH-4 1-1.5'	soil	2015-02-02	00:00	2015-02-03
385766	AH-4 2-2.5'	soil	2015-02-02	00:00	2015-02-03
385767	AH-5 0-1'	soil	2015-02-02	00:00	2015-02-03
385768	AH-5 1-1.5'	soil	2015-02-02	00:00	2015-02-03
385769	AH-5 2-2.5'	soil	2015-02-02	00:00	2015-02-03
385770	AH-5 3-3.5'	soil	2015-02-02	00:00	2015-02-03

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
385771	AH-6 0-1'	soil	2015-02-02	00:00	2015-02-03
385772	AH-6 1-1.5'	soil	2015-02-02	00:00	2015-02-03
385773	AH-6 2-2.5'	soil	2015-02-02	00:00	2015-02-03
385774	AH-6 2.5-3	soil	2015-02-02	00:00	2015-02-03
385775	AH-7 0-1'	soil	2015-02-02	00:00	2015-02-03
385776	AH-7 1-1.5'	soil	2015-02-02	00:00	2015-02-03
385777	AH-7 2-2.5'	soil	2015-02-02	00:00	2015-02-03
385778	AH-7 3-3.5'	soil	2015-02-02	00:00	2015-02-03
385779	AH-7 3.5-4'	soil	2015-02-02	00:00	2015-02-03
385780	AH-8 0-1	soil	2015-02-02	00:00	2015-02-03
385781	AH-8 1-1.5	soil	2015-02-02	00:00	2015-02-03
385782	AH-8 2-2.5'	soil	2015-02-02	00:00	2015-02-03

Notes

• Work Order 15020316: Run deeper samples if TPH exceeds 5000ppm, benzene exceeds 10ppm, or Total BTEX exceeds 50ppm

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 39 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director James Taylor, Assistant Director Brian Pellam, Operations Manager

Report Contents

ase Narrative																						
nalytical Report																						
Sample 385753 (AH-1 0-1')									 					 			+			 	
Sample 385754 (AH-1 1-1.	5')							×	 	 		63							x 6			
Sample 385755 (AH-1 2-2.	5')					 				 	ens.		. ,		 						 	
Sample 385756 (AH-2 0-1')					 					0.54	6.9			 							
Sample 385757 (AH-2 1-1.	5')					 																
Sample 385758 (AH-2 2-2.	5')		 24			 									 						 	
Sample 385759 (AH-2 3-3.																						
Sample 385760 (AH-3 0-1)																						
Sample 385761 (AH-3 1-1.																						
Sample 385762 (AH-3 2-2.																						
Sample 385763 (AH-3 3-3.																						
Sample 385764 (AH-4 0-1)																						
Sample 385765 (AH-4 1-1.																						
Sample 385766 (AH-4 2-2.																						
Sample 385767 (AH-5 0-1'																						
Sample 385768 (AH-5 1-1.																						
Sample 385769 (AH-5 2-2.																						
Sample 385770 (AH-5 3-3.																						
Sample 385771 (AH-6 0-1)																						
Sample 385772 (AH-6 1-1,																						
Sample 385773 (AH-6 2-2.																						
Sample 385774 (AH-6 2.5-																						
Sample 385775 (AH-7 0-1)																						
Sample 385776 (AH-7 1-1)																						
Sample 385777 (AH-7 2-2.																						
Sample 385778 (AH-7 3-3.																						
Sample 385779 (AH-7 3.5-																						
Sample 385780 (AH-8 0-1)																						
Sample 385781 (AH-8 1-1)																						
Sample 385782 (AH-8 2-2.																						
Sample 303/02 (A11-0 2-2.	9)	8															1.1	1		*	5	*
ethod Blanks																						
QC Batch 119124 - Metho	d Blank	(1)																				
QC Batch 119167 - Metho																						
QC Batch 119168 - Metho																						
QC Batch 119182 - Metho																						
QC Batch 119102 - Metho																						
QC Batch 119214 - Metho																						
QC Datch 119214 - Metho	d Diank	(1)												+	 						 	
aboratory Control Spike	S																					
QC Batch 119124 - LCS (
QC Batch 119167 - LCS (
QC Batch 119167 - LCS (
OC Dutell Hairo - Pos (11			4 +	10.0	 				 		4 4	4 4		 		B 1		A		 4 8	

	QC Batch	119182 -	· LCS (1	l) .						e: 3	 -							 •							53	 ere.					(*)		0			27
	QC Batch	119210 -	· LCS (1	l).						e de		903							(40)				+		6	 	60		+							28
	QC Batch	119214 -	· LCS (1	1) .					22		 è	* .			٠.				•				•	÷			45		*							28
M	atrix Spik	es																																		30
	QC Batch		MS (1)) .						30	 ů,															1								30		30
	QC Batch		1 2	,					্		 1													٠.					0.0							30
	QC Batch			,																							.33									31
	QC Batch			,																																31
	QC Batch		, ,	,																						 ď.	215									32
	QC Batch		, ,	,																						 										32
	•																																			
C	alibration	Standar	ds																																	34
	QC Batch		(-	. / .	٠	×.	100	+		5.3				4	+	r to						*:			٠	 152		 50.0	100	0.2					850	34
	QC Batch	119124 -	· CCV (1)			 																			 	50		20.7							34
	QC Batch		١,	,			 					2.0										٠														34
	QC Batch		,	,	+		 					. ,		ų.	+ +	+		 ,																		34
	QC Batch		,	,	4		 																													35
	QC Batch		,	,			 				 ,					,		 +																		35
	QC Batch		,	,			 		+							+	+	 +	+					+		 ٥.		 ¥.								35
	QC Batch	119182 -	· CCV (,																																35
	QC Batch	119182 -	· CCV (3)	4									i,		Ų.										 Ν,	2				4	+				36
	QC Batch	119210 -	· ICV (1	.) .	4	+	 	+	+		 7			i,		+	+	 +	+			V				 ,		 ٠,								36
	QC Batch	119210 -	· CCV (1)	i,		 				 ু																				٠,		. ,			36
	QC Batch	119214 -	· ICV (1	. (3					á									v.				40	 ្			· s	+				36
	QC Batch	119214 -	CCV (1)		+		+	+		 ÷							 +	+	. ,					٠			 	400							37
Αı	ppendix																																			38
1	Report De	finitions																																		
	Laborator																																			
	Standard																																			38
	Attachmen	_																																		38
					-	-		-		-			-	-	7.	-		-	-	-	-		-	-					1		-					

Case Narrative

Samples for project Sweatt/ COG Lusk 22 SWD were received by TraceAnalysis, Inc. on 2015-02-03 and assigned to work order 15020316. Samples for work order 15020316 were received intact at a temperature of 5.8 C.

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

		Prep	Prep	\mathbf{QC}	Analysis
Test	Method	Batch	Date	Batch	Date
BTEX	S 8021B	100741	2015-02-05 at 15:34	119167	2015-02-09 at 07:13
Chloride (Titration)	SM 4500-Cl B	100744	2015-02-05 at 14:00	119124	2015-02-05 at 14:00
Chloride (Titration)	SM 4500-Cl B	100812	2015-02-09 at 14:00	119210	2015-02-09 at 14:00
Chloride (Titration)	SM 4500-Cl B	100817	2015-02-09 at 16:00	119214	2015-02-09 at 16:00
TPH DRO - NEW	S 8015 D	100781	2015-02-08 at 20:15	119182	2015-02-09 at 10:54
TPH GRO	S 8015 D	100741	2015-02-05 at 15:34	119168	2015-02-09 at 07:17

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 15020316 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: 15020316 Sweatt/ COG Lusk 22 SWD Page Number: 6 of 39 Lea County, NM

Analytical Report

Sample: 385753 - AH-1 0-1'

Laboratory: Midland

Analysis: BTEX QC Batch: 119167 Prep Batch: 100741 Analytical Method: S 8021B
Date Analyzed: 2015-02-09
Sample Preparation: 2015-02-05

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

RL Flag Dilution Parameter Cert Result Units RLBenzene < 0.0200 mg/Kg 0.0200 U 2 Toluene < 0.0200 mg/Kg 1 0.0200 1.1 Ethylbenzene < 0.0200 mg/Kg 1 0.0200 U Xylene < 0.0200 mg/Kg1 0.0200 U

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			1.70	mg/Kg	1	2.00	85	70 - 130
4-Bromofluorobenzene (4-BFB)			1.88	mg/Kg	1	2.00	94	70 - 130

Sample: 385753 - AH-1 0-1'

Laboratory: Lubbock

Analysis: Chloride (Titration) QC Batch: 119124 Prep Batch: 100744 Analytical Method: SM 4500-Cl B
Date Analyzed: 2015-02-05
Sample Preparation: 2015-02-05

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

Sample: 385753 - AH-1 0-1'

Laboratory: Midland

Analysis: TPH DRO - NEW QC Batch: 119182 Prep Batch: 100781 Analytical Method: S 8015 D
Date Analyzed: 2015-02-09
Sample Preparation: 2015-02-08

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

212C-MD-00154

Work Order: 15020316 Sweatt/ COG Lusk 22 SWD Page Number: 7 of 39 Lea County, NM

							Spike	Percent	Recovery
Surrogate		Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
n-Tricosane	Qsx	Qnr		142	mg/Kg	1	100	142	70 - 130

Sample: 385753 - AH-1 0-1'

Laboratory: Midland

TPH GRO 119168

Analytical Method: Date Analyzed:

S 8015 D 2015-02-09 Prep Method: S 5035 Analyzed By: AK

QC Batch: Prep Batch: 100741

Analysis:

Sample Preparation: 2015-02-05

Prepared By: AK

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
GRO	U	2	<4.00	mg/Kg	1	4.00

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			1.71	mg/Kg	1	2.00	86	70 - 130
4-Bromofluorobenzene (4-BFB)			1.68	mg/Kg	1	2.00	84	70 - 130

Sample: 385754 - AH-1 1-1.5'

Laboratory: Lubbock

Analysis: Chloride (Titration) QC Batch: 119124 Prep Batch: 100744

Analytical Method: Date Analyzed:

SM 4500-Cl B 2015-02-05 Sample Preparation: 2015-02-05

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

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride		1	9100	mg/Kg	5	5.00

Sample: 385755 - AH-1 2-2.5'

Laboratory: Lubbock

Analysis: Chloride (Titration) QC Batch: 119124 Prep Batch: 100744

Analytical Method: Date Analyzed: Sample Preparation: SM 4500-Cl B 2015-02-05 2015-02-05

Prep Method: N/A Analyzed By: HJPrepared By: HJ

continued ...

Work Order: 15020316 Sweatt/ COG Lusk 22 SWD Page Number: 8 of 39 Lea County, NM

sample 385755 continued ...

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride		1	14400	${ m mg/Kg}$	5	5.00

Sample: 385756 - AH-2 0-1'

Laboratory: Midland

Analysis: BTEX Analytical Method; S 8021B Prep Method: S 5035 QC Batch: 119167 Date Analyzed: 2015-02-09 Analyzed By: AK
Prep Batch: 100741 Sample Preparation: 2015-02-05 Prepared By: AK

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Benzene	บ	2	< 0.0200	mg/Kg	1	0.0200
Toluene	υ	3	< 0.0200	mg/Kg	1	0.0200
Ethylbenzene	U	2	< 0.0200	mg/Kg	1	0.0200
Xylene	U	2	< 0.0200	mg/Kg	11	0.0200

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			1.76	mg/Kg	1	2.00	88	70 - 130
4-Bromofluorobenzene (4-BFB)			1.91	mg/Kg	1	2.00	96	70 - 130_

Sample: 385756 - AH-2 0-1'

Laboratory: Lubbock

Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 119124 Date Analyzed: 2015-02-05 Analyzed By: HJ
Prep Batch: 100744 Sample Preparation: 2015-02-05 Prepared By: HJ

			KL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride		1	2080	mg/Kg	5	5.00

Work Order: 15020316 Sweatt/ COG Lusk 22 SWD Page Number: 9 of 39 Lea County, NM

Sample: 385756 - AH-2 0-1'

Laboratory: Midland

212C-MD-00154

Analysis: TPH DRO - NEW

QC Batch: 119182 Prep Batch: 100781 Analytical Method: S 8015 D Date Analyzed: 2015-02-0

2015-02-09 2015-02-08 Prep Method: N/A Analyzed By: SC

SC

Prepared By:

Sample Preparation:

							Spike	Percent	Recovery
Surrogate		Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
n-Tricosane	Qsr	Qur		141	mg/Kg	1	100	141	70 - 130

Sample: 385756 - AH-2 0-1'

Laboratory: Midland

Analysis: TPH GRO QC Batch: 119168 Prep Batch: 100741 Analytical Method: S & Date Analyzed: 20 Sample Preparation: 20

S 8015 D 2015-02-09 2015-02-05 Prep Method: S 5035

Analyzed By: AK Prepared By: AK

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits _
Trifluorotoluene (TFT)			1.77	mg/Kg	1	2.00	88	70 - 130
4-Bromofluorobenzene (4-BFB)			1.72	mg/Kg	1	2.00	86	70 - 130

Sample: 385757 - AH-2 1-1.5'

Laboratory: Lubbock

Prep Batch: 100744

Analysis: Chloride (Titration) QC Batch: 119124

Analytical Method: Date Analyzed: Sample Preparation:

SM 4500-Cl B 2015-02-05 2015-02-05 Prep Method: N/A Analyzed By: HJ Prepared By: HJ

212C-MD-00154

Work Order: 15020316 Sweatt/ COG Lusk 22 SWD Page Number: 10 of 39 Lea County, NM

Sample: 385758 - AH-2 2-2.5'

Laboratory: Lubbock

Analysis: Chloride (Titration) QC Batch: 119124

Analytical Method: Date Analyzed:

SM 4500-Cl B 2015-02-05

Prep Method: N/A Analyzed By: HJ

Prepared By:

Prep Batch: 100744 Sample Preparation: 2015-02-05

Parameter Flag Cert Result Units Dilution RLChloride 9100 mg/Kg 5.00 1

Sample: 385759 - AH-2 3-3.5'

Laboratory:

Lubbock

Analysis: Chloride ('I'itration) QC Batch: 119124Prep Batch: 100744

Analytical Method: Date Analyzed:

SM 4500-Cl B 2015-02-05

Prep Method: N/A Analyzed By: HJ

Sample Preparation: 2015-02-05

Prepared By: HJ

RL Units Dilution RLResult Parameter Flag Cert 5.00 15200 5 Chloride mg/Kg

Sample: 385760 - AH-3 0-1'

Laboratory: Midland

Analysis: BTEX QC Batch: 119167 Prep Batch: 100741 Analytical Method: S 8021B Date Analyzed: 2015-02-09 Sample Preparation: 2015-02-05 Prep Method: S 5035 Analyzed By: AK Prepared By: AK

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Benzene	U	2	< 0.0200	mg/Kg	1	0.0200
Toluene	U	2	< 0.0200	mg/Kg	1	0.0200
Ethylbenzene	U	3	< 0.0200	mg/Kg	1	0.0200
Xylene	U	2	< 0.0200	mg/Kg	1	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.74	mg/Kg	1	2.00	87	70 - 130
4-Bromofluorobenzene (4-BFB)			1.97	mg/Kg	1	2.00	98	70 - 130

212C-MD-00154

Work Order: 15020316 Sweatt/ COG Lusk 22 SWD Page Number: 11 of 39

Lea County, NM

Sample: 385760 - AH-3 0-1'

Laboratory: Lubbock

Chloride (Titration) Analysis:

QC Batch: 119124 Prep Batch: 100744

Analytical Method: Date Analyzed:

SM 4500-Cl B 2015-02-05 Sample Preparation: 2015-02-05

Prep Method: N/A Analyzed By: HJ

HJ

Prepared By:

RLCert Result Units Dilution RLFlag Parameter 97.0 mg/Kg 5.00 5 Chloride 1

Sample: 385760 - AH-3 0-1'

Laboratory:

Midland

Analysis: TPH DRO - NEW QC Batch: 119182 Prep Batch: 100781

Analytical Method:

S 8015 D Date Analyzed: 2015-02-09 Sample Preparation: 2015-02-08

RL

Prep Method: N/A

Analyzed By: SC Prepared By: SC

Cert Result Parameter Flag < 50.0 DRO υ 2

Units Dilution RL50.0 mg/Kg

							Spike	Percent	Recovery
Surrogate		Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
n-Tricosane	Qir	Qar		142	mg/Kg	1	100	142	70 - 130

Sample: 385760 - AH-3 0-1'

Laboratory:

Midland

Analysis: **TPH GRO** OC Batch: 119168 Prep Batch: 100741

Analytical Method: Date Analyzed:

S 8015 D 2015-02-09 Sample Preparation: 2015-02-05 Prep Method: S 5035

Analyzed By: AK Prepared By: AK

RLDilution Parameter Flag Cert Result Units RLGRO < 4.00 mg/Kg 4.00 U 2

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits _
Trifluorotoluene (TFT)			1.81	mg/Kg	1	2.00	90	70 - 130
4-Bromofluorobenzene (4-BFB)			1.75	mg/Kg	1	2.00	88	70 - 130_

Work Order: 15020316 Sweatt/ COG Lusk 22 SWD 212C-MD-00154

Page Number: 12 of 39 Lea County, NM

Prep Method: N/A

Analyzed By: HJ

Prepared By:

Sample: 385761 - AH-3 1-1.5'

Laboratory: Lubbock

Analysis: Chloride (Titration)

QC Batch: 119124 Prep Batch: 100744 Analytical Method: SM 4500-Cl B

Date Analyzed: 2015-02-05 Sample Preparation: 2015-02-05

RL

Parameter Flag Cert Result Units Dilution RLChloride 7700 mg/Kg 5 5.00 1

Sample: 385762 - AH-3 2-2.5'

Laboratory: Lubbock

Chloride (Titration) Analysis:

QC Batch: 119124 Prep Batch: 100744

Analytical Method: Date Analyzed:

Sample Preparation:

SM 4500-Cl B 2015-02-05 2015-02-05

Prep Method: N/A Analyzed By: HJ

HJ

Prepared By:

RLResult Units Dilution RLParameter Flag Cert Chloride 11600 5.00 mg/Kg 5

Sample: 385763 - AH-3 3-3.5'

Laboratory: Lubbock

Analysis: Chloride (Titration)

QC Batch: 119210 Prep Batch: 100812

Analytical Method: SM 4500-Cl B Date Analyzed: 2015-02-09 Sample Preparation: 2015-02-09

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

RLParameter Flag Cert Result Units Dilution RLChloride 12700 5.00 mg/Kg 5

Sample: 385764 - AH-4 0-1'

Laboratory: Midland

Analysis: BTEX QC Batch: 119167 Prep Batch: 100741

Analytical Method: S 8021B Date Analyzed: 2015-02-09 Sample Preparation: 2015-02-05

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

Work Order: 15020316 Sweatt/ COG Lusk 22 SWD Page Number: 13 of 39 Lea County, NM

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Benzene	U	2	< 0.0200	mg/Kg	1	0.0200
Toluene	U	2	< 0.0200	mg/Kg	1	0.0200
Ethylbenzene	U	2	< 0.0200	mg/Kg	1	0.0200
Xylene	υ	2	< 0.0200	mg/Kg	1	0.0200

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			1.79	mg/Kg	1	2.00	90	70 - 130
4-Bromofluorobenzene (4-BFB)			1.92	mg/Kg	1	2.00	96	70 - 130

Sample: 385764 - AH-4 0-1'

Laboratory: Lubbock

Analysis: Chloride (Titration)

QC Batch: 119210

Prep Batch: 100812

Analytical Method: SM 4500-Cl B

Date Analyzed: 2015-02-09

Analyzed By: HJ

Prep Batch: Prepared By: HJ

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride		1	4030	mg/Kg	5	5.00

Sample: 385764 - AH-4 0-1'

Laboratory: Midland

TPH DRO - NEW Analysis: Analytical Method: S 8015 D Prep Method: N/A QC Batch: 119182 Date Analyzed: Analyzed By: 2015-02-09 SCPrep Batch: 100781 Sample Preparation: Prepared By: 2015-02-08 SC

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
DRO	U	3	< 50.0	mg/Kg	1	50.0

							Spike	Percent	Recovery
Surrogate		Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
n-Tricosane	Qar	Qar		141	mg/Kg	1	100	141	70 - 130

Sample: 385764 - AH-4 0-1'

Laboratory: Midland

Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 QC Batch: 119168 Date Analyzed: 2015-02-09 Analyzed By: AK Prep Batch: 100741 Sample Preparation: 2015-02-05 Prepared By: AK

212C-MD-00154

Work Order: 15020316 Sweatt/ COG Lusk 22 SWD Page Number: 14 of 39 Lea County, NM

					RL					
Parameter	Flag		Cert		Result	Uni	ts	Dilution	RL	
GRO	U		2	<4.00		mg/Kg		1	4.00	
							Spike	Percent	Recovery	
Surrogate		Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits	
Triffuorotoluene (TFT)				1.82	mg/Kg	1	2.00	91	70 - 130	
4-Bromofluorobenzene (4-BFB)				1.71	mg/Kg	1	2.00	86	70 - 130	

Sample: 385765 - AH-4 1-1.5'

Laboratory: Lubbock

Chloride (Titration) Analysis:

QC Batch: 119210 Prep Batch: 100812 Analytical Method:

Date Analyzed:

SM 4500-Cl B 2015-02-09 Sample Preparation: 2015-02-09

Prep Method: N/A

Analyzed By: HJ Prepared By: HJ

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride		1	6590	mg/Kg	5	5.00

Sample: 385766 - AH-4 2-2.5'

Laboratory: Lubbock

Chloride (Titration) Analysis: QC Batch: 119210 Prep Batch: 100812

Analytical Method: Date Analyzed:

SM 4500-Cl B 2015-02-09 Sample Preparation: 2015-02-09

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

RL Dilution Parameter Flag Cert Result Units RLChloride 10600 mg/Kg 5 5.00

Sample: 385767 - AH-5 0-1'

Laboratory: Midland

BTEX Analysis: QC Batch: 119167 Prep Batch: 100741 Analytical Method: S 8021B Date Analyzed: 2015-02-09 Sample Preparation: 2015-02-05

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

Work Order: 15020316 Sweatt/ COG Lusk 22 SWD Page Number: 15 of 39 Lea County, NM

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Benzene	U	2	< 0.0200	mg/Kg	1	0.0200
Toluene	U	2	< 0.0200	mg/Kg	1	0.0200
Ethylbenzene	U	2	< 0.0200	mg/Kg	1	0.0200
Xylene	U	3	< 0.0200	mg/Kg	1	0.0200

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			1.84	mg/Kg	1	2.00	92	70 - 130
4-Bromofluorobenzene (4-BFB)			1.92	${ m mg/Kg}$	1	2.00	96	70 - 130

Sample: 385767 - AH-5 0-1'

Laboratory: Lubbock

Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A OC Batch: 119210 Date Analyzed: 2015-02-09 Analyzed By: HJPrep Batch: 100812 Sample Preparation: 2015-02-09 Prepared By:

Sample: 385767 - AH-5 0-1'

Laboratory: Midland

Analysis: TPH DRO - NEW Analytical Method: Prep Method: S 8015 D N/A QC Batch: Date Analyzed: Analyzed By: 119182 2015-02-09 SCPrep Batch: 100781 Sample Preparation: 2015-02-08 Prepared By: SC

							Spike	Percent	Recovery
Surrogate		Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
n-Tricosane	Qet	Qet		152	mg/Kg	1	100	152	70 - 130

Sample: 385767 - AH-5 0-1'

Laboratory: Midland

Analysis:TPH GROAnalytical Method:S 8015 DPrep Method:S 5035QC Batch:119168Date Analyzed:2015-02-09Analyzed By:AKPrep Batch:100741Sample Preparation:2015-02-05Prepared By:AK

212C-MD-00154

Work Order: 15020316 Sweatt/ COG Lusk 22 SWD Page Number: 16 of 39 Lea County, NM

					RL					
Parameter	Flag		Cert		Result	Uni	ts	Dilution	RL	
GRO	U		2	<4.00		mg/Kg		1	4.00	
							Spike	Percent	Recovery	
Surrogate		Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits	
Trifluorotoluene (TFT)				1.77	mg/Kg	1	2.00	88	70 - 130	
4-Bromofluorobenzene (4-BFB)				1.70	mg/Kg	1	2.00	85	70 - 130	

Sample: 385768 - AH-5 1-1.5'

Laboratory: Lubbock

Analysis: Chloride (Titration)
QC Batch: 119210
Prep Batch: 100812

Analytical Method: SM 4500-Cl B
Date Analyzed: 2015-02-09
Sample Preparation: 2015-02-09

 SM 4500-Cl B
 Prep Method:
 N/A

 2015-02-09
 Analyzed By:
 HJ

 2015-02-09
 Prepared By:
 HJ

Sample: 385769 - AH-5 2-2.5'

Laboratory: Lubbock

Analysis: Chloride (Titration) QC Batch: 119210 Prep Batch: 100812 Analytical Method: SM 4500-Cl B Date Analyzed: 2015-02-09 Sample Preparation: 2015-02-09 Prep Method: N/A Analyzed By: HJ Prepared By: HJ

Sample: 385770 - AH-5 3-3.5'

Laboratory: Lubbock

Analytical Method: Prep Method: N/A Analysis: Chloride (Titration) SM 4500-Cl B QC Batch: Date Analyzed: Analyzed By: HJ119210 2015-02-09 Prep Batch: 100812 Sample Preparation: 2015-02-09 Prepared By: HJ

Work Order: 15020316 Sweatt/ COG Lusk 22 SWD Page Number: 17 of 39 Lea County, NM

		RL							
Parameter	Flag	Cert	Result	Units	Dilution	RL			
Chloride		1	11700	mg/Kg	5	5,00			

Sample: 385771 - AH-6 0-1'

Laboratory:	Midland
Analysis:	BTEX

Analysis: BTEX Analytical Method: S 8021B QC Batch: 119167 Date Analyzed: 2015-02-09 Prep Batch: 100741 Sample Preparation: 2015-02-05

S 8021B Prep Method: S 5035 2015-02-09 Analyzed By: AK 2015-02-05 Prepared By: AK

Parameter	Flag	Cert	Result	Units	Dilution	RL
Benzene	ט	2	< 0.0200	mg/Kg	1	0.0200
Toluene	U	3	< 0.0200	mg/Kg	1	0.0200
Ethylbenzene	บ	2	< 0.0200	mg/Kg	1	0.0200
Xylene	ט	2	< 0.0200	mg/Kg	1	0.0200

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			1.76	mg/Kg	1	2.00	88	70 - 130
4-Bromofluorobenzene (4-BFB)			1.91	mg/Kg	1	2.00	96	70 - 130

Sample: 385771 - AH-6 0-1'

Laboratory: Lubbock

Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A QC Batch: 119210 Date Analyzed: 2015-02-09 Analyzed By: HJ Prep Batch: 100812 Sample Preparation: 2015-02-09 Prepared By: HJ

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride		1	28.0	mg/Kg	1	5.00

Sample: 385771 - AH-6 0-1'

Laboratory: Midland

Analysis: TPH DRO - NEW Analytical Method: S 8015 D Prep Method: N/A QC Batch: 119182 Date Analyzed: 2015-02-09 Analyzed By: SC Prep Batch: 100781 Sample Preparation: 2015-02-08 Prepared By: SC

212C-MD-00154

Work Order: 15020316 Sweatt/ COG Lusk 22 SWD Page Number: 18 of 39 Lea County, NM

]	RL			
Parameter			Flag	Cert	Res	ult	Units	Dilution	RL
DRO			U	2	<50	0.0	mg/Kg	1	50.0
Surrogate		Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qar	Qят		146	mg/Kg	1	100	146	70 - 130

Sample: 385771 - AH-6 0-1'

Laboratory: Midland

Analysis: TPH GRO QC Batch: 119168 Prep Batch: 100741 Analytical Method: S 8015 D
Date Analyzed: 2015-02-09
Sample Preparation: 2015-02-05

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

			R.L			
Parameter	Flag	Cert	Result	Units	Dilution	RL
GRO	U	2	<4.00	mg/Kg	1	4.00
				· · · · · · ·		

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)	10.00		1.74	mg/Kg	1	2.00	87	70 - 130
4-Bromofluorobenzene (4-BFB)			1.70	mg/Kg	1	2.00	85	70 - 130

Sample: 385772 - AH-6 1-1.5'

Laboratory: Lubbock

Analysis: Chloride (Titration) QC Batch: 119210 Prep Batch: 100812 Analytical Method: SM 4500-Cl B Date Analyzed: 2015-02-09 Sample Preparation: 2015-02-09 Prep Method: N/A Analyzed By: HJ Prepared By: HJ

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride	200	1	28.0	mg/Kg	1	5.00

Sample: 385773 - AH-6 2-2.5'

Laboratory: Lubbock

Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A QC Batch: 119214 Date Analyzed: 2015-02-09 Analyzed By: HJ Prep Batch: 100817 Sample Preparation: 2015-02-09 Prepared By: HJ

212C-MD-00154

Work Order: 15020316 Sweatt/ COG Lusk 22 SWD Page Number: 19 of 39 Lea County, NM

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride	Qa	1	9980	mg/Kg	5	5.00

Sample: 385774 - AH-6 2.5-3

Laboratory:

Lubbock

Chloride (Titration) Analysis:

QC Batch: 119214 Prep Batch: 100817

Analytical Method: Date Analyzed:

SM 4500-Cl B 2015-02-09

Prep Method: N/A

Analyzed By: HJ Sample Preparation: 2015-02-09 Prepared By: HJ

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride	Qs	1	10800	mg/Kg	5	5.00

Sample: 385775 - AH-7 0-1'

Laboratory: Midland

Analysis: BTEX QC Batch: 119167 Prep Batch: 100741

Analytical Method: S 8021B Date Analyzed: 2015-02-09 Sample Preparation: 2015-02-05

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

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Benzene	ប	2	< 0.0200	mg/Kg	1	0.0200
Toluene	U	2	< 0.0200	mg/Kg	1	0.0200
Ethylbenzene	U	2	< 0.0200	mg/Kg	1	0.0200
Xylene	Ü	2	< 0.0200	mg/Kg	1	0.0200

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			1.75	mg/Kg	1	2.00	88	70 - 130
4-Bromofluorobenzene (4-BFB)			1.94	mg/Kg	1	2.00	97	70 - 130

Sample: 385775 - AH-7 0-1'

Laboratory: Lubbock

Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A QC Batch: 119214 Date Analyzed: 2015-02-09 Analyzed By: HJ Prep Batch: 100817 Sample Preparation: 2015-02-09 Prepared By: HJ

212C-MD-00154

Work Order: 15020316 Sweatt/ COG Lusk 22 SWD Page Number: 20 of 39 Lea County, NM

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride	Qı	1	1940	mg/Kg	5	5.00

Sample: 385775 - AH-7 0-1'

Laboratory: Midland

Analysis: TPH DRO - NEW QC Batch: 119182 Prep Batch: 100781 Analytical Method: S 8015 D
Date Analyzed: 2015-02-09
Sample Preparation: 2015-02-08

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

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
DRO	U	2	< 50.0	mg/Kg	1	50.0

							Spike	Percent	Recovery
Surrogate		Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
n-Tricosane	Qst	Qst		144	mg/Kg	1	100	144	70 - 130

Sample: 385775 - AH-7 0-1'

Laboratory: Midland

Analysis: TPH GRO QC Batch: 119168 Prep Batch: 100741 Analytical Method: S 8015 D
Date Analyzed: 2015-02-09
Sample Preparation: 2015-02-05

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

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
GRO	U	2	<4.00	mg/Kg	1	4.00

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			1.79	mg/Kg	1	2.00	90	70 - 130
4-Bromoffuorobenzene (4-BFB)			1.72	mg/Kg	1	2.00	86	70 - 130

Sample: 385776 - AH-7 1-1.5'

Laboratory: Lubbock

Analysis: Chloride (Titration)

Analytical Method: SM 4500-Cl B

Prep Method: N/A

QC Batch: 119214

Date Analyzed: 2015-02-09

Analyzed By: HJ

Prep Batch: 100817

Sample Preparation: 2015-02-09

Prepared By: HJ

Work Order: 15020316 Sweatt/ COG Lusk 22 SWD Page Number: 21 of 39 Lea County, NM

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride	Qu	1	3390	mg/Kg	5	5.00

Sample: 385777 - AH-7 2-2.5'

Laboratory: Lubbock

Analysis: Chloride (Titration)

QC Batch: 119214 Prep Batch: 100817 Analytical Method: SM 4500-Cl B Date Analyzed: 2015-02-09

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

Sample Preparation:

Sample: 385778 - AH-7 3-3.5'

Laboratory: Lubbock

Analysis: Chloride (Titration)

QC Batch: 119214 Prep Batch: 100817 Analytical Method: Date Analyzed:

Sample Preparation:

SM 4500-Cl B 2015-02-09 2015-02-09

2015-02-09

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

Sample: 385779 - AH-7 3.5-4'

Laboratory: Lubbock

Analysis: Chloride (Titration)

QC Batch: 119214 Prep Batch: 100817 Analytical Method: SM 4500-Cl B Date Analyzed: 2015-02-09 Sample Preparation: 2015-02-09

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

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride	Q#	LL	2710	mg/Kg	5	5.00

212C-MD-00154

Work Order: 15020316 Sweatt/ COG Lusk 22 SWD Page Number: 22 of 39 Lea County, NM

Sample: 385780 - AH-8 0-1'

Laboratory: Midland Analysis:

QC Batch:

BTEX 119167 Prep Batch: 100741

Analytical Method: Date Analyzed:

S 8021B 2015-02-09 2015-02-05 Sample Preparation:

Prep Method: S 5035 Analyzed By: AK

AK

Prepared By:

RLUnits Dilution Parameter Flag Cert Result RLBenzene < 0.0200 0.0200 mg/Kg 1 U 2 Toluene < 0.0200 0.0200 U mg/Kg 1 2 Ethylbenzene < 0.0200 0.0200 mg/Kg 1 U 2 < 0.0200 Xylene mg/Kg 1 0.0200U

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			1.73	mg/Kg	1	2.00	86	70 - 130
4-Bromofluorobenzene (4-BFB)			1.90	mg/Kg	1	2.00	95	70 - 130

Sample: 385780 - AH-8 0-1'

Laboratory: Lubbock

Chloride (Titration) Analysis: QC Batch: 119214Prep Batch: 100817

Analytical Method: Date Analyzed:

Sample Preparation:

SM 4500-Cl B 2015-02-09 2015-02-09

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

RL Cert Result Units Dilution RLParameter Flag Chloride 1450 mg/Kg 5 5.00 $\mathbb{Q}_{\mathbb{R}}$

Sample: 385780 - AH-8 0-1'

Laboratory:

Midland

Analysis: TPH DRO - NEW QC Batch: 119182 Prep Batch: 100781

Analytical Method: S 8015 D Date Analyzed: Sample Preparation:

2015-02-09 2015-02-08

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

RL Parameter Flag Cert Result Units Dilution RLDRO < 50.0 mg/Kg 50.0 U 1 2

							Spike	Percent	Recovery
Surrogate		Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
n-Tricosane	Qer	Qst		139	mg/Kg	1	100	139	70 - 130

212C-MD-00154

Prep Batch: 100741

Work Order: 15020316 Sweatt/ COG Lusk 22 SWD Page Number: 23 of 39 Lea County, NM

Sample: 385780 - AH-8 0-1'

Laboratory: Midland Analysis: QC Batch:

TPH GRO 119168

Analytical Method: Date Analyzed:

S 8015 D 2015-02-09 2015-02-05 Sample Preparation:

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

RL

Units Dilution RLResult Flag Cert Parameter 4.00 < 4.00 mg/Kg 1 GRO υ 2

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Triffuorotoluene (TFT)			1.75	mg/Kg	1	2.00	88	70 - 130
4-Bromofluorobenzene (4-BFB)			1.69	mg/Kg	1	2.00	84	70 - 130

Sample: 385781 - AH-8 1-1.5'

Laboratory:

Lubbock

Analysis: Chloride (Titration) QC Batch: 119214 Prep Batch: 100817

Analytical Method: Date Analyzed:

Sample Preparation:

SM 4500-Cl B 2015-02-09 2015-02-09

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

RLDilution RLCert Result Units Parameter Flag 5.00 6200 Chloride mg/Kg $\mathbf{Q}_{\mathbf{F}}$

Sample: 385782 - AH-8 2-2.5'

Laboratory:

Lubbock

Analysis: Chloride (Titration) QC Batch: 119214 Prep Batch: 100817

Analytical Method: Date Analyzed:

SM 4500-Cl B 2015-02-09 Sample Preparation: 2015-02-09

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

RLFlag Result Units Dilution RLParameter Cert 5.00 Chloride 12900 mg/Kg 5

Work Order: 15020316 Sweatt/ COG Lusk 22 SWD Page Number: 24 of 39 Lea County, NM

Method Blanks

Method Blank (1)

QC Batch: 119124

QC Batch: 119124 Prep Batch: 100744 Date Analyzed: 2015-02-05 QC Preparation: 2015-02-05 Analyzed By: HJ Prepared By: HJ

Parameter Flag Cert Result

Parameter Flag Cert Result Units RL Chloride 23.05 mg/Kg 5

Method Blank (1)

QC Batch: 119167

QC Batch: 119167 Prep Batch: 100741 Date Analyzed: 2015-02-09 QC Preparation: 2015-02-05 Analyzed By: AK Prepared By: AK

MDL Parameter Flag Result Units RLCert Benzene < 0.00533 mg/Kg 0.02 2 Toluene 0.02< 0.00645 mg/Kg Ethylbenzene 0.02< 0.0116 mg/Kg Xylene < 0.00874 mg/Kg 0.02

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			1.88	mg/Kg	1	2.00	94	70 - 130
4-Bromofluorobenzene (4-BFB)			1.84	mg/Kg	1	2.00	92	70 - 130

Method Blank (1)

QC Batch: 119168

QC Batch: 119168 Prep Batch: 100741 Date Analyzed: 2015-02-09 QC Preparation: 2015-02-05 Analyzed By: AK Prepared By: AK

Parameter Flag Cert Result Units RL GRO 2 <2.32 mg/Kg 4

Work Order: 15020316 Sweatt/ COG Lusk 22 SWD Page Number: 25 of 39 Lea County, NM

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.91	mg/Kg	1	2.00	96	70 - 130
4-Bromofluorobenzene (4-BFB)			1.66	mg/Kg	1	2.00	83	70 - 130

Method Blank (1)

QC Batch: 119182

QC Batch: 119182 Prep Batch: 100781 Date Analyzed: 2015-02-09 QC Preparation: 2015-02-08 Analyzed By: SC Prepared By: SC

		MDL								
Parameter	Flag	Cert	Result	Units	RL					
DRO		2	< 7.41	mg/Kg	50					

							Spike	Percent	Recovery
Surrogate		Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
n-Tricosane	Qet	Qat		135	mg/Kg	1	100	135	70 - 130

Method Blank (1)

QC Batch: 119210

QC Batch: 119210 Prep Batch: 100812 Date Analyzed: 2015-02-09 QC Preparation: 2015-02-09 Analyzed By: HJ Prepared By: HJ

			MDL		
Parameter	Flag	Cert	Result	Units	RL
Chloride		1	< 3.05	mg/Kg	5

Method Blank (1)

QC Batch: 119214

QC Batch: 119214 Prep Batch: 100817 Date Analyzed: 2015-02-09 QC Preparation: 2015-02-09

Analyzed By: HJ Prepared By: HJ

			MDL		
Parameter	Flag	Cert	Result	Units	RL
Chloride		1	< 3.05	mg/Kg	5

Work Order: 15020316 Sweatt/ COG Lusk 22 SWD Page Number: 26 of 39 Lea County, NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch:

119124

Date Analyzed:

2015-02-05

Analyzed By: HJ

Prep Batch: 100744

QC Preparation: 2015-02-05

Prepared By: HJ

			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	C	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		1	2370	mg/Kg	5	2500	<15.2	95	76.7 - 126

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	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		1	2470	mg/Kg	5	2500	<15.2	99	76.7 - 126	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: Prep Batch: 100741

119167

Date Analyzed: QC Preparation:

2015-02-09 2015-02-05 Analyzed By: AK Prepared By: AK

			LCS			Spike	Matrix		Rec.
Param	F	C	Result	Units	Dil.	Amount	Result	Rec.	Limit
Benzene		2	1.85	mg/Kg	1	2.00	< 0.00533	92	70 - 130
Toluene		2	1.84	mg/Kg	1	2.00	< 0.00645	92	70 - 130
Ethylbenzene		2	1.80	mg/Kg	1	2.00	< 0.0116	90	70 - 130
Xylene		2	5.46	mg/Kg	1	6.00	< 0.00874	91	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	F	C	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene		2	1.84	mg/Kg	1	2.00	< 0.00533	92	70 - 130	1	20
Toluene		2	1.81	mg/Kg	1	2.00	< 0.00645	90	70 - 130	1	20
Ethylbenzene		2	1.81	mg/Kg	1	2.00	< 0.0116	90	70 - 130	0	20
Xylene		2	5.46	mg/Kg	1	6.00	< 0.00874	91	70 - 130	0	20

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

continued ...

212C-MD-00154

Work Order: 15020316 Sweatt/ COG Lusk 22 SWD Page Number: 27 of 39 Lea County, NM

control spikes continued

controt spikes continued	LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
	LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	1.86	1.80	mg/Kg	1	2.00	93	90	70 - 130
4-Bromofluorobenzene (4-BFB)	1.88	1.85	mg/Kg	1	2.00	94	92	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch:

119168

Date Analyzed:

2015-02-09

Analyzed By: AK

Prep Batch: 100741

QC Preparation: 2015-02-05

Prepared By: AK

			LCS			Spike	Matrix		Rec.
Param	F	C	Result	Units	Dil.	Amount	Result	Rec.	Limit
GRO		2	18.1	mg/Kg	1	20.0	< 2.32	90	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	F	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
GRO		2	21.0	mg/Kg	1	20.0	< 2.32	105	70 - 130	15	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	_	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.87	1.95	mg/Kg	1	2.00	94	98	70 - 130
4-Bromoflyorobenzene (4-BFB)	1.67	1.74	mg/Kg	1	2.00	84	87	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch:

119182

Date Analyzed:

2015-02-09

Analyzed By: SC

Prep Batch: 100781

QC Preparation:

2015-02-08

Prepared By: SC

LCS Spike Matrix Rec. Param F Result Units Dil. Amount Result Rec. Limit DRO 224 mg/Kg 250 <7.41 90 70 - 130

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

continued ...

Work Order: 15020316

Page Number: 28 of 39

212C-MD-00154

Sweatt/ COG Lusk 22 SWD

Lea County, NM

control spik	es continued	
--------------	--------------	--

•			LCSD			Spike	Matrix		Rec.		RPD
Param	F	C	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
			LCSD			Spike	Matrix		Rec.		RPD
Param	F	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
DRO		2	269	mg/Kg	1	250	<7.41	108	70 - 130	18	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	Qir	Qit	137	150	mg/Kg	1	100	137	150	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch:

119210

Prep Batch: 100812

Date Analyzed:

2015-02-09 QC Preparation: 2015-02-09 Analyzed By: HJ

Prepared By: HJ

			LCS			Spike	Matrix		Rec.
Param	F	C	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		1	2280	mg/Kg	5	2500	<15.2	91	76.7 - 126

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	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		1	2280	mg/Kg	5	2500	<15.2	91	76.7 - 126	0	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: 119214

Prep Batch: 100817

Date Analyzed:

2015-02-09

QC Preparation: 2015-02-09

Analyzed By: HJ

Prepared By: HJ

			LCS			Spike	Matrix		Rec.
Param	F	C	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		1	2320	mg/Kg	5	2500	<15.2	93	76.7 - 126

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	C	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		1	2370	mg/Kg	5	2500	<15.2	95	76.7 - 126	2	20

Work Order: 15020316 Sweatt/ COG Lusk 22 SWD Page Number: 29 of 39 Lea County, NM

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

Work Order: 15020316 Sweatt/ COG Lusk 22 SWD Page Number: 30 of 39 Lea County, NM

Matrix Spikes

Matrix Spike (MS-1) Spiked Sample: 385762

QC Batch: 119124 Prep Batch: 100744 Date Analyzed: 2015-02-05 QC Preparation: 2015-02-05 Analyzed By: HJ Prepared By: HJ

NG Suite

			MS			Spike	Matrix		Rec.
Param	F	C	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		1	13800	mg/Kg	5	2500	11600	88	58.7 - 137

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		1	13600	mg/Kg	5	2500	11600	80	58.7 - 137	1	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: 385976

QC Batch: 119167 Prep Batch: 100741 Date Analyzed: 2015-02-09 QC Preparation: 2015-02-05

Analyzed By: AK Prepared By: AK

			MS			Spike	Matrix		Rec.
Param	F	C	Result	Units	Dil.	Amount	Result	Rec.	Limit
Benzene		2	1.55	mg/Kg	1	2.00	< 0.00533	78	70 - 130
Toluene		2	1.61	mg/Kg	1	2.00	< 0.00645	80	70 - 130
Ethylbenzene		2	1.69	mg/Kg	1	2.00	< 0.0116	84	70 - 130
Xylene		2	5.16	mg/Kg	1	6.00	< 0.00874	86	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	F	C	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene		2	1.51	mg/Kg	1	2.00	< 0.00533	76	70 - 130	3	20
Toluene		2	1.57	mg/Kg	1	2.00	< 0.00645	78	70 - 130	2	20
Ethylbenzene		2	1.68	mg/Kg	1	2.00	< 0.0116	84	70 - 130	1	20
Xylene		2	5.06	mg/Kg	1	6.00	< 0.00874	84	70 - 130	2	20

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

continued ...

212C-MD-00154

Work Order: 15020316 Sweatt/ COG Lusk 22 SWD Page Number: 31 of 39 Lea County, NM

matrix spikes continued

munit spikes communeu	MS	MSD			Spike	MS	MSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
	MS	MSD			Spike	MS	MSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	1.77	1.81	mg/Kg	1	2	88	90	70 - 130
4-Bromofluorobenzene (4-BFB)	1.92	1.91	mg/Kg	1	2	96	96	70 - 130

Matrix Spike (MS-1)

Spiked Sample: 385976

QC Batch:

119168

Date Analyzed:

2015-02-09

Analyzed By: AK

Prep Batch: 100741

QC Preparation: 2015-02-05

Prepared By: AK

			MS			Spike	Matrix		Rec.
Param	\mathbf{F}	C	Result	Units	Dil.	Amount	Result	Rec.	Limit
GRO		2	16.4	mg/Kg	1	20.0	< 2.32	82	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	F	C	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
GRO		- 2	15.9	mg/Kg	1	20.0	< 2.32	80	70 - 130	3	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.85	1.88	mg/Kg	1	2	92	94	70 - 130
4-Bromofluorobenzene (4-BFB)	1.75	1.92	mg/Kg	1	2	88	96	70 - 130

Matrix Spike (MS-1)

Spiked Sample: 385753

QC Batch:

119182

Date Analyzed:

2015-02-09

Analyzed By: SC

Prep Batch: 100781

QC Preparation:

2015-02-08

Prepared By: SC

			MS			Spike	Matrix		Rec.
Param	F	C	Result	Units	Dil.	Amount	Result	Rec.	Limit
DRO		2	228	mg/Kg	1	250	<7.41	91	70 - 130

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

continued

Work Order: 15020316 Sweatt/ COG Lusk 22 SWD Page Number: 32 of 39 Lea County, NM

matrix spikes	continued			
---------------	-----------	--	--	--

			MSD			Spike	Matrix		Rec.		RPD
Param	F	C	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
D	Г	a	MSD	I I	Dil	Spike	Matrix	D.	Rec.	DDD	RPD
Param	r	C	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
DRO		2	232	mg/Kg	1	250	<7.41	93	70 - 130	2	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	130	135	mg/Kg	1	100	130	135	70 - 130

Matrix Spike (MS-1)

Spiked Sample: 385772

QC Batch: 119210 Prep Batch: 100812 Date Analyzed: 2015-02-09 QC Preparation: 2015-02-09 Analyzed By: HJ Prepared By: HJ

			MS			Spike	Matrix		Rec.
Param	F	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		1	2250	mg/Kg	1	2500	28	89	58.7 - 137

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	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride		-1	2300	mg/Kg	1	2500	28	91	58.7 - 137	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: 385782

QC Batch: 119214 Prep Batch: 100817 Date Analyzed: 2015-02-09 QC Preparation: 2015-02-09 Analyzed By: HJ Prepared By: HJ

				MS			Spike	Matrix		Rec.
Param		F	C	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	Qø	Qe	1	13800	mg/Kg	5	2500	12900	36	58.7 - 137

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	С	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride	Qn	Qu	1	14100	mg/Kg	5	2500	12900	48	58.7 - 137	2	20

Work Order: 15020316 Sweatt/ COG Lusk 22 SWD Page Number: 33 of 39 Lea County, NM

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

Work Order: 15020316 Sweatt/ COG Lusk 22 SWD Page Number: 34 of 39 Lea County, NM

Calibration Standards

Standard (ICV-1)

QC Batch: 119124

Date Analyzed: 2015-02-05

Analyzed By: HJ

Chloride		1	mg/Kg	100	100	100	85 - 115	2015-02-05
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
				True	Found	Percent	Recovery	Date
				ICVs	ICVs	ICVs	Percent	

Standard (CCV-1)

QC Batch: 119124

Date Analyzed: 2015-02-05

Analyzed By: HJ

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		1	mg/Kg	100	100	100	85 - 115	2015-02-05

Standard (CCV-2)

QC Batch: 119167

Date Analyzed: 2015-02-09

Analyzed By: AK

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		2	mg/kg	0.100	0.0929	93	80 - 120	2015-02-09
Toluene		2	mg/kg	0.100	0.0929	93	80 - 120	2015-02-09
Ethylbenzene		2	mg/kg	0.100	0.0915	92	80 - 120	2015-02-09
Xylene		2	mg/kg	0.300	0.275	92	80 - 120	2015-02-09

Standard (CCV-3)

QC Batch: 119167

Date Analyzed: 2015-02-09

Analyzed By: AK

Work Order: 15020316

Page Number: 35 of 39

2	12	C-	V.	Ш)-U	U.	.b	Ė

Sweatt/ COG Lusk 22 SWD

Lea County, NM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		2	mg/kg	0.100	0.0909	91	80 - 120	2015-02-09
Toluene		2	mg/kg	0.100	0.0906	91	80 - 120	2015-02-09
Ethylbenzene		2	mg/kg	0.100	0.0896	90	80 - 120	2015-02-09
Xylene		2	mg/kg	0.300	0.269	90	80 - 120	2015-02-09

Standard (CCV-2)

QC Batch: 119168

Date Analyzed: 2015-02-09

Analyzed By: AK

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		2	mg/Kg	1.00	0.912	91	80 - 120	2015-02-09

Standard (CCV-3)

QC Batch: 119168

Date Analyzed: 2015-02-09

Analyzed By: AK

				CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		3	mg/Kg	1.00	0.858	86	80 - 120	2015-02-09

Standard (CCV-1)

QC Batch: 119182

Date Analyzed: 2015-02-09

Analyzed By: SC

_		525 9		CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO		2	mg/Kg	250	218	87	80 - 120	2015-02-09

Standard (CCV-2)

QC Batch: 119182

Date Analyzed: 2015-02-09

Analyzed By: SC

212C-MD-00154

Work Order: 15020316 Sweatt/ COG Lusk 22 SWD Page Number: 36 of 39 Lea County, NM

Daman	Flor	Cont	Ilmita	CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO	G2(6,6	2	mg/Kg	250	256	102	80 - 120	2015-02-09

Standard (CCV-3)

QC Batch: 119182

Date Analyzed: 2015-02-09

Analyzed By: SC

				CCVs	CCVs	CCVs	Percent	ъ.
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO		2	mg/Kg	250	207	83	80 - 120	2015-02-09

Standard (ICV-1)

QC Batch: 119210

Date Analyzed: 2015-02-09

Analyzed By: HJ

				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride	i i	1	mg/Kg	100	101	101	85 - 115	2015-02-09

Standard (CCV-1)

QC Batch: 119210

Date Analyzed: 2015-02-09

Analyzed By: HJ

Chloride		1	mg/Kg	100	99.0	99	85 - 115	2015-02-09
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
				True	Found	Percent	Recovery	Date
				CCVs	CCVs	CCVs	Percent	

Standard (ICV-1)

QC Batch: 119214

Date Analyzed: 2015-02-09

Analyzed By: HJ

212C-MD-00154

Work Order: 15020316 Sweatt/ COG Lusk 22 SWD Page Number: 37 of 39 Lea County, NM

				ICVs True	ICVs Found	ICVs Percent	Percent Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		1	mg/Kg	100	100	100	85 - 115	2015-02-09

Standard (CCV-1)

QC Batch: 119214

Date Analyzed: 2015-02-09

Analyzed By: HJ

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		1	mg/Kg	100	100	100	85 - 115	2015-02-09

Appendix

Report Definitions

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

Laboratory Certifications

	Certifying	Certification	Laboratory
C	Authority	Number	Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
	WBE	237019	TraceAnalysis
1	PJLA	L14-93	Lubbock
2	NELAP	T104704392-14-8	Midland

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

Work Order: 15020316 Sweatt/ COG Lusk 22 SWD Page Number: 39 of 39 Lea County, NM

Attachments

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

	(Circle or Specify Method No.)	Cr Pb Hg Se	PRESERVATIVE SO/625 METHOD TX1005	MOM E PA BA E PA E P	PAH 8270 RCRA Metal	У У У У	× × ×	\frac{1}{2}	X X X X X X X X X X	<i>X X X X X X X X X X</i>	3 √ × × − −	>		→ ×× × ~ ~ ~	× × = = = = = = = = = = = = = = = = = =	Thrue: 12:54 MHL MM. ACCOUNT ACTIONS	SAMPLE SHIPPED BY: (Circle) A	15 TEMM TECHTOOTTO	RUSH Charges	TIME: THE GARGEZ NO	4 speach Sauge for days parles.	a Tech - Project Manager retails Pink copy - Accounting refeives Gold copy/
Analysis Request of Chain of Custody Record	•	1910 N. Big Spring St. Midland, Texas 79705 (432) 682-4559 • Fax (432) 682-3946	SITE MANAGEB:	PROJECT NAME: Sucatt / COG Luck &	SAMPLE IDENTIFICATION	385753 Q.Q. 13 1 A H 0-1'	1 14 1	1 1 1 1 9.	1 X AH 2		758 B-345 X 1411 B 2-2.5'	759 3-3.5 X 14 2 3-3.5"	TEO 29.15 X AH 3 0-1'	761 22-15 X AH3 1-1.5'	X 14#3 2.	The The	Date: Time:	Dafe: Time:	RECEIVED BY BY STATE TO THE STATE TO THE STATE TO STATE TO THE STATE TO STA	PHONE:	SAMPLE CONDITION WHEN FREE FOR THE TON STATE TO THE SAMPLE STATE TO THE SAMPLE STATE	Please fill out all copies - Laboratory retains Yellow copy - Return Orginal copy to Tetra Tech

It benzac Decedo logano o total 1878 x - Sagon.

PAGE: 2 OF: 3 ANALYSIS REQUEST	(Circle or Specify Method No.)	g As Ba Cd g As Ba Cd bijes y/8260/624 (. 8270/625	PAH 8270 PCLP Metals Ag TCLP Semi Volati PCLM Semi Volat	5	>		->	\$	35	3	5	3	5	MARKEL ON White Ab Time: 0-0-13	SAMPLE SHIPPED BY; Circle) ARBILL 6:	CT PERSON:	THE TOUCKEE Authorized: No No	- Accounting receives Gold copy.
Analysis Request of Chain of Custody Record	TETRA TECH 1910 N. Big Spring St. Midland, Texas 79705 (432) 682-4559 • Fax (432) 682-3946	THE TAKEL	LABID. DATE TIME EX SAMPLE IDENTIFICATION NUMBER DATE TIME TO SAMPLE IDENTIFICATION NUMBER DATE NUMBER DAT	763 22-15 XAM 3 3-35	74 5 HA 4 0-1'	75 S X X M V 1.15.	766) K BHY 2.25'	767 \ X AHS 0-1.	768 < X A45 /- 1.5'	719 \ X AHS 2-2.5'	770 \ X A#S. 3-3.5'	771 \ X A46 0-1'	1 K PH 6 1-1.5'	RECEIVED BY (Signature)	Time: Received of Congression RS	Time:	PHONE: ZIP:	SAMPLE CONDITION WHEN RECEIVED: S.9 Please fill out all copies - Laboratory retains Yellow copy - Return Orginal copy to Tetra Tech - Project Manager retains Plnk copy

PAGE: 3 OF: 3	ANALYSIS REQUEST (Circle or Specify Method No.)	Cr Pb Hg Se	20/624 20/624	eA gA a selfision selfisio	PAH 8270 RCRA Metale		>	>	5	5	>	>	>- 	>	3	SAMPLED BY: Peter & Initial) Date: 1-0-13	IPPED BY: (Circle) All	TETRA TECH CONTACT PERSON: Results his		The later to my hours no	- Accounting receives
ain of Custody Record	1 1		WE FET	22 SUP (PC LINK IN CONTRI	NONE HAGS HAGS HACS WINNEED OF WUMBER OF	25,	1 × × × × × × × × × × × × × × × × × × ×	7 7 N	1.8' X X X	1 × × × × × × × × × × × × × × × × × × ×	.5' IM KK	1 N K X	XX	× × × × × × × × × × × × × × × × × × ×	× × × × ×	RECEIVED BY: (Signalum)		DESTRUCTED BY: (Stementral)		рате:	13 LS ZSSY 768 v copy - Return Orginal copy to Tetra Tech - Project Manager retains Pink copy
Analysis Request of Chain		1910 N. Big Spring St. Midland, Texas 79705 (432) 682-4559 • Fax (432) 68	CLIENT NAME: SITE MANAGER:	PROJECT NAME:		385773 J.D.15 X AHG J.O	1774 2-2-15 X RH6 2.5.	775 2-215 X AH7 6-1	176 23-15 X RH7 1-1.	777 2.28 X PHF 2.2.	3-3	77 2-27 X AH7 3.5-4	750 2-3-15 X DHS 0-1	1-1 8HB X	X A# 8 2.2.18	Date: 12-17	Date: Time:	Defe: Time:	Jul.	PHONE:	copies - Labora

Summary Report

Ike Tavarez Tetra Tech 1901 N. Big Spring St. Midland, TX 79705

Report Date: March 16, 2015

Work Order: 15030419

Project Location: Lea County, NM Project Name: COG-Lusk 22 SWD Project Number: 212C-MD-00154

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
387990	BH-1 2-3	soil	2015-03-03	00:00	2015-03-04
387991	BH-1 4-5	soil	2015-03-03	00:00	2015-03-04
387992	BH-1 6-7	soil	2015-03-03	00:00	2015-03-04
387993	BH-1 9-10	soil	2015-03-03	00:00	2015-03-04
387994	BH-2 2-3	soil	2015-03-03	00:00	2015-03-04
387995	BH-2 4-5	soil	2015-03-03	00:00	2015-03-04
387996	BH-2 6-7	soil	2015-03-03	00:00	2015-03-04
387997	BH-2 9-10	soil	2015-03-03	00:00	2015-03-04
387998	BH-2 14-15	soil	2015-03-03	00:00	2015-03-04
387999	BH-2 19-20	soil	2015-03-03	00:00	2015-03-04
388000	BH-3 2-3	soil	2015-03-03	00:00	2015-03-04
388001	BH-3 4-5	soil	2015-03-03	00:00	2015-03-04
388002	BH-3 6-7	soil	2015-03-03	00:00	2015-03-04
388003	BH-3 9-10	soil	2015-03-03	00:00	2015-03-04
388004	BH-4 2-3	soil	2015-03-03	00:00	2015-03-04
388005	BH-4 4-5	soil	2015-03-03	00:00	2015-03-04
388006	BH-4 6-7	soil	2015-03-03	00:00	2015-03-04
388007	BH-4 9-10	soil	2015-03-03	00:00	2015-03-04
388008	BH-5 2-3	soil	2015-03-03	00:00	2015-03-04
388009	BH-5 4-5	soil	2015-03-03	00:00	2015-03-04
388010	BH-5 6-7	soil	2015-03-03	00:00	2015-03-04
388011	BH-5 9-10	soil	2015-03-03	00:00	2015-03-04
388012	BH-5 14-15	soil	2015-03-03	00:00	2015-03-04
388013	BH-6 2-3	soil	2015-03-03	00:00	2015-03-04
388014	BH-6 4-5	soil	2015-03-03	00.00	2015-03-04
388015	BH-6 6-7	soil	2015-03-03	00:00	2015-03-04
388016	BH-6 9-10	soil	2015-03-03	00:00	2015-03-04
388017	BH-7 2-3	soil	2015-03-03	00:00	2015-03-04
388018	BH-7 4-5	soil	2015-03-03	00:00	2015-03-04
388019	BH-7 6-7	soil	2015-03-03	00:00	2015-03-04

TraceAnalysis, Inc. • 6701 Aberdeen Ave., Suite 9 • Lubbock, TX 79424-1515 • (806) 794-1296

This is only a summary. Please, refer to the complete report package for quality control data.

Sample Description Matrix Taken Taken 388020 BH-7 9-10 soil 2015-03-03 00:00 388021 BH-7 14-15 soil 2015-03-03 00:00 388022 BH-8 2-3 soil 2015-03-03 00:00 388023 BH-8 4-5 soil 2015-03-03 00:00 388024 BH-8 6-7 soil 2015-03-03 00:00 388025 BH-8 9-10 soil 2015-03-03 00:00	Received 2015-03-04 2015-03-04
388020 BH-7 9-10 soil 2015-03-03 00:00 388021 BH-7 14-15 soil 2015-03-03 00:00 388022 BH-8 2-3 soil 2015-03-03 00:00 388023 BH-8 4-5 soil 2015-03-03 00:00 388024 BH-8 6-7 soil 2015-03-03 00:00	2015-03-04 2015-03-04
388021 BH-7 14-15 soil 2015-03-03 00:00 388022 BH-8 2-3 soil 2015-03-03 00:00 388023 BH-8 4-5 soil 2015-03-03 00:00 388024 BH-8 6-7 soil 2015-03-03 00:00	2015-03-04
388022 BH-8 2-3 soil 2015-03-03 00:00 388023 BH-8 4-5 soil 2015-03-03 00:00 388024 BH-8 6-7 soil 2015-03-03 00:00	
388023 BH-8 4-5 soil 2015-03-03 00:00 388024 BH-8 6-7 soil 2015-03-03 00:00	
388024 BH-8 6-7 soil 2015-03-03 00:00	2015-03-04
	2015-03-04
388025 BH-8 9-10 soil 2015-03-03 00:00	2015-03-04
	2015-03-04
Sample: 387990 - BH-1 2-3	
Param Flag Result Units	RL
Chloride 7920 mg/Kg	4
Sample: 387991 - BH-1 4-5	
Param Flag Result Units	RL
Chloride 1740 mg/Kg	4
Sample: 387992 - BH-1 6-7	
Param Flag Result Units	RL
Chloride 97.0 mg/Kg	4
Sample: 387993 - BH-1 9-10	
Param Flag Result Units	RL
Chloride 97.0 mg/Kg	4
Sample: 387994 - BH-2 2-3	
Param Flag Result Units	RL
Chloride 10400 mg/Kg	4
Sample: 387995 - BH-2 4-5	
Param Flag Result Units	RL
Chloride 9950 mg/Kg	4

Report Date: Marc	th 16, 2015	Work Order: 15030419	Page I	Number: 3 of 6
Sample: 387996	- BH-2 6-7			
Param	Flag	Result	Units	RL
Chloride		7630	mg/Kg	4
Sample: 387997	- BH-2 9-10			
Param	Flag	Result	Units	RL
Chloride		870	mg/Kg	4
Sample: 387998	- BH-2 14-15			
Param	Flag	Result	Units	RL
Chloride		386	mg/Kg	4
Sample: 387999 -	- RH-2 19-20			
		5 W. I.	**	
Param Chloride	Flag	Result 386	Units mg/Kg	RL 4
Sample: 388000 · Param Chloride	- BH-3 2-3 Flag	Result 5760	Units mg/Kg	RL 4
Sample: 388001 -	- BH-3 4-5			
Param	Flag	Result	Units	RL
Chloride		10900	mg/Kg	۷
Sample: 388002 -	- BH-3 6-7			
Param	Flag	Result	Units	RL
Chloride		98.0	mg/Kg	4
Sample: 388003 -	BH-3 9-10			
Param	Flag	Result	Units	RL
Chloride	0000 Pri	195	mg/Kg	4

Report Date: Marc	ch 16, 2015	Work Order: 15030419	Page I	Number: 4 of 6
Sample: 388004	- BH-4 2- 3			
Param	Flag	Result	Units	RL
Chloride		7120	mg/Kg	4
Sample: 388005	- BH-4 4-5			
Param	Flag	Result	Units	RL
Chloride	375.7	8290	mg/Kg	4
Sample: 388006 -	- BH-4 6-7			
Param	Flag	Result	Units	RL
Chloride		390	mg/Kg	4
Sample: 388007 · Param Chloride	- BH-4 9-10 Flag	Result 585	Units mg/Kg	RL 4
Sample: 388008 -	- BH-5 2-3			
Param	Flag	Result	Units	RL
Chloride		1660	mg/Kg	4
Sample: 388009 -	- BH-5 4-5			-
	- BH-5 4-5 Flag	Result	Units	RL
Param		Result 4980	Units mg/Kg	RL 4
Param Chloride	Flag			
Param Chloride Sample: 388010 -	Flag			4
Param Chloride Sample: 388010 -	Flag	4980	mg/Kg	
Param Chloride Sample: 388010 - Param Chloride	Flag - BH-5 6-7 Flag	4980 Result	mg/Kg Units	4 RL
Sample: 388009 - Param Chloride Sample: 388010 - Param Chloride Sample: 388011 -	Flag - BH-5 6-7 Flag	4980 Result	mg/Kg Units	4 RL

Report Date: Marc	ch 16, 2015	Work Order: 15030419	Page I	Number: 5 of 6
Sample: 388012	- BH-5 14-15			
Param	Flag	Result	Units	RL
Chloride		99.0	mg/Kg	4
Sample: 388013	- BH-6 2-3			
Param	Flag	Result	Units	RL
Chloride		4550	mg/Kg	4
Sample: 388014	- BH-6 4-5			
Param	Flag	Result	Units	RL
Chloride		7230	mg/Kg	4
Sample: 388015 Param Chloride	- BH-6 6-7 Flag	Result 99.0	Units mg/Kg	RL 4
Sample: 388016 Param	- BH-6 9-10 Flag	Result	Units	RL
Chloride	Frag	99.0	mg/Kg	4
Sample: 388017 Param Chloride	- BH-7 2-3 Flag	Result 7520	Units mg/Kg	RL 4
Sample: 388018	- BH-7 4-5			-
The second secon	<u>_@</u>		** .	
	Flag	Result	Units	RL
	Flag	Result 6830	Units mg/Kg	RL 4
Chloride Sample: 388019	- BH-7 6-7			
Param Chloride Sample: 388019 Param Chloride				

Report Date: Mar	ch 16, 2015	Work Order: 15030419	Page N	Number: 6 of 6
Sample: 388020	- BH-7 9-10			
Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4
Sample: 388021	- BH-7 14-15			
Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4
Sample: 388022	- BH-8 2-3			
Param	Flag	Result	Units	RL
Chloride		5100	mg/Kg	4
Sample: 388023	- BH-8 4-5			
Param	Flag	Result	Units	RL
Chloride		12600	mg/Kg	4
Sample: 388024	- BH-8 6-7			
Param	Flag	Result	Units	RL
Chloride		2160	mg/Kg	4
Sample: 388025	- BH-8 9-10			
Param	Flag	Result	Units	RL



6701 Aberdeen Avenue, Suite 9 200 East Sunset Road, Suite E 5002 Basin Street, Suite A1 (BioAquatic) 2501 Mayes Rd., Suite 100

El Paso, Texas 79922 Texas 79703 Midland. Texas 75006 Carrolton

805+794+1296 915-585-3443 432-689-6301

FAX 806 • 794 • 1298 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 1901 N. Big Spring St. Midland, TX, 79705

Report Date: March 16, 2015

Work Order:

15030419

Project Location: Lea County, NM Project Name: COG-Lusk 22 SWD Project Number: 212C-MD-00154

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

		Date	Time	Date
Description	Matrix	Taken	Taken	Received
BH-1 2-3	soil	2015-03-03	00:00	2015-03-01
BH-1 4-5	soil	2015-03-03	00:00	2015-03-04
BH-1 6-7	soil	2015-03-03	00:00	2015-03-04
BH-1 9-10	soil	2015-03-03	00:00	2015-03-04
BH-2 2-3	soil	2015-03-03	00:00	2015-03-04
BH-2 4-5	soil	2015-03-03	00:00	2015-03-04
BH-2 6-7	soil	2015-03-03	00:00	2015-03-04
BH-2 9-10	soil	2015-03-03	00:00	2015-03-04
BH-2 14-15	soil	2015-03-03	00:00	2015-03-04
BH-2 19-20	soil	2015-03-03	00:00	2015-03-04
BH-3 2-3	soil	2015-03-03	00:00	2015-03-04
BH-3 4-5	soil	2015-03-03	00:00	2015-03-04
BH-3 6-7	soil	2015-03-03	00:00	2015-03-04
BH-3 9-10	soil	2015-03-03	00:00	2015-03-04
BH-4 2-3	soil	2015-03-03	00:00	2015-03-04
BH-4 4-5	soil	2015-03-03	00:00	2015-03-04
BH-4 6-7	soil	2015-03-03	00:00	2015-03-04
BH-4 9-10	soil	2015-03-03	00:00	2015-03-04
	BH-1 2-3 BH-1 4-5 BH-1 6-7 BH-1 9-10 BH-2 2-3 BH-2 4-5 BH-2 6-7 BH-2 9-10 BH-2 14-15 BH-2 19-20 BH-3 2-3 BH-3 4-5 BH-3 6-7 BH-3 9-10 BH-4 2-3 BH-4 4-5 BH-4 6-7	BH-1 2-3 soil BH-1 4-5 soil BH-1 4-5 soil BH-1 6-7 soil BH-1 9-10 soil BH-2 2-3 soil BH-2 4-5 soil BH-2 4-5 soil BH-2 9-10 soil BH-2 14-15 soil BH-2 19-20 soil BH-3 2-3 soil BH-3 2-3 soil BH-3 4-5 soil BH-3 9-10 soil BH-4 2-3 soil BH-4 4-5 soil BH-4 6-7 soil	Description Matrix Taken BH-1 2-3 soil 2015-03-03 BH-1 4-5 soil 2015-03-03 BH-1 6-7 soil 2015-03-03 BH-1 9-10 soil 2015-03-03 BH-2 2-3 soil 2015-03-03 BH-2 4-5 soil 2015-03-03 BH-2 6-7 soil 2015-03-03 BH-2 9-10 soil 2015-03-03 BH-2 14-15 soil 2015-03-03 BH-2 19-20 soil 2015-03-03 BH-3 2-3 soil 2015-03-03 BH-3 4-5 soil 2015-03-03 BH-3 6-7 soil 2015-03-03 BH-3 9-10 soil 2015-03-03 BH-4 2-3 soil 2015-03-03 BH-4 4-5 soil 2015-03-03 BH-4 6-7 soil 2015-03-03	Description Matrix Taken Taken BH-1 2-3 soil 2015-03-03 00:00 BH-1 4-5 soil 2015-03-03 00:00 BH-1 6-7 soil 2015-03-03 00:00 BH-1 9-10 soil 2015-03-03 00:00 BH-2 2-3 soil 2015-03-03 00:00 BH-2 4-5 soil 2015-03-03 00:00 BH-2 6-7 soil 2015-03-03 00:00 BH-2 9-10 soil 2015-03-03 00:00 BH-2 14-15 soil 2015-03-03 00:00 BH-2 19-20 soil 2015-03-03 00:00 BH-3 2-3 soil 2015-03-03 00:00 BH-3 4-5 soil 2015-03-03 00:00 BH-3 6-7 soil 2015-03-03 00:00 BH-3 9-10 soil 2015-03-03 00:00 BH-4 2-3 soil 2015-03-03 00:00 BH-4 4-5 soil 2015-03-03 00:00 BH-4 6-7 </td

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
388008	BH-5 2-3	soil	2015-03-03	00:00	2015-03-04
388009	BH-5 4-5	soil	2015-03-03	00:00	2015-03-04
388010	BH-5 6-7	soil	2015-03-03	00:00	2015-03-04
388011	BH-5 9-10	soil	2015-03-03	00:00	2015-03-04
388012	BH-5 14-15	soil	2015-03-03	00:00	2015-03-04
388013	BH-6 2-3	soil	2015-03-03	00:00	2015-03-04
388014	BH-6 4-5	soil	2015-03-03	00:00	2015-03-04
388015	BH-6 6-7	soil	2015-03-03	00:00	2015-03-04
388016	BH-6 9-10	soil	2015-03-03	00:00	2015-03-04
388017	BH-7 2-3	soil	2015-03-03	00:00	2015-03-04
388018	BH-7 4-5	soil	2015-03-03	00:00	2015-03-04
388019	BH-7 6-7	soil	2015-03-03	00:00	2015-03-04
388020	BH-7 9-10	soil	2015-03-03	00:00	2015-03-04
388021	BH-7 14-15	soil	2015-03-03	00:00	2015-03-04
388022	BH-8 2-3	soil	2015-03-03	00:00	2015-03-04
388023	BH-8 4-5	soil	2015-03-03	00:00	2015-03-04
388024	BH-8 6-7	soil	2015-03-03	00:00	2015-03-04
388025	BH-8 9-10	soil	2015-03-03	00:00	2015-03-04

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 26 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director James Taylor, Assistant Director Brian Pellam, Operations Manager

Report Contents

Case Narrative																							
Analytical Repo																							
Sample 387990	(BH-1 2-3)					10					 								 +			+ +	
Sample 387991	(BH-1 4-5)			2.7			 	 200			 				+		1 4						
Sample 387992																							
Sample 387993																							
Sample 387994																							
Sample 387995																							
Sample 387996																							
Sample 387997																							
Sample 387998																							
Sample 387999	(BH-2 19-20))						 68			 		. ,									+ +	+
Sample 388000	(BH-3 2-3)			203			 100	 1.3			 			+ +									
Sample 388001	(BH-3 4-5)			8.9			 	 45			 	* *									 •	. ,	
Sample 388002	(BH-3 6-7)			× 4			 	 6	e ce	ijo.	 216								 +		 4.	+ +	+,"
Sample 388003	(BH-3 9-10))		100	٠.,		 	 •			 				+ -			4	 +	 		e o	
Sample 388004	(BH-4 2-3)			6.9			 	 90		+			 			eg e c				 			
Sample 388005																							
Sample 388006	(BH-4 6-7)			100			 50.5				 		 										
Sample 388007	(BH-4 9-10))		3. 3			 	 401	+ +	+	 									 		. ,	
Sample 388008	(BH-5 2-3)						 				 												+
Sample 388009	(BH-5 4-5)		. 1877				 				 												
Sample 388010	(BH-5 6-7)						 	 1			 												
Sample 388011																							
Sample 388012	(BH-5 14-13	5)					 				 												
Sample 388013	(BH-6 2-3)						 				 						. 7						
Sample 388014	(BH-6 4-5)		100				 								100		. 5				 4		
Sample 388015																							
Sample 388016																							
Sample 388017	(BH-7 2-3)						 	 9			 								 2				
Sample 388018																							
Sample 388019																							
Sample 388020																							
Sample 388021																							
Sample 388022																							
Sample 388023																							
Sample 388024																							
Sample 388025																							
	, 22/																						
lethod Blanks																							
QC Batch 1198	308 - Method	l Blank	(1)				 	 100			 . ,				20		. 7			 4		200	
QC Batch 1198	309 - Method	i Blank	(1)				 				 										 1		
QC Batch 1198	310 - Method	i Blank	(1)				 				 				-						 20		
OC Batch 1108	III - Mathor	1 Blook	- /11																				

Laboratory Control Spikes		19
QC Batch 119808 - LCS (1)		19
QC Batch 119809 - LCS (1)		
QC Batch 119810 - LCS (1)		
QC Batch 119811 - LCS (1)		20
Matrix Spikes		21
QC Batch 119808 - MS (1)		21
QC Batch 119809 - MS (1)		21
		21
		22
Calibration Standards		23
QC Batch 119808 - ICV (1)	A CONTRACTOR OF THE CONTRACTOR	23
QC Batch 119808 - CCV (1)		
QC Batch 119809 - ICV (1)		23
QC Batch 119809 - CCV (1)		23
QC Batch 119810 - ICV (1)		23
QC Batch 119810 - CCV (1)		24
QC Batch 119811 - ICV (1)		24
QC Batch 119811 - CCV (1)		24
Appendix		25
Report Definitions		25
Laboratory Certifications		25
Standard Flags		25
Attachments		25

Case Narrative

Samples for project COG-Lusk 22 SWD were received by TraceAnalysis, Inc. on 2015-03-04 and assigned to work order 15030419. Samples for work order 15030419 were received intact at a temperature of 6.0 C.

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

		Prep	Prep	QC	Analysis
Test	Method	Batch	Date	Batch	Date
Chloride (Titration)	SM 4500-Cl B	101347	2015-03-05 at 13:54	119808	2015-03-05 at 13:56
Chloride (Titration)	SM 4500-Cl B	101349	2015-03-05 at 14:09	119809	2015-03-05 at 14:10
Chloride (Titration)	SM 4500-Cl B	101351	2015-03-05 at 14:23	119810	2015-03-05 at 14:24
Chloride (Titration)	SM 4500-Cl B	101353	2015-03-05 at 14:34	119811	2015-03-05 at 14:36

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 15030419 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: 15030419 COG-Lusk 22 SWD

Page Number: 6 of 26 Lea County, NM

Analytical Report

Sample: 387990 - BH-1 2-3

Laboratory: Midland

Chloride (Titration) Analysis:

QC Batch: 119808 Prep Batch: 101347

Analytical Method: SM 4500-Cl B Date Analyzed: 2015-03-05

Sample Preparation: 2015-03-05

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

RLParameter Flag Cert Result Units Dilution RLChloride 7920 mg/Kg 5 4.00

Sample: 387991 - BH-1 4-5

Laboratory: Midland

Analysis: Chloride (Titration) QC Batch: 119808 Prep Batch: 101347

Analytical Method: Date Analyzed: Sample Preparation:

SM 4500-Cl B 2015-03-05 2015-03-05

Prep Method: N/A Analyzed By: EMPrepared By: EM

RLParameter Flag Cert Result Units Dilution RLChloride 1740 mg/Kg 5 4.00

Sample: 387992 - BH-1 6-7

Laboratory: Midland

Prep Batch:

Analysis: Chloride (Titration) QC Batch: 119808 101347

Analytical Method: Date Analyzed: Sample Preparation:

SM 4500-Cl B 2015-03-05 2015-03-05

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

RLParameter Flag Cert Result Dilution RLUnits Chloride 97.0 mg/Kg 5 4.00

Report Date: March 16, 2015 Work Order: 15030419 Page Number: 7 of 26 212C-MD-00154 COG-Lusk 22 SWD Lea County, NM Sample: 387993 - BH-1 9-10 Laboratory: Midland Analytical Method: Prep Method: Analysis: Chloride (Titration) SM 4500-Cl B N/A QC Batch: 119808 Date Analyzed: 2015-03-05 Analyzed By: EM Prep Batch: 101347 Sample Preparation: 2015-03-05 Prepared By: EM RL Parameter Result Units Dilution RL Flag Cert 97.0 Chloride mg/Kg 5 4.00 Sample: 387994 - BH-2 2-3

Laboratory: Midland Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A QC Batch: 119808 Date Analyzed: Analyzed By: 2015-03-05 EM Prep Batch: 101347 Sample Preparation: Prepared By: 2015-03-05 EMRLParameter Flag Cert Result Units Dilution RL Chloride 10400 mg/Kg 5 4.00

Laboratory: Midland Analytical Method: Prep Method: Analysis: Chloride (Titration) SM 4500-Cl B N/A QC Batch: 119808 Date Analyzed: 2015-03-05 Analyzed By: EM Prep Batch: 101347 Sample Preparation: 2015-03-05 Prepared By: EM RLParameter Flag Cert Result Units Dilution RL

9950

mg/Kg

5

4.00

Sample: 387995 - BH-2 4-5

Sample: 387996 - BH-2 6-7

Chloride

Laboratory: Midland Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A Analysis: Date Analyzed: 2015-03-05 Analyzed By: EM QC Batch: 119808 Prep Batch: 101347 Sample Preparation: 2015-03-05 Prepared By: EM

Report Date: March 16, 2015

212C-MD-00154

Work Order: 15030419 COG-Lusk 22 SWD

Page Number: 8 of 26 Lea County, NM

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride			7630	mg/Kg	5	4.00

Sample: 387997 - BH-2 9-10

Laboratory:

Midland

Analysis: Chloride (Titration)

QC Batch:

119808

Analytical Method:

SM 4500-Cl B 2015-03-05

Prep Method: Analyzed By:

N/A EM

Prep Batch: 101347

Date Analyzed: Sample Preparation: 2015-03-05

Prepared By: EM

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride			870	mg/Kg	5	4.00

Sample: 387998 - BH-2 14-15

Laboratory:

Midland Chloride (Titration)

Analysis: QC Batch: 119808 Prep Batch: 101347

Analytical Method: Date Analyzed:

Sample Preparation:

SM 4500-Cl B 2015-03-05

2015-03-05

Prep Method: Analyzed By:

N/A EM Prepared By: EM

EM

RLCert Dilution RLParameter Flag Result Units Chloride 386 5 4.00 mg/Kg

Sample: 387999 - BH-2 19-20

Laboratory:

Parameter

Chloride

Midland

Flag

Analysis: Chloride (Titration)

QC Batch: 119808 Prep Batch: 101347 Analytical Method: Date Analyzed:

Cert

Sample Preparation:

RL

386

Result

SM 4500-Cl B 2015-03-05 2015-03-05

Prep Method: N/A Analyzed By: EM

Prepared By:

Units Dilution RLmg/Kg 4.00

Report Date: March 16, 2015 Work Order: 15030419 Page Number: 9 of 26 212C-MD-00154 COG-Lusk 22 SWD Lea County, NM Sample: 388000 - BH-3 2-3 Laboratory: Midland Prep Method: N/A Chloride (Titration) Analytical Method: SM 4500-Cl B Analysis: QC Batch: 119809 Date Analyzed: 2015-03-05 Analyzed By: EMPrep Batch: 101349 Sample Preparation: 2015-03-05 Prepared By: EMRL Dilution RLUnits Parameter Flag Cert Result 5760 4.00 Chloride mg/Kg 5

Sample: 388001 - BH-3 4-5

Laboratory: Midland
Analysis: Chloride (Titration) Analytica

Analysis: Chloride (Titration)

QC Batch: 119809

Prep Batch: 101349

Analytical Method: SM 4500-Cl B

Date Analyzed: 2015-03-05

Sample Preparation: 2015-03-05

Prep Method: N/A

Analyzed By: EM

Prepared By: EM

Sample: 388002 - BH-3 6-7

Laboratory: Midland

Analytical Method: Prep Method: N/A Analysis: Chloride (Titration) SM 4500-Cl B Analyzed By: QC Batch: 119809 Date Analyzed: 2015-03-05 EM Prep Batch: 101349 Sample Preparation: 2015-03-05 Prepared By: EM

Sample: 388003 - BH-3 9-10

Laboratory: Midland

Analytical Method: SM 4500-Cl B Prep Method: N/A Analysis: Chloride (Titration) Date Analyzed: Analyzed By: EM QC Batch: 119809 2015-03-05 Prepared By: Sample Preparation: 2015-03-05 EMPrep Batch: 101349

Report Date: March 16, 2015

212C-MD-00154

Work Order: 15030419 COG-Lusk 22 SWD

Page Number: 10 of 26

Lea County, NM

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride			195	mg/Kg	5	4.00

Sample: 388004 - BH-4 2-3

Laboratory:

Midland

Analysis: Chloride (Titration)

QC Batch:

119809

Analytical Method: Date Analyzed:

SM 4500-Cl B 2015-03-05

Prep Method: N/A Analyzed By:

EM EM

Prep Batch: 101349

Sample Preparation: 2015-03-05

Prepared By:

			KL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride			7120	mg/Kg	5	4.00

Sample: 388005 - BH-4 4-5

Laboratory:

Midland Chloride (Titration)

Analysis: QC Batch: 119809 Prep Batch: 101349 Analytical Method: Date Analyzed:

SM 4500-Cl B 2015-03-05

Prep Method: N/A Analyzed By:

EM

Sample Preparation: 2015-03-05 RL

Prepared By: EM

Cert Units Dilution RLParameter Flag Result Chloride 8290 mg/Kg 5 4.00

Sample: 388006 - BH-4 6-7

Laboratory:

Midland

Analysis: Chloride (Titration) QC Batch: 119809 Prep Batch: 101349

Analytical Method: Date Analyzed:

SM 4500-Cl B 2015-03-05 Sample Preparation: 2015-03-05

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

RL Parameter Flag Cert Result Units Dilution RLmg/Kg Chloride 390 5 4.00

Report Date: March 16, 2015 Work Order: 15030419 Page Number: 11 of 26 212C-MD-00154 COG-Lusk 22 SWD Lea County, NM Sample: 388007 - BH-4 9-10 Laboratory: Midland Prep Method: N/A Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B QC Batch: 119809 Date Analyzed: 2015-03-05 Analyzed By: EM Prep Batch: 101349 Sample Preparation: 2015-03-05 Prepared By: EMRL Parameter Cert Result Units Dilution RLFlag 4.00 Chloride 585 mg/Kg 5 Sample: 388008 - BH-5 2-3 Laboratory: Midland Prep Method: Chloride (Titration) Analytical Method: SM 4500-Cl B N/AAnalysis: Date Analyzed: Analyzed By: EM QC Batch: 119809 2015-03-05 Sample Preparation: 2015-03-05 Prepared By: EMPrep Batch: 101349 RLRLResult Units Dilution Parameter Flag Cert 1660 4.00 Chloride mg/Kg 5 Sample: 388009 - BH-5 4-5 Laboratory: Midland Analytical Method: Analysis: Chloride (Titration) SM 4500-Cl B Prep Method: N/A Analyzed By: QC Batch: 119809 Date Analyzed: 2015-03-05 EM Prep Batch: 101349 Sample Preparation: 2015-03-05 Prepared By: EM RL Parameter Cert Result Units Dilution RLFlag Chloride 4980 5 4.00 mg/Kg

Analytical Method:

Sample Preparation:

Date Analyzed:

SM 4500-Cl B

2015-03-05

2015-03-05

Prep Method:

Analyzed By:

Prepared By:

N/A

EM

EM

Sample: 388010 - BH-5 6-7

Midland

119810

Chloride (Titration)

Laboratory:

Analysis:

QC Batch:

Prep Batch: 101351

Report Date: March 16, 2015

212C-MD-00154

Work Order: 15030419 COG-Lusk 22 SWD

Page Number: 12 of 26

Lea County, NM

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride	744		594	mg/Kg	5	4.00

Sample: 388011 - BH-5 9-10

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch:

119810

Analytical Method:

SM 4500-Cl B

Prep Method: N/A

EM

Prep Batch: 101351

Date Analyzed: 2015-03-05 Sample Preparation: 2015-03-05

Analyzed By: Prepared By: EM

			KL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride			396	mg/Kg	5	4.00

Sample: 388012 - BH-5 14-15

Laboratory: Midland

Analysis: OC Batch: Chloride (Titration)

119810 Prep Batch: 101351

Analytical Method: Date Analyzed:

SM 4500-Cl B 2015-03-05

Prep Method: N/A Analyzed By:

EM

Sample Preparation: 2015-03-05

Prepared By: EM

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride			99.0	mg/Kg	5	4.00

Sample: 388013 - BH-6 2-3

Laboratory:

Midland

Analysis: Chloride (Titration)

QC Batch: Prep Batch: 101351

119810

Analytical Method: Date Analyzed:

SM 4500-Cl B 2015-03-05 Sample Preparation: 2015-03-05

Prep Method: N/A

Analyzed By: EM Prepared By: EM

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride			4550	mg/Kg	5	4.00

Report Date: March 16, 2015 Work Order: 15030419 Page Number: 13 of 26 212C-MD-00154 COG-Lusk 22 SWD Lea County, NM Sample: 388014 - BH-6 4-5 Laboratory: Midland Analytical Method: Prep Method: Analysis: Chloride (Titration) SM 4500-Cl B N/A QC Batch: 119810 Date Analyzed: 2015-03-05 Analyzed By: EM Prep Batch: 101351 Sample Preparation: 2015-03-05 Prepared By: EMRLParameter Flag Cert Result Units Dilution RLChloride 7230 4.00 mg/Kg 5

Sample: 388015 - BH-6 6-7 Laboratory: Midland Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A QC Batch: 119810 Date Analyzed: Analyzed By: 2015-03-05 EM Prep Batch: 101351 Sample Preparation: 2015-03-05 Prepared By: EM RLParameter Flag Cert Result Units Dilution RL Chloride 99.0 mg/Kg 5 4.00

Laboratory: Midland Analytical Method: Prep Method: Analysis: Chloride (Titration) SM 4500-Cl B N/A Date Analyzed: Analyzed By: QC Batch: 119810 2015-03-05 EMPrep Batch: 101351 Sample Preparation: 2015-03-05 Prepared By: EMRL

Sample: 388017 - BH-7 2-3

Sample: 388016 - BH-6 9-10

Laboratory: Midland Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A QC Batch: 119810 Date Analyzed: 2015-03-05 Analyzed By: EM Sample Preparation: Prepared By: Prep Batch: 101351 2015-03-05 EM

Work Order: 15030419 COG-Lusk 22 SWD

Page Number: 14 of 26 Lea County, NM

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride	1.0		7520	mg/Kg	5	4.00

Sample: 388018 - BH-7 4-5

Laboratory: Midland

Chloride (Titration)

Analysis: QC Batch: 119810 Prep Batch: 101351

Analytical Method: SM 4500-Cl B Date Analyzed: 2015-03-05 Sample Preparation: 2015-03-05

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

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride			6830	mg/Kg	5	4.00

Sample: 388019 - BH-7 6-7

Laboratory: Midland

Prep Batch: 101351

Chloride (Titration) Analysis: OC Batch: 119810

Analytical Method: SM 4500-Cl B Date Analyzed: 2015-03-05 Sample Preparation: 2015-03-05

Prep Method: N/A Analyzed By: EMPrepared By: EM

		RL									
Parameter	Flag	Cert	Result	Units	Dilution	RL					
Chloride		a"	2080	mg/Kg	5	4.00					

Sample: 388020 - BH-7 9-10

Laboratory: Midland

Analysis: Chloride (Titration) QC Batch: 119811

Date Analyzed: Prep Batch: 101353

Analytical Method: SM 4500-Cl B 2015-03-05 Sample Preparation: 2015-03-05

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

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

Work Order: 15030419 COG-Lusk 22 SWD

Page Number: 15 of 26 Lea County, NM

Sample: 388021 - BH-7 14-15

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 119811 Prep Batch: 101353 Analytical Method: SM 4500-Cl B Date Analyzed: 2015-03-05

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

RLResult Parameter Flag Cert <20.0 Chloride U

RLDilution Units 4.00 mg/Kg 5

Sample: 388022 - BH-8 2-3

Laboratory: Midland

Analysis: Chloride (Titration)

119811 QC Batch: Prep Batch: 101353 Analytical Method: Date Analyzed:

Sample Preparation:

SM 4500-Cl B 2015-03-05 Sample Preparation: 2015-03-05

2015-03-05

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

RLCert Result Units Dilution RLFlag Parameter 5100 mg/Kg 5 4.00 Chloride

Sample: 388023 - BH-8 4-5

Laboratory: Midland

Analysis: Chloride (Titration) QC Batch: 119811 Prep Batch: 101353

Analytical Method: Date Analyzed: Sample Preparation:

SM 4500-Cl B 2015-03-05 2015-03-05

Prep Method: N/A Analyzed By: EMPrepared By: EM

RL RLParameter Flag Cert Result Units Dilution Chloride 12600 mg/Kg 5 4.00

Sample: 388024 - BH-8 6-7

Laboratory: Midland

Chloride (Titration) Analysis:

QC Batch: 119811 Prep Batch: 101353 Analytical Method: SM 4500-Cl B 2015-03-05 Date Analyzed: Sample Preparation: 2015-03-05

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

Work Order: 15030419 COG-Lusk 22 SWD

Page Number: 16 of 26

Lea County, NM

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride			2160	mg/Kg	5	4.00

Sample: 388025 - BH-8 9-10

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 119811 Prep Batch: 101353

Analytical Method: SM 4500-Cl B $\,$ Date Analyzed: 2015-03-05

Sample Preparation: 2015-03-05

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

RLDilution RLResult Units Parameter Flag Cert 4.00 Chloride 490 mg/Kg 5

Work Order: 15030419 COG-Lusk 22 SWD

Page Number: 17 of 26 Lea County, NM

Method Blanks

Method Blank (1)

QC Batch: 119808

Flag

QC Batch: 119808 Prep Batch: 101347 Date Analyzed: 2015-03-05 QC Preparation: 2015-03-05 Analyzed By: EM Prepared By: EM

Parameter

Chloride

MDL Cert Result

<3.85

< 3.85

< 3.85

Units RLmg/Kg 4

Method Blank (1)

QC Batch: 119809

QC Batch: 119809 Prep Batch: 101349 Date Analyzed: 2015-03-05 QC Preparation: 2015-03-05 Analyzed By: EMPrepared By: EM

Parameter

Chloride

MDL Flag Cert Result

Units RL mg/Kg

Method Blank (1)

QC Batch: 119810

QC Batch: 119810 Prep Batch: 101351 Date Analyzed: 2015-03-05 QC Preparation: 2015 - 03 - 05

Cert

Analyzed By: EM Prepared By: EM

Parameter Chloride

MDL Result

Units RL mg/Kg 4

Method Blank (1)

QC Batch: 119811

Flag

QC Batch: 119811 Prep Batch: 101353 Date Analyzed: 2015-03-05 QC Preparation: 2015-03-05 Analyzed By: EM Prepared By: EM

Work Order: 15030419 COG-Lusk 22 SWD Page Number: 18 of 26 Lea County, NM

			MDL		
Parameter	Flag	Cert	Result	Units	RL
Chloride			< 3.85	mg/Kg	4

Work Order: 15030419 COG-Lusk 22 SWD

Page Number: 19 of 26 Lea County, NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch:

119808

Date Analyzed:

2015-03-05

Analyzed By: EM

Prep Batch: 101347

QC Preparation: 2015-03-05

Prepared By: EM

			LCS			Spike	Matrix		Rec.
Param	F	C	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride			2510	mg/Kg	5	2500	<19.2	100	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	C	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			2510	mg/Kg	5	2500	<19.2	100	85 - 115	0	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: Prep Batch: 101349

119809

Date Analyzed: QC Preparation: 2015-03-05

2015-03-05

Analyzed By: EM

Prepared By: EM

			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride			2540	mg/Kg	5	2500	<19.2	101	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	C	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			2730	mg/Kg	5	2500	<19.2	109	85 - 115	7	20

QC Preparation: 2015-03-05

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:

Prep Batch: 101351

119810

Date Analyzed:

2015-03-05

Analyzed By: EM

Prepared By: EM

Report Date: March 16, 2015

212C-MD-00154

Work Order: 15030419 COG-Lusk 22 SWD

Page Number: 20 of 26

Lea County, NM

			LCS			Spike	Matrix		Rec.
Param	F	C	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	1-1		2380	mg/Kg	5	2500	<19.2	95	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	C	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			2670	mg/Kg	5	2500	<19.2	107	85 - 115	12	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:

119811 Prep Batch: 101353 Date Analyzed:

2015-03-05 QC Preparation: 2015-03-05 Analyzed By: EM

Prepared By: EM

			LCS			Spike	Matrix		Rec.
Param	F	C	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	warest teams		2350	mg/Kg	5	2500	<19.2	94	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	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			2350	mg/Kg	5	2500	<19.2	94	85 - 115	0	20

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

Work Order: 15030419 COG-Lusk 22 SWD

Page Number: 21 of 26 Lea County, NM

Matrix Spikes

Matrix Spike (MS-1)

Spiked Sample: 387999

QC Batch:

119808

Date Analyzed: 2015-03-05 Analyzed By: EM

Prep Batch: 101347

QC Preparation: 2015-03-05

Prepared By: EM

			MS			Spike	Matrix		Rec.
Param	F	C	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride			2510	mg/Kg	5	2500	<19.2	100	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	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			2610	mg/Kg	5	2500	<19.2	104	78.9 - 121	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: 388009

QC Batch: Prep Batch: 101349

119809

Date Analyzed: QC Preparation: 2015-03-05

2015-03-05

Analyzed By: EM

Prepared By: EM

			MS			Spike	Matrix		Rec.
Param	F	C	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride			7320	mg/Kg	5	2500	4976	94	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	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			7320	mg/Kg	5	2500	4976	94	78.9 - 121	0	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: 388019

QC Batch:

119810

Date Analyzed:

2015-03-05

Analyzed By: EM

Prep Batch: 101351

QC Preparation:

2015-03-05

Prepared By: EM

Work Order: 15030419 COG-Lusk 22 SWD Page Number: 22 of 26 Lea County, NM

			MS			Spike	Matrix		Rec.
Param	F	$^{\rm C}$	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride			4160	mg/Kg	5	2500	2079	83	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	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			4260	mg/Kg	5	2500	2079	87	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: 388025

QC Batch: 119811 Prep Batch: 101353 Date Analyzed: 2015-03-05 QC Preparation: 2015-03-05

Analyzed By: EM Prepared By: EM

			MS			Spike	Matrix		Rec.
Param	F	C	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	10.1		2940	mg/Kg	5	2500	<19.2	118	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			3040	mg/Kg	5	2500	<19.2	102	78.9 - 121	3	20

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

Work Order: 15030419 COG-Lusk 22 SWD

Page Number: 23 of 26 Lea County, NM

Calibration Standards

Standard	(ICV-1)	ì
Digital a	(-)	,

QC Batch: 119808

Date Analyzed: 2015-03-05

Analyzed By: EM

				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride	10-1		mg/Kg	100	100	100	85 - 115	2015-03-05

Standard (CCV-1)

QC Batch: 119808

Date Analyzed: 2015-03-05

Analyzed By: EM

				CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2015-03-05

Standard (ICV-1)

QC Batch: 119809

Date Analyzed: 2015-03-05

Analyzed By: EM

				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2015-03-05

Standard (CCV-1)

QC Batch: 119809

Date Analyzed: 2015-03-05

Analyzed By: EM

				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	2015-03-05

Report Date: Ma 212C-MD-00154	arch 16, 201	5	_		er: 15030419 sk 22 SWD			mber: 24 of 26 a County, NM
Standard (ICV	-1)							
QC Batch: 1198	310		Date A	nalyzed:	2015-03-05		Analy	zed By: EM
				ICVs	ICVs	ICVs	Percent	
	0.000	500.000		True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			mg/Kg	100	101	101	85 - 115	2015-03-05
Standard (CCV	V-1)							
QC Batch: 1198	310		Date A	nalyzed:	2015-03-05		Analy	zed By: EM
				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc	Recovery	Limits	Analyzed
Chloride	* 105	CCIC	mg/Kg	100	99.0	99	85 - 115	2015-03-05
Standard (ICV	ŕ		Duto A	nalyzed:	2015-03-05		Angly	zed By: EM
QC Batch: 1198	511		Date r	maryzeu	2010-05-05		Allaiy.	red by. Divi
				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride								
			mg/Kg	100	100	100	85 - 115	2015-03-05
Standard (CCV			mg/Kg	100	100	100	85 - 115	2015-03-05
	V-1)			100	100 2015-03-05	100		2015-03-05 zed By: EM
Standard (CCV	V-1)			Analyzed:	2015-03-05		Analy	
Standard (CCV	V-1)			Analyzed: CCVs	2015-03-05 CCVs	CCVs	Analy: Percent	zed By: EM
Standard (CCV	V-1)	Cert		Analyzed:	2015-03-05		Analy	

Work Order: 15030419 COG-Lusk 22 SWD Page Number: 25 of 26 Lea County, NM

Appendix

Report Definitions

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

Laboratory Certifications

	Certifying	Certification	Laboratory
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.
- Or RPD outside of laboratory limits
- Qs Spike recovery outside of laboratory limits.
- Osr Surrogate recovery outside of laboratory limits.
- U The analyte is not detected above the SDL

Attachments

Work Order: 15030419 COG-Lusk 22 SWD Page Number: 26 of 26 Lea County, NM

The scanned attachments will follow this page.

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

TETRATECH Middlan Light Springs St. Middlan Light Sp	Analycic	Regile	not of Ch		7 2	0	buc					PAGE:	J	,	 	4
TETRATECH Middlan, 189 Spring St. Midd	Signal Andrews			·		5	5			Ö	ANAL rcle or	YSIS RI Specify	EQUES:	r 7 No.)		-
1910 N. 18G Spring St. Middland, Taxas 78905 Middland, M		_						<u> </u>		²						
STIFF MANAGER: TAG COLORS STAMPLE DEVINE CATON TAG COLORS COL		۲	1910 N. Big Midland, Te (432) 682-4556					(Ext. to C35)		oS gH b9 1V					s	
A	CLIENT NAME:		SITE MANAG	ER:	NEHS	# T	ESERVATIVE METHOD					579/02			OT ,Hq ,e	
The control of the	PROJECT NO:		1 × × × × × × × × × × × × × × × × × × ×	Swb.						səli				(hiA)		
S x B14-1 2-3	NUMBER 2015	MATRIX	SAM	PLE IDENTIFICATION		нсг	ICE		07S8 HA9	TCLP Volat	HCI		Chloride	Alpha Beta		
1 1 4-5 1	387990 3/3	×		١ ١									\geq			
34 - 2 2 - 3	1 991			4-5									.>-			
BH - 2 2 - 3	992			6-01	_								\sim			
SH - 2 2 - 3	993			9-10									Y			
1	hbb		l l	2-3									X			
1 1 1 1 1 1 1 1 1 1	Sbb		:	4-5	-								<u>\</u>			
C C C C C C C C C C	766		i	6-7	_								M			
C - 2 C -	1447		•	9-10									ЙI			
Colored Colo	866			14-15								-	X			
Control Cont	不 656 下	7		19-20									><			`
Particle Date: Particle Date: Sample Brt (Signature) Date: Time: FEDEX BUS OTHER: Time: FEDEX BUS OTHER: Time: Time:	REZNAUJSHED BY (Signature)	alles	l ' ''	RECEIVED BY: (Signature)		를 전투		27	SAMP	LED BY: (PA	int & Infli	ନ୍ତ		Dar	4	3-16
Times Park	RELINGUISHED BY: (Signative)		Date:	RECEIVED BY (Signatigal)		å ‡	ite;		SAMP		D BY: (Cir	(e) S		AIRBI	1.4:	
Terral Tech Contact Person: Received BY: (Signature) Received BY: (Si	RELINQUISHED BY: (Signature)		Dafe:	RECEIVED BY (Signature)		ి డి	ite:		. ₹	O DELIVER	ر د	2 g		a Be		
STATE: ZIP: Authorized: Authorized: Authorized: Yes	RECEIVING LABORATORY:		Time:	RECEIVED BY: (Signature)		ř	TØ:) TECH CO	NIACT	:KSON:			lesuits by:	.,
DATABRES	ADDRESS: CITY: CONTACT:			DATE:	F	1 A			F.						TUSH Cha Luthorized Yes	irges t: No
	SAMPLE CONDITION WHEN BE		REMARKS:													

2		piooni /		AMA			
T SLIENT NAME:				Circle or	ANALYSIS HEQUEST (Circle or Specify Method No.)	No.)	
SLIENT NAME:	1910 N. Big Spring St. Midland, Texas 79705 (432) 682-4559 • Fax (432) 682-3946		Cr Pb Hg Se	e2 gH b9 1/V			
とうで	SITE MANAGER:	PRESERVATIVE W METHOD				JT ,Hq ,er	
212CMO tol54 Cod 1	15K 72 5V		OOM 5	eelitsloV	nl, Vol. 82 V608 80	(hiA)	
LABI.D. DATE TIME EX STATE NUMBER 2015	SAMPLE IDENTIFICATION	NONE HNO3 HCF HCC HCC HCC HCC	PAH 8270	TCLP Volati FCLP Semi FCL FCLP Semi	GC.MS Sen	stad safqlA sdzA) MJG noinA rojsM	
38800 3/3 X	184-3 2-3				X		
	4-5				<u></u>		
700	1-01				×		
600	9-10				>		
	8-7 t-48				- >2		
	4-5				<u> </u>		
	6-07				X 		
(3)	9-10				<i>y</i>		
	BH-5 2-3				X		
1-60 X W	,						
RE MOJ/SHED St: (Signature)	Date: 3-4-16 RECEIVED BY: (Signalism)	Time: 10:57	SAMPI	SAMPLED BY Print & Initial	(lei)	Date: 5/3	8
AELINOUISHED ext. (8(gnature)		Date: Time:	SAMPLE	SHIPPED/BY: (C	ircle) BUS	AIRBILL #:	
RELINQUISHED BY: (Signature)	Deter RECEIVED BY: (Signature)	Date:	HAN	DELIVERED ECH CONTACT	UPS	OTHER:	1
RECEIVING LABORATORY:	RECEIVED BY: (Signature)						
CONTACT: STATE: PHONE:		тиме:				Authorized: Yes	
SAMPLE CONDITION WHEN RECEIVED:	REMARKS:						

		21047 140 12	100+011 U +0	ו י	200	_ ፒ					שמני			+
Allalysis	anhau	St of Olian	nequest of criain of custody necold		5	3			ا م	NALYSI	ANALYSIS REQUEST	ST		
						•				e or spe	ciny metr	nod No.)		
		TETRA TECH 1910 N. Big Spring St. Midland, Texas 79705	in T. in St. 9705				xt. to C35)							
		(432) 002-4339 T RAX	(432) 002-3340				3) 9(SQ1	
CLIENT NAME:		SITE MANAGER:	OXALO?	NEHS	PRESE	PRESERVATIVE METHOD	001XI			_			r,Hq ,en	
Y COUNTY	THOUSET NAME:	18/4 22	d p				B MOD.		səli	_				
LAB I.D. DATE TIME	MATHIX COMP GRAB	SAMPLEIDE	SAMPLE IDENTIFICATION	NUMBER O	ниоз нсг	NONE		PAH 8270 TCLP Meta	TCLP Volati	GC:MS 261 GC:MS A01	PCB's 8080 Chloride	Gamma Sp Alpha Beta	PLM (Asbe	
388010 3/2	Ω ×	-m 5-HE	6-								<u> </u>			
		6	-10											
750			14-15									><		
013		BH-10 2	-3											
hiO		7	-5									<u></u>		
Oris		7	10-0											
Olb		6	1-10											
210		13H-9 2	5-1											
810		7	5									>	0.1	
Piblo		0)	6-									خد		
RELINGUISHED BY: (Supposure)		Date: 3-4-15 RE	RECEIVED BY: (Signature)		Dete: Time:	10:53	4.3	SAMPLED	SAMPLED BY: (Print & Initial)			J F	Date:	27575
RELINQUISMED BY: (SIGNATUR)			RECEIVED BY: (Skingsom)		Dete:			SAMPLE S FEDEX	SAMPLE SHIPPED BY: (CIRCLE) PUS	Y: (Circle) BUS		Æ	AIRBILL #:	
RELINQUISHED BY: (Signature)			RECEIVED BY: (Signature)		Date:			HAND D	HAND DELIVERED UPS TETRA TECH CONTACT PERSON:	UPS ACT PERSO	ä	ğ	OTHER: Results by:	j/q
RECEIVING LABORATORY:			RECEIVED BY: (Signature)										RUSHC	harnes
CITY: S	STATE: PHONE:	ZIP: DATE:		TIME									Authorized: Yes	Po Po
SAMPLE CONDITION WHEN RECEIVED		REMARKS:												

	E	TETRA TECH	TETRATECH 1910 N. Big Spring St.	2	5	(562)		_	or Speci	ANALYSIS REQUEST (Circle or Specify Method No.)	No.)	
INT NAME:	J	Midland, Texas (432) 682-4559 • Fa SITE MANAGER:	Midland, Texas 79705 (432) 682-4559 • Fax (432) 682-3946 SITE MANAGER:		PRESERVATIVE METHOD	TX1005 (Ext. to	B ^S CQ AL SQ H ^C				SQT ,Hq ,a	
154154		PROJECT NAME: (DG) - LAUSK 2	22 SUP			B B		soli	. Мој. 85 Ти	B0:	(hiA) (aota	
DATE TIME	COMP.	SAMPL GR	SAMPLE IDENTIFICATION	HCL FILTERED HCL	NONE ICE HNO3	ISOS X318		LCLP Semi	GC.MS 5et PCB's 8080	Pest 808/6	Gamma Sp Alpha Beta PLM (Asbe	
3/3	5 1	x RH -7	9-10							×		
			14-15							X		
		184-8	2-3							X		
			45							×		
			6-0							_		
->			9-10							×		
			:									
RELINQUIGHED BY (Signature))	Time: 106.7	HECEIVED BY: (Signature)		3	0.52	SAMPLE	SAMPLED BY: (Print & Initial)	Inflat)		Date:	07676
BY: (Signature)		Date: Time:	RECEIVED BY: (SKJodium)		Date: Time:		SAMPLE	SAMPLE SHIPPED BY: (Circle) FEDEX BUS	(Circle) BUS		AIRBILL #:	
RELINQUISHED BY: (Signature)		Date: Time:	RECEIVED BY: (Signature)		Dete: Time:		TETRA TE	TETRA TECH CONTACT PERSON:	T PERSON:		Resu	Results by:
RECEIVING LABORATORY: ADDRESS:			RECEIVED BY: (Signature)				_				RUSI	RUSH Charges
STATE		PHONE	DATE:	TIME							Augu	nonzed: Yes No