SITE INFORMATION Report Type: Closure Report General Site Information: Willow "A" State Tank Battery Site: Company: **COG Operating LLC** Section, Township and Range Unit J Sec 3 T25S R28E Lease Number: API-30-015-33012 **Eddy County** County: GPS: 32.15751° N 104.07456° W Surface Owner: State Mineral Owner: Starting in Malaga on Hwy 285, travel south on Hwy 285 for 4.6 miles site is on west side of the Directions: highway. Release Data: Date Released: 1/31/2011 Type Release: Oil Source of Contamination: Circulating Pump Fluid Released: 24 bbls Fluids Recovered: 23 bbls Official Communication: Name: Pat Ellis Ike Tavarez Company: COG Operating, LLC Tetra Tech Address: 550 W. Texas Ave. Ste. 1300 1910 N. Big Spring P.O. Box City: Midland Texas, 79701 Midland, Texas Phone number: (432) 686-3023 (432) 425-3878 Fax: (432) 684-7137 ike.tavarez@tetratech.com Email: pellis@conchoresources.com

Depth to Groundwater:	Ranking Score	Site Data
<50 ft	20	20
50-99 ft	10	
>100 ft.	0	
WellHead Protection:	Ranking Score	Site Data
Water Source <1,000 ft., Private <200 ft.	20	
Water Source >1,000 ft., Private >200 ft.	0	0
Surface Body of Water:	Ranking Score	Site Data
<200 ft.	20	
200 ft - 1,000 ft.	10	
>1,000 ft.	0	0

Total BTEX

50

Benzene 10 TPH

100



December 7, 2011



Mr. Mike Bratcher **Environmental Engineer Specialist** Oil Conservation Division, District 2 1301 West Grand Avenue Artesia, New Mexico 88210

Closure Report for the COG Operating LLC., Willow "A" State Re: Tank Battery, Unit J, Section 3, Township 25 South, Range 28 East, Eddy County, New Mexico.

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC. (COG) to assess a spill from the Willow "A" State Tank Battery located in Unit J. Section 3, Township 25 South, Range 28 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.15751°, W 104.07456°. 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 January 31, 2011, and released approximately twenty four (24) barrels of oil from the circulating pump. To alleviate the problem, COG personnel repaired the pump. Twenty three (23) barrels of standing fluids were recovered. The spill was contained inside of the tank battery affecting an area of approximately 45' x 140'. The initial C-141 form is enclosed in Appendix A.

Groundwater

No water wells were listed within Section 3. The New Mexico State Engineer Well Reports showed one well in Section 4, with a groundwater depth of 35' below surface. According to the NMOCD groundwater map, the average depth to groundwater in this area is less than 50' below surface. The average depth to water map is shown in Appendix B.



Regulatory

A risk-based evaluation was performed for the Site in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases, dated August 13, 1993. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene). Based upon the depth to groundwater, the proposed RRAL for TPH is 100 mg/kg.

Soil Assessment and Analytical Results

On February 15, 2011, Tetra Tech personnel inspected and sampled the spill area. A total of five (5) auger holes (AH-1 through AH-4 and a background auger hole) were installed using a stainless steel hand auger to assess the impacted soils. Select samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The results of the sampling are summarized in Table 1. The auger hole locations are shown on Figure 3.

Referring to Table 1, auger holes (AH-1, AH-2 and AH-3) were below the RRAL for TPH and BTEX. Auger hole (AH-4) had a total TPH concentration of 131 mg/kg (0-1') and declined below the RRAL at (1-1.5').

Auger holes (AH-1, AH-2 and AH-3) showed chloride concentrations ranging from 425 mg/kg to 1,650 mg/kg. The chloride concentrations declined with depth and showed bottom samples (auger holes) of AH-1 (<200 mg/kg at 5-5.5'), AH-2 (465 mg/kg at 4-4.5') and AH-3 (878 mg/kg at 2.5'-3.0'). The background auger hole showed a chloride high of 352 mg/kg at 3-3.5' below surface. The remaining auger hole (AH-4) did not show a chloride impact to the area.



Closure Activities

Based on the approved work plan, Tetra Tech personnel supervised the excavation of the site. The final excavation depths of the soil remediation were met or exceeded, as stated in the approved work plan. A total of 160 cubic yards of soil were excavated and hauled away for proper disposal. The excavation depths are highlighted in Table 1 and shown on Figure 4. The excavations were backfilled with clean soil to grade.

As stated in the work plan, a trench was installed in the area of AH-3 to define extents. The trench sample results are shown in Table 1. Referring to Table 1, the chloride concentrations declined with depth.

Based on the approved remedial activities performed, COG requests closure of the site. A copy of the C-141 (Final) is included in Appendix A. If you have any questions or comments concerning the remedial activities, please call me at (432) 682-4559.

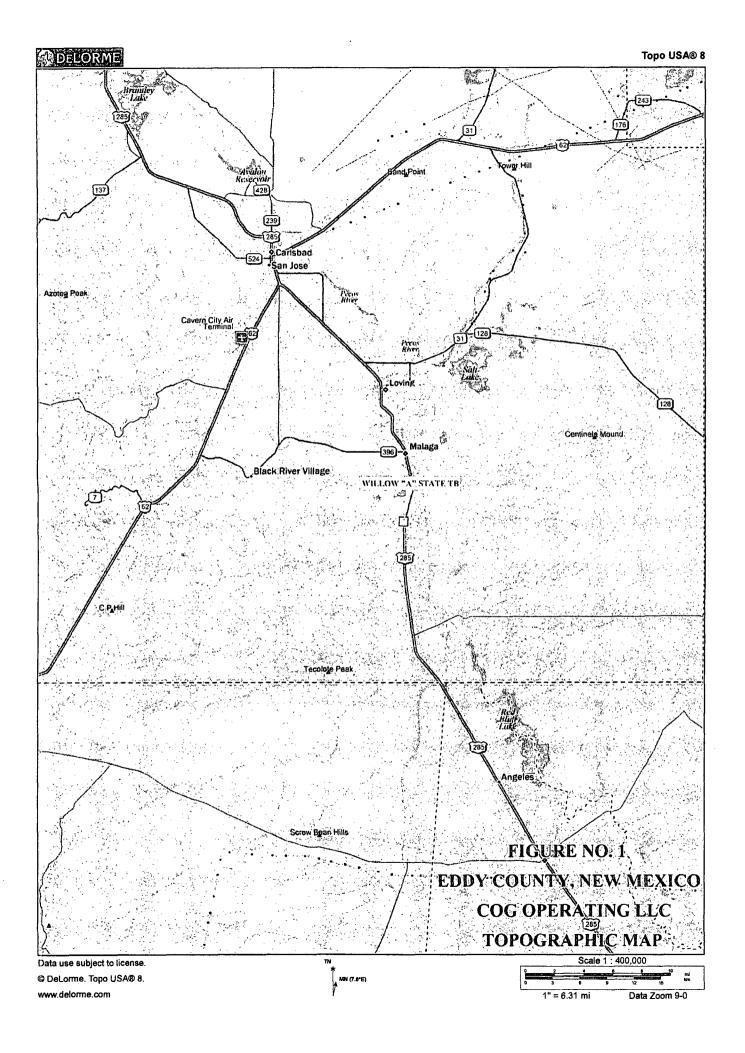
Respectfully submitted,

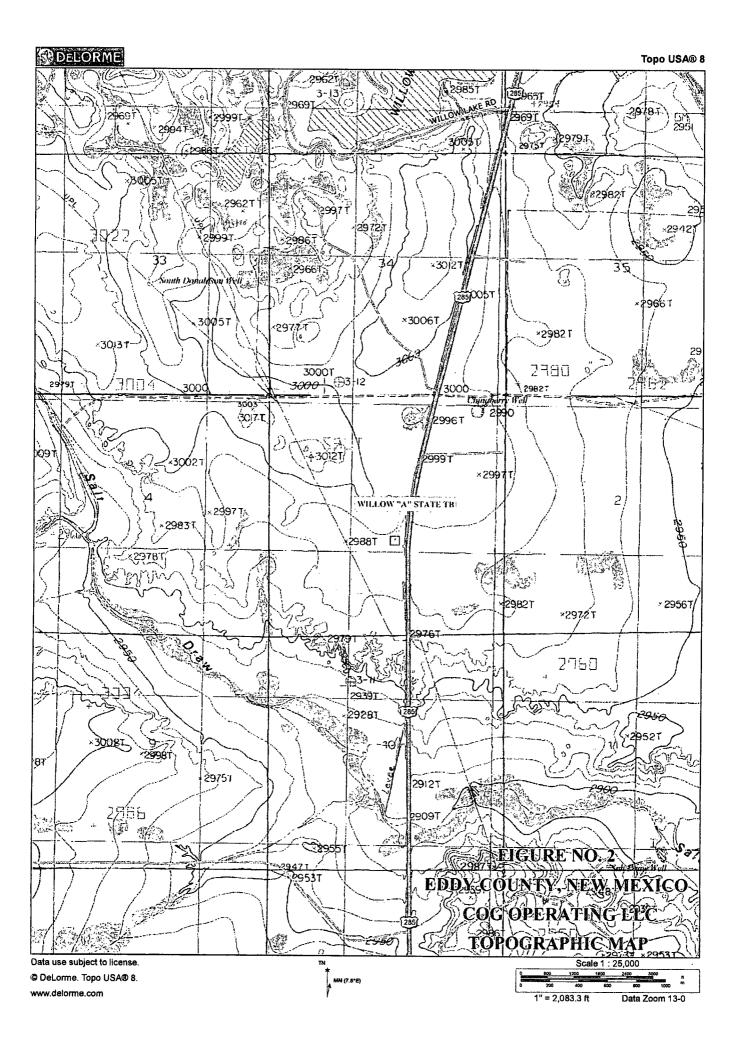
TETRA TECH

Tké Távaréz,/PG Senior Project Manager

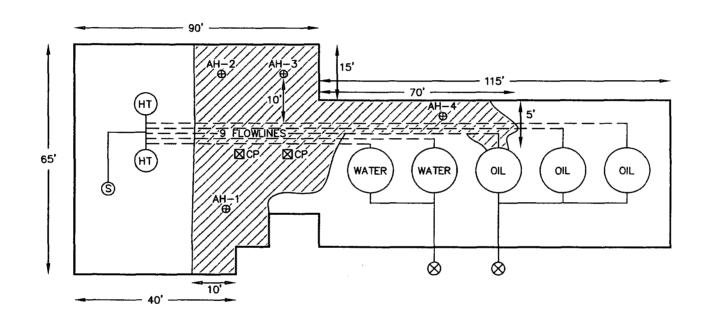
cc: Pat Ellis - COG

FIGURES









EDDY COUNTY, NEW MEXICO

COG OPERATING LLC

DATE:
2/15/11

DWN. BY:
J.J.

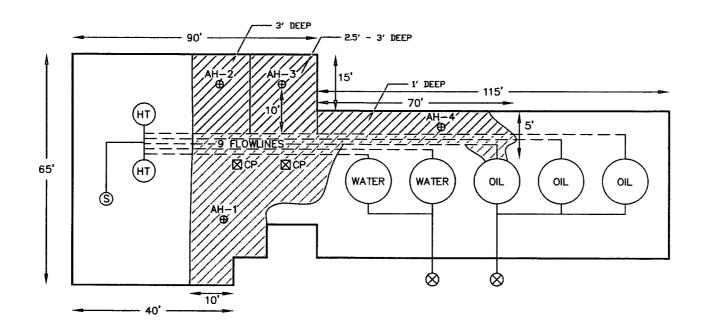
FILE:
14-LODG (4400817)
18-LODG (4400817)
18-L

NOT TO SCALE

SPILL AREA

SAMPLE LOCATIONS





SPILL AREA

EXCAVATED AREA (1.0' DEEP)

EXCAVATED AREA (2.5' TO 3.0' DEEP)
EXCAVATED AREA (3.0' DEEP)

 SAMPLE LOCATIONS

FIGURE NO. 4 EDDY COUNTY, NEW MEXICO COG OPERATING LLC

DATE: 12/9/2011 WILLOW "A" STATE TB EXCAVATION MAP

FILE

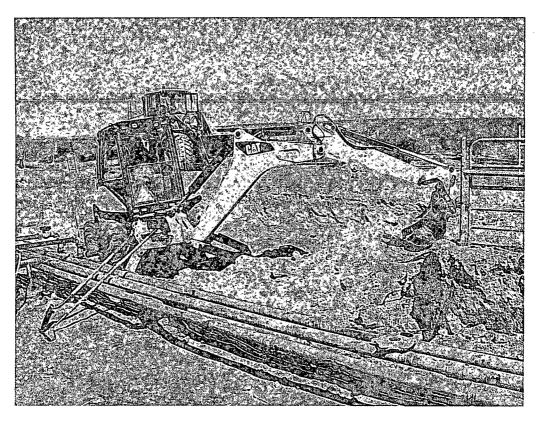
TETRA TECH, INC. MIDLAND, TEXAS

NOT TO SCALE

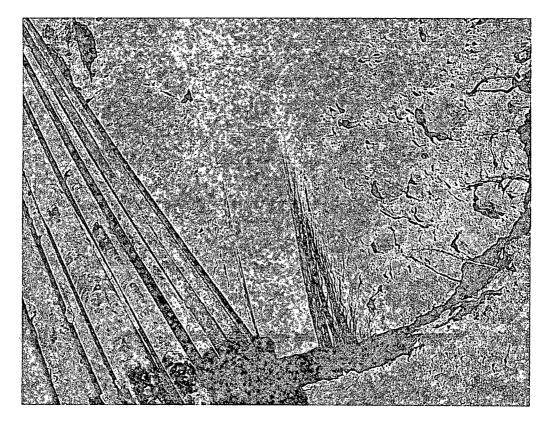
PHOTOS

COG Operating LLC Willow "A" State TB Eddy County, New Mexico





View North West - AH-3 and AH-2



Trench in area of AH-3

TABLES

Table 1 COG Operating LLC. WILLOW "A" TANK BATTERY Eddy County, New Mexico

0I- ID	0	Sample	Depth	Soil	Status	T	PH (mg/k	g)	Benzene	Toluene	Ethlybenzene	Xylene	Chloride
Sample ID	Sample Date	Depth (ft)	(BEB)	In-Situ	Removed	GRO	DRO	Total	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
AH-1	2/15/2011	0-1'	1'	Х		22.7	<50.0	22.7	<0.0200	<0.0200	<0.0200	0.477	518
	u	1-1.5'	1'	Х		-	_	-	_	_	-	-	735
	n	2-2.5'	1'	Χ.		·	_	-	_	-	-	<u>-</u>	953
	11	3-3.5'	1'	Х		-	_	_	_	_	-	_	1,020
	8	4-4.5'	1'	Х		-	_		_	-	•	_	425
	п	5-5.5'	1'	х		-	•	_	-	<u>-</u>	-	-	<200
AH-2	2/15/2011	0-1'	11		X	3.03	<50.0	3.03	<0.0200	<0.0200	<0.0200	0.379	1,130
	u	1-1.5'	1"		X					-			1,350
·	II .	2-2.5'			X			* 4	a long of the	-		A 25 2	1,650
	II	3-3.5	1'		X					3. 2. 2. 2. 2. 2. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4.		- A	1,120
	11	4-4.5'	1'	Х	5 - 3 - 4 - 5	_	_		-	_	46 - 47 - 48 - 49 - 49	-	465
	L		L	<u> </u>	.				·	·		· · · · · · · · · · · · · · · · · · ·	<u> </u>

Table 1 COG Operating LLC. WILLOW "A" TANK BATTERY Eddy County, New Mexico

Commis ID	Cample Date	Sample	Depth	Soil	Status	T	PH (mg/k	g)	Benzene	Toluene	Ethlybenzene	Xylene	Chloride
Sample ID	Sample Date	Depth (ft)	(BEB)	In-Situ	Removed	GRO	DRO	Total	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
AH-3	2/15/2011	0-1.	11:		. X	<2.00	<50.0	<50.0	<0.0200	<0:0200	<0.0200	<0.0200	981
	n	1-1.5'	11.		X			_	in english metallish siya	_		•	1,630
	II	2-2.5'	1!		X		-		-	-	3 -		1,570
	н	2.5-3'	1'	Х		-	-	-	-	_	-	-	878
Trench-1	8/15/2011	5'	_	Х		-	-	_	-	_	-	-	784
	11	7'	_	Х		-	-	-	_	_	<u>-</u>	-	656
	li.	9'	-	Х		_	_	_	_	_	_	_	323

Table 1 COG Operating LLC. WILLOW "A" TANK BATTERY Eddy County, New Mexico

0 1 15	0	Sample	Depth	Soil	Status	T	PH (mg/k	g)	Benzene	Toluene	e Ethlybenzene	Xylene	Chloride (mg/kg)
Sample ID	Sample Date	Depth (ft)	(BEB)	In-Situ	Removed	GRO	DRO	Total	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	
AH-4	2/15/2011		1		X	131	<50.0	131	<0.0200	0:236	0:346	1.22	∜ <200-
	u	1- 1.5'	1'	Х		<2.00	<50.0	<50.0	_	-	-	-	<200
	It	2-2.5'	1'	Х		-	-		-	-	-	_	<200
	н	3-3.5'	1'	Х		-	_	-	-	-			<200
BG	4/14/2011	0-1'		Х		-	-	-	-	_	•	-	<200
	н	1-1.5'		Х		-	-	-	-	_	- -		<200
	11	2-2.5'		Х		_	_	-	-	-	-	-	<200
	11	3-3.5'		Х		-	-	-	-	_	-	-	352

BEB Below Excavation Bottom

(--) Not Analyzed

Excavated material

APPENDIX A

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

State of New Mexico Energy Minerals and Natural Resources

Oil Conservation Division

Form C-141

Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form 1220 South St. Francis Dr. Santa Fe, NM 87505

			Rele	ease Notific	cation	and Co	orrective A	ction						
						OPERA?				al Report	Final	Report		
Name of Co		COG OP				Contact		at Ellis						
Address				dland, TX 7970		Telephone l		230-00						
Facility Nat	ne	Willo	w "A" St	ate		Facility Typ	e Tan	k Batte	ry					
Surface Ow	ner State			Mineral C	Owner				Lease N	Vo. (API#) 30-015-330	12		
				LOCA	OITA	OF RE	LEASE							
Unit Letter J	Section 3	Township 25S	Range 28E	Feet from the	North/	South Line	Feet from the	East/\	West Line	County	Eddy			
				Latitude 32		•	ide 104 04.456							
T. CD 1	01	<u> </u>		NAI	UKE	OF REL			97.1 Y	Na	2011			
Type of Rele Source of Re		ulating numn					Release 24bbls	•		Recovered 2				
Source of Re	icase Circi	manng pump				Date and Hour of Occurrence Date and Hour of Discovery 01/31/2011 5:00a.m.								
Was Immedi	ate Notice C		Yes 🛭	No 🛭 Not R	equired	If YES, To	Whom?							
By Whom?						Date and H	lour							
Was a Water	course Reac		Yes 🏻	No			lume Impacting	the Wate	ercourse.					
If a Watercou	rse was Imp	pacted, Descr	be Fully.	*				· · · · ·						
Describe Cau	se of Proble	em and Reme	lial Action	n Taken.*							······			
¼" nipple on circulating p				hen the pump was	s turned	on, due to wo	orn out threads. T	he nipp	le and valv	es have bee	n r ep laced and	l the		
Describe Are	a Affected a	and Cleanup A	Action Tal	cen.*										
contained ins	ide the dike ill site area	walls of the to delineate a	acility. T	g pump and we w he facility will be le contamination	scraped	and the contr	aminated soil wil	l be disp	osed of ap	propriately.	Tetra Tech w			
regulations at public health should their o	l operators or the environment in a contractions had not been a contractions of the co	are required to onment. The ave failed to a ddition, NMO	report ar acceptance dequately CD accep	is true and comp ad/or file certain r te of a C-141 repo investigate and r tance of a C-141	elease no ort by the emediate	otifications ar NMOCD m contaminati	nd perform correct arked as "Final R on that pose a thr	tive act eport" d eat to gr	ions for rele oes not reli ound water	eases which ieve the ope r, surface w	may endange erator of liabili ater, human he	r ty ealth		
~		7 6		7 5	-		OIL CON	<u>SERV</u>	ATION	DIVISIO	<u> </u>			
Signature: Printed Name		Insh	Russo		-	Approved by	District Supervise	or:						
Title:			ordinator		1	Approval Dat	e;]	Expiration	Date:				
E-mail Addre	ess:	jrusso@conc	horesourc	es.com		Conditions of	Approval:			Attached	ı 🗀			
Date: 0: Attach Addi	2/04/2011 tional Shee	Phone:	432-212 ary	-2399										

<u>District 1</u> 1625 N. French Dr., Hobbs, NM 88240 District II

1301 W. Grand Avenue, Artesia, NM 88210

District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico Energy Minerals and Natural Resources

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

Revised October 10, 2003

Form C-141

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

Release Notification and Corrective Action

						OPERA	ГOR		☐ Initia	al Report	\boxtimes	Final Repo	ort
Name of Co	mpany C	OG Operati	ing LLC		(Contact Pa	t Ellis						
			0 Midlaı	ıd, Texas 79701			No. (432) 230-0						
Facility Nar	ne Willow	"A" State			1	Facility Typ	e Tank Batter	ry					
Surface Ow	ner: State			Mineral O	wner				Lease N	lo. (API#)	30-015	5-33012	_
				LOCA	TION	OF RE	LEASE						
Unit Letter J	Section 3	Township 25S	Range 28E	Feet from the	North/	South Line	Feet from the	East/V	West Line	County	Eddy	,	
						Ü	le 104 04.456						
T	0"	····		<u> </u>	URE !	OF REL			X1.1 T		2.1.1		
Type of Rele		.4:					Release 24 bbls lour of Occurrence			Recovered 2 Hour of Dise			_
Source of Re	iease. Circui	aung pump				1/31/2011	ioui oi occurrenc		1/31/2011				
Was Immedia	nte Notice G		Yes 🏻	No 🛭 Not Re	quired	If YES, To	Whom?						
By Whom?							lour 3/15/10 4:5						
Was a Watero	course Reach		Yes 🛛	No		If YES, Vo	olume Impacting t	he Wate	ercourse.				
If a Watercou	irse was Imp	acted, Descri	be Fully.*			<u> </u>							
Describe Cau	se of Proble	m and Remed	ial Actior	ı Taken.*									_
¼" nipple on circulating pu				nen the pump was	turned o	on, due to wo	orn out threads. T	he nipp	le and valve	es have been	replac	ed and the	
Describe Are	a Affected a	nd Cleanup A	ction Tak	en.*								<u> </u>	
	moved and	hauled away f	for proper	Firewall; Tetra Tec disposal. The site lew.									
regulations al public health should their o	l operators a or the environ perations ha nment. In ad	are required to conment. The sive failed to addition, NMOO	report an acceptanc dequately CD accep	is true and compled/or file certain ree of a C-141 repoinvestigate and retained of a C-141 repoinvestigate and retained of a C-141 repoints.	elease no rt by the emediate	otifications and NMOCD me contaminati	nd perform correct arked as "Final Ro on that pose a thre	tive acti eport" d eat to gr	ons for rele oes not reli ound water	eases which eve the oper , surface wa	may en ator of ter, hur	danger liability nan health	
Signature:	[[]	1 1	\sim				OIL CONS	SERV	ATION	DIVISIO	N		
Printed Name	: Ike Tavare	z (/		,	Approved by	District Superviso	or:					
Title: Project	Manager				F	Approval Date:			Expiration Date:				
E-mail Addre	. /		ch.com		(Conditions of	Approval:			Attached			
Date: 12	1M/1	//	Phone:	(432) 682-4559									

^{*} Attach Additional Sheets If Necessary

APPENDIX B

Water Well Data Average Depth to Groundwater (ft) COG - Willow "A" State Eddy County, New Mexico

	24	Sou	uth	2	27 East				24.5	outh	1	2	8 Eas	st			24 9	South		29 Eas
	5	4		3	2	1	6	70	30	1 4	30	3	2	55 1	60	6	5	4	3	2
-	8	26 9)	10	11	12	7	-	50	9	-	10	11	12	2	7	8	9	10	11
		4	3			27	ļ			1	1	17	20	7:	3	160	<u> </u>			
8	17	1	6	15	14	13	18	1	7	16		15	14	13	3	18	17	16	15	14
4						31			2	29		18	52	34	1			18)	_i	
9	20	2	!1	22 70	23	24	19	- 1	20 1 8	21	2	22	23	24	4	19	20	(21	22	23
0	29	2	8	27	26	25	30		9	28	2	27	26	2	5	30	29	28	27	26
1	32	3	13	34	35	36	31	3	32	33	1	34	35	30	3	31	32	33	34	35
	25	Sou	ıth	2	27 East			······································	25 9	outh	<u> </u>	2	8 Eas	st			25 9	South		29 Eas
	5	4		3	2	1	6	Ę	5	4	35	3 SITE	2	1		6	5	4	3	2
	8	9	,	10	11	12	7	8	3	9	_	10	11	12	2		8	9	10	11
3	17	1	6	15	14	13	18		7	16	-	15	14	1:	3	18	17	16	40 15	14
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9	20	2	.1	22	23	24	19		0 16	21	2	22	23	24	·	19	20	21	22	23
0	29	2	8	27	26	25	30	2	9	28 90	2	27	26	25	•	30 30	29	28	27	26
1	32	3	-	34	35	36	31	3	32	33	1	34	35	36		31	32	33	34	35
	26	Sou			27 East		_		26.5	outh		2	8 Eas		, , , , ,		26.9	South	1	29 Eas
	5	4		3	2	1	6	5		4		3	2	1	Υ.	6	5	4	3	2
	8	9)	10	11	12	7	ε	}	9	1	10	11	12	2	7	8	9	10	11
3	17		6	15	14	13	18	-	7	16		15	14	10	3	18	ر 17	16	15	14
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)	29	2	8	27	26	25	30	2	9	28		27	26	25	5	30 \	29	28	27	26
	32	- 3	3	34	35	36	31	- 3	12	33		34	35	36		31	32	33	B4	35

	New Mexico State Engineers Well Reports
-	11000 W II D

USGS Well Reports

Geology and Groundwater Conditions in Southern Eddy, County, NM

NMOCD - Groundwater Data

APPENDIX C

Report Date: August 31, 2011 Work Order: 11082220 Page Number: 1 of 1

Summary Report

Ike Tavarez Tetra Tech

1910 N. Big Spring Street Midland, TX 79705 Report Date: August 31, 2011

Work Order: 11082220

Project Location: Eddy Co., NM

Project Name:

COG/Willow "A" State Tank Battery

Project Number: 114-6400817

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
275193	Trench-1 5' "AH-3"	soil	2011-08-15	00:00	2011-08-22
275194	Trench-1 7' "AH-3"	soil	2011-08-15	00:00	2011-08-22
275195	Trench-1 9' "AH-3"	soil	2011-08-15	00:00	2011-08-22

Sample: 275193 - Trench-1 5' "AH-3"

Param	Flag	Result	Units	RL
Chloride		784	mg/Kg	4

Sample: 275194 - Trench-1 7' "AH-3"

Param	Flag	Result	Units	RL
Chloride		656	mg/Kg	4

Sample: 275195 - Trench-1 9' "AH-3"

Param	Flag	Result	Units	RL
Chloride		323	mg/Kg	4



6701 Aberdeen Avenue, Suite 9 200 East Sunset Road, Suite E 5002 Basin Street, Suite A1

Lubbock, Texas 79424 El Paso, Texas 79922 Midland, Texas 79703 800 • 378 • 1296 888 • 588 • 3443

806 • 794 • 1296 915 • 585 • 3443 FAX 806 • 794 • 1298 FAX 915 • 585 • 4944

6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132

432 • 689 • 6301 817 • 201 • 5260

FAX 432 • 689 • 6313

E-Mail: lab@traceanalysis.com

Certifications

DoD LELAP NCTRCA DBE NELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

Ike Tavarez Tetra Tech

1910 N. Big Spring Street Midland, TX, 79705

Report Date: August 31, 2011

Work Order:

11082220

Project Location: Eddy Co., NM

Project Name:

COG/Willow "A" State Tank Battery

Project Number:

114-6400817

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
275193	Trench-1 5' "AH-3"	soil	2011-08-15	00:00	2011-08-22
275194	Trench-1 7' "AH-3"	soil	2011-08-15	00:00	2011-08-22
275195	Trench-1 9' "AH-3"	soil	2011-08-15	00:00	2011-08-22

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

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

Report Contents

Case Narrative	3
Analytical Report	4
Sample 275193 (Trench-1 5' "AH-3")	. 4
Sample 275194 (Trench-1 7' "AH-3")	. 4
Sample 275194 (Trench-1 7' "AH-3")	. 4
Method Blanks	5
QC Batch 84349 - Method Blank (1)	. 5
Laboratory Control Spikes	6
QC Batch 84349 - LCS (1)	. 6
QC Batch 84349 - LCS (1)	. 6
Calibration Standards	7
QC Batch 84349 - ICV (1)	. 7
QC Batch 84349 - ICV (1)	. 7
Appendix	8
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Standard Flags	
Attachments	

Case Narrative

Samples for project COG/Willow "A" State Tank Battery were received by TraceAnalysis, Inc. on 2011-08-22 and assigned to work order 11082220. Samples for work order 11082220 were received intact at a temperature of 11.6 C.

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

		Prep	Prep	$_{ m QC}$	Analysis
Test	Method	Batch	Date	Batch	Date
Chloride (Titration)	SM 4500-Cl B	71539	2011-08-25 at 12:17	84349	2011-08-30 at 13:02

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 11082220 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: 11082220 COG/Willow "A" State Tank Battery Page Number: 4 of 8 Eddy Co., NM

Analytical Report

Sample: 275193 - Trench-1 5' "AH-3"

Laboratory:

Midland

Analysis:

114-6400817

Chloride (Titration)

Analytical Method:

Cert

SM 4500-Cl B

Prep Method: N/A

QC Batch:

84349

Date Analyzed:

2011-08-30

Analyzed By:

Prep Batch:

71539

Sample Preparation:

2011-08-25

Prepared By: AR

RL

Flag Parameter Chloride

Result 784

Units mg/Kg

Dilution

50

RL4.00

4.00

Sample: 275194 - Trench-1 7" "AH-3"

Laboratory:

Midland

Analysis: Chloride (Titration) Analytical Method:

SM 4500-Cl B

Prep Method: N/A AR

QC Batch:

84349

Date Analyzed: 2011-08-30 Analyzed By:

50

Prep Batch:

Chloride

71539

Sample Preparation: 2011-08-25 Prepared By: AR

Parameter Cert Flag

RL Result Dilution RLUnits 656

mg/Kg

Sample: 275195 - Trench-1 9" "AH-3"

Laboratory:

Midland

Analysis:

Chloride (Titration)

Analytical Method:

SM 4500-Cl B

Prep Method: N/A Analyzed By: AR

QC Batch: Prep Batch:

84349 71539

Date Analyzed: Sample Preparation:

2011-08-30 2011-08-25

Prepared By: AR

RL

Flag Cert Parameter Result Dilution RLUnits Chloride 323 mg/Kg 50 4.00

114-6400817

Work Order: 11082220 COG/Willow "A" State Tank Battery Page Number: 5 of 8 Eddy Co., NM

Method Blanks

Method Blank (1)

QC Batch: 84349

QC Batch:

84349

Date Analyzed:

2011-08-30

Analyzed By: AR

Prepared By:

Prep Batch: 71539

QC Preparation: 2011-08-25

MDL

Flag Cert Result Units RLParameter < 3.85 mg/Kg 4 Chloride

114-6400817

Work Order: 11082220 COG/Willow "A" State Tank Battery Page Number: 6 of 8 Eddy Co., NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch:

Date Analyzed:

2011-08-30

Analyzed By: AR

Prep Batch: 71539

QC Preparation: 2011-08-25

Prepared By: AR

			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride			95.3	mg/Kg	1	100	< 3.85	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	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			104	mg/Kg	1	100	< 3.85	104	85 - 115	9	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: 275195

QC Batch:

84349

Date Analyzed:

2011-08-30

Analyzed By: AR

Prep Batch: 71539

QC Preparation: 2011-08-25

Prepared By: AR

			MS			Spike	Matrix		Rec.
Param	F	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride			10500	mg/Kg	100	10000	<385	102	79.4 - 120.6

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

			MSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	C	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			11200	mg/Kg	100	10000	<385	109	79.4 - 120.6	6	20

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

114-6400817

Work Order: 11082220 COG/Willow "A" State Tank Battery Page Number: 7 of 8 Eddy Co., NM

Calibration Standards

Standard (ICV-1)

QC Batch: 84349

Date Analyzed: 2011-08-30

Analyzed By: AR

				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param	\mathbf{Flag}	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			mg/Kg	100	99.0	99	85 - 115	2011-08-30

Standard (CCV-1)

QC Batch: 84349

Date Analyzed: 2011-08-30

Analyzed By: AR

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	\mathbf{Flag}	Cert	\mathbf{Units}	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			mg/Kg	100	101	101	85 - 115	2011-08-30

114-6400817

Work Order: 11082220 COG/Willow "A" State Tank Battery Page Number: 8 of 8 Eddy Co., NM

Appendix

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.
- Qc Calibration check outside of laboratory limits.
- Qr RPD outside of laboratory limits
- Qs Spike recovery outside of laboratory limits.
- Qsr Surrogate recovery outside of laboratory limits.
- U The analyte is not detected above the SDL

Attachments

The scanned attachments will follow this page.

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

Analysis Request of Chain of Custody Record TETRATECH 1910 N. Big Spring St. Midand, Texas 79705 (432) 882-4559 * Fax (432) 882-3946 CLIENT NAME: SITE MANAGER: PROJECT NO.: PROJECT NO.: SITE MANAGER: PROJECT NO.: SAME LE IDENTIFICATION S		<u> </u>	X	رد	0	#	F: 110822	20																					¢.		
TETRA TECH 1910 N. Big Spring St. Midland, Texas 79705 (432) 682-4559 + Fax (432) 682-3046 CUENT NAME: STITE MANAGER: STITE									stody	F	₹e	C	or	ď									P/	\GE:			į	OF	:		
Middland, Toxas 79705 (432) 682-4559 Fax (432) 682-3946 CLIENT NAME: SITE MANAGER: PROJECT NO.:												_		_						()			
REJINGUISHED BY Signalury 194 TERMANDER DY Signalury Time: 195 Time: Time							Midland, Tex	Spring St. kas 79705									- [Cr Pb Hg	Vr Pd Hg										SQ		
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Report Date: February 28, 2011 Work Order: 11021807 Page Number: 4 of 4

Summary Report

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

Report Date: February 28, 2011

Work Order: 11021807

Project Location: Eddy Co., NM
Project Name: COG/Willow A TB
Project Number: 114-6400817

•			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
257838	AH-1 0-1' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257839	AH-1 1-1.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257840	AH-1 2-2.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257841	AH-1 3-3.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257842	AH-1 4-4.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257843	AH-1 5-5.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257844	AH-2 0-1' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257845	AH-2 1-1.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257846	AH-2 2-2.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257847	AH-2 3-3.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257848	AH-2 4-4.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257849	AH-3 0-1' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257850	AH-3 1-1.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257851	AH-3 2-2.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257852	AH-3 2.5-3' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257853	AH-4 0-1' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257854	AH-4 1-1.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257855	AH-4 2-2.5° 1° BEB	soil	2011-02-15	00:00	2011-02-17
257856	AH-4 3-3.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17

	BTEX			TPH DRO - NEW	TPH GRO	
	Benzene	Toluene	Ethylbenzene	Xylene	DRO	GRO
Sample - Field Code	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
257838 - AH-1 0-1' 1' BEB	< 0.0200	< 0.0200	< 0.0200	0.477	< 50.0	22.7
257844 - AH-2 0-1' 1' BEB	< 0.0200	< 0.0200	< 0.0200	0.379	< 50.0	3.03
257849 - AH-3 0-1' 1' BEB	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 50.0	< 2.00
257853 - AH-4 0-1' 1' BEB	< 0.0200	0.236	0.346	1.22	< 50.0	131
257854 - AH-4 1-1.5' 1' BEB					< 50.0	< 2.00

Param	Report Date: February 28, 2011		Work Order: 11021807	Pag	Page Number: 2 of 4		
Chloride 518 mg/Kg 4.00	Sample: 257838 - AH-1 0-1' 1' BEB						
Chloride	Param	Flag	Result	Units	RL		
Param Flag Result Units RL Chloride 735 mg/Kg 4.00 Sample: 257840 - AH-1 2-2.5' 1' BEB Sample: Units RL Param Flag Result Units RL Chloride 953 mg/Kg 4.00 Sample: 257841 - AH-1 3-3.5' 1' BEB Result Units RL Chloride 1020 ug/Kg 4.00 Sample: 257842 - AH-1 4-4.5' 1' BEB Param Flag Result Units RL Chloride 425 mg/Kg 4.00 4.00 Sample: 257843 - AH-1 5-5.5' 1' BEB Param Flag Result Units RL Chloride <00	Chloride		518	mg/Kg	4.00		
Chloride 735 mg/Kg 4.00	Sample: 257839 -	AH-1 1-1.5' 1' BEB					
Chloride	Param	Flag	Result	Units	RL		
Param Flag Result Units RL Chloride 953 mg/Kg 4.00 Sample: 257841 - AH-1 3-3.5' 1' BEB Param Flag Result Units RL Chloride 1020 ug/Kg 4.00 Sample: 257842 - AH-1 4-4.5' 1' BEB Param Flag Result Units RL Chloride 425 mg/Kg 4.00 Sample: 257843 - AH-1 5-5.5' 1' BEB Param Flag Result Units RL Chloride <200			735		4.00		
Chloride	Sample: 257840 -	AH-1 2-2.5' 1' BEB					
Chloride 953 mg/Kg 4.00 Sample: 257841 - AH-1 3-3.5' 1' BEB Result Units RL Chloride 1020 mg/Kg 4.00 Sample: 257842 - AH-1 4-4.5' 1' BEB Value Units RL Chloride 425 mg/Kg 4.00 Sample: 257843 - AH-1 5-5.5' 1' BEB Value Value Value Param Flag Result Units RL Chloride <200	Param	Flag	Result	Units	RL		
Param Flag Result Units RL Chloride 1020 ug/Kg 4.00 Sample: 257842 - AH-1 4-4.5' 1' BEB Sample: Units RL Chloride 425 mg/Kg 4.00 Sample: 257843 - AH-1 5-5.5' 1' BEB Result Units RL Chloride <200	Chloride		953	mg/Kg	4.00		
Chloride 1020 ung/Kg 4.00 Sample: 257842 - AH-1 4-4.5' 1' BEB Result Units RL Chloride 425 mg/Kg 4.00 Sample: 257843 - AH-1 5-5.5' 1' BEB Result Units RL Chloride <200	Sample: 257841 -	AH-1 3-3.5' 1' BEB					
Sample: 257842 - AH-1 4-4.5' 1' BEB Param Flag Result Units RL Chloride 425 mg/Kg 4.00 Sample: 257843 - AH-1 5-5.5' 1' BEB Param Flag Result Units RL Chloride <200 mg/Kg 4.00 Sample: 257844 - AH-2 0-1' 1' BEB Param Flag Result Units RL Chloride 1130 mg/Kg 4.00 Sample: 257845 - AH-2 1-1.5' 1' BEB Param Flag Result Units RL Chloride 1130 mg/Kg 4.00 Sample: 257845 - AH-2 1-1.5' 1' BEB Param Flag Result Units RL Chloride Result Result RL Chloride Result RL Chloride Result RL Chloride Result RL	Param	Flag	Result	Units	RL		
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Chloride 425 mg/Kg 4.00 Sample: 257843 - AH-1 5-5.5' 1' BEB Param Flag Result Units RL Chloride 257844 - AH-2 0-1' 1' BEB Param Flag Result Units RL Chloride 1130 mg/Kg 4.00 Sample: 257845 - AH-2 1-1.5' 1' BEB Param Flag Result Units RL	Sample: 257842 -	AH-1 4-4.5' 1' BEB					
Chloride 425 mg/Kg 4.00 Sample: 257843 - AH-1 5-5.5' 1' BEB Param Flag Result Units RL Chloride < 200	Param	Flag	Result	Units	RL		
Param Flag Result Units RL Chloride <200	Chloride		425	mg/Kg	4.00		
Chloride <200 mg/Kg 4.00 Sample: 257844 - AH-2 0-1' 1' BEB Param Flag Result Units RL Chloride 1130 mg/Kg 4.00 Sample: 257845 - AH-2 1-1.5' 1' BEB Param Flag Result Units RL	Sample: 257843 -	AH-1 5-5.5' 1' BEB					
Sample: 257844 - AH-2 0-1' 1' BEB Param Flag Result Units RL Chloride 1130 mg/Kg 4.00 Sample: 257845 - AH-2 1-1.5' 1' BEB Param Flag Result Units RL		Flag		Units			
Param Flag Result Units RL Chloride 1130 mg/Kg 4.00 Sample: 257845 - AH-2 1-1.5' 1' BEB Param Flag Result Units RL	Chloride		<200	mg/Kg	4.00		
Chloride 1130 mg/Kg 4.00 Sample: 257845 - AH-2 1-1.5' 1' BEB Param Flag Result Units RL	Sample: 257844 -	AH-2 0-1' 1' BEB					
Chloride 1130 mg/Kg 4.00 Sample: 257845 - AH-2 1-1.5' 1' BEB Param Flag Result Units RL	Param	Flag	Result	Units	RL		
Param Flag Result Units RL							
	Sample: 257845 -	AH-2 1-1.5' 1' BEB					
	Param	Flag	Result	Units	RL		

Report Date: February 28, 2011		Work Order: 11021807	Page Number: 3 of 4	
Sample: 257846	- AH-2 2-2.5, 1, BEB			
Param	Flag	Result	Units	RL
Chloride		1650	mg/Kg	4.00
Sample: 257847	- AH-2 3-3.5' 1' BEB			
Param	Flag	Result	Units	R.L
Chloride		1120	mg/Kg	4.00
Sample: 257848	- AH-2 4-4.5' 1' BEB			
Param	Flag	Result	Units	RL
Chloride		465	nig/Kg	4.00
Sample: 257849	- AH-3 0-1' 1' BEB			
Param	Flag	Result	Units	RL
Chloride		981	mg/Kg	4.00
Sample: 257850	- AH-3 1-1.5' 1' BEB			
Param	Flag	Result	Units	RL
Chloride		1630	mg/Kg	4.00
Sample: 257851	- AH-3 2-2.5' 1' BEB			
Param	Flag	Result	Units	RL
Chloride		1570	mg/Kg	4.00
Sample: 257852	- AH-3 2.5-3' 1' BEB			
Param	Flag	Result	Units	RL
Chloride	8	878	ing/Kg	4.00
Sample: 257853	- AH-4 0-1' 1' BEB			
Param	Flag	Result	Units	RL

Report Date: February 28, 2011		Work Order: 11021807		Page Number: 4 of 4		
Sample: 257854 - AH-4 1-1.5' 1' BEB						
Param	Flag	Result	Units	RL		
Chloride		<200	mg/Kg	4.00		
Sample: 257855	- AH-4 2-2.5' 1' BEB					
Param	Flag	Result	Units	RL		
Chloride		<200	mg/Kg	4.00		
Sample: 257856	- AH-4 3-3.5' 1' BEB					
Param	Flag	Result	Units	RL		
Chloride		< 200	mg/Kg	4.00		

Certifications

WBENC: 237019

HUB:

1752439743100-86536

DBE: VN 20657

NCTRCA WFWB38444Y0909

NELAP Certifications

Lubbock: T104704219-08-TX

El Paso: T104704221-08-TX

LELAP-02002

Midland: T104704392-08-TX

LELAP-02003 Kansas E-10317

Analytical and Quality Control Report

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

Report Date: February 28, 2011

Work Order: 11021807

Project Location: Eddy Co., NM Project Name:

COG/Willow A TB

Project Number: 114-6400817

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
257838	AH-1 0-1' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257839	AH-1 1-1.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257840	AH-1 2-2.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257841	AH-1 3-3.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257842	AH-1 4-4.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257843	AH-1 5-5.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257844	AH-2 0-1' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257845	AH-2 1-1.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257846	AH-2 2-2.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257847	AH-2 3-3.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257848	AH-2 4-4.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257849	AH-3 0-1' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257850	AH-3 1-1.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257851	AH-3 2-2.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257852	AH-3 2.5-3' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257853	AH-4 0-1' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257854	AH-4 1-1.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257855	AH-4 2-2.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17
257856	AH-4 3-3.5' 1' BEB	soil	2011-02-15	00:00	2011-02-17

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

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

Standard Flags

B - The sample contains less than ten times the concentration found in the method blank.

Samples for project COG/Willow A TB were received by TraceAnalysis, Inc. on 2011-02-17 and assigned to work order 11021807. Samples for work order 11021807 were received intact at a temperature of 7.2 C.

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

		Prep	Prep	QC	Analysis
Test	Method	Batch	Date	Batch	Date
BTEX	S 8021B	66705	2011-02-21 at 12:05	77804	2011-02-21 at 12:05
Chloride (Titration)	SM 4500-Cl B	66703	2011-02-21 at 10:36	77797	2011-02-21 at 13:20
Chloride (Titration)	SM 4500-Cl B	66703	2011-02-21 at 10:36	77798	2011-02-21 at 13:21
Chloride (Titration)	SM 4500-Cl B	66703	2011-02-21 at 10:36	77799	2011-02-21 at 13:22
TPH DRO - NEW	S 8015 D	66718	2011-02-21 at 09:51	77781	2011-02-21 at 09:51
TPH DRO - NEW	S 8015 D	66796	2011-02-23 at 09:00	77882	2011-02-23 at 10:07
TPH GRO	S 8015 D	66705	2011-02-21 at 12:05	77805	2011-02-21 at 12:05
TPH GRO	S 8015 D	66842	2011-02-25 at 08:21	77929	2011-02-25 at 09:15

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 11021807 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

Report Date: February 28, 2011 114-6400817

Work Order: 11021807 COG/Willow A TB

Page Number: 4 of 27 Eddy Co., NM

Analytical Report

Sample: 257838 - AH-1 0-1' 1' BEB

Laboratory: Midland

Analysis: BTEX QC Batch: 77804 Prep Batch: 66705

Analytical Method: Date Analyzed:

S 8021B 2011-02-21 Sample Preparation: 2011-02-21 Prep Method: S 5035

Analyzed By: ME Prepared By: ME

RL

		1,017			
Parameter	Flag	Result	Units	Dilution	RL
Benzene		< 0.0200	mg/Kg	1	0.0200
Toluene		< 0.0200	$_{ m mg/Kg}$	1	0.0200
Ethylbenzene		< 0.0200	mg/Kg	1	0.0200
Xylene		0.477	mg/Kg	1	0.0200

					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		2.42	mg/Kg	1	2.00	121	51.6 - 149.2
4-Bromofluorobenzene (4-BFB)		2.76	mg/Kg	1	2.00	138	35.7 - 159.6

Sample: 257838 - AH-1 0-1' 1' BEB

Laboratory: Midland

Analysis: Chloride (Titration) QC Batch: 77797 Prep Batch: 66703

Analytical Method: Date Analyzed:

SM 4500-Cl B 2011-02-21 Sample Preparation: 2011-02-21

Prep Method: N/A

Analyzed By: ARPrepared By: AR

RI

Parameter	Flag	Result	Units	Dilution	RL
Chloride		518	mg/Kg	50	4.00

Sample: 257838 - AH-1 0-1' 1' BEB

Laboratory: Midland

Analysis: TPH DRO - NEW QC Batch: 77781 Prep Batch: 66718

Analytical Method: S 8015 D Date Analyzed: 2011-02-21 Sample Preparation: 2011-02-21

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

RL

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

114-6400817

Work Order: 11021807 COG/Willow A TB

Page Number: 5 of 27 Eddy Co., NM

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		84.5	mg/Kg	1	100	84	70 - 130

Sample: 257838 - AH-1 0-1' 1' BEB

Laboratory: Midland

TPH GRO Analysis: QC Batch: 77805 Prep Batch: 66705

Analytical Method: S 8015 D Date Analyzed: 2011-02-21 Sample Preparation: 2011-02-21

Prep Method: S 5035 MEAnalyzed By: Prepared By: ME

RL

Parameter	Flag	Result	Units	Dilution	RL
GRO		22.7	mg/Kg	1	2.00

					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		2.47	mg/Kg	i	2.00	124	36.3 - 158.9
4-Bromofluorobenzene (4-BFB)		2.78	mg/Kg	1	2.00	139	22.2 - 160.2

Sample: 257839 - AH-1 1-1.5' 1' BEB

Laboratory: Midland

Chloride (Titration)

Analysis: QC Batch: 77797 Prep Batch: 66703 Analytical Method: SM 4500-Cl B Date Analyzed:

Prep Method: 2011-02-21 Analyzed By: 2011-02-21 Prepared By:

RL Flag Result Parameter Units Dilution RL 735 Chloride mg/Kg 50 4.00

Sample Preparation:

Sample: 257840 - AH-1 2-2.5' 1' BEB

Laboratory: Midland

Prep Batch: 66703

Analysis: Chloride (Titration) QC Batch: 77797

Analytical Method: SM 4500-Cl B Date Analyzed: 2011-02-21 Sample Preparation: 2011-02-21

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

N/A

AR.

AR

RLParameter Flag Result Units Dilution RLChloride 953 ing/Kg 100 4.00

Report Date 114-6400817	: February 28, 2011	Work Order: 1 COG/Willow	- "	Page Number: Eddy C	
Sample: 25	7841 - AH-1 3-3.5' 1' B	EB			
Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	
QC Batch:	77797	Date Analyzed:	2011-02-21	Analyzed By:	AR
Prep Batch:	66703	Sample Preparation:	2011-02-21	Prepared By:	AR
		RL			
Parameter	Flag	Result	Units	Dilution	RL
Chloride		1020	mg/Kg	001	4.00
Sample: 25	7842 - AH-1 4-4.5' 1' B	EB			
Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	77797	Date Analyzed:	2011-02-21	Analyzed By:	\overline{AR}
Prep Batch:	66703	Sample Preparation:	2011-02-21	Prepared By:	AR
		RL			
Parameter	Flag	Result	Units	Dilution	RL
Chloride		425	mg/Kg	50	4.00
Sample: 25	7843 - AH-1 5-5.5' 1' B	EB			
Laboratory:	Midland	Annahari ad Markana	CM 4500 CLD	D 3 (.41 . 2	NT / A
Analysis:	Chloride (Titration) 77797	Analytical Method: Date Analyzed:	SM 4500-Cl B 2011-02-21	Prep Method:	$_{ m AR}^{ m N/A}$
QC Batch: Prep Batch:	66703	Sample Preparation:		Analyzed By: Prepared By:	AR AR
rrep baten.	00703	Sample 1 reparation.	2011-02-21	Trepated by.	AII
		RL			
Parameter	Flag	Result	Units	Dilution	RL
Chloride		<200	ng/Kg	50	4.00
Laboratory: Analysis:	7844 - AH-2 0-1' 1' BE Midland BTEX	Analytical Method: S 80)21B		S 5035
QC Batch:	77804 66705		1-02-21		ME
Prep Batch:	66705	Sample Preparation: 201	1-02-21	Prepared By: 1	ИE

RL Result

<0.0200 <0.0200

Flag

Parameter Benzene

Toluene

continued ...

Dilution

1

RL 0.0200 0.0200

Units ing/Kg mg/Kg

114-6400817

Work Order: 11021807 COG/Willow A TB

Page Number: 7 of 27 Eddy Co., NM

sample 257844 continued ...

Parameter	Flag		R! Resul		Units	Ī	Dilution	RL
Ethylbenzene			< 0.020	0	mg/Kg		1	0.0200
Xylene			0.379	9	mg/Kg		1	0.0200
		~~*			5	Spike	Percent	Recovery
Surrogate		Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			2.56	nig/Kg	1	2.00	128	51.6 - 149.2
4-Bromofluorobenzene (4-BF	B)		2.95	mg/Kg	1	2.00	148	35.7 - 159.6

Sample: 257844 - AH-2 0-1' 1' BEB

Laboratory: Midland

Analysis: Chloride (Titration) QC Batch: 77797 Prep Batch: 66703

Analytical Method: SM 4500-Cl B Date Analyzed:

2011-02-21 2011-02-21

100

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

RLParameter Flag Result Units Dilution R.LChloride 1130 mg/Kg 100 4.00

Sample Preparation:

Sample: 257844 - AH-2 0-1' 1' BEB

Laboratory: Midland

Analysis: TPH DRO - NEW QC Batch: 77781 Prep Batch: 66718

Analytical Method: S 8015 D Date Analyzed: 2011-02-21 Sample Preparation: 2011-02-21

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

70 - 130

RLParameter Flag Result Units Dilution RLDRO < 50.0 50.0 mg/Kg Spike Percent Recovery Surrogate Flag Result Units Dilution Amount Recovery Limits

mg/Kg

Sample: 257844 - AH-2 0-1' 1' BEB

86.6

Laboratory: Midland

n-Tricosane

TPH GRO Analysis: QC Batch: 77805 Prep Batch: 66705

Analytical Method: S 8015 D Date Analyzed: 2011-02-21 Sample Preparation: 2011-02-21

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

87

114-6400817

Laboratory:

Analysis:

QC Batch:

Parameter

Chloride

Prep Batch: 66703

Midland

77798

Chloride (Titration)

Flag

Work Order: 11021807 COG/Willow A TB Page Number: 8 of 27 Eddy Co., NM

Prep Method: N/A

AR

AR

RL

4.00

Analyzed By:

Prepared By:

Dilution

100

n.	ETI		RL		17		Dilution		ът
Parameter	Flag		Result		Units				RL 2.00
GRO			3.03		mg/Kg		1		2.00
						Spike	Percent	Reco	overy
Surrogate		Flag	Result	Units	Dilution	Amount	Recovery		nits
Trifluorotoluene	(TFT)		2.60	nıg/Kg	1	2.00	130		158.9
4-Bromofluorobe			2.78	mg/Kg	1	2.00	139	22.2 -	160.2
Sample: 25784	5 - AH-2 1-1.5'	ı' BEB							
•									
	idland iloride (Titration)		Aventer	tical Method:	SM 4500	CLD	Duran A	lethod:	N/A
	noride (Titration) 797			ucai Method: Analyzed:	2011-02-		Analyz		AR
-	703			e Preparation			Prepar		AR.
rich Daten. 00	103		Jampi	e r reparation	. 2011-02-	<i>2</i> .1	тераг	ed Dy.	23.14
			RL						
Parameter	Flag		Result		Units		Dilution		RL
Chloride			1350		mg/Kg	\	100		4.00
Sample: 25784	6 - AH-2 2-2.5	ı' BEB							
Laboratory: Mi	idland								
	nloride (Titration)		Analy	tical Method:	SM 4500	-Cl B	Prep M	lethod:	N/A
	798			Analyzed:	2011-02-	21	Analyz		AR
Prep Batch: 66	703		Sampl	e Preparation	: 2011-02-	21	Prepare	ed By:	AR
			RL						
	ro.		Result		Units		Dilution		RL
Parameter Chloride	Flag		1650		mg/Kg		100		4.00

Analytical Method:

Sample Preparation: 2011-02-21

Date Analyzed:

RL

Result

1120

SM 4500-Cl B

2011-02-21

Units

mg/Kg

114-6400817

Work Order: 11021807 COG/Willow A TB

Page Number: 9 of 27 Eddy Co., NM

Sample: 257848 - AH-2 4-4.5' 1' BEB

Laboratory:

Analysis:

Parameter

Chloride

Midland

Chloride (Titration)

77798

Analytical Method: Date Analyzed:

SM 4500-Cl B 2011-02-21

Prep Method: N/A Analyzed By: AR

QC Batch: Prep Batch: 66703

Sample Preparation:

2011-02-21

Prepared By: AR

RL

4.00

RLResult Flag

Units Dilution mg/Kg $\overline{50}$

Sample: 257849 - AH-3 0-1' 1' BEB

Laboratory:

Midland

Analysis: QC Batch:

BTEX 77804

Analytical Method: Date Analyzed:

465

S 8021B 2011-02-21 Prep Method: S 5035 Analyzed By: ME Prepared By: ME

Prep Batch: 66705

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		KL			
Parameter	Flag	Result	Units	Dilution	RL
Benzene		< 0.0200	mg/Kg	I	0.0200
Toluene		< 0.0200	mg/Kg	1	0.0200
Ethylbenzene		< 0.0200	mg/Kg	1	0.0200
Xylene		< 0.0200	mg/Kg	1	0.0200

Sample Preparation: 2011-02-21

					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		2.50	mg/Kg	1	2.00	125	51.6 - 149.2
4-Bromofluorobenzene (4-BFB)		2.89	mg/Kg	1	2.00	144	35.7 - 159.6

Sample: 257849 - AH-3 0-1' 1' BEB

Laboratory:

Prep Batch:

Midland

66703

Analysis: Chloride (Titration) QC Batch: 77798

Analytical Method: Date Analyzed:

SM 4500-Cl B 2011-02-21 Sample Preparation: 2011-02-21

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

RL

Parameter	Flag	Result	Units	Dilution	RL
Chloride		981	mg/Kg	50	4.00

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 Work Order: 11021807
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 COG/Willow A TB
 Eddy Co., NM

Sample: 257849 - AH-3 0-1' 1' BEB

Laboratory: Midland

Analysis: TPH DRO - NEW QC Batch: 77781 Prep Batch: 66718 Analytical Method: S 8015 D Date Analyzed: 2011-02-21 Sample Preparation: 2011-02-21

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

					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
n-Tricosane		84.0	mg/Kg	Ţ	100	84	70 - 130

Sample: 257849 - AH-3 0-1' 1' BEB

Laboratory: Midland

Analysis: TPH GRO QC Batch: 77805 Prep Batch: 66705 Analytical Method: S 8015 D Date Analyzed: 2011-02-21 Sample Preparation: 2011-02-21

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.54	mg/Kg	1	2.00	127	36.3 - 158.9
4-Bromofluorobenzene (4-BFB)		2.66	mg/Kg	1	2.00	133	22.2 - 160.2

Sample: 257850 - AH-3 1-1.5' 1' BEB

Laboratory: Midland

Analysis: Chloride (Titration) QC Batch: 77798 Prep Batch: 66703 Analytical Method: SM 4500-Cl B Date Analyzed: 2011-02-21 Sample Preparation: 2011-02-21

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

114-6400817

Work Order: 11021807 COG/Willow A TB

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Eddy Co., NM

Sample: 257851 - AH-3 2-2.5' 1' BEB

Laboratory: Analysis:

Midland

Chloride (Titration)

Analytical Method:

SM 4500-Cl B

Prep Method:

N/A

QC Batch: 77798 Prep Batch: 66703 Date Analyzed: Sample Preparation:

2011-02-21 2011-02-21 Analyzed By: AR Prepared By:

RL

Result

Units

Dilution

AR

Parameter Flag RL1570 4.00 Chloride mg/Kg 100

Sample: 257852 - AH-3 2.5-3' 1' BEB

Laboratory:

Midland

Analysis:

Chloride (Titration)

Analytical Method:

SM 4500-Cl B

Prep Method: N/A

QC Batch:

77798

Date Analyzed:

2011-02-21

Analyzed By: ARAR.

Prep Batch:

66703

Sample Preparation:

2011-02-21

Prepared By:

RL

Parameter Flag Result. Units Dilution RLChloride 878 mg/Kg 50 4.00

Sample: 257853 - AH-4 0-1' 1' BEB

Midland Laboratory:

Analysis: BTEX QC Batch: . 77804 Prep Batch: 66705

Analytical Method: Date Analyzed:

Sample Preparation:

S 8021B 2011-02-21 2011-02-21

Prep Method: S 5035 Analyzed By: ME

ME

Prepared By:

R.L Parameter Flag Result Units Dilution RLBenzene < 0.0200 mg/Kg 0.0200 Toluene 0.236mg/Kg0.02001 0.346Ethylbenzene mg/Kg I 0.02001.22 Xylene mg/Kg 0.0200

					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		2.51	mg/Kg	1	2.00	126	51.6 - 149.2
4-Bromofluorobenzene (4-BFB)	1	3.42	mg/Kg	1	2.00	171	35.7 - 159.6

¹ High surrogate recovery due to peak interference.

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Work Order: 11021807 Page Number: 12 of 27 COG/Willow A TB Eddy Co., NM

Laboratory: Midland

Prep Batch: 66703

Analysis: Chloride (Titration) OC Batch: 77798 Analytical Method: SM 4500-Cl B Date Analyzed: 2011-02-21 Sample Preparation: 2011-02-21 Prep Method: N/A
Analyzed By: AR
Prepared By: AR

RL

Parameter	Flag	Result	Units	Dilution	RL
Chloride		< 200	mg/Kg	50	4.00

Sample: 257853 - AH-4 0-1' 1' BEB

Laboratory: Midland

Analysis: TPH DRO - NEW QC Batch: 77781 Prep Batch: 66718 Analytical Method: S 8015 D
Date Analyzed: 2011-02-21
Sample Preparation: 2011-02-21

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

RL

RL

Parameter	Flag	Result	Units	Dilution	RL
DRO		< 50.0	nig/Kg	1	50.0

					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
n-Tricosane		90.2	mg/Kg	<u> </u>	100	90	70 - 130

Sample: 257853 - AH-4 0-1' 1' BEB

Laboratory: Midland

Analysis: TPH GRO QC Batch: 77805 Prep Batch: 66705 Analytical Method: S 8015 D
Date Analyzed: 2011-02-21
Sample Preparation: 2011-02-21

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

El .

	771	n u	** **	15.11	Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		2.53	mg/Kg	1	2.00	126	36.3 - 158.9
4-Bromofluorobenzene (4-BFB)	2	3.25	mg/Kg	1	2.00	162	22.2 - 160.2

²High surrogate recovery due to peak interference.

114-6400817

Work Order: 11021807 COG/Willow A TB

Page Number: 13 of 27

Eddy Co., NM

Sample: 257854 - AH-4 1-1.5' 1' BEB

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 77798 Prep Batch: 66703

Analytical Method: Date Analyzed:

Sample Preparation:

SM 4500-Cl B

2011-02-21 2011-02-21 Prep Method: N/A

Analyzed By: AR Prepared By: AR

RL

RL

RL

Parameter Flag Result Units Dilution RLChloride <200 mg/Kg 50 4.00

Sample: 257854 - AH-4 1-1.5' 1' BEB

Laboratory: Midland

Prep Batch:

Analysis: TPH DRO - NEW QC Batch:

77882 66796

Analytical Method: S 8015 D Date Analyzed: 2011-02-23 Sample Preparation: 2011-02-23

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

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

					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
n-Tricosane		99.2	mg/Kg	1	100	99	70 - 130

Sample: 257854 - AH-4 1-1.5' 1' BEB

Laboratory: Midland

Analysis: TPH GRO QC Batch: 77929 Prep Batch: 66842

Analytical Method: S 8015 D Date Analyzed: 2011-02-25 Sample Preparation: 2011-02-25

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

Result Units Dilution Parameter Flag RLGRO < 2.00 mg/Kg 2.00

					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		2.49	mg/Kg	1	2.00	124	36.3 - 158.9
4-Bromofluorobenzene (4-BFB)		2.90	mg/Kg	1	2.00	145	22.2 - 160.2

 Report Date: February 28, 2011
 Work Order: 11021807
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 114-6400817
 COG/Willow A TB
 Eddy Co., NM

Sample: 257855 - AH-4 2-2.5' 1' BEB

Laboratory: Midland

Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B QC Batch: 77798 Date Analyzed: 2011-02-21

QC Batch: 77798 Date Analyzed: 2011-02-21 Analyzed By: Prep Batch: 66703 Sample Preparation: 2011-02-21 Prepared By: RL

Sample: 257856 - AH-4 3-3.5' 1' BEB

Laboratory: Midland

Analysis: Chloride (Titration)
QC Batch: 77799
Prep Batch: 66703

Analytical Method: SM 4500-Cl B
Date Analyzed: 2011-02-21
Sample Preparation: 2011-02-21

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

Prep Method: N/A

AR

AR

Method Blank (1) QC Batch: 77781

QC Batch: 77781 Date Analyzed: 2011 Prep Batch: 66718 QC Preparation: 2011

Date Analyzed: 2011-02-21 Analyzed By: kg QC Preparation: 2011-02-21 Prepared By: kg

Surrogate Flag Result Units Dilution Amount Recovery Limits n-Tricosane 74.8 mg/Kg 1 100 75 70 - 130

Method Blank (1) QC Batch: 77797

 QC Batch:
 77797
 Date Analyzed:
 2011-02-21

 Prep Batch:
 66703
 QC Preparation:
 2011-02-21

Date Analyzed: 2011-02-21 Analyzed By: AR QC Preparation: 2011-02-21 Prepared By: AR

Report Date: February 114-6400817	y 28, 2011			:: 11021807 low A TB		Page Nu	imber: 18 Eddy Co	
Method Blank (1)	QC Batch: 77798							
QC Batch: 77798 Prep Batch: 66703		Date Analyzed QC Preparation		011-02-21 011-02-21			yzed By: ered By:	AR. AR.
			MDL					
Parameter	Flag		Result		Uni			RL
Chloride		<u> </u>	<2.18		mg/	Ng		4
Method Blank (1)	QC Batch: 77799							
QC Batch: 77799		Date Analyzed	l: 2	011-02-21		Analy	yzed By:	AR
Prep Batch: 66703		QC Preparatio		011-02-21			ared By:	AR
_		_	MDL		.			***
Parameter	Flag		Result		Uni mg/			$\frac{RI}{4}$
Chloride			<2.18	<u>'</u>	1116/	115		
Method Blank (1)	QC Batch: 77804							
QC Batch: 77804		Date Analyzed	: 2	011-02-21		Analy	zed By:	ME
Prep Batch: 66705		QC Preparatio	n: 2	011-02-21		Prepa	red By:	ME
D	rei .		MI		T.I.	:		RL
Parameter Benzene	Flag		$\frac{\text{Res}}{<0.01}$		Un mg,			$\frac{RL}{0.02}$
Toluene		<	<0.00		mg,			0.02
Ethylbenzene			<0.008		mg,			0.02
Xylene		<	<0.006	513	ing/	Kg		0.02
Surrogate	Flag	Result Ur	nits	Dilution	Spike Amount	Percent Recovery	Reco Lin	
Trifluorotoluene (TFT)			/Kg	1	2.00	120	70.8 -	
4-Bromofluorobenzene			/Kg	<u> </u>	2.00	128	48.8	
Method Blank (1)	QC Batch: 77805							
	QC Batch: 77805	Date Analyzed	· 91	011-02-21		Analy	zed Bv	ME
QC Batch: 77805	QC Batch: 77805	Date Analyzed QC Preparatio		011-02-21 011-02-21			zed By: red By:	ME ME
Prep Batch: 66705		QC Preparatio	n: 20 MDL	011-02-21		Prepa		ME
QC Batch: 77805	QC Batch: 77805 Flag	QC Preparatio	n: 20	011-02-21	Uni mg/	Prepa ts		

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Eddy Co., NM

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.38	mg/Kg	.1	2.00	119	74.6 - 127.8
4-Bromofluorobenzene (4-BFB)		2.50	mg/Kg	1	2.00	125	32.9 - 129.8

Method Blank (1)

QC Batch: 77882

QC Batch: 77882 Prep Batch: 66796 Date Analyzed:

2011-02-23

Analyzed By: kg

QC Preparation: 2011-02-23

Prepared By:

MDL

Parameter Flag Result Units R.L DRO < 15.7mg/Kg 50

					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
n-Tricosane		90.9	mg/Kg	1	100	91	70 - 130

Method Blank (1)

QC Batch: 77929

QC Batch: 77929 Date Analyzed: 2011-02-25 Analyzed By: ME

Prep Batch: 66842

QC Preparation: 2011-02-25

Prepared By: ME

MDL

Flag Result Units RLParameter GRO < 0.753 mg/Kg 2

					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		1.92	mg/Kg	1	2.00	96	74.6 - 127.8
4-Bromofluorobenzene (4-BFB)		2.22	mg/Kg	1	2.00	111	32.9 - 129.8

Laboratory Control Spike (LCS-1)

QC Batch: Prep Batch: 66718

77781

Date Analyzed: QC Preparation: 2011-02-21

2011-02-21

Analyzed By: kg Prepared By: kg

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
DRO	206	mg/Kg	1	250	<15.7	82	47.5 - 144.1

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Eddy Co., NM

	LCSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
DRO	210	mg/Kg	1	250	<15.7	84	47.5 - 144.1	2	20

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

	LCS	LCSD			Spike	LCS	LCSD	${ m Rec.}$
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
n-Tricosane	99.2	99.7	mg/Kg	1	100	99	100	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch:

77797

Date Analyzed:

2011-02-21

Analyzed By: AR

Prep Batch: 66703

QC Preparation: 2011-02-21

Prepared By: AR

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	97.5	mg/Kg	1	100	< 2.18	98	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	, Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride	103	mg/Kg	1	100	<2.18	103	85 - 115	6	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:

77798

Date Analyzed:

2011-02-21

Analyzed By: AR

Prep Batch: 66703

QC Preparation: 2011-02-21

Prepared By: AR

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	97.4	mg/Kg	1	100	< 2.18	97	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	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride	102	mg/Kg	1	100	<2.18	102	85 - 115	5	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:

77799

Date Analyzed:

2011-02-21

Analyzed By: AR.

Prep Batch: 66703

QC Preparation: 2011-02-21

Prepared By: AR

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Eddy Co., NM

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	97.4	mg/Kg	1	100	< 2.18	97	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	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride	103	mg/Kg	1	100	< 2.18	103	85 - 115	6	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: 77804 Date Analyzed:

2011-02-21

Analyzed By: ME

Prep Batch: 66705

QC Preparation: 2011-02-21

Prepared By: ME

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Benzene	1.86	mg/Kg	1	2.00	< 0.0118	93	76.4 - 118.4
Toluene	1.92	$_{ m mg/Kg}$	ĺ	2.00	< 0.00600	96	81.8 - 111.9
Ethylbenzene	1.94	mg/Kg	1	2.00	< 0.00850	97	81.1 - 112.2
Xylene	5.92	mg/Kg	1	6.00	< 0.00613	99	81.7 - 111.5

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

	LCSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene	1.88	mg/Kg	ł	2.00	< 0.0118	94	76.4 - 118.4	.1	20
Toluene	1.93	mg/Kg	1	2.00	< 0.00600	96	81.8 - 111.9	0	20
Ethylbenzene	1.98	mg/Kg	1	2.00	< 0.00850	99	81.1 - 112.2	2	20
Xylene	5.96	mg/Kg	1	6.00	< 0.00613	99	81.7 - 111.5	1	20

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

	LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Triffuorotoluene (TFT)	2.05	2.03	mg/Kg	1	2.00	102	102	69 - 123.3
4-Bromofluorobenzene (4-BFB)	2.42	2.41	$_{ m mg/Kg}$	1	2.00	121	120	64.9 - 131.9

Laboratory Control Spike (LCS-1)

QC Batch: 77805 Prep Batch: 66705 Date Analyzed: QC Preparation: 2011-02-21

2011-02-21

Analyzed By: ME Prepared By: ME

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
GRO	17.1	mg/Kg	1	20.0	< 0.753	86	61.8 - 97

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

	LCSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
GRO	17.0	mg/Kg	1	20.0	< 0.753	85	61.8 - 97	1	20

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

	LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	2.13	2.07	mg/Kg	1	2.00	106	104	74.6 - 124
4-Bromofluorobenzene (4-BFB)	2.29	2.22	ıng/Kg	1	2.00	114	111	53.9 - 121.1

Laboratory Control Spike (LCS-1)

QC Batch:

77882

Date Analyzed:

2011-02-23

Analyzed By: kg

Prep Batch: 66796

QC Preparation: 2011-02-23

Prepared By: kg

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
DRO	242	mg/Kg	i	250	<15.7	97	47.5 - 144.1

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

	LCSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
DRO	241	mg/Kg	Ĩ	250	<15.7	96	47.5 - 144.1	0	20

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

	LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
n-Tricosane	109	115	mg/Kg	1	100	109	115	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch:

Date Analyzed:

2011-02-25

Analyzed By: ME

Prep Batch: 66842

QC Preparation: 2011-02-25

Prepared By: ME

	LCS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
GRO	14.0	mg/Kg	1	20.0	< 0.753	70	61.8 - 97

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

	LCSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
GRO	15.1	mg/Kg	1	20.0	< 0.753	76	61.8 - 97	8	20

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Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.82	1.84	mg/Kg	1	2.00	91	92	74.6 - 124
4-Bromofluorobenzene (4-BFB)	2.17	2.20	mg/Kg	1	2.00	108	110	53.9 - 121.1

Matrix Spike (MS-1) Spiked Sample: 258012

QC Batch: 77781 Prep Batch: 66718 Date Analyzed: 2011-02-21 QC Preparation: 2011-02-21

Analyzed By: kg Prepared By: kg

	MS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
DRO	595	mg/Kg	1	250	334	104	11.7 - 152.3

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

	MSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
DRO	709	mg/Kg	1	250	334	150	11.7 - 152.3	18	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	${ m Rec.}$	Rec.	Limit
n-Tricosane	3 4	142	161	mg/Kg	1	100	142	161	70 - 130

Matrix Spike (MS-1) Spiked Sample: 257845

QC Batch: 77797 Prep Batch: 66703 Date Analyzed: 2011-02-21 QC Preparation: 2011-02-21

Analyzed By: AR Prepared By: AR

	MS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	11600	mg/Kg	.100	10000	1350	102	85 - 115

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

	MSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride	12000	mg/Kg	100	10000	1350	106	85 - 115	3	20

³High surrogate recovery due to peak interference.

⁴High surrogate recovery due to peak interference.

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Matrix Spike (MS-1) Spiked Sample: 257855

QC Batch: 77798 Date Analyzed:

2011-02-21

Analyzed By: AR

Prep Batch: 66703 QC Preparation: 2011-02-21 Prepared By: AR

	MS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride	10100	mg/Kg	100	10000	<218	101	85 - 115

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

	MSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride	10600	mg/Kg	100	10000	<218	106	85 - 115	5	20

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

Matrix Spike (MS-1) Spiked Sample: 257874

QC Batch: 77799 Date Analyzed:

2011-02-21

Analyzed By: AR.

Prep Batch: 66703

QC Preparation: 2011-02-21

Prepared By: AR

	MS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	${f Amount}$	Result	Rec.	Limit
Chloride	10000	mg/Kg	100	10000	<218	100	85 - 115

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

	MSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride	10400	mg/Kg	100	10000	<218	104	85 - 115	4	20

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

Matrix Spike (MS-1) Spiked Sample: 257853

QC Batch: 77804 Prep Batch: 66705 Date Analyzed: QC Preparation: 2011-02-21

2011-02-21

Analyzed By: ME Prepared By: ME

	MS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
Benzene	1.93	mg/Kg	1	2.00	< 0.0118	96	65.5 - 139.8
Toluene	2.10	mg/Kg	1	2.00	0.2359	93	70.5 - 137.3
Ethylbenzene	2.33	$_{ m mg/Kg}$	1	2.00	0.3461	99	66.7 - 151
Xylene	7.35	mg/Kg	1	6.00	1.2225	102	68.7 - 149.5

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Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	1.91	mg/Kg	1	2.00	< 0.0118	96	65.5 - 139.8	1	20
Toluene	2.10	mg/Kg	1	2.00	0.2359	93	70.5 - 137.3	0	20
Ethylbenzene	2.44	mg/Kg	1	2.00	0.3461	105	66.7 - 151	5	20
Xylene	7.52	mg/Kg	1	6.00	1.2225	105	68.7 - 149.5	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
Trifluorotoluene (TFT)		2.55	2.54	mg/Kg	1	2	128	127	50.9 - 152.9
4-Bromofluorobenzene (4-BFB)	5 6	3.49	3.51	mg/Kg	Ţ	2	174	176	48.5 - 165.8

Matrix Spike (MS-1) Spiked Sample: 257849

QC Batch: 77805

Date Analyzed:

2011-02-21

Analyzed By: ME

Prep Batch: 66705

QC Preparation: 2011-02-21

Prepared By: ME

	MS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
GRO	16.1	mg/Kg	1	20.0	< 0.753	80	63 - 108.5

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

	MSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
GRO	17.6	mg/Kg	ī	20.0	< 0.753	88	63 - 108.5	9	20

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

C	MS	MSD	T7 **	Del	Spike	MS	MSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Triffuorotoluene (TFT)	2.63	2.69	mg/Kg	1	2	132	134	54.1 - 154.3
4-Bromofluorobenzene (4-BFB)	2.87	2.93	mg/Kg	1	2	144	146	41.9 - 162.8

Matrix Spike (MS-1) Spiked Sample: 257898

QC Batch:

77882

Date Analyzed:

2011-02-23

Analyzed By: kg

Prep Batch: 66796

QC Preparation: 2011-02-23

Prepared By:

	MS			Spike	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
DRO	240	mg/Kg	i	250	<15.7	96	11.7 - 152.3

⁵High surrogate recovery due to peak interference.

⁶High surrogate recovery due to peak interference.

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	MSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
DRO	218	mg/Kg	1	250	<15.7	87	11.7 - 152.3	10	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	113	10.1	mg/Kg	1	100	113	101	70 - 130

Matrix Spike (MS-1)

Spiked Sample: 258253

QC Batch: 77929 Date Analyzed: 2011-02-25 Analyzed By: ME

Prep Batch: 66842

QC Preparation: 2011-02-25

Prepared By: ME

	MS			\mathbf{Spike}	Matrix		Rec.
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit
GRO	14.6	mg/Kg	i	20.0	< 0.753	73	63 - 108.5

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

	MSD			Spike	Matrix		Rec.		RPD
Param	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
GRO	16.0	mg/Kg	1	20.0	< 0.753	80	63 - 108.5	9	20

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

	MS	MSD			Spike	MS	MSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	2.46	2.53	ıng/Kg	1	2	123	126	54.1 - 154.3
4-Bromofluorobenzene (4-BFB)	2.99	3.09	mg/Kg	1	2	150	154	41.9 - 162.8

Standard (CCV-1)

QC Batch: 77781

Date Analyzed: 2011-02-21

Analyzed By: kg

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO		mg/Kg	250	208	83	80 - 120	2011-02-21

Standard (CCV-2)

QC Batch: 77781

Date Analyzed: 2011-02-21

Analyzed By: kg

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CCVs	CCVs	CCVs	Percent	
True	Found	Percent	Recovery	
				_

			CCVs	CCVs	CCVs	Percent	D., 4.,
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO		mg/Kg	250	225	90	80 - 120	2011-02-21

Standard (ICV-1)

QC Batch: 77797

Date Analyzed: 2011-02-21

Analyzed By: AR

			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/Kg	100	99.1	99	85 - 115	2011-02-21

Standard (CCV-1)

QC Batch: 77797

Date Analyzed: 2011-02-21

Analyzed By: AR

			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2011-02-21

Standard (ICV-1)

QC Batch: 77798

Date Analyzed: 2011-02-21

Analyzed By: AR

			ICVs True	ICVs Found	ICVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2011-02-21

Standard (CCV-1)

QC Batch: 77798

Date Analyzed: 2011-02-21

Analyzed By: AR

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/Kg	100	99.4	99	85 - 115	2011-02-21

Standard (ICV-1)

QC Batch: 77799

Date Analyzed: 2011-02-21

Analyzed By: AR

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			ICVs	ICVs	ICVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/Kg	100	99.4	99	85 - 115	2011-02-21

Standard (CCV-1)

QC Batch: 77799

Date Analyzed: 2011-02-21

Analyzed By: AR

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2011-02-21

Standard (CCV-2)

QC Batch: 77804

Date Analyzed: 2011-02-21

Analyzed By: ME

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		mg/Kg	0.100	0.0959	96	80 - 120	2011-02-21
Toluene		mg/Kg	0.100	0.0984	98	80 - 120	2011-02-21
Ethylbenzene		mg/Kg	0.100	0.0988	99	80 - 120	2011-02-21
Xylene		mg/Kg	0.300	0.300	100	80 - 120	2011-02-21

Standard (CCV-3)

QC Batch: 77804

Date Analyzed: 2011-02-21

Analyzed By: ME

			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		mg/Kg	0.100	0.0943	94	80 - 120	2011-02-21
Toluene		$_{ m mg/Kg}$	0.100	0.0956	96	80 - 120	2011-02-21
Ethylbenzene		mg/Kg	0.100	0.0955	96	80 - 120	2011-02-21
Xylene		mg/Kg	0.300	0.289	96	80 - 120	2011-02-21

Standard (CCV-2)

QC Batch: 77805

Date Analyzed: 2011-02-21

Analyzed By: ME

Report Date: February 28, 2011 114-6400817

Work Order: 11021807 COG/Willow A TB Page Number: 26 of 27 Eddy Co., NM

			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		mg/Kg	1.00	1.02	102	80 - 120	2011-02-21

Standard (CCV-3)

QC Batch: 77805

Date Analyzed: 2011-02-21

Analyzed By: ME

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		mg/Kg	1.00	1.07	107	80 - 120	2011-02-21

Standard (CCV-1)

QC Batch: 77882

Date Analyzed: 2011-02-23

Analyzed By: kg

-			CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO		mg/Kg	250	243	97	80 - 120	2011-02-23

Standard (CCV-2)

QC Batch: 77882

Date Analyzed: 2011-02-23

Analyzed By: kg

•			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO		mg/Kg	250	232	93	80 - 120	2011-02-23

Standard (CCV-1)

QC Batch: 77929

Date Analyzed: 2011-02-25

Analyzed By: ME

			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		mg/Kg	1.00	0.909	91	80 - 120	2011-02-25

Standard (CCV-2)

QC Batch: 77929

Date Analyzed: 2011-02-25

Analyzed By: ME

Report Date: February 28, 2011 114-6400817

Work Order: 11021807 COG/Willow A TB Page Number: 27 of 27

Eddy Co., NM

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.872	87	80 - 120	2011-02-25

~ Xwo #: 110 21807

Analysis Request of Chain								ain of Cus	stody	F	ìe	C	or	d		_						NA I	PA	GE: S RE(<u></u>		` 	OF:	٦		
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						1 N	910 Aidla 132) 68	N. Big nd, Te: 32-4559	TECH Spring St. (as 79705 • Fax (432) 682-3946									05 (Ext. to C35)	Cd Cr Pb Hg Se	Cd Vr Pd Hg Se									TDS		
CLIENT NAM	ME: CCG							MANAGE Ke To			ERS		PR	ESE MET		TIVE		134005	8	8			8260/624	8270/625					P. P.		
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ADDRESS: CITY: Track STATE: 78 ZIP:							RECEIVED BY: (Signature)									-	I	Ke	7	Tora	re	ŧ				R A	RUSH Charges Authorized:				
CONTACT: PHONE: D SAMPLE CONDITION WHEN RECEIVED: REMARKS: 7.2°C (Mac) I HA 1 TPH - RC								unds 100 mg/kg	run desper	_ TIM		<u>y</u>	10	Eun B	1376 77271	¥ 6	- I exex	h.,	, k + 5	+ > ~~	TPH Jir.	· ·	عرير	tur det	1 13 Par	TEX	() 4~p	von Gered 105	· 57	100 /140 /140	

Soll Lists - Midland

2001: 400x Analysis Request of Chain of Custody Record PAGE: **ANALYSIS REQUEST** (Circle or Specify Method No.) **TETRATECH** (Ext. to C35) 1910 N. Big Spring St. 무문 Midland, Texas 79705 8 8 (432) 682-4559 • Fax (432) 682-3946 CLIENT NAME: SITE MANAGER: PRESERVATIVE NUMBER OF CONTAINERS The Toronz METHOD PROJECT NAME: PROJECT NO .: 114-6400817 Willow "A" TIS LOG Feldy Co. Nam. LABILO. MATRIX COMP. SAMPLE IDENTIFICATION DATE TIME F FC NON NUMBER S E 2011 IBEB 4.05 257848 3 . HA 849 AH-3 1 BEB 830 1-15 BEB Ah-3 र द्वार 851 2-25 C'AA 2.5 -3 852 BEB 853 BEB 0-1 1-1.5 854 A11-4 1 368 2-2,5 855 1360 31.35 1 363 8376 RELINCUISHED BY (Marie) 14:30 Data: 2-17-77 RELINQUISHED BY: Signature SAMPLE SHIPPED BY: (Circle) AIFBILL D FEDEX BUS OTHER RELINGUISHED BY: (Signature) RECEIVED BY: (Signature) TETRA TECH CONTACT PERSON: Three: Results by: RECEIVING LABORATORY: RECEIVED BY: (Signature) ADDRESS: The Tavarra RUSH Charoos 215. TIME SAMPLE CONDITION WHEN RECEIVED: Kun BTEX un highest TPU. It total isTEX executs 7,2°c intact my /Ky run desper sumples or Eletine spired & 10 mg

Please till out all copies - Laboratory retains Yellow copy - Return Orginal copy to Totra Toch - Project Manager retains Pink copy - Accounting receives Gold copy.

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	TETRA TECH 1910 N. Big Spring St. Midland, Texas 79705 (432) 682-4559 • Fax (432) 682-3946											1	15 (Ext. 10 C33)	2 3	Vr Pd Hg	(Cir								TDS							
CLIENT NAME: CCC SITE MANAGER: PRESERVATIVE METHOD													CO1X1	8	20 20 20 20 20 20 20 20 20 20 20 20 20 2			50/624						a. pH.							
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ION WHEN RECEIVED:

REMARKS:

JAMEN TO LOUIS 100 mg/s run Juper samples for Brazer and 10 m/s run Juper samples

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

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SAMPLE CONDITION WHEN RECEIVED:

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