SITE INFORMATION Report Type: Closure Report General Site Information. Site: Folk Federal #2 Tank Battery Company: **COG Operating LLC** Section, Township and Range Unit H Sec. 17 T-17-S R-29-E Lease Number: API-30-015-20198 County: Eddy County GPS: 32.83619° N 104.09072° W Surface Owner: **Federal** Mineral Owner: Intersection of Hwy 82 and CR-211 west of Loco Hills, travel North 1.4 mi on CR-211. turn right Directions: 0.2 mi to location on left. Release Data: Date Released: 3/5/2011 5/5/2009 Produced Water Type Release: Oil NOV 0 1 2012 Source of Contamination: Tank overflowed transport overflowed Fluid Released: 180 bbls 192 bbls NMOCD ARTESIA Fluids Recovered: 160 bbls 14 bbls Official Communication: Name: Pat Ellis lke Tavarez Tetra Tech Company: COG Operating, LLC Address: 550 W. Texas Ave. Ste. 1300 1910 N. Big Spring P.O. Box City: Midland, Texas Midland Texas, 79701 Phone number: (432) 686-3023 (432) 631-0348 Fax: (432) 684-7137 Email: ike.tavarez@tetratech.com pellis@conchoresources.com

Depth to Groundwater:	Ranking Score	Site Data
<50 ft	20	
50-99 ft	10	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

Acceptable Soil RRAL (mg/kg)

Total BTEX

50

TPH

1,000

Benzene

10



October 16, 2012

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



Closure Report for the COG Operating LLC., Folk Federal Tank Re: Battery, located Unit H, Section 17, Township 17 South, Range 29 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 Folk Federal Tank Battery located Unit H, Section 17, Township 17 South, Range 29 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.83619°, W 104.09072°. The site location is shown on Figures 1 and 2.

Previous Release

On May 5, 2009, a released of oil occurred at the facility. Tetra Tech assessed and performed the soil remediation at the site. However, the area of AH-1 showed chloride concentrations, which appeared to be historical and performed an assessment on this area. Tetra Tech submitted the Work Plan. The work plan had not been dated March 1, 2011 for approval. implemented at the site. The recent spill had migrated on top of the previous release footprint. The submitted Work Plan is enclosed in Appendix A.

Background

On March 5, 2011, the water tank overflowed causing the fluids to migrate outside the facility berm impacting an area approximately 60' x 60' onto the facility pad and on and across the lease road pooling in a native low lying pasture area measuring approximately 45' x 120'. The initial C-141



form is enclosed in Appendix B.

Groundwater

No water wells were listed within Section 17. The United States Geological Survey (USGS) database did show a well in Section 22, Township 17 South, Range 29 East with a depth of 80' below surface. The Geology and Groundwater Resources of Eddy County, New Mexico showed a well in Section 22, Township 17 South, Range 29 East with a reported depth of 79.7' below surface. According to the NMOCD groundwater map, the depth to groundwater in the area is approximately 75' to 100' below surface. The groundwater data is included in Appendix C.

Regulatory

A risk-based evaluation was performed for the Site in accordance with the 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 on the regional groundwater data, the proposed RRAL for TPH is 1,000 mg/kg.

Soil Assessment and Analytical Results

On May 5, 2011, Tetra Tech personnel inspected and sampled the spill area. A total of eight (8) auger holes (AH-1 through AH-8) were installed using a stainless steel hand auger to assess the impacted soils. Selected samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix D. The sampling results are summarized in Table 1. The auger hole locations are shown on Figure 3.

Referring to Table 1, all submitted samples were below RRAL for TPH and BTEX. Elevated chloride concentrations were detected and not defined at all of the sample locations. Deeper samples could not be collected due to a dense formation. On the edge of the lease road, auger holes (AH-4 and AH-5) showed chloride concentrations at 0-1' of 1,060 mg/kg and 2,870 mg/kg, respectively.



On June 28, 2011, Tetra Tech personnel were on location to supervise the installation of soil borings utilizing an air-rotary drilling rig to define the extent of the chloride impact, with the exception of AH-4 and AH-5 (lease road). A total of six (6) soil borings (SB-1 through SB-6) were installed with soil samples collected down to depths of 30.0' below surface. The soil boring results are shown in Table 1.

Referring to Table 1, the chloride impact was vertically defined and declined with depth. On the pad area, a deeper impact was found in the area of AH-1 (BH-1), declining to 1,540 mg/kg at 15.0' and 237 mg/kg at 20.0'. This impacted area appears to be part of the previous spill footprint.

A shallow chloride impact was detected at AH-2 (BH-2) 0-1' below surface. Chloride spikes at 5.0' (1,250 mg/kg) and 10.0' (1,170 mg/kg) were detected in the subsurface soils and appears to be cross-contaminated from the upper soils. The area of AH-3 (BH-3), located near the Agave Pipeline, showed a significant decline at 10.0' and 15.0' below surface. Auger holes AH-6 (BH-6), AH-7 (BH-7) and AH-8 (BH-8) detected elevated chloride concentrations from surface to 3.0' below surface which declined with depth.

Remediation and Conclusion

Based on the approved work plan, Tetra Tech personnel supervised the excavation of the site. The excavated areas and depths are highlighted in Table 1 and shown on Figure 4. The final excavation depths of the soil remediation were met as stated in the approved work plan. Approximately 1,400 cubic yards of soil were excavated and transported to the R360 facility for proper disposal.

According to the work plan submitted on March 1, 2011, the excavated area of AH-1 measured approximately 30' x 40' at a depth of 4.0' below surface. Once completed, the excavation bottom was capped with a 40 mil liner then backfilled with clean material to surface grade.

The areas of AH-2, AH-3, AH-6, AH-7 and AH-8 were excavated to depths of 4.0' below surface. Due to the close proximity of the Agave and Transwestern Pipelines, a surficial scrape was performed in the areas of AH-4 and AH-5.



Once excavated, Tetra Tech collected confirmation samples from the area of CS-1 (SB-4), CS-2 (SB-5), CS-3 (SB-6), CS-4 (SB-2) and CS-6 (SB-3). In addition, soil samples were collected on the lease road CS-5 (road) for evaluation. Confirmation samples were not collected at the area from the previous spill (area of AH-1). The confirmation sampling results are shown in Table 2.

Referring to Table 2, the confirmation sample results did not show a significant chloride impact to the soils and do not appear to be an environmental concern. Based on the field data, a verbal approval was given by the BLM to backfill the excavated areas with clean material to surface grade. As requested by the BLM, a dike was constructed along the south side of the lease road to contain future releases from impacting the pasture.

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

Respectfully submitted,

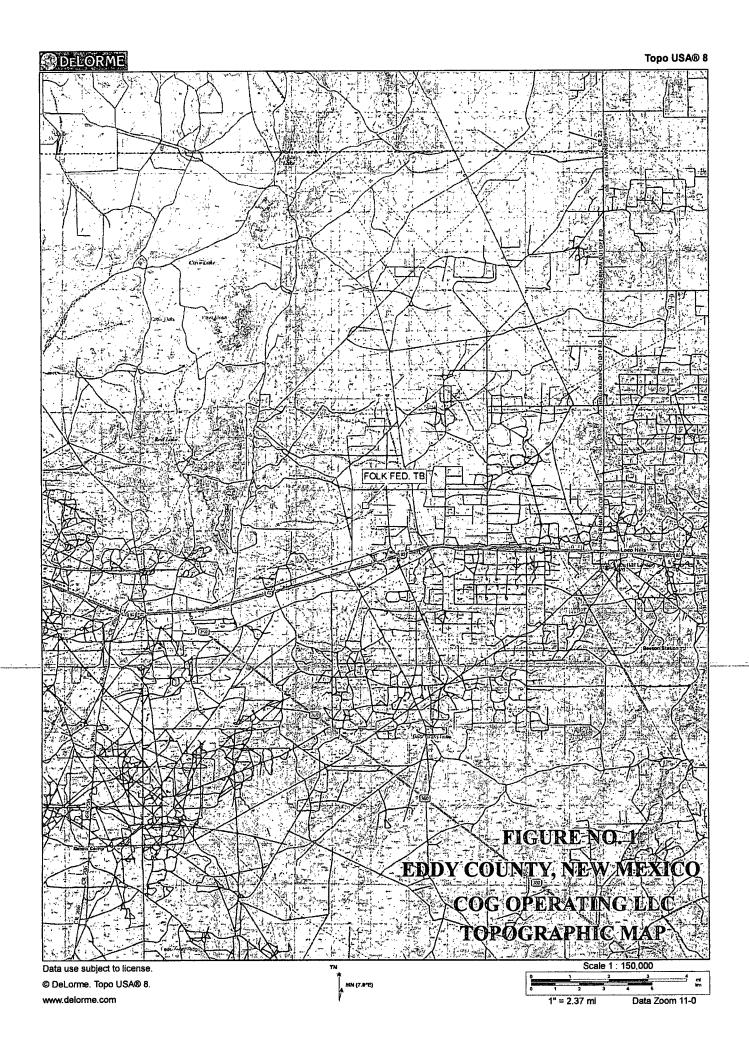
TETRA/TECH

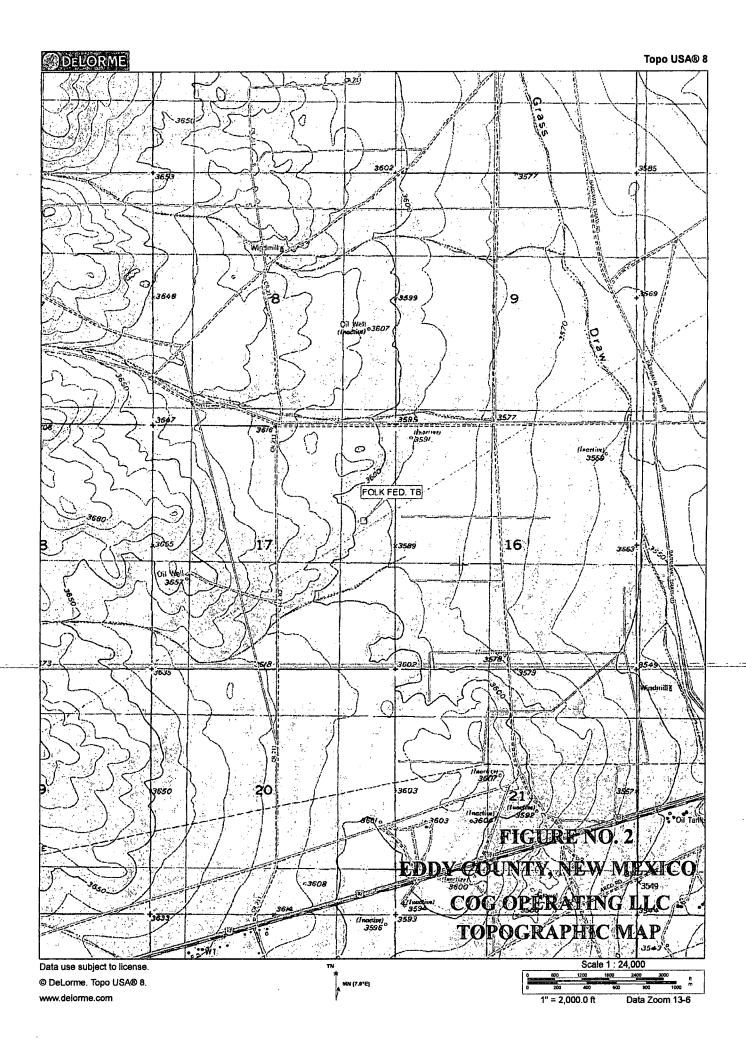
Ike Tavarez, PG Project Manager

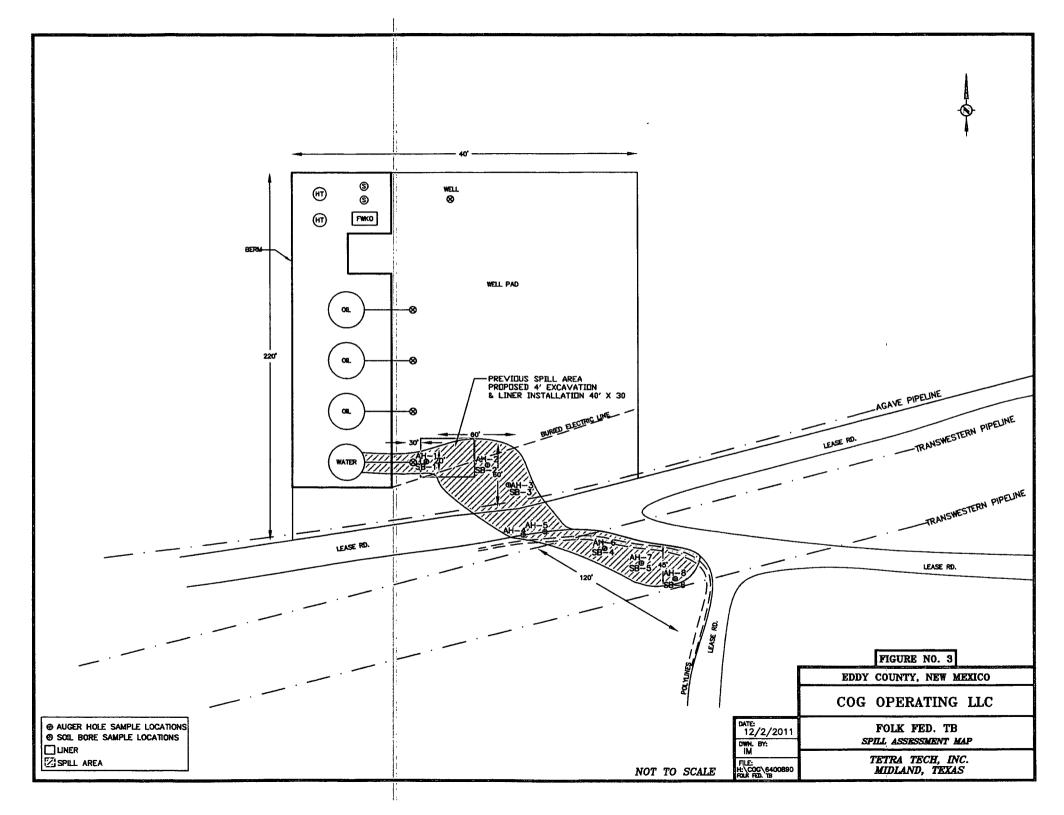
cc: Pat Ellis - COG

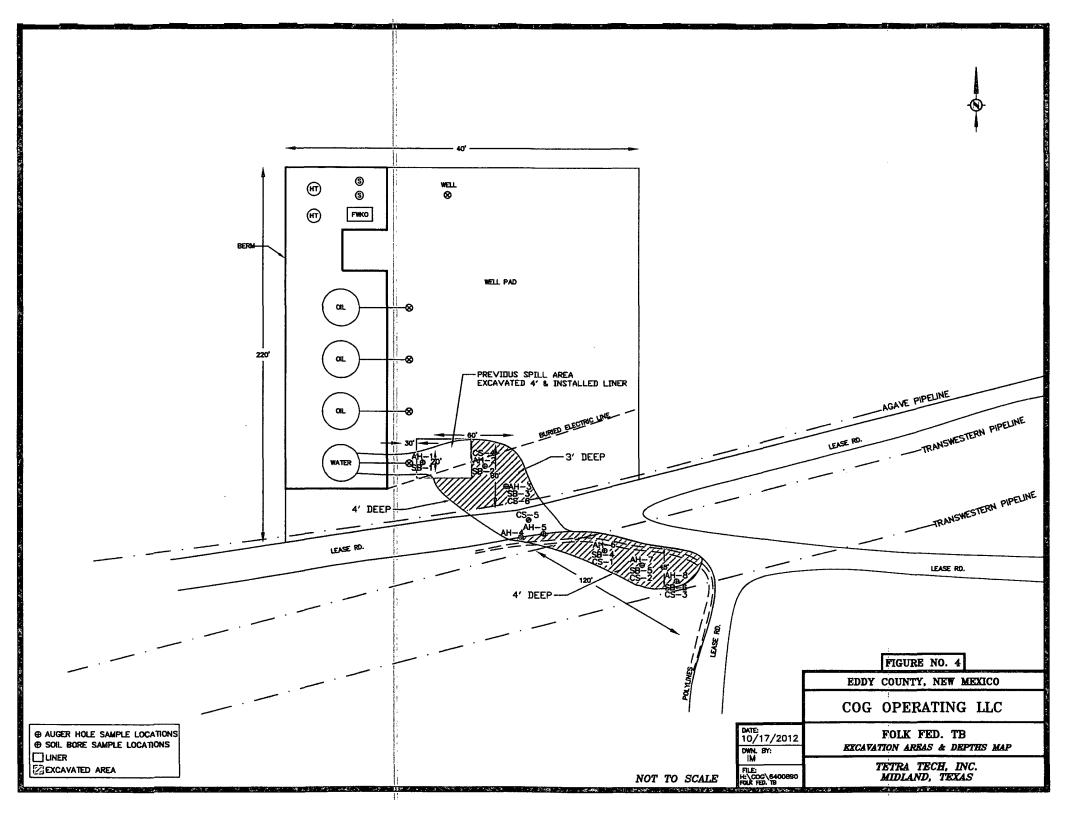
cc: Terry Gregston - BLM

Figures









Tables

Table 1 COG Operating LLC. FOLK FEDERAL TANK BATTERY Eddy County, New Mexico

Sample		Sample	Soil	Status	Τ	PH (mg/k	(g)	Benzene	Toluene	Ethlybenzene	Xylene	Chloride
ID	Sample Date	Depth (ft)	In-Situ	Removed	GRO	DRO	Total	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
AH-1	5/11/2011	0-0.5'	`	X	3.58	<50.0	3.58	<0.0200	0.133	<0.0200	₹ 0.0200	12,400
SB-1	6/28/2011	0-1'		X	-	_ :	=	-	-	<u> </u>	-	4,300
		3'		X	•	- d	-			-	-	3,410
		5'	Х		-	-	-	-	-	_	-	2,380
	:	7'	Х	,	-	-	,	-	-	-	-	3,000
		10'	Х		_	-	-	*	-	~	-	3,590
		15'	Х		-	_	-	-	-	-	-	1,540
		20'	Х		-	-	-	-	-	-	-	237
		25'	Х		-	-	-	-	-	-	-	<200
		30,	Х		-	-	-	•	•	-	~	207
AH-2	5/11/2011	0-0.5'		X	<2.00	<50.0	<50.0	-	- *	•	1	19,900
SB-2	6/28/2011	0-1'	· "	X		_	₹ % <u>.</u>	. · ·			-	10,400
		3'		X	-	-		•	-	-	-	566
		5'	Х		-	-	-	-	-	-	-	1,250
		7'	Х		-	-	-	-	-	-	-	926
		10'	Х	and the second s	-		-	-	-	-	-	1,170
		15'	Х		_	-	-	•	-	-	: -	343
		20'	Х		-	-	-	~	-	-	-	251
		25'	X			-	-	-	-	-	-	<200
		30'	Х		-	-	-	**	-	-	-	<200

Table 1 COG Operating LLC. FOLK FEDERAL TANK BATTERY

Eddy County, New Mexico

Sample		Sample	Soil	Status	T	PH (mg/k	(g)	Benzene	Toluene	Ethlybenzene	Xylene	Chloride
1D	Sample Date	Depth (ft)	In-Situ	Removed	GRO	DRO	Total	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
AH-3	5/11/2011	0-1		X	3.44	<50.0	3.44	:<0.0200	<0.0200	<0.0200	₹ 0.0200	8,590
		1-1.5		X		- (i)						8,260
		2-2.5				- j						3,540
SB-3	6/28/2011	0-1		X		- 4					-	326
		3',		X		1. - #. - 4.			_			4,240
		5'	Х		-	-	-	-	-	-	· -	2,710
		7'	X		•	-	-	-	-	-	-	1,760
		10'	Х		-	-	-	-	-	-		675
		15'	Х		-	-	-	-	-		-	316
		20'	Х		-	-	-	-	-	-	! -	268
		25'	Х		-	-	-	-	-	-	-	230
		30'	Х		-	-	-	-	-	-	-	396
AH-4	5/11/2011	0-1'	Х		56.3	473	529.3	<0.100	<0.100	<0.100	<0.100	1,060
AH-5	5/11/2011	0-1'	Х		<2.00	<50.0	<50.0	-	-	-	-	2,870

Table 1 COG Operating LLC. FOLK FEDERAL TANK BATTERY Eddy County, New Mexico

Sample		Sample	Soil	Status	Ţ	PH (mg/k	(g)	Benzene	Toluene	Ethlybenzene	Xylene	Chloride
ID	Sample Date	Depth (ft)	In-Situ	Removed	GRO	DRO	Total	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
AH-6	5/11/2011	0-1'		X	<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	9,950
SB-4	6/29/2011	0-1'		X	<u>-</u>	-	- <u>-</u>	-	-	- ·	•	10,000
		3'		X	÷.				•		-	5,940
		5'	Х		-	-	-	-	-	-	-	1,270
		7'	Х		-	-	-	-	-	-		316
		10'	X		-	-	-	-	-	•	-	269
	AN ARTHUR PROPERTY OF THE PROP	15'	Х		-	÷	-	-	-	-	-	432
·		20'	Х			-	-	-	-	-	: -	559
AH-7	5/11/2011	0-1'		X	<2.00	<50.0	<50.0	-	-	<u> -</u>	-	6,710
		1-1.5'		X		<u>-</u>	-		<u>.</u>	-	•	5,530
	:	2-2.5'		X	. •		-			_		261
		2.5-3'		X		-		- :	-	_		1,140
SB-5	6/29/2011	0-1'		X	<u>.</u>	-	1111, -	-	-	-		469
		3'		X	•	-	-	•	-		-	5,400
		5'	Х		-	-	-	-	-	-	-	364
		7'	Х		-	-	-	-	-	-	-	248
		10'	Х			-	~	-	-	-	-	3,770
		15'	Х	:	ı	-	-	-	-	-	-	559
		20'	Χ			-	-	-	-	-	-	549
		25'	Х		•	-	-	-	-	-	· -	218

Table 1 COG Operating LLC. FOLK FEDERAL TANK BATTERY

Eddy County, New Mexico

Sample	0	Sample	Soil	Status	T	PH (mg/k	(g)	Benzene	Toluene	Ethlybenzene	Xylene	Chloride
ID	Sample Date	Depth (ft)	In-Situ	Removed	GRO	DRO	Total	(mg/kg)	(mg/kg)	_	(mg/kg)	(mg/kg)
AH-8	5/11/2011	0-1		X	<2.00	<50.0	.<50.0	***				8,790
100000		1-1.5'	e e e e e e e e e e e e e e e e e e e	X		- 10 m						7,650
		2-2.5'		X		- 4.7 8.7			•			15,400
SB-6	6/29/2011	0-1 ¹		X	n 45 m .	•		•				5,060
		. 3'		X				-	_			10,600
		5'	Х		-	-	-	-	-	-		782
		7'	Х		•	-	-	-	-	-	tea	1,360
		10'	Х		-	-	-	-	-	-	-	752
Man	i	15'	Х		-	-	-	-	-	-		247
		20'	Х		-	-	-	•	-		-	<200
		25'	Х		-	-	_	-	-	_		396

(--) Not Analyzed

Liner Depth

Excavated Depths

Table 2
COG Operating LLC
Folk Federal Tank Battery
Eddy County, New Mexico

	Sample	Sample	Soil 9	Status	Chloride
Sample ID	Date	Depth (ft)	In-Situ	Removed	(mg/kg)
CS-1 North Wall (SB-4)	8/1/2012	-	Х		385
CS-1 South Wall (SB-4)	ıı ı	-	Х		405
CS-1 West Wall (SB-4)	ll .	-	Х		215
CS-1 Bottom Hole (SB-4)	II .	4	Х		317
1		I		1	
CS-2 North Wall (SB-5)	7/31/2012	-	Х		439
CS-2 South Wall (SB-5)	8/1/2012	-	Х		410
CS-2 Bottom (SB-5)	8/1/2012	4	Х		405
		T		1	
CS-3 North Wall (SB-6)	8/2/2012	-	Х		171
CS-3 South Wall (SB-6)	11	-	Х		634
CS-3 East Wall (SB-6)	u	-	Х		444
CS-3 Bottom Hole (SB-6)	н	4	Х		442

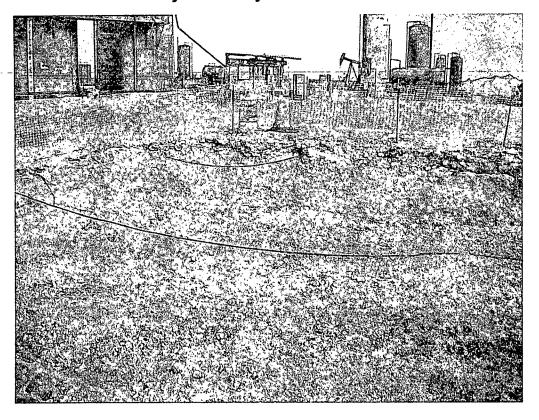
Table 2
COG Operating LLC
Folk Federal Tank Battery
Eddy County, New Mexico

Comple ID	Sample	Sample	Soil	Status	Chloride
Sample ID	Date	Depth (ft)	In-Situ	Removed	(mg/kg)
CS-4 North Wall (SB-2)	8/10/2012	_	Х		452
CS-4 South Wall (SB-2)	11	-	Х		731
CS-4 East Wall (SB-2)	11	-	Х		236
CS-4 Bottom Hole (SB-2)	п	4	Х		447
CS-5 Surface (Road)	8/15/2012	-	Х		217
CS-5 (Road)	(1	1	Χ		197
CS-5 (Road)	п	2	Х		130
CS-6 Bottom Hole (SB-3)	8/15/2012	4	Х		404
CS-6 North Wall (SB-3)	11	-	Х		260
CS-6 East Wall (SB-3)	ıı	. -	X		202
CS-6 West Wall (SB-3)	11	-	Х		154
CS-6 South Wall (SB-3)	и	••	Х		505

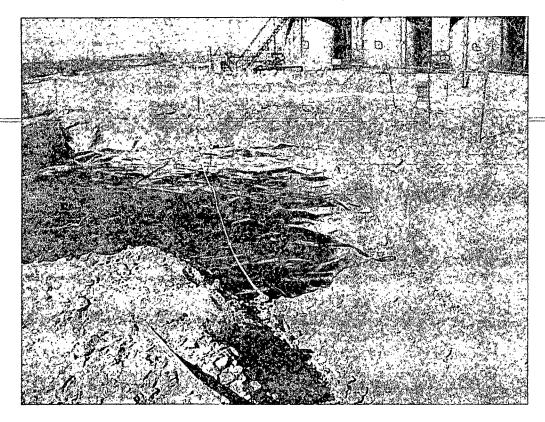
^(-) Not Analyzed

Photos



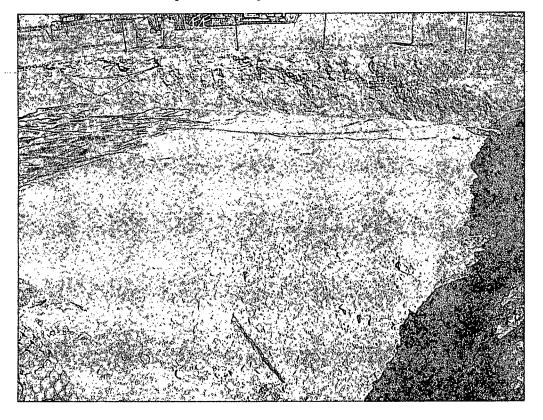


View North - Previous spill area

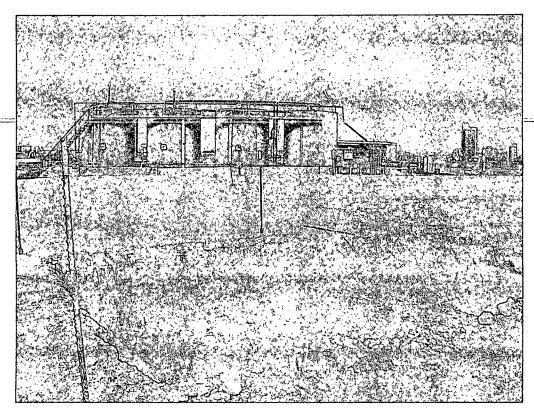


View West - Previous spill area, Liner Installation





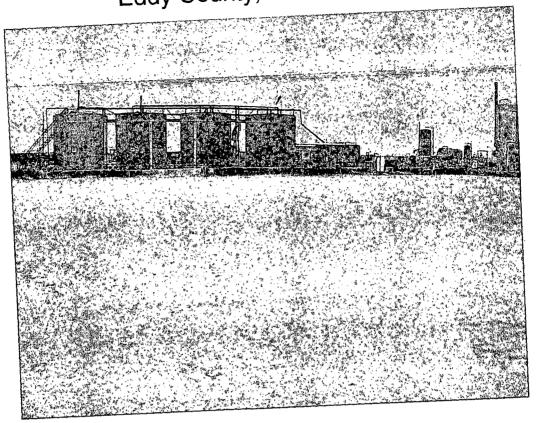
View North - Previous spill area, Backfill



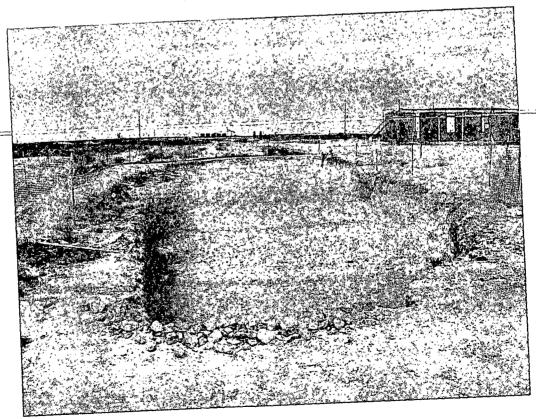
View West – Areas of AH-2 and AH-3

TETRA TECH



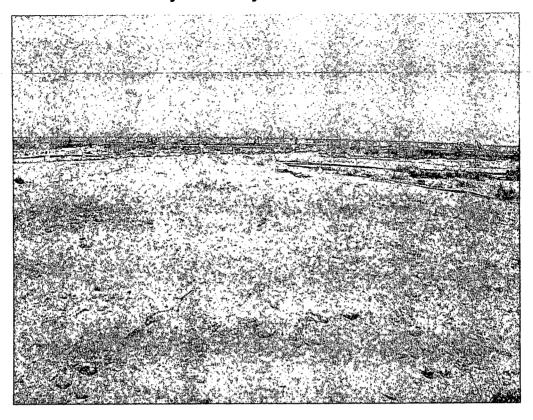


View West - Backfill

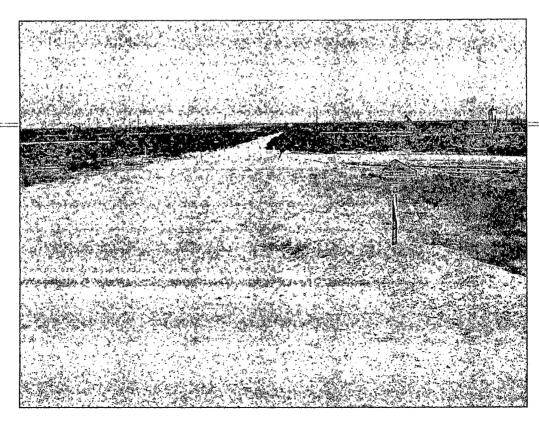


View West - Area of AH-8, AH-7 and AH-6





View Southeast - Backfill



View Southeast - Backfill

Appendix A



March 1, 2011

Mr. Mike Bratcher
New Mexico Energy, Minerals, & Natural Resources
Oil Conservation Division, Environmental Bureau
1301 W. Grand Ave.
Artesia, New Mexico 88210

Re: Assessment Report and Work Plan for the Spill located at the COG Operating, LLC, Folk Federal #2 Tank Battery, Located in Unit Letter H, Section 17, Township 17 South, Range 29 East, Eddy County, New Mexico.

Mr. Bratcher:

Tetra Tech (Formerly Highlander Environmental Corp.) was contacted by COG Operating, LLC and Navajo Refining Company, L.P. (Navajo) to investigate a spill that occurred at the COG Folk Federal #2 Tank Battery. The tank battery is located in Unit Letter H, Section 17, Township 17 South, Range 29 East, Eddy County, New Mexico. The site coordinates are 32.83619° N, 104.09072° W. The Site is shown on Figures 1 and 2.

Background

According to the C-141 (Initial), Navajo released oil onto the ground when the transporter fell asleep while pumping out oil from COG' oil tanks, and the oil transport tank overflowed, on May 5, 2009. Approximately 192 barrels of crude oil was released and 14 barrels were recovered. The spill impacted the facility pad and ran down the lease road to south and east. The spill also extended south of the road out into the pasture. The spill location is shown on Figure 3. Navajo supervised the removal of the saturated soil to depths of 0.5'-7.0'. Approximately 1500 yds.³ of impacted soil was taken offsite for proper disposal. The initial C-141 is included in Appendix A.



Groundwater and Regulatory

The United States Geological Survey (USGS) database did show a well in Section 22, Township 17 South, Range 29 East that showed a depth of 80' below surface. The Geology and Groundwater Resources of Eddy County, New Mexico showed a well in Section 22, Township 17 South, Range 29 East to have been measured with a depth of 79.7' below surface. Copies of the well data are included in Appendix B.

A risk-based evaluation was performed for the Site in accordance with the 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 on the regional groundwater data, the proposed RRAL for TPH is 1,000 mg/kg.

Navajo Soil Assessment

On May 14, 2009, samples were collected from the spill area. A total of seven (7) auger holes were placed in the impacted area. The sample locations are shown on Figure 3. The soil samples were analyzed for TPH (Modified 8015), BTEX (8021 B), and Chloride (SM 4500-Cl B). Copies of the laboratory reports and chain of custody documents are included in Appendix C. The results are summarized in Table 1.

Corrective Action and Analytical Results

Referring to Table 1, none of the samples had TPH or BTEX concentrations exceeding the RRAL. Chloride impact was detected in the areas of AH-1, AH-3 and AH-7 and not vertically defined. On May 20, 2009, Navajo excavated the areas (AH-1, AH-3 and AH-7) with the elevated chloride impact. Once excavated, three test trenches were installed to define chloride impact in these areas. Trench T-1 was placed near AH-1 and samples were collected to total depth of 8.0' below surface and the chloride impact was not defined at this location, with a chloride concentration of 2,310 mg/kg. The remaining trenches T-2 (AH-3) and T-3 (AH-7) declined with depth and had chloride concentrations of 531 mg/kg (T-2, 7.0') and 552 mg/kg (T-3, 2.0') respectively. The results are summarized in Table 1.



Navajo Spill Conclusions

The remedial activities performed at the site, leaves no residual TPH or BTEX concentrations that exceeded the RRAL. The excavations was been backfilled with clean soil. Based upon the spill being from crude oil, it was suspected that the elevated chloride concentrations were the result of historic spills and were then not the responsibility of Navajo. The chloride concentrations in the area of auger hole AH-1 were determined to be the responsibility of COG.

Area AH-1 - Soil Assessment

On August 19, 2009 Tetra Tech installed boreholes to assess and define the extents area of AH-1. A total of five (5) boreholes were installed in the vicinity of AH-1. The borehole locations are shown in Figure 4. Copies of the laboratory reports and chain of custody documents are included in Appendix C. The results are summarized in Table 2

Referring to Table 2, all the boreholes showed chloride concentrations declining with depth. BH-3 showed slight chloride impact to the subsurface soils. Boreholes (BH-1 and BH-2) did show chloride impact above 1,000 mg/kg from 6.0' to 15.0', with chloride concentrations ranging from 1,160 mg/kg to 1,980 mg/kg. Borehole (BH-5) showed elevated chloride impact from 6.0' to 9.0' with concentrations of 1,680 mg/kg and 2,800 mg/kg, respectively. Borehole (BH-4) did show a chloride impact from surface to 15.0' below surface, with concentrations from 686 mg/kg at 6.0' to 5,660 mg/kg at 0-1'.

Work Plan

Based on the results, the chloride impact on the pad appears to be from historical spills. In order to remove some of the chloride impacted soil, COG proposes to excavate the soil to a depth of 4.0' below surface and capped the area with a 40 mil liner. The proposed excavated area will measure approximately 30' x 45'. The excavated soil will be hauled to proper disposal. Once excavated and capped, the area will be backfilled with clean fill material. The proposed excavated area is shown on Figure 5.

The goal of the remediation is to reduce the environmental liabilities for the protection of the groundwater. Based on site formation, 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. If the depths are not reached, a 40 mil liner will be installed at depth of 4' to 5' below surface to cap the impacted area.



Once the remedial activities are performed, a closure report will be submitted for review. If you have any question or comments concerning the assessment or the activities performed at the Site, please call me at (432) 682-4559.

Respectfully submitted,

Tetra Tech, Inc.

ĭke/Tavarez, ₽

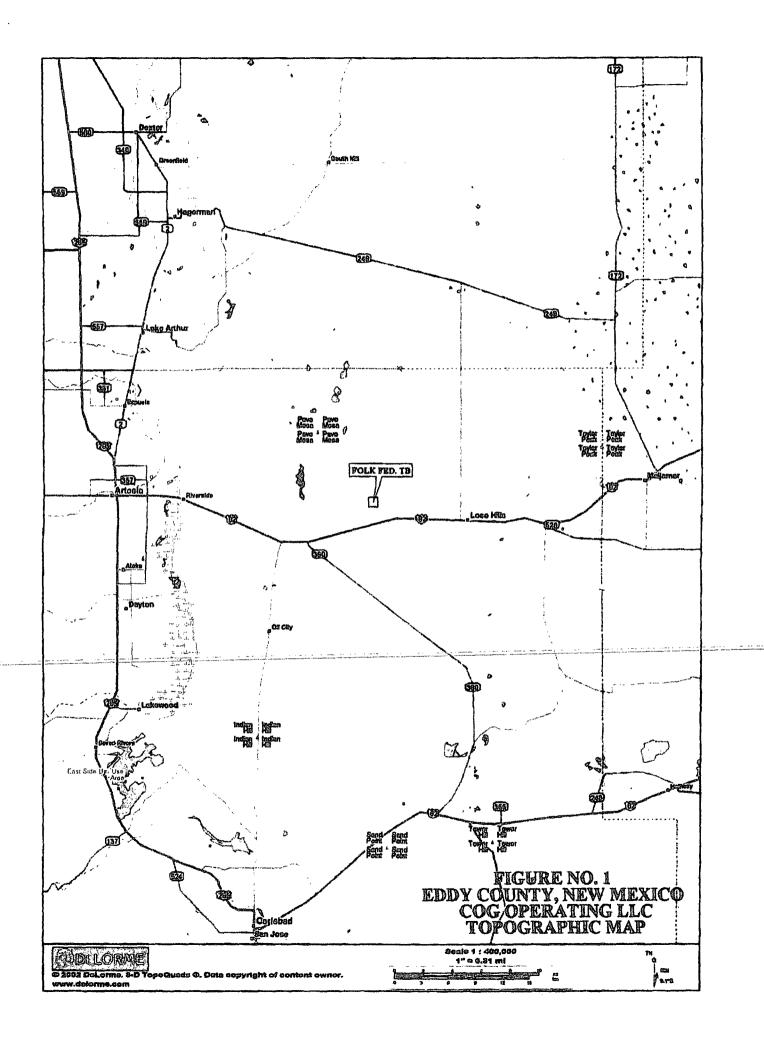
Tke Tavarez, F.Q. Senior Project Manager

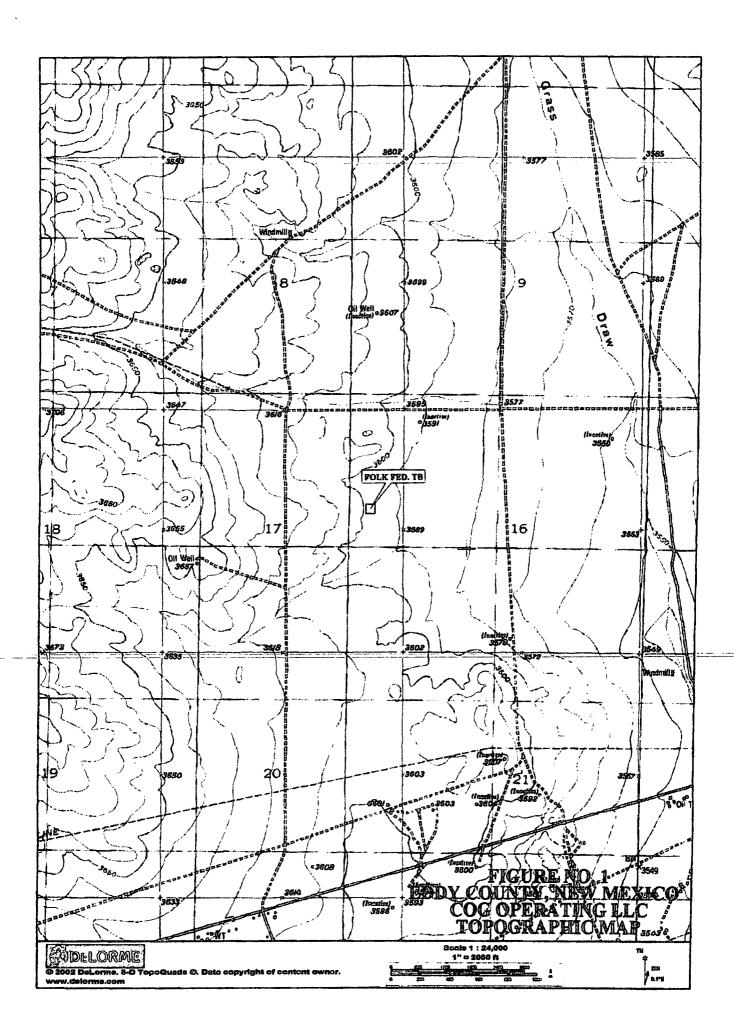
cc:

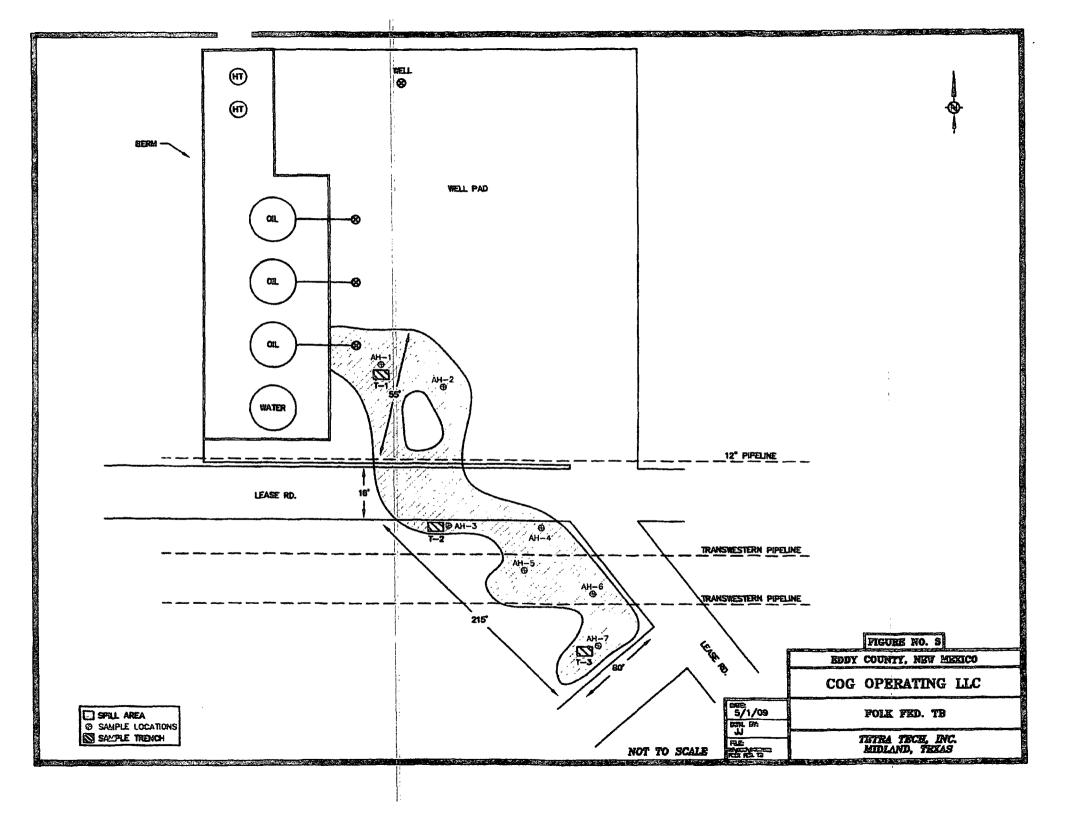
Pat Ellis - COG

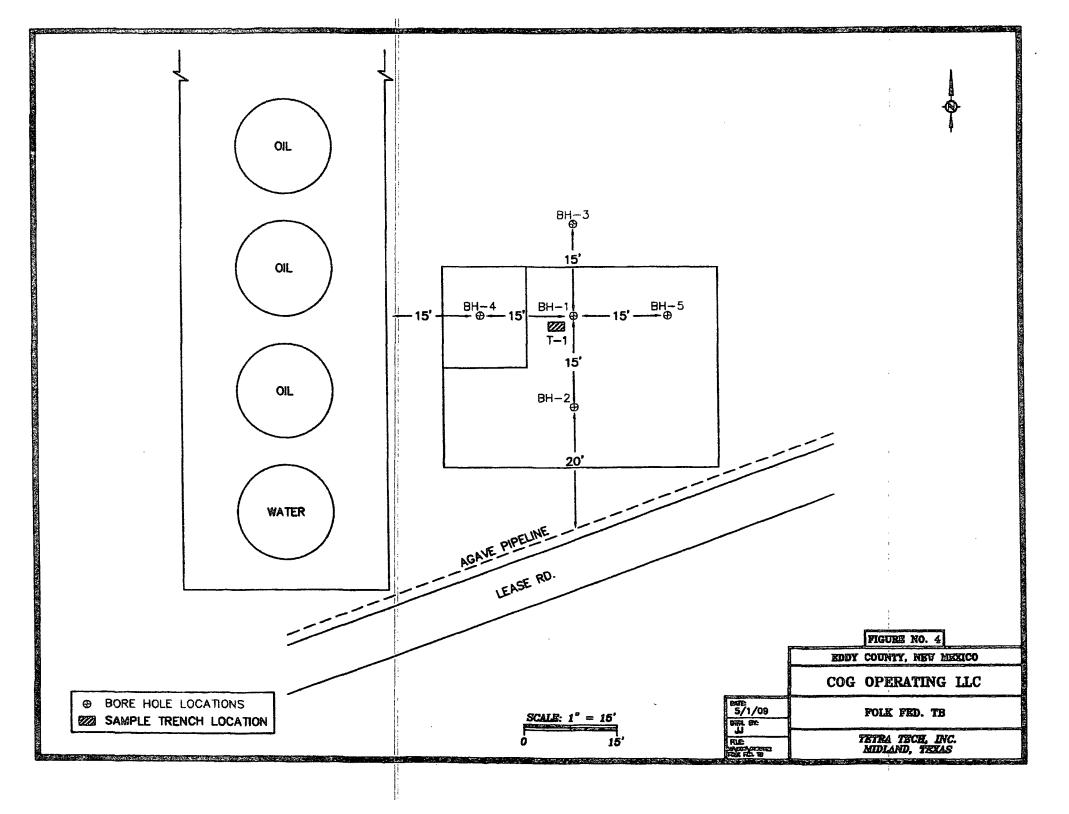
Terry Gregston - BLM

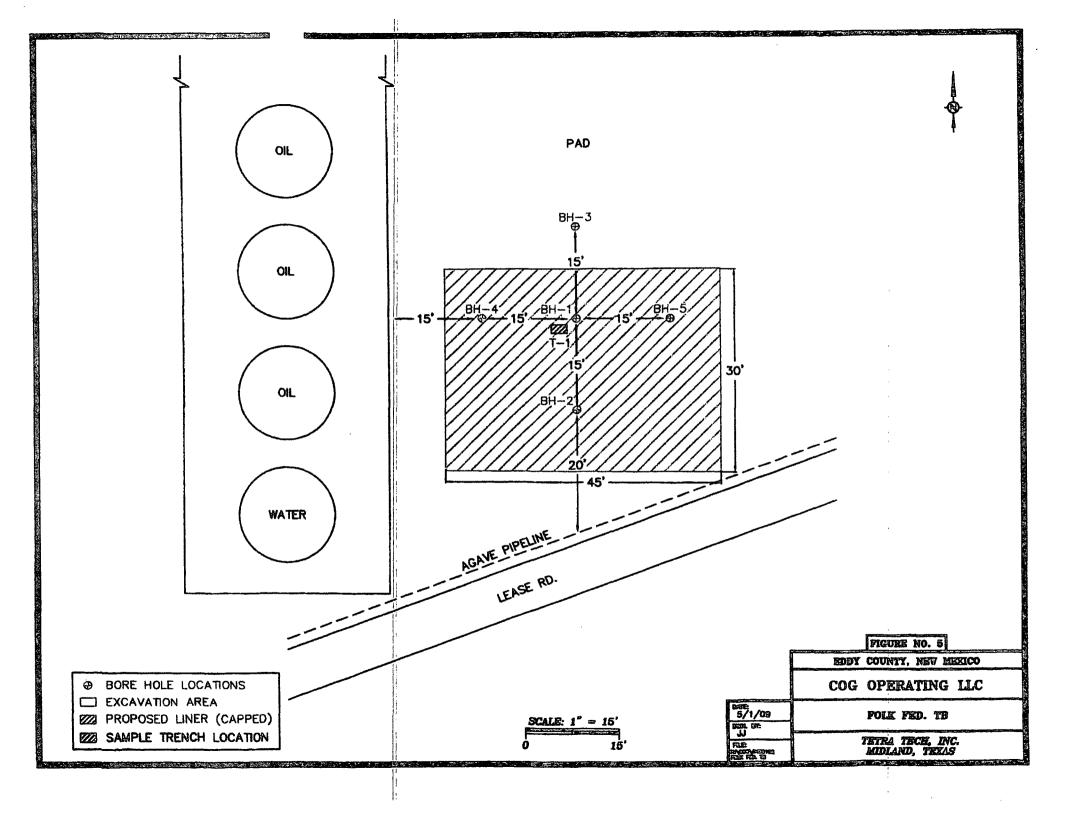
Figures











Tables

Table 1 COG Folk Tank Battery Eddy County, New Mexico

Sample	Date	Soi	Status	Sample	Excavation		TPH (mg/	kg)	Benzene	Toluene	Ethlybenzene	Xylene	Chloride
ID	Sampled			Depth (ft)	Depth	DRO	GRO	Total	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
		Insitu	Removed	(BEB)	(ft)	TVATO NOS de signi d	AND CONTROL SALE		And the second s				, seed the seed of
AH-I	5/14/2009		X	0-0.5	0.5	₹50	1.23	1.23	and a second				1950
(T-1)	5/20/2009	х		0-1	0.5	-	-	-	-	-	•	. <u>.</u>	1500
	5/20/2009	Х		2		-	-	-	-	-	-	· •	1020
	5/20/2009	Х		4		-	-	,	-	-	-		2620
	5/20/2009	Х		6			-	ų.	-	-	-		3400
	5/20/2009	X		8					-	-	-	- -	2310
AH-2	5/14/2009	х		0-1-	2	207.0	41.1	248.1	<0.01	0.185	0.428	0.939	<200
	5/14/2009	х		1-1.5		-		•	-	-	-	-	<200
	5/14/2009	х		2-2.5		-	-	-	-	-		-	<200
AH-3	5/14/2009		, X	(01) (20)	0.5	<50.0	10.3	10:3	₹0.01	€ 0.01	₹0.0 i	<0.01	1020
	5/14/2009		X	1:15			20.573						1280
	5/14/2009		X	2.2.5		7 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7							522
(T-2)	5/20/2009	х		0-1	2	-		-	-		_		931
	5/20/2009	х		2		-				-		_	1290
	5/20/2009	х		5		-	-		-		_		896
	5/20/2009	х		7		-	-	-	-	-		-	531
												ļ	

Table 1 COG Folk Tank Battery **Eddy County, New Mexico**

Sample	Date	Soi	Status	Sample	Excavation		TPH (mg/	/kg)	Benzene	Toluene	Ethylbenzene	Xylene	Chloride
ID	Sampled	Insitu	Removed	Depth (ft) (BEB)	Depth (ft)	DRO	GRO	Total	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
AH-4	5/14/2009			0-1	2	<50.0	7.1	7.1	<0.01	<0.01	<0.01	<0.01	<200
	5/14/2009			1-1.5		•	-	-	ı	ı	-	-	<200
	5/14/2009			1.5-2.0		-	_	-	-	-	<u>.</u>	·	<200
						,						j	
AH-5	5/14/2009	Х		0-1	2	126	7.9	133.9	<0.01	0.0917	<0.01	0.242	<200
· _												!	
AH-6	5/14/2009	Х		0-1	7	<50.0	7.07	7.07	•	-	-	-	<200
	5/14/2009	х		1-1.5		-	-	•	-	-	-	-	<200
AH-7	5/14/2009		X	0.1	3-3-3	₹50.0	6.05	6.05					322
	5/14/2009		X	1=1.5									787
(T-3)	5/20/2009	х		0-1	3								939
	5/20/2009	х		2									552

(-) Not Analyzed

Excavated Soil

Sample Depths (ft) - Below Bottom Excavation

Table 2 COG Operating LLC Folk Tank Battery Eddy County, New Mexico

Sample	Date	Sample	Soil S	tatus	•	PH (mg/kg	3)	Benzene	Toluene	Ethlybenzene	Xylene	Chloride
ID	Sampled	Depth (ft)	in-Situ	Removed	DRO	GRO	Total	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BH-1	8/19/2009	0-1	能够 X 为数点	AKE SERVICE		经验 证的		のでは、				304
	8/19/2009	3-4	Z X X	1400至150						Section 1		419
	8/19/2009	6-7	Х		-	-	•	•	-			833
	8/19/2009	9-10	Х		•	•	•	-	-	•		791
	8/19/2009	12-13	χ		•	,	-		-	-		1,510
	8/19/2009	15-16	х		•	,	•	-	•	•		1,160
	8/19/2009	20-21	х		•	•	•	•	•	-	-	<200
BH-2	8/19/2009	0-1	X	Maria de la companya della companya	10.1				Jan 19			<200
	8/19/2009	3-4	·美国X 多生	Post of								283
	8/19/2009	6-7	Х		**		•		-	-		1,980
	8/19/2009	9-10	х	-		-		-		•	•	1,770
	8/19/2009	12-13	Х			•	-			-	-	1,580
	8/19/2009	15-16	х		-		-			-	-	927
	8/19/2009	20-21	X			•	-	-	-	•	-	<200
BH-3	8/19/2009	0-1	X	i!	•		•		-	•	-	<200
	8/19/2009	3-4	X	1	-	-	•	-	•	•		944
	8/19/2009	6-7	Х		-	_	•	-	-		-	791
	8/19/2009	9-10	Х		•	-	•	-	-		-	486
	8/19/2009	12-13	х		•	•	-		-	•		502
BH-4	8/19/2009	0-1	t i X	Maria Maria	3.3	244.50F	A. 175-175	经规键。	特殊。			5,560
	8/19/2009	3-4	X		。这种生物	THE STATE OF						2,410
	8/19/2009	6-7	X			-	•	-	-	•	•	686
	8/19/2009	9-10	X		<u> </u>			-	-	•	-	3,290
	8/19/2009	12-13	х	-	-		•	•	•	•	-	2,320
	8/19/2009	15-16	х			-	•	•	-	•		2,170
	8/19/2009	20-21	х				-	-	<u> </u>	-	-	<200
				-					4 .		ļ	

Table 2 COG Operating LLC Folk Tank Battery Eddy County, New Mexico

Sample	Date	Sample	Soil S	tatus		TPH (mg/kg)	Benzene	Toluene	Ethlybenzene	Xylene	Chloride
ID	Sampled	Depth (ft)	In-Situ	Removed	DRO	GRO	Totai	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BH-5	8/19/2009	0.1	X	部門家門	概念与他的关键 6.5%或是的主意	272						686
	8/19/2009	3.4	X	排為表	The said	対象の対象			建設建設			845
	8/19/2009	6-7	Х		•	•	-	•	•	•	-	1,680
	8/19/2009	9-10	Х		•	•	•	•	•	-	-	2,800
	8/19/2009	12-13	Х		-	-	•	•	•	-		963
	8/19/2009	15-16	Х		-	•	•	•	•	-	•	287
												T t

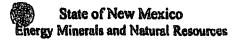
(-) Not Analyzed

Proposed Excavation Depths

Proposed Liner

Appendix A

District I 1623 N. Ffench Dr., Hobbs, NM 86240 District II 1301 W. Grend Avenue, Artesia, NM 86210 District III 1000 Rio Brezos Road, Aztec, NM 87410 District IY 1220 S. St. Francis Dr., Santo Fe, NM 67505





Form C-141 Revised October 10, 2003

Submit 2 Copies to appropriate Olstrict Office in accordance with Rule 1 16 on back side of form

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

70° 13	Notification	•	-							
"LU All AMMA	Mil mobile in mobile m	~ ~ ~	-	-		<u>.</u>		Δ -	. 45	
GAT Ueli Wellin ATIM	PANDA DA DA PANDA DA NA DA	17 13 1973 256		100	2000	BH	366	A	12 11 273	an -
TI OF STATE	T AGE STORY SEPTEMBER OF THE STORY			70 M E			716	~~	- IE NEI DI	46

						OPERA'		⊠ Init	ial Report		Final Report
		OG OPERA					anicia Carrillo				
				nd, TX 79701			√o. 432-685-43	32			
Facility Na	me – Folk	Federal 2 - B	attery			Facility Typ	e-Battery				
Surface Ow	mer BLM			Mineral C)wner			Lease	No.API# 30	-015-2	0198
				LOCA	TIOR	of rei	Lease				
Unit Letter	Section	Township	Range	Feet from the	North/	South Line	Feet from the	Bast/West Line	County		· · · · · · · · · · · · · · · · · · ·
Н	17	175	29E	1980		North	660	East		Eddy	,
			Lo	titude		_ Longitud	le				
	•			ran	URE	of reli	ease				
Type of Rele						Volume of	Release-192 bbis		Recovered-		
Source of Re	lease-Nava	jo Truck				Date and 1- 05/05/09-	lour of Occurrenc 5:40pm		l Hour of Dis -6:40pm	covery	
Was Immedi	ate Notice (Yes [No Not Re	equired	IFYES, To					
By Whom?	Kanicia Ca	rrillo & Nava	0			Date and H	our May7, 2009,	1:00pm.			
Was a Water		ched?		⊠ No			dume Impacting t				
If a Waters	uras ausa Im	pacted, Descri				L			 		
			•								
		em and Reme fell asleep whi		n Taken.º ng out oil. Called	immedia	tely for vacu	um truck to come	out and pick up f	luid.		
Approximate	ly 1400 to	and Cleanup A 1500 yards on	bettery, p	ten.º asture and road. N	lavajo w	ill dig up san	rated soil. Soil se	unples and final r	epart will be	submitt	ed by Tetra
=1 6CH-101-YOU	i-spprover-			•							
regulations a public health should their or the enviro	il operators or the envi operations h nment. In a	are required to ronment. The save falled to a	report an acceptance dequately CD accep	i is true and compi nd/or file certain rose of a C-141 repo investigate and re tance of a C-141	elease no of by the emediate	tifications an NMOCD ma contamination	d perform correct whed as "Pinal Ro on that pose a thre	tive actions for re sport" does not re sat to ground wate	leases which lieve the oper r, surface wa	may en ator of ter, hur	danger lizbility nan health
Signature:	Ki			•			OIL CONS	SERVATION	DIVISIO	N	
Printed Nam	e: Kanicia	Carrillo			A	Approved by	District Superviso	эг;		بستاج جيان	
Title: Regul	atory Analy	51				Approval Dat	9;	Expiration	Date:		
E-mail Addr	ess: kendic	errillo@conch	oresource	t.com	•	Conditions of	Approval:		Atteched		
Date: 05/07		Phone: ets If Necess	432-685-	4332		· · · · · · · · · · · · · · · · · · ·					

Appendix B

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

s NOV **01** 2012

Form C-141 Revised October 10, 2003

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

NMOCD ARTESIA

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

Release Notification and Corrective Action

						OPERA	FOR] Initia	ıl Report	\boxtimes	Final Report	
Name of Co	mpany	COC	Operati	ng LLC	(Contact	P	at Ellis					
Address	550 W. T	exas, Suite	1300 Mid	land, Texas 79	701	Telephone N	No. (432)	230-0077	7				
Facility Nar	ne	F	olk Feder	al]	Facility Typ	e Tan l	k Battery	7				
		1		M:1.0	· · · · · ·				I N	I= (ADI#)	20.015	20109	
Surface Ow	ner: Federa	aı		Mineral C	Jwner		è		Lease N	lo. (API#) NMNM			
								i_		INIVIINIV	1-0397	023	
						OF RE							
Unit Letter H	Section 17	Township 17S	Range 29E	Feet from the	North/	South Line	Feet from the	East/We	st Line	County	Eddy	,	
	 		I			•	e W 104.09072	2°					
Type of Relea	ass: oil			NAI	UKE	OF REL	Release 192 bbls	e 1	Jolume P	ecovered 1	4 bble		
Source of Re		r Tank					our of Occurrence			Hour of Disc			
Source of Ite	roase. Trates	· Tuinc				05/05/2009		i .		9 6:40 p.m	_		
Was Immedia	ate Notice C	iven?				If YES, To	Whom?						
		\boxtimes	Yes 🔲	No 🔲 Not R	equired			Mike Brat					
By Whom? Jo	ach Ducca					Date and H	our 05/07/2009		os - BLN	<u> </u>			
Was a Water		hed?					lume Impacting t		ourse.				
			Yes 🏻	No		N/A	1						
If a Watercou	ırse was İmp	pacted, Descri	be Fully.*										
Describe Cau	se of Proble	em and Remed	dial Action	Taken.*		· · · · · · · · · · · · · · · · · · ·							
Navajo transp for your appr		ep while pum	ping out o	il. Navajo will d	ig out th	e saturated so	il. Soil samples a	and final re	eport will	be submitte	d by To	etra Tech	
Describe Are	a Affected a	and Cleanup A	Action Take	en.*									
							oil that exceeded are Tech prepared						
regulations al public health should their o	I operators a or the envir operations ha nment. In ac	are required to onment. The ave failed to a ddition, NMO	report and acceptance dequately CD accept	d/or file certain re of a C-141 repoint investigate and r	elease no ort by the emediate	otifications ar NMOCD ma contamination	knowledge and und perform correctarked as "Final Reon that pose a three the operator of r	tive action eport" does eat to grou	s for rele s not relie nd water,	ases which a eve the opera surface wat	may end ator of l er, hun	danger liability nan health	
Signature:		T)				OIL CONS	SERVA'	TION	DIVISIO	N		
Printed Name	e: Ike Tavaro	ez (agent for	COG)			Approved by	District Superviso	or:					
Title: Project					ŀ	Approval Dat	e:	Exp	piration [Date:			
E-mail Addre	ss: Ike.Tava	arez@TetraTe	ch.com			Conditions of	Approval:			Attached			
Date: /D	16-1	12	Phone:	(432) 682-4559									

^{*} Attach Additional Sheets If Necessary

<u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico Energy Minerals and Natural Resources NOV 01 2012

Form C-141 Revised October 10, 2003

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

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

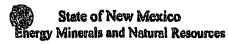
			Rele			n and Co	orrective A	ction				Control of the Contro	
			NCIC	ase mound	auo	OPERA		CHOH	T	l Damant	\square	Final Danast	
Name of Co	manany	COC	G Operati	ing LLC	1	Contact		at Ellis	J. Initia	l Report	×	Final Report	
Address				lland, Texas 79	701	Telephone I		230-0077	,				
Facility Nat			olk Fede		701	Facility Typ		Battery	_				

Surface Ow	ner: Feder	al 		Mineral C)wner				Lease N	lo. (API#) NMNN			
				LOCA	TIO	N OF REI	LEASE						
Unit Letter H	Section 17	Township 17S	Range 29E	Feet from the		n/South Line	Feet from the	East/Wes	st Line	County	Eddy	1	
	1		I			° Longitud	e W 104.09072	2°					
Type of Rele	ase: Produc	ed Water		NAI	UKE		Release 180 bbls	. Tv	olume R	ecovered 1	60 bbls	2	
Source of Re							lour of Occurrence			Hour of Dis			
						03/05/2011				1 8:00a.m			
Was Immedia	ate Notice C		,, _			If YES, To							
		M	Yes 🗌	No 🗌 Not Re	equired			Mike Brate Terry Greg				;	
By Whom? Jo	osh Russo					Date and H	lour 03/07/2011		33tOIID	LIVI	· ··		
Was a Water		hed?					lume Impacting t		ourse.		_		
			Yes 🏻	No		N/A							
If a Watercou	irse was Im	pacted, Descri	be Fully.*							· · ·			
Describe Cau	se of Proble	em and Remed	dial Action	Taken.*			· · · · · · · · · · · · · · · · · · ·						
		turned on, the		unexpected influ	of wa	ter that neither	the water trucks	nor the trai	nsfer pui	nps were at	ole to ke	ep up with.	
Describe Are	a Affected a	and Cleanup A	ction Tak	en.*				· -					
disposal. The review.	site was the	en brought up	to surface	grade with clean	backfil	l material. Tet	il that exceeded R ra Tech prepared	a closure r	eport an	d submitted	it to N	MOCD for	
regulations al public health should their o	l operators or the enviruperations had not be a second to the contract of the	are required to conment. The ave failed to a ddition, NMO	report and acceptance dequately CD accept	d/or file certain re e of a C-141 repo investigate and re	elease n rt by th emediat	otifications ar e NMOCD ma e contamination	knowledge and und perform correct arked as "Final Report that pose a three the operator of r	tive actions eport" does eat to groun	s for rele s not reli nd water	eases which eve the open surface wa	may en rator of iter, hur	danger liability nan health	
Signature:/	Ike Tavaro)			Approved by	OIL CONS		TION_	DIVISIO	<u>N</u>		
Title: Project		<u> </u>			Approval Date: Expiration Date:								
THE TOJECT	111anagei					Approval Dat	· ·	LEXP	mauon L	Jaic.			
E-mail Addre	ss: Ike.Tava	arez@TetraTe	ch.com			Conditions of	Approval:			Attached			

Phone: (432) 682-4559

¹⁰⁻¹⁶⁻¹² * Attach Additional Sheets If Necessary

District I 1623 N. French Dr., Hobbs, NM 88240 Clintel II 1301 W. Grend Avenue, Artesla, NM 98210 District III 1600 Rio Brasos Road, Axtec, NM 87410 Chimict IV 1220 S. St. Francis Dr., Sasto Fe, NM 87503





Form C-141 Revised October 10, 2003

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

Release	Notific	ation	amd	Corr	ective	Action

			2000	NEIDA TAMONSE		OPERA'			al Report	Final Report
Name of Co	mpany C	OG OPERA	TING L	LC	10		anicia Carrillo	(A) min	at icobott	Li i mai report
Address 55	0 W. Tend	s, Suite 130	0 Midlan	d, TX 79701		Telephone 1	No. 432-685-43	32	· —,—,—,—,	
Facility Nar	ne — Polk	Pederal 2 - E	attery			Facility Typ	e- Battery			
Surface Ow	ner BLM	······································		Mineral C)wner			Lease 1	\o.API# 30	015-20198
				LOCA	TOIT	of rei	Lease			
Unit Letter	Section	Township	Range	Feet from the	North	South Line	Feet from the	East/West Line	County	
H	17	178	29E	1980	1	North	660	East		Eddy
			La	Mtude		_ Longitud	?e	MICRE Chie		
•	•		'	Tan	URE	of reli	ease			
Type of Relea						Volume of	Release-192 bbls		lecovered- l	
Source of Re	ense-Navoj	o Truck				Date and H 05/05/09-1	lour of Occurrenc	Date and 05/05/09	Hour of Disc Address	overy
Was Immedia	ite Notice C		Yes [No Not Re	equired	If YES, To	Whom?	Bratcher w/OCD.	<u> </u>	
By Whom?	Kanicia Car				·	Date and H	lour May7, 2009	. 1:08pm.	·	
Was a Water		hed?		X No		If YES, Vo	dume Impecting (he Watercourse.		
If a Watercou	ero vae les					<u> </u>		·····	······································	
Describe Area	ansporter for Affected a	ell esleep whi and Cleanup A	e pumpin	g out oil. Called i			**************************************	out and pick up flu		atherofolical by Testers
rephoximise Techilor,your			ocaety, pa	zene das Idar. N	avego w	m aig sp	Ang Pighan ang ang panggan pan Panggan panggan	gaptes (site tiples re		edition by Tone
regulations at public health should their o	operators of the onvironment of the onvironment of the operations for the operations for the operations of the operation	ere required to connent. The eve falled to a didition, NMO	report an cocaptano dequately CD acces	d/or file certain re s of a C-141 report investigate and re	dease no nt by the mediate	tifications an NMOCD ma contamination	knowledge and und perform correct as "Pinal Rebot that pose a three thre	ndensiand that pure tive actions for rek sport ^a does not reli sat to ground water esponsibility for co	uant to NMC asses which research eve the open surface wat	nay endenger for of liebility er, bussen health
Signature:	V	<u> </u>		•			OIL CON	BERVATION	DIVISIO	Ŋ
Printed Name	: Kanicia C	Carrillo			^	Approved by	District Supervise	ж:		
Title: Regula	tory Analys	<u>t</u>				Approval Date	B;	Expiration	Date:	
E-mail Addre	o: kandica	rillo@conch	presourcel	com	Conditions of Approval:					
Date: 05/07/ Attach Addit			432-685-	1332				<u></u>		

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

State of New Mexico Energy Minerals and Natural Resources

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

Revised October 10, 2003

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Form C-141

Release Notification and Corrective Action

				_ : : : : : : : : : : : : : : : : : : :		OPERA'			Initia	al Report
Name of Co			ERATIN			Contact		at Ellis		
Address				dland, TX 7970		Telephone l		230-0077	·	
Facility Na	ne	Foll	k Federal			Facility Typ	e Tan	k Battery		
Surface Ow	ner Fe	deral		Mineral C)wner				Lease N	No. (API#) 30-015-20198 NMNM-0397623
		·		LOCA	TIO	N OF RE	LEASE			
Unit Letter H	Section 17	Township 17S	Range 29E	Feet from the	North	South Line	Feet from the	East/Wes	st Line	County Eddy
	•			Latitude 32 5		J	ide 104 05.447			
Tree of Dalo	nan Dundu	andton		<u>NAT</u>	URE	OF REL		i. 11	7-1 T	1.011
Type of Rele Source of Re		ced water iter tank				Volume of	Release 180bbl			Recovered 160bbls Hour of Discovery
Source of Re	1043U YV	ioi iaiik				03/05/2011				1 8:00 a.m.
Was Immedia	ate Notice C					If YES, To				
			Yes 🔲	No 🗌 Not Re	equired			Mike Brat Terry Greg	gston—B	
By Whom? Was a Water	Josh Russ						lour 03/07/2011			
was a water	course Reac		Yes 🏻	No		If YES, VC	lume Impacting t	ne waterco	ourse.	
If a Watercou	rse was Imp	acted, Descri	be Fully.*							
Due to a new This caused t	he water tan	k to overflow			c of wate	er that neither	the water trucks	nor the tra	nsfer pu	mps were able to keep up with.
Initially-180b trucks. The v lease road we	bls:of-produ vater ran on re immedia possible co	ced-water-wa to the location tely scraped on tamination fi	s released 1 60' x 60' f contamir	from-the-water-ta and traveled downates and returned	n the le to their	ase road 20'; prior conditi	k 90'; It then wen on. Tetra Tech w	t off into the	he pastur the spill	cover-160bbls-with-vacuum———————————————————————————————————
regulations al public health should their o	l operators a or the envir perations ha ment. In ac	re required to onment. The ive failed to a Idition, NMO	report and acceptance dequately CD accept	d/or file certain re e of a C-141 repo investigate and re	elease no rt by the mediate	otifications are NMOCD made contamination	id perform correct arked as "Final Re on that pose a thre	tive actions eport" does eat to group	s for rele s not reli nd water	uant to NMOCD rules and cases which may endanger eve the operator of liability surface water, human health ompliance with any other
مند		7	(7		OIL CONS	SERVA	TION	DIVISION
Signature: Printed Name		Insh	Russo	/	\mathcal{H}	Approved by	District Superviso	or:		
Title:			ordinator			Approval Date	e:	Exr	iration I	Date:
E-mail Addre	ss:	jrusso@concl	noresource	s.com		Conditions of			<u></u>	Attached
	/09/2011	Phone:		212-2399						

Appendix C

Water Well Data Average Depth to Groundwater (ft) COG - Folk Tank Battery, Eddy County, New Mexico

	5	South 4	3	28 East	11	6	15	4	3	2	1	7	6	5	South 4	3	0 East	11
	١		ľ	1		ľ	ľ		ľ	 	 		ľ	ľ	ľ		-	ı.
	8	9	10	11	12	7	8	9	10	11	12	1	7	8	9	10	11	12
8	17	16	15	14	13	18	17	16	15	14	13	1	18	17	16	15	14	13
9	20	21	22	23	24	19	20	21	22	23	24	1	19	20	21	22	23	24
10	29	28	27	26	25	110 30	29	28	27	26	25	-	30	29	28	27	26	25
81	32	33	34	35	36	31	32	33	34	35	36	-	31	32	33	34	35	36
														<u> </u>				
	17 9	South		28 East			17 S	outh	4	29 East	t			17 9	South		0 East	
)	5	4	3	2	1	6	5	4	3	2	1		6	5	4	3	2	1
,	8	9	10	11	12	7	8	9	10	11	12	1	7	8	9	10	11	12
8	17	16	15	14	13	18	17	16	15	14	13	1	18	17	16	15	14	13
9	20	21	22	23	24	19	SITE 20	21	22	23	24	1	19	20	21	22	23	24
80	29	28	79 27	26	25	30	29 210	28	80 27	26	25	-	30	29	28	27	26	25
<u>1</u>	32	33	34	35	36	31	208 '	33	34	35	36	-	31	32	33	34	35	36
			53															
	18 9	South	:	28 East			18 S	outh		29 East	:			18 9	South	3	0 East	
5	5	4	3	2	1	6	5	4	3	2	1		6	5	4	3	2	1
,	8	9	10	11	12	7	8	9	10	11	12	1	7	8	9	10	11	12
8	17	16	15	14	13	18	17	16	15	14	13		18	17	16	15	14	13
9	20	21	22	23	24	19	20	21	22	23	24		19	20	21	22	23	24
0	29	28	27	26	25	30	29	28	27	26	25	-	30	29	28	27	26	25
1	32	33	34	35	36	31	32	33	34	35	36	-	31	32	33	34	35	36
•	102	١	١	65		ľ	ا	00			100		"	ا	ا			

لننا	New Mexico State Engineers Well Reports
	USGS Well Reports
	Geology and Groundwater Conditions in Southern Lea, County, NM (Report 6)
	Geology and Groundwater Resources of Eddy County, NM (Report 3)
208	Ahandoned Waterwell

Appendix D

Report Date: August 24, 2012 Work Order: 12081904 Page Number: 1 of 2

Summary Report

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

Report Date: August 24, 2012

Work Order: 12081904

Project Location: Eddy Co., NM

Project Name:

COG/Folk Federal Tank Battery

Project Number: 114-6400890

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
307139	CS-5 Surface (Road)	soil	2012-08-15	00:00	2012-08-17
307140	CS-5 1' (Road)	soil	2012-08-15	00:00	2012-08-17
307141	CS-5 2' (Road)	soil	2012-08-15	00:00	2012-08-17
307142	CS-6 Bottom Hole 4' (SB-3)	soil .	2012-08-15	00:00	2012-08-17
307143	CS-6 North Wall (SB-3)	soil	2012-08-15	00:00	2012-08-17
307144	CS-6 East Wall (SB-3)	soil	2012-08-15	00:00	2012-08-17
307145	CS-6 West Wall (SB-3)	soil	2012-08-15	00:00	2012-08-17
307146	CS-6 South Wall (SB-3)	soil	2012-08-15	00:00	2012-08-17

Sample: 307139 - CS-5 Surface (Road)

Param	Flag	Result	Units	RL
Chloride		217	mg/Kg	4

Sample: 307140 - CS-5 1' (Road)

Param	Flag	Result	Units	RL
Chloride		197	mg/Kg	4

Sample: 307141 - CS-5 2' (Road)

Param	Flag	Result	Units	RL
Chloride		130	mg/Kg	4

Report Date: August 24, 2012		Work Order: 12081904	Page I	Number: 2 of 2
Sample: 307142	- CS-6 Bottom Hole	4' (SB-3)		
Param	Flag	Result	Units	RL
Chloride		404	mg/Kg	4
Sample: 307143	- CS-6 North Wall (S	B-3)		
Param	${f Flag}$	Result	Units	RL
Chloride		260	mg/Kg	4
_	- CS-6 East Wall (SB	•		P.
Param	Flag	Result 202	Units	RL 4
Chloride Sample: 307145	- CS-6 West Wall (SE		mg/Kg	4
Param	`	Result	Units	m RL
Chloride	Flag	154	mg/Kg	
	- CS-6 South Wall (S		010	
_	·	·	TT:4	Dī
Param Chloride	Flag	Result 505	Units mg/Kg	$\frac{\mathrm{RL}}{4}$
Omoride		000	mg/ mg	4



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

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Carroldon

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432-689-6301 972-242-7750

Texas 75006 E-Mail: lab@traceanalysis.com WEB: www.traceanalysis.com

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

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

Report Date: August 24, 2012

Work Order: 12081904

Project Location: Eddy Co., NM

Project Name:

COG/Folk Federal Tank Battery

Project Number: 114-6400890

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
307139	CS-5 Surface (Road)	soil	2012-08-15	00:00	2012-08-17
307140	CS-5 1' (Road)	soil	2012-08-15	00:00	2012-08-17
307141	CS-5 2' (Road)	soil	2012-08-15	00:00	2012-08-17
307142	CS-6 Bottom Hole 4' (SB-3)	soil	2012-08-15	00:00	2012-08-17
307143	CS-6 North Wall (SB-3)	soil	2012-08-15	00:00	2012-08-17
307144	CS-6 East Wall (SB-3)	soil	2012-08-15	00:00	2012-08-17
307145	CS-6 West Wall (SB-3)	soil	2012-08-15	00:00	2012-08-17
307146	CS-6 South Wall (SB-3)	soil	2012-08-15	00:00	2012-08-17

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

Michael april

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

Report Contents

Case Narrative	4
Analytical Report Sample 307139 (CS-5 Surface (Road)) Sample 307140 (CS-5 1' (Road)) Sample 307141 (CS-5 2' (Road)) Sample 307142 (CS-6 Bottom Hole 4' (SB-3)) Sample 307143 (CS-6 North Wall (SB-3)) Sample 307144 (CS-6 East Wall (SB-3)) Sample 307145 (CS-6 West Wall (SB-3)) Sample 307146 (CS-6 South Wall (SB-3))	5 5 5 5 6 6 6 7
Method Blanks QC Batch 94227 - Method Blank (1)	8 8 8
Laboratory Control Spikes QC Batch 94227 - LCS (1) QC Batch 94228 - LCS (1) QC Batch 94227 - MS (1) QC Batch 94228 - MS (1)	9 9 9 9
QC Batch 94227 - CCV (1) QC Batch 94227 - CCV (2) QC Batch 94228 - CCV (1) QC Batch 94228 - CCV (2)	11 11 11 11 11
Report Definitions	12 12 12 12 12

Case Narrative

Samples for project COG/Folk Federal Tank Battery were received by TraceAnalysis, Inc. on 2012-08-17 and assigned to work order 12081904. Samples for work order 12081904 were received intact at a temperature of 8.8 C. Samples were received on ice.

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

		Prep	Prep	\mathbf{QC}	Analysis
Test	Method	Batch	Date	Batch	Date
Chloride (Titration)	SM 4500-Cl B	79857	2012-08-23 at 13:15	94227	2012-08-24 at 13:20
Chloride (Titration)	SM 4500-Cl B	79857	2012-08-23 at 13:15	94228	2012-08-24 at 13:21

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 12081904 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

114-6400890

Work Order: 12081904 COG/Folk Federal Tank Battery Page Number: 5 of 12 Eddy Co., NM

Analytical Report

Sample: 307139 - CS-5 Surface (Road)

Laboratory:

Midland

Analysis:

Chloride (Titration)

94227

Analytical Method:

SM 4500-Cl B

Prep Method: N/A

QC Batch: Prep Batch: 79857

Date Analyzed: Sample Preparation:

2012-08-24 2012-08-24

Analyzed By: AR Prepared By: AR

RL

Units

Result Dilution RLFlag Cert Parameter 4.00 Chloride 217 mg/Kg 5

Sample: 307140 - CS-5 1' (Road)

Laboratory:

Midland

Analysis: QC Batch:

Chloride (Titration)

94228

Analytical Method: Date Analyzed:

SM 4500-Cl B

Prep Method: N/A Analyzed By: AR

Prep Batch:

79857

Sample Preparation:

2012-08-24 2012-08-24

Prepared By: AR

RL

Parameter Flag Cert Result Units Dilution RLChloride 197 4.00 mg/Kg 5

Sample: 307141 - CS-5 2' (Road)

Laboratory:

Midland

Analysis:

Chloride (Titration)

Analytical Method:

SM 4500-Cl B

Prep Method: N/A Analyzed By: AR

QC Batch: Prep Batch:

94228 79857 Date Analyzed: Sample Preparation:

2012-08-24 2012-08-24

Prepared By: AR

RL

Cert Parameter Flag Result Units Dilution RLChloride 130 mg/Kg 4.00 5

114-6400890

Work Order: 12081904 COG/Folk Federal Tank Battery Page Number: 6 of 12 Eddy Co., NM

Sample: 307142 - CS-6 Bottom Hole 4' (SB-3)

Laboratory:

Midland

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

94228 79857 Analytical Method: Date Analyzed:

SM 4500-Cl B 2012-08-24

Prep Method: N/A Analyzed By: AR

AR

RL

Prepared By:

Sample Preparation: 2012-08-24

RLCert Result Parameter Flag Chloride 404

Units Dilution mg/Kg 4.00

Sample: 307143 - CS-6 North Wall (SB-3)

Laboratory:

Midland

Analysis:

Chloride (Titration)

Analytical Method:

SM 4500-Cl B 2012-08-24

Prep Method: N/A Analyzed By: AR

QC Batch: Prep Batch:

Chloride

94228 79857

Date Analyzed: Sample Preparation:

2012-08-24

Prepared By: AR

RLParameter Flag Cert

Result Units Dilution RL260 mg/Kg 4.00

Sample: 307144 - CS-6 East Wall (SB-3)

Laboratory: Midland

Chloride (Titration) Analysis: QC Batch: 94228

Analytical Method: Date Analyzed:

SM 4500-Cl B 2012-08-24

Prep Method: N/A Analyzed By: AR

Prep Batch:

79857

Sample Preparation: 2012-08-24 Prepared By:

RLUnits Parameter Flag Cert Result Dilution RLChloride 202 4.00 mg/Kg 5

Sample: 307145 - CS-6 West Wall (SB-3)

Laboratory:

Midland

Analysis:

Chloride (Titration)

Analytical Method: Date Analyzed:

SM 4500-Cl B 2012-08-24

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

QC Batch: Prep Batch: 94228 79857

Sample Preparation:

2012-08-24

114-6400890

Work Order: 12081904 COG/Folk Federal Tank Battery Page Number: 7 of 12

Eddy Co., NM

			m RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride			154	mg/Kg	5	4.00

Sample: 307146 - CS-6 South Wall (SB-3)

Laboratory: Midland

94228

79857

Analysis: QC Batch:

Prep Batch:

Chloride (Titration)

Analytical Method:

SM 4500-Cl B

Prep Method: N/A

Date Analyzed: 2012-08-24 Sample Preparation: 2012-08-24 Analyzed By: AR

Prepared By: AR

RL

Parameter Cert Result Units Dilution RLFlag 4.00 Chloride 505 mg/Kg

Report Date: August 24, 2012 114-6400890

Work Order: 12081904 COG/Folk Federal Tank Battery Page Number: 8 of 12 Eddy Co., NM

Method Blanks

Method Blank (1)

QC Batch: 94227

QC Batch: 94227 Prep Batch: 79857

27 Date Analyzed:

QC Preparation:

2012-08-24 2012-08-23 Analyzed By: AR

Prepared By: AR

 MDL

Method Blank (1)

QC Batch: 94228

QC Batch: 94228 Prep Batch: 79857 Date Analyzed: 2012-08-24 QC Preparation: 2012-08-23 Analyzed By: AR

Prepared By: AR

114-6400890

Work Order: 12081904 COG/Folk Federal Tank Battery Page Number: 9 of 12 Eddy Co., NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch:

94227

Date Analyzed:

2012-08-24

Analyzed By: AR

Prep Batch:

79857

QC Preparation:

2012-08-23

Prepared By: AR

Param

LCS Result

Spike Amount

Matrix

Rec.

Units Dil. Result Rec. Limit Chloride 2630 mg/Kg 2500 105 85 - 115

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

			LCSD			Spike	Matrix		Rec.		RPD
Param	F	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			2590	mg/Kg	1	2500	< 3.85	104	85 - 115	2	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:

94228

Date Analyzed:

2012-08-24

Analyzed By: AR

Rec:

106

Prep Batch: 79857

QC Preparation:

Prepared By: AR

2012-08-23

Param Chloride

LCS - C Result 2640

Spike Units Dil. Amount

Matrix Result

Rec. Limit

mg/Kg 2500 < 3.85 Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Units

Param	
Chloride	

LCSD C Result 2550

Spike Dil. Amount mg/Kg 2500

Matrix Result < 3.85

Rec. Rec. Limit

85 - 115

102

RPD RPD Limit

20

85 - 115

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

Matrix Spike (MS-1)

Spiked Sample: 307130

QC Batch:

94227

Date Analyzed:

2012-08-24

Analyzed By: AR

Prep Batch:

79857

QC Preparation:

2012-08-23

Prepared By: AR

Work Order: 12081904

Page Number: 10 of 12

114-6400890

COG/Folk Federal Tank Battery

Eddy Co., NM

			MS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride			4000	mg/Kg	10	2500	1510	100	78.9 - 121

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

			MSD			$_{ m Spike}$	Matrix		Rec.		RPD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			4140	mg/Kg	10	2500	1510	105	78.9 - 121	3	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: 307149

QC Batch:

94228

Date Analyzed:

2012-08-24

Analyzed By: AR

Prep Batch: 79857

QC Preparation: 2012-08-23

Prepared By: AR

			MS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride			15100	mg/Kg	10	2500	12200	116	78.9 - 121

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

			MSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			15000	mg/Kg	10	2500	12200	112	78.9 - 121	1	20

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

114-6400890

Work Order: 12081904 COG/Folk Federal Tank Battery Page Number: 11 of 12 Eddy Co., NM

Calibration Standards

Standard (CCV-1)

QC Batch: 94227

Date Analyzed: 2012-08-24

Analyzed By: AR

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			mg/Kg	100	99.8	100	85 - 115	2012-08-24

Standard (CCV-2)

QC Batch: 94227

Date Analyzed: 2012-08-24

Analyzed By: AR

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2012-08-24

Standard (CCV-1)

QC Batch: 94228

Date Analyzed: 2012-08-24

Analyzed By: AR

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			mg/Kg	100	101	101	85 - 115	2012-08-24

Standard (CCV-2)

QC Batch: 94228

Date Analyzed: 2012-08-24

Analyzed By: AR

Chloride			mg/Kg	100	99.3	99	85 - 115	2012-08-24
Param	\mathbf{Flag}	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
				True	Found	Percent	Recovery	Date
				CCVs	CCVs	CCVs	Percent	

Report Date: August 24, 2012 Work Order: 12081904 114-6400890 COG/Folk Federal Tank Battery Page Number: 12 of 12

Eddy Co., NM

Appendix

Report Definitions

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

Laboratory Certifications

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

Standard Flags

- F Description
- B Analyte detected in the corresponding method blank above the method detection limit
- H Analyzed out of hold time
- J Estimated concentration
- Jb The analyte is positively-identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
- Je Estimated concentration exceeding calibration range.
- 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.

An	alvs	sis F	260		est of Ch	nain of Cu	istody	, F	20	CC	re	ا ا									PAG	E:		1		OF:	\supset		_
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					1910 N. Big Midland, T	A TECH g Spring St. exas 79705 9 • Fax (432) 682-3946	5							į	75 (EXT. TO C:35)	Cd Cr Pb Hg Se	Cd Vr Pd Hg Se									TDS			
CLIENT NAM	AE:	5G				GER: DAMES		NERS			SER\ ETH	/ATIV OD	Έ		CODITY	Ba	Ba			60/624	8270/625					ions, pH,			
PROJECT N	0:: \&97	2	PRO	NECT	NAME: Forl # 2	2 TR		CONTA	(N)						200	Is Ag As	ls Ag As	les Volatiles		8240/82	ii. Vol. 8	8 8		٠ ي	tos)	18			
LAB I.D. NUMBER	DATE	TIME	MATRIX	GRAB	SAM	PLE IDENTIFICATION		NUMBER OF CONTAINERS	FILTERED (Y/N)	HN03	ICE	NONE		BTEX 8021B	PAH 8270	RCRA Metals Ag	TCLP Metals Ag	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Ser	Pest. 808/6(Chloride	Chammina Spec.	Alpha Beta (Air) PLM (Asbestos)	Major Anions/Cat			
307/39	8/15		S	Z	CS-5 Su	rface (Rac		١															X						
140	(5	K	C5-5 1	1 (Rosa	1)] i															メ						
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142			5	X	(5.6 Both	m hole (41) (5B:3)	1															X			Ш			
143			5	X	Cs.6 North	h Wg/1 (50	B·3)	1												Ш			M	\perp			\perp		
144			5	X	15-6 East	wall (SP	3-3)	<u> </u>											L				X				\perp		
145	<u> </u>		5	4	(5-6 West	Wall (SB	-3)																K			Ш		\coprod	
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Please fill out all copies - Laboratory retains Yellow copy - Return Orginal copy to Tetra Tech - Project Manager retains Pink copy - Accounting receives Gold copy.

Report Date: August 21, 2012 Work Order: 12081318 Page Number: 1 of 3

Summary Report

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

Report Date: August 21, 2012

Work Order: 12081318

Project Location: Eddy Co., NM

Project Name: COG/Folk Fed. #2 TB

Project Number: 114-6400192A

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
306617	CS-1 North Wall (SB-4)	soil	2012-08-01	00:00	2012-08-13
306618	CS-1 South Wall (SB-4)	soil	2012-08-01	00:00	2012-08-13
306619	CS-1 West Wall (SB-4)	soil	2012-08-01	00:00	2012-08-13
306620	CS-1 Bottom Hole 4' (SB-4)	soil	2012-08-01	00:00	2012-08-13
306621	CS-2 North Wall (SB-5)	soil	2012-07-31	00:00	2012-08-13
306622	CS-2 South Wall (SB-5)	soil	2012-08-01	00:00	2012-08-13
306623	CS-2 Bottom Hole 4' (SB-5)	soil	2012-08-01	00:00	2012-08-13
306624	CS-3 North Wall (SB-6)	soil	2012-08-02	00:00	2012-08-13
306625	CS-3 South Wall (SB-6)	soil	2012-08-02	00:00	2012-08-13
306626:	CS-3 East-Wall-(SB-6)	soil	2012-08-02	00:00	2012=08=13
306627	CS-3 Bottom Hole 4' (SB-6)	soil	2012-08-02	00:00	2012-08-13
306628	CS-4 North Wall (SB-2)	soil	2012-08-10	00:00	2012-08-13
306629	CS-4 South Wall (SB-2)	soil	2012-08-10	00:00	2012-08-13
306630	CS-4 East Wall (SB-2)	soil	2012-08-10	00:00	2012-08-13
306631	CS-4 Bottom Hole 4' (SB-2)	soil	2012-08-10	00:00	2012-08-13

Sample: 306617 - CS-1 North Wall (SB-4)

Param	Flag	Result	Units	RL
Chloride		385	mg/Kg	5

Sample: 306618 - CS-1 South Wall (SB-4)

Param	Flag	Result	Units	RL
Chloride		405	mg/Kg	5

Report Date: August 21, 2012	Work Order: 12081318	Page	Page Number: 2 of 3		
Sample: 306619 - CS-1 West Wa	all (SB-4)				
Param Flag	Result	Units	RL		
Chloride	215	mg/Kg	5		
Sample: 306620 - CS-1 Bottom I	Hole 4' (SB-4)				
Param Flag	Result	Units	RL		
Chloride	317	mg/Kg	5		
Sample: 306621 - CS-2 North W	fall (SB-5)				
Param Flag	Result	Units	RL		
Chloride	439	mg/Kg	5		
Sample: 306622 - CS-2 South Warram Flag Chloride	All (SB-5) Result 410	Units mg/Kg	RL 5		
Sample: 306623 - CS-2 Bottom I	Hole 4' (SB-5)				
Param Flag	Result	Units	RL		
Chloride	405	mg/Kg	5		
Sample: 306624 - CS-3 North W Param Flag Chloride	(SB-6) Result 171	Units mg/Kg	RL 5		
Sample: 306625 - CS-3 South War	all (SB-6) Result 634	Units mg/Kg	RL 5		
Sample: 306626 - CS-3 East Wal	,				
Param Flag	Result	Units	RL		
Chloride	444	mg/Kg	5		

Report Date: Augu	st 21, 2012	Work Order: 12081318	Page N	Number: 3 of 3
Sample: 306627	- CS-3 Bottom Hole 4'	(SB-6)		
Param	Flag	Result	Units	m RL
Chloride		442	mg/Kg	5
Sample: 306628	- CS-4 North Wall (SB-	2)		
Param	Flag	Result	Units	RL
Chloride		452	mg/Kg	5
Sample: 306629 -	- CS-4 South Wall (SB-	2) Result	Units	\mathtt{RL}
Chloride	1 105	731	mg/Kg	5
Sample: 306630	- CS-4 East Wall (SB-2))		
Param	Flag	Result	Units	RL
Chloride		236	mg/Kg	5
Sample: 306631 -	- CS-4 Bottom Hole 4'	(SB-2)		
Param	Flag	Result	Units	RL
Chloride		447	mg/Kg	5
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6701 Aberdeen Avenue, Suite 9 200 East Sunset Road, Suite E 5002 Basin Street, Suite A1 (BinApustic) 2503 Marge Rd, Svita Lubbock. Texas 79424 El Paso, Texas 79922 Midland Texas 79703 800-378-1296 806-794-1296 915-585-3443

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5002 Basin Street, Suite A1 Midland. Texas 79703 (BioAquatic) 2501 Mayes Ro. Suite 100 Carrollton. Texas 75006 432-689-6301 972-242-7750

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

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

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

Report Date: August 21, 2012

Work Order: 12081318

Project Location: Eddy Co., NM

Project Name:

COG/Folk Fed. #2 TB

Project Number:

114-6400192A

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
306617	CS-1 North Wall (SB-4)	soil	2012-08-01	00:00	2012-08-13
306618	CS-1 South Wall (SB-4)	soil	2012-08-01	00:00	2012-08-13
306619	CS-1 West Wall (SB-4)	soil	2012-08-01	00:00	2012-08-13
306620	CS-1 Bottom Hole 4' (SB-4)	soil	2012-08-01	00:00	2012-08-13
306621	CS-2 North Wall (SB-5)	soil	2012-07-31	00:00	2012-08-13
306622	CS-2 South Wall (SB-5)	soil	2012-08-01	00:00	2012-08-13
306623	CS-2 Bottom Hole 4' (SB-5)	soil	2012-08-01	00:00	2012-08-13
306624	CS-3 North Wall (SB-6)	soil	2012-08-02	00:00	2012-08-13
306625	CS-3 South Wall (SB-6)	soil	2012-08-02	00:00	2012-08-13
306626	CS-3 East Wall (SB-6)	soil	2012-08-02	00:00	2012-08-13
306627	CS-3 Bottom Hole 4' (SB-6)	soil	2012-08-02	00:00	2012-08-13
306628	CS-4 North Wall (SB-2)	soil	2012-08-10	00:00	2012-08-13
306629	CS-4 South Wall (SB-2)	soil	2012-08-10	00:00	2012-08-13
306630	CS-4 East Wall (SB-2)	soil	2012-08-10	00:00	2012-08-13
306631	CS-4 Bottom Hole 4' (SB-2)	soil	2012-08-10	00:00	2012-08-13

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 13 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

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Sample 306620 (CS-1 Bottom Hole 4' (SB-4))	
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Sample 306622 (CS-2 South Wall (SB-5))	
Sample 306623 (CS-2 Bottom Hole 4' (SB-5))	
Sample 306624 (CS-3 North Wall (SB-6))	
Sample 306625 (CS-3 South Wall (SB-6))	
Sample 306626 (CS-3 East Wall (SB-6))	
Sample 306627 (CS-3 Bottom Hole 4' (SB-6))	
Sample 306628 (CS-4 North Wall (SB-2))	
Sample 306629 (CS-4 South Wall (SB-2))	
Sample 306630 (CS-4 East Wall (SB-2))	
Sample 306631 (CS-4 Bottom Hole 4' (SB-2))	
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QC Batch 94111 - Method Blank (1)	
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Case Narrative

Samples for project COG/Folk Fed. #2 TB were received by TraceAnalysis, Inc. on 2012-08-13 and assigned to work order 12081318. Samples for work order 12081318 were received intact at a temperature of 0.8 C.

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

		Prep	Prep	$_{ m QC}$	Analysis
Test	Method	Batch	Date	Batch	Date
Chloride (Titration)	SM 4500-Cl B	79770	2012-08-20 at 16:00	94110	2012-08-21 at 10:00
Chloride (Titration)	SM 4500-Cl B	79772	2012-08-20 at 16:00	94111	2012-08-21 at 13:00

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 12081318 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

114-6400192A

Work Order: 12081318

Page Number: 5 of 13 COG/Folk Fed. #2 TB Eddy Co., NM

Analytical Report

Sample: 306617 - CS-1 North Wall (SB-4)

Laboratory: Lubbock

Analysis: Chloride (Titration) Analytical Method:

SM 4500-Cl B

Prep Method: N/A

QC Batch: Prep Batch:

94110 79770

Date Analyzed: Sample Preparation:

2012-08-21 2012-08-20 Analyzed By: LM Prepared By: LM

RL

Parameter Flag Cert Result Chloride 385

Units Dilution mg/Kg

RL5.00

Sample: 306618 - CS-1 South Wall (SB-4)

Laboratory: Lubbock

Analysis:

Chloride (Titration)

Analytical Method:

SM 4500-Cl B

Prep Method: N/A

QC Batch:

94110

Date Analyzed:

2012-08-21

Analyzed By: LM

Prep Batch:

79770

Sample Preparation:

Prepared By: LM

2012-08-20

RL

Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride			405	mg/Kg	10	5.00

Sample: 306619 - CS-1 West Wall (SB-4)

Laboratory:

Lubbock

Analysis: Chloride (Titration) QC Batch: 94110

Analytical Method:

SM 4500-Cl B 2012-08-21

Prep Method: N/A

Prep Batch: 79770

Date Analyzed: Sample Preparation:

2012-08-20

Analyzed By: LM Prepared By:

RL

Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride			215	mg/Kg	10	5.00

Report Date: August 21, 2012 114-6400192A

Work Order: 12081318 COG/Folk Fed. #2 TB Page Number: 6 of 13 Eddy Co., NM

Sample: 306620 - CS-1 Bottom Hole 4' (SB-4)

Laboratory:

Lubbock

Chloride (Titration) Analysis:

Analytical Method:

Cert

Cert

SM 4500-Cl B 2012-08-21

Prep Method: N/A

QC Batch: 94110 Prep Batch: 79770 Date Analyzed: Sample Preparation:

2012-08-20

Analyzed By: LMPrepared By: LM

RL

Parameter Flag Chloride

Result Units 317 mg/Kg Dilution RL

5.00

10

Sample: 306621 - CS-2 North Wall (SB-5)

Laboratory:

Lubbock

Analysis:

Chloride (Titration)

Analytical Method:

SM 4500-Cl B

Prep Method: N/A

QC Batch: Prep Batch:

94110 79770

Date Analyzed: Sample Preparation:

2012-08-21 2012-08-20 Analyzed By: LM Prepared By: LM

RL

Flag Parameter Chloride

Result 439

Units mg/Kg

Units

mg/Kg

Dilution RL5.00 10

Sample: 306622 - CS-2 South Wall (SB-5)

Laboratory: Lubbock

79770

Analysis: Chloride (Titration) QC Batch: 94110

Analytical Method: Date Analyzed:

SM 4500-Cl B 2012-08-21

Prep Method: N/A Analyzed By: LM

Prep Batch:

Chloride

Sample Preparation: 2012-08-20

410

Prepared By: LM

20

Parameter

RL Cert Result

Dilution RL

5.00

Sample: 306623 - CS-2 Bottom Hole 4' (SB-5)

Flag

Laboratory: Analysis:

Lubbock

Chloride (Titration)

Analytical Method: Date Analyzed:

SM 4500-Cl B 2012-08-21

Prep Method: N/A Analyzed By: LM

QC Batch: Prep Batch:

79770

94110

Sample Preparation:

2012-08-20

Prepared By: LM

114-6400192A

Work Order: 12081318 COG/Folk Fed. #2 TB Page Number: 7 of 13

Eddy Co., NM

			m RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride			405	mg/Kg	. 10	5.00

Sample: 306624 - CS-3 North Wall (SB-6)

Laboratory:

Lubbock

Analysis:

Chloride (Titration)

Analytical Method:

SM 4500-Cl B

Prep Method: N/A

QC Batch: Prep Batch: 79770

94110

Date Analyzed: Sample Preparation:

2012-08-21 2012-08-20 Analyzed By: LMPrepared By: LM

			m RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride			171	mg/Kg	10	5.00

Sample: 306625 - CS-3 South Wall (SB-6)

Laboratory:

Lubbock

Analysis:

Chloride (Titration)

Analytical Method:

SM 4500-Cl B

Prep Method: N/A

QC Batch: Prep Batch: 94110

Date Analyzed:

2012-08-21

Analyzed By: LM

79770

Sample Preparation: 2012-08-20 Prepared By: LM

RLParameter Flag Cert Result Units Dilution RLChloride 634 mg/Kg 20 5.00

Sample: 306626 - CS-3 East Wall (SB-6)

Laboratory:

Lubbock

94110

79770

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

Analytical Method: Date Analyzed:

SM 4500-Cl B 2012-08-21 2012-08-20

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

RLParameter Flag Cert Result Units Dilution RLChloride 444 mg/Kg 10 5.00

Sample Preparation:

Work Order: 12081318 Page Number: 8 of 13 Report Date: August 21, 2012 114-6400192A COG/Folk Fed. #2 TB Eddy Co., NM Sample: 306627 - CS-3 Bottom Hole 4' (SB-6) Laboratory: Lubbock Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A QC Batch: Date Analyzed: 2012-08-21 Analyzed By: LM94111 Prep Batch: 79772 Sample Preparation: 2012-08-20 Prepared By: LM RLRLCert Result Dilution

442

Units

mg/Kg

mg/Kg

5.00

5.00

20

Sample: 306628 - CS-4 North Wall (SB-2)

Flag

Parameter

Chloride

Laboratory: Lubbock Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A QC Batch: 94111 Date Analyzed: 2012-08-21 Analyzed By: LM Prep Batch: 79772 Sample Preparation: 2012-08-20 Prepared By: LM RL

 Cert Result Dilution RLParameter Flag Units 5.00 Chloride 452 mg/Kg 10

Sample: 306629 - CS-4 South Wall (SB-2)

Laboratory: Lubbock Chloride (Titration) Analytical Method: Prep Method: Analysis: SM 4500-Cl B N/A QC Batch: Date Analyzed: Analyzed By: LM94111 2012-08-21 Prep Batch: 79772 Sample Preparation: 2012-08-20 Prepared By: LM RLResult Dilution RL Parameter Flag Cert Units

731

Sample: 306630 - CS-4 East Wall (SB-2)

Laboratory: Lubbock

Chloride

Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A QC Batch: 94111 Date Analyzed: 2012-08-21 Analyzed By: LMPrep Batch: 79772 Sample Preparation: 2012-08-20 Prepared By: LM

Report Date: August 21, 2012 114-6400192A

Work Order: 12081318 COG/Folk Fed. #2 TB

Page Number: 9 of 13

Eddy Co., NM

			m RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride			236	mg/Kg	10	5.00

Sample: 306631 - CS-4 Bottom Hole 4' (SB-2)

Laboratory: Lubbock

Analysis: Chloride (Titration)

QC Batch: 94111 Analytical Method:

Date Analyzed:

SM 4500-Cl B 2012-08-21

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

Prep Batch: 79772

Sample Preparation: 2012-08-20

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride			447	mg/Kg	10	5.00

114-6400192A

Work Order: 12081318 COG/Folk Fed. #2 TB

Page Number: 10 of 13

Eddy Co., NM

RL

5

Method Blanks

Method Blank (1)

QC Batch: 94110

QC Batch:

94110

Date Analyzed:

2012-08-21

Analyzed By: LM

Prepared By: LM

Prep Batch: 79770

QC Preparation:

2012-08-20

MDL Cert

Parameter Flag Chloride

Units Result < 3.05 mg/Kg

Method Blank (1)

QC Batch: 94111

QC Batch: Prep Batch: 79772

94111

Date Analyzed:

QC Preparation: 2012-08-20

2012-08-21

Analyzed By: LM

Prepared By: LM

MDL

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

Matrix Spike (MS-1) Spiked Sample: 306626

QC Batch: Prep Batch: 79770

94110

Date Analyzed:

QC Preparation:

2012-08-21

Analyzed By: LM

2012-08-20

Prepared By: LM

			MS			Spike	Matrix		Rec.
Param	F	C	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride			858	mg/Kg	10	500	443.9	83	80 - 120

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

			MSD			Spike	Matrix		Rec.		RPD
Param	F	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			858	mg/Kg	10	500	443.9	83	80 - 120	0	20

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

114-6400192A

Work Order: 12081318 COG/Folk Fed. #2 TB Page Number: 11 of 13 Eddy Co., NM

Matrix Spike (xMS-1)

Spiked Sample:

QC Batch:

94111

Date Analyzed:

2012-08-21

Analyzed By: LM

Prep Batch: 79772

QC Preparation: 2012-08-20

Prepared By: LM

			MS			Spike	Matrix		Rec.
Param	\mathbf{F}	C	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride			3050	mg/Kg	50	500	2500	110	80 - 120

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

			MSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			3000	mg/Kg	50	500	2500	101	80 - 120	2	20

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

114-6400192A

Work Order: 12081318 COG/Folk Fed. #2 TB Page Number: 12 of 13 Eddy Co., NM

Calibration Standards

Standard (ICV-1)

QC Batch: 94110

Date Analyzed: 2012-08-21

Analyzed By: LM

				ICVs	ICVs	ICVs	Percent	_
				True	Found	Percent	Recovery	\mathbf{Date}
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2012-08-21

Standard (CCV-1)

QC Batch: 94110

Date Analyzed: 2012-08-21

Analyzed By: LM

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2012-08-21

Standard (ICV-1)

QC Batch: 94111

Date Analyzed: 2012-08-21

Analyzed By: LM

		graphics and a prophic policy with Kinster (e.). No	and the second section of the second section (second section of the second section of the second section of the	ICVs	ICVs	ICVs	Percent	was the same of th
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			mg/Kg	100	98.6	98	85 - 115	2012-08-21

Standard (CCV-1)

QC Batch: 94111

Date Analyzed: 2012-08-21

Analyzed By: LM

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	\mathbf{Units}	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			mg/Kg	100	101	101	85 - 115	2012-08-21

Report Date: August 21, 2012 Work Order: 12081318 Page Number: 13 of 13 114-6400192A COG/Folk Fed. #2 TB Eddy Co., 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
1	NELAP	T104704219-12-8	Lubbock

Standard Flags

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

Attachments

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

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Analysis Request of Chai	n of Custody	/ R	20	:01	rd					***************************************			PA	GE:						2	
		<u> </u>				\dashv				(C					QUE Meth		lo.)				
TETRA 1910 N. Big Sp Midland, Texas (432) 682-4559 • F	oring St. 79705						35 (Ext. to C35)	10 70	Vr Pd Hg									TDS			
CLIENT NAME: SITE MANAGER:		EBS	P		RVATIV THOD	E	TX1005					0/624	,0/625					, PH,			
PROJECT NO.: PROJECT NAME:		CONTAINERS	\Box			\dashv			As As		atilles	0/826	Vol. 8270/625	_				ations			
IARID	DENTIFICATION	NUMBER OF CC	HCL	HNO3	NONE	2000	TPH 8015 MOD.	PAH 8270	TCLP Metals Ag	TCLP Volatiles	ICLP Semi Volatiles	MS Vol. 82	GC.MS Semi. V	PCB's 8080/608	Chloride	Gamma Spec.	Alpha Beta (Air)	FLM (Asbestos) Major Anions/Cations, pH, TDS			
306617 8/1 S X 05-1 worthing	(53.4)	i			x]										\int_{X}						floor
618 C5-1 South well	(53.4)																				
69 CS-1 1205+ 1201	(534)	Ш													\coprod						
620 V 18-1 Bettem Hele	4' (513-4)														\perp			\perp			\perp
621 7/31 C5-2 North we	(53-5)														\perp	Ш					\perp
622 7/31 15-2 South we	() (5.3-1-)	\coprod									1				\coprod	\prod		\perp			_
623 8/1 PS-2 Bottom Hel	4' (58.5)	111									\perp	\perp	Ц		\coprod			\perp			\perp
624 8/2 (5.3 No. 14 w. 11	(58-6)	$\perp \parallel$				\perp			_	Ц	\perp			\bot	\coprod		1	\bot			\downarrow
(25) CS-3 South Will	(<8-6)		_		\coprod		\perp		\perp	Ц	\perp	\perp		_	\coprod		1	\perp	ot	$oxed{oxed}$	1
RELINQUISHED BY: (Signature) / Date: E-3-12 [F	(50.6)	4		ate:	√ × (3/					BY: (P		Initia!	Ш		上	Ш	Dat		A2		_
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Please fill out all copies - Laboratory retains Yellow copy - Return Orginal copy to Tetra Tech - Project Manager retains Pink copy - Accounting receives Gold copy.

2.4/24

SAMPLE CONDITION WHEN RECEIVED:

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TETRA TECH 1910 N. Big Spring St. Midland, Texas 79705 (422) 662-4539 - Fix (432) 682-3946 CLIENT NAME: SITE MANAGER: PROJECT NO: 114 - CASCASSIA AS I.D. PROJECT NO: 114 - CASCASSIA AS I.D. SAMPLE DENTIFICATION	An	aıyS	is F	le	q	u	est of Chai	n of Cus	tody	R	e	00	rd		T		···					PAG		:2		``		2	\square
1910 N. Big Spring St. Midland, Taxas 79705 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 682-3946 (432) 6																			(Ci)			
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RELINGUISHED BY (Signature) Date:			2A				NAME: / +alle 1.1 =27	<u>5</u>		CONTA						MOD.	ls Ag A	Is Ag A	les Volatile		8240/8	 :	88		Ş.	stos)			
C28 8/10 C5-4 South wall 4' (53-4) C5-4 South wall 4' (53-2) C5-4 South wall (53-2)			TIME	MATRIX	COMP	GRAB	SAMPLE :	DENTIFICATION		NUMBER OF	HOL	HNO3	ΩE	NONE	BTEX 8021	TPH 8018	RCRA Meta	TCLP Meta	TCLP Volati	RCI	GC.MS Vol.	GC.MS Sen	Pest. 808/6	Chlonds	Alpha Beta	PLM (Asbet	major Auto		
C5-4 South	627	g/2		.5		X	65-3 Battem Hele	y' (s	(3·6)	ار			x											X					
RELINQUISHED BY: (Signature)	628	8/10				7	Cs-4 North will	(5	B-2)																				
RELINQUISHED BY: (Signature) Date: B-16:-12 RECEIVED BY: (Signature) Time: 12.00 Time: 14.30	629			Ш			Cs-4 South wall	(57	3.2)	Ш															\perp				
RELINQUISHED BY: (Signature) Date: B-10-12 RECEIVED BY: (Signature) Time: 1/20 RELINQUISHED BY: (Signature) Date: 9-10-1 Time: 1/30 SAMPLED BY: (Print & Initial) Date: 9-10-1 Time: 1/30 SAMPLED BY: (Print & Initial) Time: 1/30 SAMPLED BY: (Print & Initial) Date: 9-10-1 Time: 1/30 SAMPLED BY: (Print & Initial) Time: 1/30 SAMPLED BY: (Print & Initial) Time: 1/30 SAMPLED BY: (Print & Initial) Time: 1/30 SAMPLED BY: (Signature) Date: 9-10-1 Time: 1/30 SAMPLED BY: (Signature) Date: 9-10-1 Time: 1/30 SAMPLED BY: (Signature) OTHER: 630						65-4 East well	(5.8	3.2)				$\perp \parallel$									\perp								
RELINQUISHED BY: (Signature) Date: 13-1 RECENTED BY: (Signature) Date: 1455 RECENTED BY: (Signature) Date: 1455 RECENTED BY: (Signature) Date: 1514 RECENTED BY: (Signature) RE	631	+	#1	A		1	CS4 Botton Hole	4' (5.	3-2)	1			4										1	4		Ц			
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1100 1))	/ Y'Lu	<u>~_ · ~</u>					Date: 3113/12		 			Date:	<i>19</i>	<u> </u>		=- -	HAN	D DEI			UPS	3		- <u></u>	ОТІ		its by:		
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	CONTACT:	ITION WHEN	RECEIVED:				REMARKS:		Ls 2	Z /-	20	<u>ー</u> ス	<u> </u>)	2	_ .4/a	2.4									<u> </u>	es		io

Report Date: July 18, 2011 Work Order: 11070105 Page Number: 1 of 8

Summary Report

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

Report Date: July 18, 2011

Work Order: 11070105

Project Location: Eddy Co., NM

Project Name: COG/Folk Federal Tank Battery

Project Number: 114-6400890

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
270899	SB-1 0-1'	soil	2011-06-28	00:00	2011-06-30
270900	SB-1 3'	soil	2011-06-28	00:00	2011-06-30
270901	SB-1 5'	soil	2011-06-28	00:00	2011-06-30
270902	SB-1 7'	soil	2011-06-28	00:00	2011-06-30
270903	SB-1 10'	soil	2011-06-28	00:00	2011-06-30
270904	SB-1 15'	soil	2011-06-28	00:00	2011-06-30
270905	SB-1 20'	soil	2011-06-28	00:00	2011-06-30
270906	SB-1 25'	soil	2011-06-28	00:00	2011-06-30
270907	SB-1 30'	soil	2011-06-28	00:00	2011-06-30
270908	SB-2 0-1'	- soil	2011-06-28		2011-06-30
270909	SB-2 3'	soil	2011-06-28	00:00	2011-06-30
270910	SB-2 5'	soil	2011-06-28	00:00	2011-06-30
270911	SB-2 7'	soil	2011-06-28	00:00	2011-06-30
270912	SB-2 10'	soil	2011-06-28	00:00	2011-06-30
270913	SB-2 15'	soil	2011-06-28	00:00	2011-06-30
270914	SB-2 20'	soil	2011-06-28	00:00	2011-06-30
270915	SB-2 25'	soil	2011-06-28	00:00	2011-06-30
270916	SB-2 30'	soil	2011-06-28	00:00	2011-06-30
270917	SB-3 0-1'	soil	2011-06-28	00:00	2011-06-30
270918	SB-3 5'	soil	2011-06-28	00:00	2011-06-30
270919	SB-3 7'	soil	2011-06-28	00:00	2011-06-30
270920	SB-3 10'	soil	2011-06-28	00:00	2011-06-30
270921	SB-3 15'	soil	2011-06-28	00:00	2011-06-30
270922	SB-3 20'	soil	2011-06-28	00:00	2011-06-30
270923	SB-3 25'	soil	2011-06-28	00:00	2011-06-30
270924	SB-3 30'	soil	2011-06-28	00:00	2011-06-30
270925	SB-3 3'	soil	2011-06-28	00:00	2011-06-30
270926	SB-4 0-1'	soil	2011-06-29	00:00	2011-06-30
270927	SB-4 3'	soil	2011-06-29	00:00	2011-06-30
270928	SB-4 5'	soil	2011-06-29	00:00	2011-06-30

Report Date: July 18, 2011 Work Order: 11070105 Page Number: 2 of 8

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
270929	SB-4 7'	soil	2011-06-29	00:00	2011-06-30
270930	SB-4 10'	soil	2011-06-29	00:00	2011-06-30
270931	SB-4 15'	soil	2011-06-29	00:00	2011-06-30
270932	SB-4 20'	soil	2011-06-29	00:00	2011-06-30
270936	SB-5 0-1'	soil	2011-06-29	00:00	2011-06-30
270937	SB-5 3'	soil	2011-06-29	00:00	2011-06-30
270938	SB-5 5'	soil	2011-06-29	00:00	2011-06-30
270939	SB-5 7'	soil	2011-06-29	00:00	2011-06-30
270940	SB-5 10'	soil	2011-06-29	00:00	2011-06-30
270941	SB-5 15'	soil	2011-06-29	00:00	2011-06-30
270942	SB-5 20'	soil	2011-06-29	00:00	2011-06-30
270943	SB-5 25'	soil	2011-06-29	00:00	2011-06-30
270946	SB-6 0-1'	soil	2011-06-29	00:00	2011-06-30
270947	SB-6 3'	soil	2011-06-29	00:00	2011-06-30
270948	SB-6 5'	soil	2011-06-29	00:00	2011-06-30
270949	SB-6 7'	soil	2011-06-29	00:00	2011-06-30
270950	SB-6 10'	soil	2011-06-29	00:00	2011-06-30
270951	SB-6 15'	soil	2011-06-29	00:00	2011-06-30
270952	SB-6 20'	soil	2011-06-29	00:00	2011-06-30
270953	SB-6 25'	soil	2011-06-29	00:00	2011-06-30

Sample: 270899 - SB-1 0-1'

Param	Flag	Result	Units	RL
Chloride		4300	mg/Kg	4

And the second s

Sample: 270900 - SB-1 3'

Param	Flag	Result	Units	RL
Chloride		3410	mg/Kg	4

Sample: 270901 - SB-1 5'

Param	Flag	Result	Units	RL
Chloride		2380	mg/Kg	4

Sample: 270902 - SB-1 7'

Param	Flag	Result	Units	RL
Chloride		3000	mg/Kg	4

Report Date: July 1	8, 2011	Work Order: 11070105	Page	Number: 3 of 8
Sample: 270903 -	SB-1 10'			
Param	Flag	Result	Units	RL
Chloride		3590	mg/Kg	4
Sample: 270904 -	SB-1 15'			
Param	Flag	Result	Units	RL
Chloride		1540	mg/Kg	4
Sample: 270905 -	SB-1 20'			
Param	Flag	Result	Units	RL
Chloride		237	mg/Kg	4
Sample: 270906 -	SB-1 25'			
Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4
Sample: 270907 -	SB-1 30'			
Param	Flag	Result	Units	RL
Chloride	8	207	mg/Kg	4
s. 5.75.				
Sample: 270908 -	SB-2 0-1'			
Param	Flag	Result	Units	RL
Chloride		10400	mg/Kg	4
Sample: 270909 -	SB-2 3'			
Param	Flag	Result	Units	RL
Chloride		566	mg/Kg	4
Sample: 270910 -	SB-2 5'			
Param	Flag	Result	Units	RL
Chloride		1250	mg/Kg	4

Report Date: July	18, 2011	Work-Order: 11070105	Page	Number: 4 of 8
Sample: 270911	· SB-2 7'			
Param	Flag	Result	Units	RL
Chloride		926	mg/Kg	4
Sample: 270912 -	- SB -2 10'			
Param	Flag	Result	Units	RL
Chloride		1170	mg/Kg	4
Sample: 270913 -	- SB-2 15'			
Param	Flag	Result	Units	RL
Chloride		343	mg/Kg	4
Sample: 270914 -	- SB-2 20'			
Param	Flag	Result	Units	RL
Chloride		251	mg/Kg	4
Sample: 270915 -	· SB-2 25'			
Param	Flag	Result	Units	RL
Chloride	- 200	<200	mg/Kg	4
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Sample: 270916 -	•			
Param	Flag	Result	Units	RL 4
Chloride		185	mg/Kg	4
Sample: 270917 -	SB-3 0-1'			
Param	Flag	Result	Units	RL
Chloride		326	mg/Kg	4
Sample: 270918 -	· SB-3 5'			
Param	Flag	Result	Units	RL
Chloride		2710	mg/Kg	4

Report Date: July 18, 2011		Work Order: 11070105	Page I	Number: 5 of 8
Sample: 270919 -	SB-3 7'			
Param	Flag	Result	Units	RL
Chloride		1760	mg/Kg	4
Sample: 270920 -	SB-3 10'			
Param	Flag	Result	Units	RL
Chloride		675	mg/Kg	4
Sample: 270921 -	SB-3 15'			
Param	Flag	Result	Units	RL
Chloride		316	mg/Kg	4
Sample: 270922 -	SB-3 20'			
Param	Flag	Result	Units	RL
Chloride		268	mg/Kg	4
Sample: 270923 -	SB-3 25'			
Param	Flag	Result	Units	RL_
Chloride		230	mg/Kg	4
Sample: 270924 -	SB-3 30'		. In the same of a contract of a contract of	Mariti edi. I primitra mandhia emi bir sahari
Param	Flag	Result	Units	RL
Chloride	1105	396	mg/Kg	4
Sample: 270925 -	SB-3 3'			
Param	Flag	Result	Units	RL
Chloride		4240	mg/Kg	4
Sample: 270926 -	SB-4 0-1'			
Param	Flag	Result	Units	RL

Report Date: July 18, 2011	Work Order: 11070105	Page :	Number: 6 of 8
Sample: 270927 - SB-4 3'			
Param Flag	Result	Units	RL
Chloride	5940	mg/Kg	4
Sample: 270928 - SB-4 5'			
Param Flag	Result	Units	RL
Chloride	1270	mg/Kg	4
Sample: 270929 - SB-4 7'			
Param Flag	Result	Units	RL
Chloride	316	mg/Kg	4
Param Flag Chloride Flag	Result 269	Units mg/Kg	RL 4
Sample: 270931 - SB-4 15'			
Param Flag	Result	Units	RL
Chloride	432	mg/Kg	4
Sample: 270932 - SB-4 20'			THE RESERVE OF THE PROPERTY OF
Param Flag	Result	Units	RL
Chloride Sample: 270936 - SB-5 0-1'	559	mg/Kg	4
Param Flag	Result	Units	RL
Chloride	469	mg/Kg	4
Sample: 270937 - SB-5 3'			
Param Flag	Result	Units	RL
Chloride	5400	mg/Kg	4

	18, 2011	Work Order: 11070105	Page Number: 7 of 8	
Sample: 270938	- SB-5 5'			
Param	Flag	Result	Units	RL
Chloride		364	mg/Kg	4
Sample: 270939	- SB-5 7'			
Param	Flag	Result	Units	RL
Chloride		248	mg/Kg	4
Sample: 270940	- SB-5 10'			
Param	Flag	Result	Units	RL
Chloride		3770	mg/Kg	4
Sample: 270941	- SB-5 15'			
Param	Flag	Result	Units	RL
		559	mg/Kg	4
Chloride			<u> </u>	
Sample: 270942 Param	- SB-5 20' Flag	Result	Units	RL
Sample: 270942 Param Chloride	Flag	Result 549	Units mg/Kg	4
Sample: 270943	Flag - SB-5 25'	Result 549	Units mg/Kg	4
Sample: 270942 Param Chloride Sample: 270943	Flag	Result 549 Result	Units mg/Kg Units	4 RL
Sample: 270942 Param Chloride Sample: 270943	Flag - SB-5 25'	Result 549	Units mg/Kg	4
Sample: 270942 Param Chloride Sample: 270943 Param Chloride	Flag - SB-5 25' Flag	Result 549 Result	Units mg/Kg Units	4 RL
Sample: 270942 Param Chloride Sample: 270943 Param Chloride Sample: 270946	Flag - SB-5 25' Flag	Result 549 Result 218	Units mg/Kg Units mg/Kg Units	RL 4
Sample: 270942 Param Chloride Sample: 270943 Param Chloride Sample: 270946	Flag - SB-5 25' Flag - SB-6 0-1'	Result 549 Result 218	Units mg/Kg Units mg/Kg	RL 4
Sample: 270942 Param Chloride	Flag - SB-5 25' Flag - SB-6 0-1' Flag	Result 549 Result 218	Units mg/Kg Units mg/Kg Units	RL 4
Sample: 270942 Param Chloride Sample: 270943 Param Chloride Sample: 270946 Param Chloride	Flag - SB-5 25' Flag - SB-6 0-1' Flag	Result 549 Result 218	Units mg/Kg Units mg/Kg Units	RL 4

Report Date: July	18, 2011	Work Order: 11070105	Page 1	Number: 8 of 8
Sample: 270948	- SB-6 5'			
Param	Flag	Result	Units	RL
Chloride		782 .	mg/Kg	4
Sample: 270949	- SB-6 7'			·
Param	Flag	Result	Units	RL
Chloride		1360	mg/Kg	4
Sample: 270950	- SB-6 10'			
Param	Flag	Result	Units	RL
Chloride		752	mg/Kg	4
Sample: 270951	- SB-6 15'			
Param	\mathbf{Flag}	Result	Units	RL
Chloride		247	mg/Kg	4
Sample: 270952 -	- SB-6 20'			
Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4
sures, etc., or other	i i militar ti vi m			T I'LLI
Sample: 270953	- SB-6 25'			
Param	Flag	Result	Units	RL
Chloride		396	mg/Kg	4



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

El Paso, Texas 79922 Midland, Texas 79703 6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132 888 • 588 • 3443

806 • 794 • 1296 915 • 585 • 3443

FAX 915 • 585 • 4944 FAX 432 • 689 • 6313

432-689-6301 817 • 201 • 5260

E-Mail: lab@traceanalysis.com

NELAP DoD LELAP Kansas Oklahoma ISO 17025 WBE HUB NCTRCA DBE

Certifications

Analytical and Quality Control Report

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

Report Date: July 18, 2011

Work Order: 11070105

Project Location: Eddy Co., NM

COG/Folk Federal Tank Battery Project Name:

Project Number: 114-6400890

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

	one may be an responsibility of	• •	Date	Time	Date
-Sample	Description	- Matrix	Taken	Taken	Received
270899	SB-1 0-1'	soil	2011-06-28	00:00	2011-06-30
270900	SB-1 3'	soil	2011-06-28	00:00	2011-06-30
270901	SB-1 5'	soil	2011-06-28	00:00	2011-06-30
270902	SB-1 7'	soil	2011-06-28	00:00	2011-06-30
270903	SB-1 10'	soil	2011-06-28	00:00	2011-06-30
270904	SB-1 15'	soil	2011-06-28	00:00	2011-06-30
270905	SB-1 20'	soil	2011-06-28	00:00	2011-06-30
270906	SB-1 25'	soil	2011-06-28	00:00	2011-06-30
270907	SB-1 30'	soil	2011-06-28	00:00	2011-06-30
270908	SB-2 0-1'	soil	2011-06-28	00:00	2011-06-30
270909	SB-2 3'	soil	2011-06-28	00:00	2011-06-30
270910	SB-2 5'	soil	2011-06-28	00:00	2011-06-30
270911	SB-2 7'	soil	2011-06-28	00:00	2011-06-30
270912	SB-2 10'	soil	2011-06-28	00:00	2011-06-30
270913	SB-2 15'	soil	2011-06-28	00:00	2011-06-30
270914	SB-2 20'	soil	2011-06-28	00:00	2011-06-30
270915	SB-2 25'	soil	2011-06-28	00:00	2011-06-30
270916	SB-2 30'	soil	2011-06-28	00:00	2011-06-30

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
270917	SB-3 0-1'	soil	2011-06-28	00:00	2011-06-30
270918	SB-3 5'	soil	2011-06-28	00:00	2011-06-30
270919	SB-3 7'	soil	2011-06-28	00:00	2011-06-30
270920	SB-3 10'	soil	2011-06-28	00:00	2011-06-30
270921	SB-3 15'	soil	2011-06-28	00:00	2011-06-30
270922	SB-3 20'	soil	2011-06-28	00:00	2011-06-30
270923	SB-3 25'	soil	2011-06-28	00:00	2011-06-30
270924	SB-3 30'	soil	2011-06-28	00:00	2011-06-30
270925	SB-3 3'	soil	2011-06-28	00:00	2011-06-30
270926	SB-4 0-1'	soil	2011-06-29	00:00	2011-06-30
270927	SB-4 3'	soil	2011-06-29	00:00	2011-06-30
270928	SB-4 5'	soil	2011-06-29	00:00	2011-06-30
270929	SB-4 7'	soil	2011-06-29	00:00	2011-06-30
270930	SB-4 10'	soil	2011-06-29	00:00	2011-06-30
270931	SB-4 15'	soil	2011-06-29	00:00	2011-06-30
270932	SB-4 20'	soil	2011-06-29	00:00	2011-06-30
270936	SB-5 0-1'	soil	2011-06-29	00:00	2011-06-30
270937	SB-5 3'	soil	2011-06-29	00:00	2011-06-30
270938	SB-5 5'	soil	2011-06-29	00:00	2011-06-30
270939	SB-5 7'	soil	2011-06-29	00:00	2011-06-30
270940	SB-5 10'	soil	2011-06-29	00:00	2011-06-30
270941	SB-5 15'	soil	2011-06-29	00:00	2011-06-30
270942	SB-5 20'	soil	2011-06-29	00:00	2011-06-30
270943	SB-5 25'	soil	2011-06-29	00:00	2011-06-30
270946	SB-6 0-1'	soil	2011-06-29	00:00	2011-06-30
270947	SB-6 3'	soil	2011-06-29	00:00	2011-06-30
270948	SB-6 5'	soil	2011-06-29	00:00	2011-06-30
270949	SB-6 7'	soil	2011-06-29	00:00	2011-06-30
270950	SB-6 10'	soil	2011-06-29	00:00	2011-06-30
270951	SB-6 15'	soil	2011-06-29	00:00	2011-06-30
270952	SB-6 20'	soil	2011-06-29	00:00	2011-06-30
270953	SB-6 25'	soil	2011-06-29	00:00	2011-06-30

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 31 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

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Case Narrative

Samples for project COG/Folk Federal Tank Battery were received by TraceAnalysis, Inc. on 2011-06-30 and assigned to work order 11070105. Samples for work order 11070105 were received intact at a temperature of 8.0 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	70311	2011-07-06 at 08:36	82892	2011-07-08 at 15:54
Chloride (Titration)	SM 4500-Cl B	70311	2011-07-06 at 08:36	82893	2011-07-08 at 15:55
Chloride (Titration)	SM 4500-Cl B	70311	2011-07-06 at 08:36	82894	2011-07-08 at 15:56
Chloride (Titration)	SM 4500-Cl B	70311	2011-07-06 at 08:36	82895	2011-07-08 at 15:57
Chloride (Titration)	SM 4500-Cl B	70311	2011-07-06 at 08:36	82928	2011-07-11 at 14:05
Chloride (Titration)	SM 4500-Cl B	70604	2011-07-14 at 14:54	83123	2011-07-14 at 15:55

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

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 11070105 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: July 18, 2011

114-6400890

Work Order: 11070105 COG/Folk Federal Tank Battery Page Number: 6 of 31 Eddy Co., NM

Analytical Report

Sample: 270899 - SB-1 0-1'

Laboratory: Midland

Analysis:

QC Batch: 82892

Chloride (Titration)

Analytical Method: Date Analyzed: Sample Preparation:

SM 4500-Cl B 2011-07-08

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

Prep Batch: 70311

RL

2011-07-06

Dilution RL

4.00

100

Parameter Flag Cert Result Units Chloride 4300 mg/Kg

Sample: 270900 - SB-1 3'

Laboratory:

Midland

Analysis:

Chloride (Titration)

Analytical Method: Date Analyzed:

SM 4500-Cl B

Prep Method: N/A

QC Batch: 82892 Prep Batch: 70311

2011-07-08 Sample Preparation: 2011-07-06 Analyzed By: AR Prepared By: AR

RLDilution Parameter Flag Cert Result Units RLChloride 3410 mg/Kg 100 4.00

Sample: 270901 - SB-1 5'

Laboratory:

Prep Batch:

Midland

70311

Analysis: Chloride (Titration) QC Batch: 82892

Analytical Method: Date Analyzed:

Sample Preparation:

SM 4500-Cl B 2011-07-08 2011-07-06

Prep Method: N/A Analyzed By: AR

AR

Prepared By:

RL

Flag Cert Result Dilution RLParameter Units Chloride 2380 mg/Kg 100 4.00

114-6400890	uly 18, 2011	Work Order: 11070105 COG/Folk Federal Tank Battery		Page Number: 7 o Eddy Co.,		
Sample: 27090	02 - SB-1 7'					
	lidland					
	hloride (Titration)		cal Method:	SM 4500-Cl B	Prep Method:	N/A
•	2892	Date Ar		2011-07-08	Analyzed By:	AR
Prep Batch: 70	0311	Sample	Preparation:	2011-07-06	Prepared By:	AR
			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Parameter Chloride Sample: 27090	Flag 03 - SB-1 10'	Cert	Result 3000	Units mg/Kg	Dilution 100	
Chloride Sample: 27090 Laboratory: Mi Analysis: Ch QC Batch: 82		Analytic Date Ar	3000 cal Method:			4.00
Chloride Sample: 27090 Laboratory: Mi Analysis: Ch QC Batch: 82	03 - SB-1 10' (idland hloride (Titration) 1892	Analytic Date Ar	3000 cal Method: calyzed: Preparation:	mg/Kg SM 4500-Cl B 2011-07-08	Prep Method: Analyzed By:	4.00 N/A AR
Chloride Sample: 27090 Laboratory: Mi Analysis: Ch QC Batch: 82	03 - SB-1 10' (idland hloride (Titration) 1892	Analytic Date Ar	3000 cal Method:	mg/Kg SM 4500-Cl B 2011-07-08	Prep Method: Analyzed By:	4.00 N/A AR

Sample:	270905	_	SB-1	20'
Dampic.	# 1 U U U U U	_		20

82892

70311

Chloride (Titration)

Flag

Laboratory: Midland

Analysis:

QC Batch:

Parameter

Chloride

Prep Batch:

SM 4500-Cl B Prep Method: N/A Analysis: Chloride (Titration) Analytical Method: QC Batch: 82892 Analyzed By: Date Analyzed: 2011-07-08 AR Prep Batch: 70311 Sample Preparation: 2011-07-06 Prepared By: AR

Analytical Method:

Sample Preparation:

RL

Result

1540

Date Analyzed:

Cert

SM 4500-Cl B

Units

mg/Kg

2011-07-08

2011-07-06

Prep Method: N/A

AR

AR

RL

4.00

Analyzed By:

Prepared By:

Dilution

100

Report Date: July 18, 2011

Work Order: 11070105

Page Number: 8 of 31

114-6400890

COG/Folk Federal Tank Battery

Eddy Co., NM

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride			237	mg/Kg	50	4.00

Sample: 270906 - SB-1 25'

Laboratory:

Midland

Analysis: Chloride (Titration)

QC Batch: 82892 Analytical Method: Date Analyzed:

SM 4500-Cl B 2011-07-08

Prep Method: N/A Analyzed By: AR

Prep Batch:

70311

Sample Preparation: 2011-07-06

Dilution

50

Prepared By: AR

RL

4.00

RLParameter Flag Cert Result Units Chloride <200 mg/Kg

Sample: 270907 - SB-1 30'

Laboratory:

Midland

Analysis: Chloride (Titration) 82892 QC Batch:

Analytical Method:

SM 4500-Cl B 2011-07-08

Prep Method: N/A Analyzed By: AR

Prep Batch: 70311

Date Analyzed: Sample Preparation:

2011-07-06

Prepared By: AR

RLParameter Flag Cert Result Units

Dilution RLChloride 207 4.00 mg/Kg

Sample: 270908 - SB-2 0-1'

Laboratory:

Midland

Chloride (Titration) Analysis: QC Batch: 82892

Analytical Method:

SM 4500-Cl B

Prep Method: N/A Analyzed By: AR

Prep Batch: 70311 Date Analyzed: Sample Preparation:

2011-07-08 2011-07-06

Prepared By: AR

RL

Dilution Parameter Flag Cert Result Units RLChloride 10400 100 4.00 mg/Kg

Work Order: 11070105 Page Number: 9 of 31 Report Date: July 18, 2011 114-6400890 COG/Folk Federal Tank Battery Eddy Co., NM Sample: 270909 - SB-2 3' Laboratory: Midland SM 4500-Cl B Prep Method: N/A Analysis: Chloride (Titration) Analytical Method: QC Batch: 82893 Date Analyzed: 2011-07-08 Analyzed By: AR Prep Batch: 70311 Sample Preparation: 2011-07-06 Prepared By: ARRLDilution RLResult Units Parameter Flag Cert 566 50 4.00 Chloride mg/Kg Sample: 270910 - SB-2 5' Laboratory: Midland Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A Analysis: QC Batch: 82893 Date Analyzed: 2011-07-08 Analyzed By: ARPrep Batch: 70311 Sample Preparation: 2011-07-06 Prepared By: AR RLDilution RLParameter Flag Cert Result Units 1250 mg/Kg 100 4.00 Chloride Sample: 270911 - SB-2 7' Laboratory: _ Midland Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A QC Batch: 82893 Date Analyzed: 2011-07-08 Analyzed By: AR Prep Batch: 70311 Sample Preparation: 2011-07-06 Prepared By: AR RLDilution RLParameter Flag Cert Result Units

Sample: 270912 - SB-2 10'

Laboratory: Midland

Chloride

SM 4500-Cl B Prep Method: N/A Analysis: Chloride (Titration) Analytical Method: QC Batch: 82893 Date Analyzed: Analyzed By: 2011-07-08 ARPrep Batch: 70311 Sample Preparation: 2011-07-06 Prepared By: AR

926

mg/Kg

100

4.00

Report Date: July 18, 2011 114-6400890

Work Order: 11070105 COG/Folk Federal Tank Battery Page Number: 10 of 31 Eddy Co., NM

			m RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride			1170	mg/Kg	100	4.00

Sample: 270913 - SB-2 15'

Laboratory:

Midland

Analysis: QC Batch: Prep Batch:

Chloride (Titration)

82893 70311

Analytical Method:

Date Analyzed: 2011-07-08 Sample Preparation: 2011-07-06

SM 4500-Cl B

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

RLParameter Flag Cert Result Units Dilution RLChloride 343 mg/Kg 4.00

Sample: 270914 - SB-2 20'

Laboratory:

Midland

Analysis: QC Batch:

Chloride (Titration)

82893 Prep Batch: 70311 Analytical Method:

SM 4500-Cl B Date Analyzed: 2011-07-08 Sample Preparation: 2011-07-06

Prep Method: N/A Analyzed By:

AR Prepared By: AR

RLFlag Parameter Cert Result Units Dilution RL251 4:00 Chloride mg/Kg

Sample: 270915 - SB-2 25'

Laboratory:

Midland

Analysis: QC Batch: 82893

Chloride (Titration) Prep Batch: 70311

Analytical Method: Date Analyzed: Sample Preparation: SM 4500-Cl B 2011-07-08 2011-07-06

Prep Method: N/A Analyzed By: AR

AR

Prepared By:

RL

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

Report Date 114-6400890	:: July 18, 2011	COG/Folk Federal Tank Battery			Page-Number: 11 of 3 Eddy Co., N		
Sample: 27	0916 - SB-2 30'						
Laboratory: Analysis:	Midland Chloride (Titration)	Analy	tical Method:	SM 4500-Cl B	Prep Method:	N/A	
QC Batch:	83123		Analyzed:	2011-07-14	Analyzed By:	AR	
Prep Batch:	70604	Sampl	e Preparation:	2011-07-14	Prepared By:	AR	
			RL				
Parameter	Fla	ıg Cert	Result	Units	Dilution	RL	
			185	mg/Kg	25	4.00	
Chloride			100				
	0917 - SB-3 0-1'		100				
Sample: 27	0917 - SB-3 0-1' Midland		100				
Sample: 27		Analy	tical Method:	SM 4500-Cl B	Prep Method:	N/A	
Sample: 27	Midland				Prep Method: Analyzed By:		
Sample: 27 Laboratory: Analysis:	Midland Chloride (Titration)	Date	tical Method:	SM 4500-Cl B	-	N/A	
Sample: 27 Laboratory: Analysis: QC Batch:	Midland Chloride (Titration) 82893	Date	tical Method: Analyzed:	SM 4500-Cl B 2011-07-08	Analyzed By:	N/A AR	
Sample: 27 Laboratory: Analysis: QC Batch:	Midland Chloride (Titration) 82893	Date A Sampl	tical Method: Analyzed: e Preparation:	SM 4500-Cl B 2011-07-08	Analyzed By:	N/A AR	

Laboratory:	Midland					
Analysis:	Chloride (Titration)	Analyti	cal Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82893	Date A	nalyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample	Preparation:	2011-07-06	Prepared By:	AR
			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride			2710	mg/Kg	100	4.00

Sample:	270919	-	SB-3	7'
---------	--------	---	------	----

Sample: 270918 - SB-3 5'

Laboratory: Midland

Analysis: Chloride (Titration)

Analytical Method: SM 4500-Cl B

Prep Method: N/A

QC Batch: 82894

Date Analyzed: 2011-07-08

Analyzed By: AR

Prep Batch: 70311

Sample Preparation: 2011-07-06

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	R
Chloride			1760	mg/Kg	100	4.00
Sample: 27	70920 - SB-3 10'					
Laboratory:	Midland					
Analysis:	Chloride (Titration)		ical Method:	SM 4500-Cl B	Prep Method:	
QC Batch:	82894		Analyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample	e Preparation:	2011-07-06	Prepared By:	AR
			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RI
Chloride			675	mg/Kg	100	4.00
Laboratory:		Analyt	ical Method:	SM 4500-Cl B	Prep Method:	N/A
_		Date A	ical Method: analyzed: e Preparation:	SM 4500-Cl B 2011-07-08 2011-07-06	Prep Method: Analyzed By: Prepared By:	N/A AR AR
Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (Titration) 82894 70311	Date A	analyzed: e Preparation: RL	2011-07-08 2011-07-06	Analyzed By: Prepared By:	AR
Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (Titration) 82894 70311 Flag	Date A	analyzed: e Preparation: RL Result	2011-07-08 2011-07-06 Units	Analyzed By: Prepared By: Dilution	AR AR RI
Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (Titration) 82894 70311 Flag	Date A Sample	analyzed: e Preparation: RL Result	2011-07-08 2011-07-06	Analyzed By: Prepared By:	AR AR RI
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Chloride	Midland Chloride (Titration) 82894 70311 Flag 0922 - SB-3 20' Midland Chloride (Titration) 82894	Date A Sample Cert Analyt Date A	analyzed: e Preparation: RL Result	2011-07-08 2011-07-06 Units mg/Kg SM 4500-Cl B 2011-07-08	Analyzed By: Prepared By: Dilution	AR AR RI 4.00
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Chloride Sample: 27 Laboratory: Analysis: QC Batch:	Midland Chloride (Titration) 82894 70311 Flag 0922 - SB-3 20' Midland Chloride (Titration) 82894	Date A Sample Cert Analyt Date A	analyzed: Preparation: RL Result 316 ical Method: analyzed: Preparation:	2011-07-08 2011-07-06 Units mg/Kg SM 4500-Cl B 2011-07-08	Analyzed By: Prepared By: Dilution 50 Prep Method: Analyzed By:	AR AR RI 4.00
Laboratory: Analysis: QC Batch: Prep Batch: Parameter Chloride Sample: 27 Laboratory: Analysis: QC Batch:	Midland Chloride (Titration) 82894 70311 Flag 0922 - SB-3 20' Midland Chloride (Titration) 82894	Date A Sample Cert Analyt Date A Sample	analyzed: Preparation: RL Result 316 ical Method: analyzed:	2011-07-08 2011-07-06 Units mg/Kg SM 4500-Cl B 2011-07-08	Analyzed By: Prepared By: Dilution 50 Prep Method: Analyzed By:	AR AR RI 4.00

Work Order: 11070105 COG/Folk Federal Tank Battery

Report Date: July 18, 2011

114-6400890

Chloride

Page Number: 12 of 31 Eddy Co., NM

RL 4.00

mg/Kg

268

50

Report Date 114-6400890	e: July 18, 2011		c Order: 1107 c Federal Tan		Page Number: 1 Eddy Co	
Sample: 27	'0923 - SB-3 25'					
Laboratory:	Midland					
Analysis:	Chloride (Titration)		cal Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82894		nalyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample	Preparation:	2011-07-06	Prepared By:	AR
			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride			230	mg/Kg	50	4.00
Sample: 27	'0924 - SB-3 30'					
-						
Laboratory:	Midland			G1 - 480 - G1 -		/ .
Analysis:	Chloride (Titration)		cal Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82894		nalyzed:	2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample	Preparation:	2011-07-06	Prepared By:	AR
			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride			396	mg/Kg	50	4.00
Sample: 27 Laboratory: Analysis: QC Batch: Prep Batch:	0925 - SB-3 3' Midland Chloride (Titration) 82894 70311	Date A	cal Method: nalyzed: Preparation:	SM 4500-Cl B 2011-07-08 2011-07-06	Prep Method: Analyzed By: Prepared By:	N/A AR AR
		-	Dī		- ·	
Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			4240	mg/Kg		4.00

Analytical Method:

Sample Preparation: 2011-07-06

Date Analyzed:

SM 4500-Cl B

2011-07-08

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Sample: 270926 - SB-4 0-1'

Chloride (Titration)

Laboratory: Midland

QC Batch: 82894 Prep Batch: 70311

Analysis:

Page Number: 14 of 31 Report Date: July 18, 2011 Work Order: 11070105 114-6400890 COG/Folk Federal Tank Battery Eddy Co., NM RLParameter Flag Cert Result Units Dilution RLChloride 10000 100 4.00 mg/Kg Sample: 270927 - SB-4 3' Laboratory: Midland Chloride (Titration) Analytical Method: Analysis: SM 4500-Cl B N/A Prep Method: QC Batch: 82894 Date Analyzed: Analyzed By: AR2011-07-08 70311 Prep Batch: Sample Preparation: 2011-07-06 Prepared By: AR RLParameter Flag Cert Result Units Dilution RLChloride 5940 100 4.00 mg/Kg Sample: 270928 - SB-4 5' Laboratory: Midland Chloride (Titration) SM 4500-Cl B Prep Method: N/A Analysis: Analytical Method: QC Batch: 82894 Date Analyzed: 2011-07-08 Analyzed By: ARPrep Batch: 70311 Sample Preparation: 2011-07-06 Prepared By: AR RLParameter Flag Cert Result Units Dilution RLChloride 1270 4.00 mg/Kg 100 Sample: 270929 - SB-4 7'

Analytical Method:

Sample Preparation:

RL

316

Result

Date Analyzed:

Cert

SM 4500-Cl B

Units

mg/Kg

2011-07-08

2011-07-06

Prep Method:

Analyzed By:

Prepared By:

Dilution

50

N/A

AR

AR

RL 4.00

Laboratory:

Analysis:

QC Batch:

Parameter

Chloride

Prep Batch:

Midland

82895

70311

Chloride (Titration)

Flag

Report Date 114-6400890	: July 18, 2011	Work Order: 11070105 COG/Folk Federal Tank Battery			Page Number: 15 of 31 Eddy Co., NM	
Sample: 27	0930 - SB-4 10'					
Laboratory:	Midland					
Analysis:	Chloride (Titration)		al Method:	SM 4500-Cl B	Prep Method:	
QC Batch:	82895	Date An		2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample 1	Preparation:	2011-07-06	Prepared By:	AR
			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride			269	mg/Kg	50	4.00
Sample: 276 Laboratory: Analysis: QC Batch: Prep Batch:	0931 - SB-4 15' Midland Chloride (Titration) 82895 70311	Date An	al Method: alyzed: Preparation: RL	SM 4500-Cl B 2011-07-08 2011-07-06	Prep Method: Analyzed By: Prepared By:	N/A AR AR
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride			432	mg/Kg	50	4.00
 Sample: 27	0932 - SB-4 20' Midland					
 Analysis:	Chloride (Titration)		al Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82895	Date An		2011-07-08	Analyzed By:	AR
Prep Batch:	70311 .	Sample I	Preparation:	2011-07-06	Prepared By:	AR
			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride			559	mg/Kg	100	4.00

Sample: 270936 - SB-5 0-1'

Laboratory: Midland

Analysis: Chloride (Titration)

Analytical Method: SM 4500-Cl B

QC Batch: 82895

Date Analyzed: 2011-07-08

Analyzed By: AR

Prep Batch: 70311

Sample Preparation: 2011-07-06

Prepared By: AR

Report Date: July 18, 2011

114-6400890

Work Order: 11070105 COG/Folk Federal Tank Battery Page Number: 16 of 31 Eddy Co., NM

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride			469	mg/Kg	50	4.00

Sample: 270937 - SB-5 3'

Laboratory: Mi

Midland

Analysis: Chloride (Titration)
QC Batch: 82895
Prep Batch: 70311

Analytical Method: SM 4500-Cl B Date Analyzed: 2011-07-08

 SM 4500-Cl B
 Prep Method:
 N/A

 2011-07-08
 Analyzed By:
 AR

 2011-07-06
 Prepared By:
 AR

Sample Preparation:

Sample: 270938 - SB-5 5'

Laboratory: N

Midland

Analysis: Chloride (Titration)
QC Batch: 82895
Prep Batch: 70311

Analytical Method: Date Analyzed:

Sample Preparation:

SM 4500-Cl B 2011-07-08

2011-07-06

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

Sample: 270939 - SB-5 7'

Laboratory:

Midland

Analysis: Chloride (Titration)
QC Batch: 82895
Prep Batch: 70311

Analytical Method: Date Analyzed:

Sample Preparation:

SM 4500-Cl B 2011-07-08 2011-07-06 Prep Method: N/A Analyzed By: AR Prepared By: AR

Report Date 114-6400890	: July-18, 2011		Order: 11070 Federal Tanl	Page-Number: 17 of 3 Eddy Co., NA		
Sample: 27	0940 - SB-5 10'					
Laboratory:	Midland					
Analysis:	Chloride (Titration)	Analytic	cal Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82895	Date Ar		2011-07-08	Analyzed By:	AR
Prep Batch:	70311	Sample	Preparation:	2011-07-06	Prepared By:	AR
			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride			3770	mg/Kg	100	4.00
Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (Titration) 82895 70311	Date Ar Sample	Preparation:	SM 4500-Cl B 2011-07-08 2011-07-06	Prep Method: Analyzed By: Prepared By:	N/A AR AR
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride			559	mg/Kg	50	4.00
Sample: 27 Laboratory:	0942 - SB-5 20' Midland					
Analysis:	Chloride (Titration)		cal Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	82928	Date A		2011-07-11	Analyzed By:	AR
Prep Batch:	70311	Sample	Preparation:	2011-07-06	Prepared By:	AR
			RL			
	771	Cert	Result	Units	Dilution	RL
Parameter	Flag	Cert	ræsuit	Omo	Dittion	101.

Sample: 270943 - SB-5 25'

Laboratory: Midland

Chloride (Titration)

Analysis: QC Batch: 82928Prep Batch: 70311

Analytical Method: Date Analyzed: 2011-07-11 Sample Preparation: 2011-07-06

Prep Method: N/A SM 4500-Cl B Analyzed By: AR Prepared By: AR

Report Date: July 18, 2011

114-6400890

Work Order: 11070105 COG/Folk Federal Tank Battery Page Number: 18 of 31 Eddy Co., NM

			m RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride			218	mg/Kg	50	4.00

Sample: 270946 - SB-6 0-1'

Laboratory: Midland

Analysis: Chloride (Titration) QC Batch: 82928 Prep Batch: 70311

Analytical Method: Date Analyzed:

SM 4500-Cl B 2011-07-11 2011-07-06

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

RLResult Dilution RLParameter Flag Cert Units Chloride 5060 mg/Kg 100 4.00

Sample Preparation:

Sample: 270947 - SB-6 3'

Laboratory:

Midland

Analysis: Chloride (Titration) QC Batch: 82928 Prep Batch: 70311

Analytical Method: Date Analyzed:

Sample Preparation:

SM 4500-Cl B 2011-07-11 2011-07-06

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

RLUnits Dilution RLParameter Flag Cert Result Chloride ---10600--------mg/Kg----____100= 4.00

Sample: 270948 - SB-6 5'

Laboratory:

Midland

Analysis: Chloride (Titration) QC Batch: 82928 Prep Batch: 70311

Analytical Method: Date Analyzed:

Sample Preparation:

SM 4500-Cl B 2011-07-11 2011-07-06

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

RLCert Units Dilution RLParameter Flag Result Chloride 782 100 4.00 mg/Kg

114-6400890	: July 18, 2011		Order: 11070 Federal Tan		Page Number: 19 of 31 Eddy Co., NM		
Sample: 270	0949 - SB-6 7'						
Laboratory:	Midland						
Analysis:	Chloride (Titration)		al Method:	SM 4500-Cl B	Prep Method:	N/A	
QC Batch:	82928	Date An		2011-07-11	Analyzed By:	AR	
Prep Batch:	70311	Sample I	Preparation:	2011-07-06	Prepared By:	AR	
			RL				
Parameter	Flag	Cert	Result	Units	Dilution	RL	
Chloride			1360	mg/Kg	100	4.00	
a 1 om	0070 CD 4 101						
Sample: 27	0950 - SB-6 10'						
Laboratory:	Midland						
Analysis:	Chloride (Titration)		al Method:	SM 4500-Cl B	Prep Method:	N/A	
QC Batch:	82928	Date An		2011-07-11	Analyzed By:	AR	
Prep Batch:	70311	Sample I	Preparation:	2011-07-06	Prepared By:	AR	
			RL				
Parameter	Flag	Cert	Result	Units	Dilution	RL	
Chloride			752	mg/Kg	100	4.00	
Sample: 270 Laboratory: Analysis: QC Batch: Prep Batch:	0951 - SB-6 15' Midland Chloride (Titration) 82928 70311	Date An	al Method: alyzed: Preparation:	SM 4500-Cl B 2011-07-11 2011-07-06	Prep Method: Analyzed By: Prepared By:	N/A AR AR	
		•	_		7		
-			RL				
Parameter	Flag	Cert	Result	Units	Dilution	RL	

Analytical Method:

Sample Preparation: 2011-07-06

Date Analyzed:

SM 4500-Cl B

2011-07-11

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Sample: 270952 - SB-6 20'

82928

Chloride (Titration)

Laboratory: Midland

Prep Batch: 70311

Analysis:

QC Batch:

114-6400890

Work Order: 11070105 COG/Folk Federal Tank Battery Page Number: 20 of 31

Eddy Co., NM

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

Sample: 270953 - SB-6 25'

Laboratory: Midland

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

82928

70311

Analytical Method: Date Analyzed:

SM 4500-Cl B 2011-07-11 Sample Preparation: 2011-07-06

Prep Method: N/A

Analyzed By: ARPrepared By: AR

RLResult Units Dilution RLParameter Flag Cert Chloride 396 mg/Kg 50 4.00

114-6400890

Work Order: 11070105 COG/Folk Federal Tank Battery Page Number: 21 of 31 Eddy Co., NM

Method Blanks

Method Blank (1)

QC Batch: 82892

QC Batch: 82892 Prep Batch: 70311 Date Analyzed: 2011-07-08 QC Preparation: 2011-07-06 Analyzed By: AR Prepared By: AR

Method Blank (1)

QC Batch: 82893

QC Batch: 82893 Prep Batch: 70311 Date Analyzed: 2011-07-08 QC Preparation: 2011-07-06 Analyzed By: AR Prepared By: AR

Method Blank (1) QC Batch: 82894

QC Batch: 82894 Prep Batch: 70311 Date Analyzed: QC Preparation: 2011-07-08 2011-07-06 Analyzed By: AR Prepared By: AR

Method Blank (1)

QC Batch: 82895

QC Batch: 82895 Prep Batch: 70311 Date Analyzed: 2011-07-08 QC Preparation: 2011-07-06 Analyzed By: AR Prepared By: AR

114-6400890

Work Order: 11070105 COG/Folk Federal Tank Battery Page Number: 22 of 31

Eddy Co., NM

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

Method Blank (1)

QC Batch: 82928

QC Batch: Prep Batch: 70311

82928

Date Analyzed:

2011-07-11 QC Preparation: 2011-07-06 Analyzed By: AR

Prepared By: AR

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

Method Blank (1)

QC Batch: 83123

QC Batch: Prep Batch: 70604

83123

Date Analyzed:

QC Preparation: 2011-07-14

2011-07-14

Analyzed By: AR

Prepared By: AR

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

114-6400890

--- Work Order: 11070105-COG/Folk Federal Tank Battery Page Number: 23 of 31

Eddy Co., NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch:

82892

Date Analyzed:

2011-07-08

Analyzed By: AR

Prep Batch: 70311

QC Preparation: 2011-07-06

Prepared By: AR

			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	C	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride			96.3	mg/Kg	1	100	< 3.85	96	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	8	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:

Date Analyzed:

2011-07-08

Analyzed By: AR

Prep Batch: 70311

QC Preparation: 2011-07-06

Prepared By: AR

	LCS			Spike	Matrix		Rec.
-Param-F-C-	Result=	Units	-Dil	Amount	=Result=	Rec	Limit
Chloride	97.5	mg/Kg	1	100	<3.85	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	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			108	mg/Kg	1	100	< 3.85	108	85 - 115	10	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: 70311

82894

Date Analyzed:

2011-07-08

QC Preparation: 2011-07-06

Analyzed By: AR

Prepared By: AR

114-6400890

Work Order: 11070105 COG/Folk Federal Tank Battery Page Number: 24 of 31

Eddy Co., NM

			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		,	96.7	mg/Kg	1	100	< 3.85	97	85 - 115

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

			LCSD			$_{ m Spike}$	Matrix		Rec .		RPD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			103	mg/Kg	1	100	< 3.85	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:

82895

Date Analyzed:

2011-07-08

Analyzed By: AR

Prep Batch: 70311

QC Preparation: 2011-07-06

Prepared By: AR

			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	97.0	mg/Kg	1	100	< 3.85	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	F	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			104	mg/Kg	1	100	< 3.85	104	85 - 115	7	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:

82928

Date Analyzed:

2011-07-11

Analyzed By: AR

Prep Batch: 70311

QC Preparation: 2011-07-06

Prepared By: AR

			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride			97.8	mg/Kg	1	100	< 3.85	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	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			104	mg/Kg	1	100	< 3.85	104	85 - 115	6	20

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

114-6400890

Work Order: 11070105 COG/Folk Federal Tank Battery Page Number: 25 of 31 Eddy Co., NM

Laboratory Control Spike (LCS-1)

QC Batch: Prep Batch:

83123 70604 Date Analyzed: QC Preparation:

2011-07-14

2011-07-14

Analyzed By: AR Prepared By: AR

LCS F \mathbf{C} Result

Spike Units Dil. Amount

Matrix Result

< 3.85

85 - 115

Rec. Rec. Limit

Param Chloride

Chloride

98.0 mg/Kg

LCSD Param C Result

Spike Matrix Dil. Amount Units Result 100

Rec. < 3.85 102

100

RPD Rec. RPD Limit

98

Limit 20

85 - 115

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

102

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

Matrix Spike (MS-1)

Spiked Sample: 270908

QC Batch:

82892

Date Analyzed:

2011-07-08

Analyzed By: AR

Prep Batch:

70311

QC Preparation:

mg/Kg

2011-07-06

Prepared By: AR

100

1

			MS			Spike	Matrix		Rec .
Param	\mathbf{F}	C	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride			21400	mg/Kg	100	10000	10400	110	80 - 120

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

Param Chloride

MSD F C Result Units Dil Amount Result 22200 mg/Kg

Spike 10000 10400

Matrix Rec.

118

RPD

Rec. -Limit - RPD - Limit 80 - 120 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: 270918

QC Batch:

82893

Date Analyzed:

2011-07-08

Analyzed By: AR

Prep Batch: 70311

Param

QC Preparation:

2011-07-06

Prepared By: AR

MS Spike Matrix Rec. F C Result Units Dil. Amount Result Limit Rec. Chloride 12200 10000 2710 mg/Kg 100 95 80 - 120

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

114-6400890

Work Order: 11070105 COG/Folk Federal Tank Battery Page Number: 26 of 31

Eddy Co., NM

			MSD			Spike	Matrix		Rec.		RPD
Param	F	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			12500	mg/Kg	100	10000	2710	98	80 - 120	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: 270928

QC Batch:

82894

Date Analyzed:

2011-07-08

Analyzed By: AR

Prep Batch: 70311

QC Preparation: 2011-07-06

Prepared By: AR

			MS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride			12400	mg/Kg	100	10000	1270	111	80 - 120

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

			MSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			12700	mg/Kg	100	10000	1270	114	80 - 120	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: 270941

QC Batch:

82895

Date Analyzed:

2011-07-08

Analyzed By: AR

Prep Batch: 70311

QC Preparation: 2011-07-06

A CONTROL OF THE THE CONTROL OF THE

Prepared By: AR

			MS			Spike	Matrix		Rec.
Param	\mathbf{F}	\boldsymbol{C} .	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride			11500	mg/Kg	100	10000	559	109	80 - 120

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

			MSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			10800	mg/Kg	100	10000	559	102	80 - 120	6	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: 270953

QC Batch: Prep Batch: 70311

82928

Date Analyzed:

2011-07-11

QC Preparation: 2011-07-06

Analyzed By: AR Prepared By: AR

114-6400890

Work Order: 11070105 COG/Folk Federal Tank Battery Page Number: 27 of 31

Eddy Co., NM

			MS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride			10800	mg/Kg	100	10000	<385	104	80 - 120

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

			MSD			$_{ m Spike}$	Matrix		Rec.		RPD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			11400	mg/Kg	100	10000	<385	110	80 - 120	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: 270916

QC Batch:

83123

Date Analyzed:

2011-07-14

Analyzed By: AR

Prep Batch: 70604

QC Preparation: 2011-07-14

Prepared By: AR

			MS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride			9930	mg/Kg	100	10000	<385	97	80 - 120

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

			MSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			10200	mg/Kg	100	10000	<385	100	80 - 120	3	20

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

Report Date: July 18, 2011 114-6400890

Work Order: 11070105 COG/Folk Federal Tank Battery Page Number: 28 of 31 Eddy Co., NM

Calibration Standards

Standard (ICV-1)

QC Batch: 82892

Date Analyzed: 2011-07-08

Analyzed By: AR

				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			mg/Kg	100	102	102	85 - 115	2011-07-08

Standard (CCV-1)

QC Batch: 82892

Date Analyzed: 2011-07-08

Analyzed By: AR

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			mg/Kg	100	97.9	98	85 - 115	2011-07-08

Standard (ICV-1)

QC Batch: 82893

Date Analyzed: 2011-07-08

Analyzed By: AR

				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			mg/Kg	100	94.4	94	85 - 115	2011-07-08

Standard (CCV-1)

QC Batch: 82893

Date Analyzed: 2011-07-08

Analyzed By: AR

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			mg/Kg	100	106	106	85 - 115	2011-07-08

114-640089	ate:-July 18,-2011 90				er: 11070105 eral Tank Batte			mber: 29 c Eddy Co.,
Standard	(ICV-1)							
QC Batch:	82894		Date A	nalyzed:	2011-07-08		Analy	zed By:
				ICVs	ICVs	ICVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analy:
Chloride			mg/Kg	100	98.9	99	85 - 115	2011-0
Standard	(CCV-1)							
QC Batch:	82894		Date A	nalyzed:	2011-07-08		Analy	zed By:
				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Dat
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analy
Chloride	1105		mg/Kg	100	101	101	85 - 115	2011-0
	(ICV-1)		•		,			
Standard	,		5 . 4					
Standard QC Batch:	,		Date A	nalyzed:	2011-07-08		Analy	zed By:
	,		Date A	nalyzed:	2011-07-08 ICVs	ICVs	Analy Percent	zed By:
	82895		Date A			ICVs Percent	_	-
QC Batch:	,	Cert	Units	ICVs True Conc.	ICVs Found Conc.	Percent Recovery	Percent Recovery Limits	Dat Analy
QC Batch:	82895	Cert		ICVs True	ICVs Found	Percent	Percent Recovery	Dat Analy
QC Batch:	82895	Cert	Units	ICVs True Conc.	ICVs Found Conc.	Percent Recovery	Percent Recovery Limits	Dat Analy
QC Batch:	82895 Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	Percent Recovery	Percent Recovery Limits	Dat Analy
QC Batch: Param Chloride	82895 Flag (CCV-1)	Cert	Units mg/Kg	ICVs True Conc.	ICVs Found Conc.	Percent Recovery	Percent Recovery Limits 85 - 115	Dat Analy 2011-0
QC Batch: Param Chloride Standard	82895 Flag (CCV-1)	Cert	Units mg/Kg	ICVs True Conc. 100 nalyzed:	ICVs Found Conc. 99.5	Percent Recovery 100	Percent Recovery Limits 85 - 115 Analy Percent	Dat Analy 2011-0
QC Batch: Param Chloride Standard QC Batch:	Flag (CCV-1) 82895		Units mg/Kg Date A	ICVs True Conc. 100 nalyzed: CCVs True	ICVs Found Conc. 99.5 2011-07-08 CCVs Found	Percent Recovery 100 CCVs Percent	Percent Recovery Limits 85 - 115 Analy Percent Recovery	Dat Analy 2011-0' zed By:
QC Batch: Param Chloride Standard	82895 Flag (CCV-1)	Cert	Units mg/Kg	ICVs True Conc. 100 nalyzed:	ICVs Found Conc. 99.5	Percent Recovery 100	Percent Recovery Limits 85 - 115 Analy Percent	Dat Analy 2011-0' zed By: Dat Analy 2011-0'

Standard (ICV-1)

QC Batch: 82928 Date Analyzed: 2011-07-11 Analyzed By: AR

Param Chloride	Flag			ICVs	ICVs	ICVs	Percent	
	Flag	~ .						
	Flag			True	Found	Percent	Recovery	
Chloride		Cert	Units	Conc.	Conc.	Recovery	Limits	
			mg/Kg	100	93.9	94	85 - 115	
Standard (C	CCV-1)							
QC Batch: 8	32928		Date A	nalyzed: 2	011-07-11		Analy	zec
				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	
Chloride	· · ·		mg/Kg	100	106	400		
			mg/ reg	100	100	106	85 - 115	_
Standard (IOQC Batch: 8	r				011-07-14		85 - 115 Analy	zec
·	r			.nalyzed: 2	011-07-14		Analy	zed
·	r			.nalyzed: 2 ICVs	011-07-14 ICVs	ICVs	Analy Percent	
,	r	Cert		.nalyzed: 2	011-07-14		Analy	

CCVs True

Conc.

100

Flag

Cert

Units

mg/Kg

Param

 $\overline{\text{Chloride}}$

 CCVs

Found

Conc.

99.3

CCVs

Percent

Recovery

99

Percent Recovery Limits

85 - 115

Date

Analyzed

2011-07-14

Report Date: July 18, 2011 Work Order: 11070105 Page Number: 31 of 31 114-6400890 COG/Folk Federal Tank Battery Eddy Co., NM

Appendix

Laboratory Certifications

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

Standard Flags

- F Description
- B Analyte detected in the corresponding method blank above the method detection limit
- H Analyzed out of hold time
- J Estimated concentration
- Jb The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
- Je Estimated concentration exceeding calibration range.
- 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.

xwo #: 11070105

Analysis Request	of Chain of Custody	Re	CC	ore	d	Ţ							PAC	E:	\bot		OF	:	8	2
						\dashv				(C					UES letho)			
	ETRA TECH 910 N. Big Spring St. Midland, Texas 79705 132) 682-4559 • Fax (432) 682-3946						05 (Ext. to C35)	Cd Cr Pb Hg Se	≽ Bd				19					pH, TDS		
CLIENT NAME:	SITE MANAGER: The Taures	NERS		SER	VATIV IOD	Έ	TX1005	As Ba C	B B			60/624	8270/625							
PROJECT NO.: PROJECT NAME:	1K Federal TB	P CONTA (Y/N)					MOD.	8	161	les		8240/82	i. Vol. 8	8 8	ا ا	(Air)	stos)	is/Catto		
LAB I.D. DATE TIME XX HUNDS GOVERN	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS FILTERED (Y/N)	HCL HN03	ICE	NONE	BTEX 8021B	TPH 8015	RCRA Metals	TCLP Metals A	TCLP Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Sen	Pest. 808/608	Chlorides	Alpha Beta (Air)	PLM (Asbes	Major Anions/Cations,		
27089 6/28 S X SB	-1 0-1'			X											X					
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901	5'	1													X					
902	7'	1													X					
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RECEIVING LABORATORY: TRACE ADDRESS: TRACE CITY: VITOLAND STATE: TX ZIP: CONTACT: PHONE:	DATE:	тіме:							I]e •	e 	Ta	alk	, .c.	-		RUSI- Autho Ye	l Char orized: es	ges N	ю.
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XW0#:11070105

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							1910 N. Big Sp Midland, Texas (432) 682-4559 • Fa	ring St. 79705								- 1	Jo (EXT. 10 C.35)	Cd Cr Pb Hg Se	Cd Vr Pd Hg Se										pH, TDS		
CLIENT NAM		26					SITE MANAGER: Le Ta	carea	INERS		PF		THO	VITA OC	E	- 1	17100	As Ba C	Ba		S.	260/624	8270/625						ns, pH,		
PROJECT N	0.: 4C	208	390	PR	O)	ECT	NAME: 1 Folk Feleal	TB	CONT	Î,						m 6		2	Ag Ag	səl	Volatile	8240/8	ıi. Vol. 8	809/	8) File	stos)	ns/Catic		
LAB I.D. NUMBER	DA 20	ATE P()		IJ	COMP.		Eddy	CO., NM DENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	1 E	HNO3	SE.	NONE		~ I	PAH 8270	RCRA Metals	TCLP Metals	TCLP Volatiles	ICLP Semi Volatiles	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol.	PCB's 8080/608	Pest. 808/608	Gamma So	Alpha Beta (Air)	PLM (Asbestos)	Major Anior		
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		J				··· /*			y						\dashv					(C				-		EST lhod)			
							1910 N. Big S Midland, Texa (432) 682-4559 • F	öring St. \$ 79705								5 (Ext. to C35)	1	P C	Vr Pd Hg							t			TDS		
CLIENT NAM	AE:	7	-				SITE MANAGER:	avart	one	SEL SEL	F		SER\ ETH	/ATIVI OD		TX1005		æ	Ba G			60/624	8270/625		ľ				ns, pH, TDS		
PROJECT N	0.:		390	PR	(O)	ECT O	NAME: FOLK Fede	11	i de	2						8015 MOD.		PB	ls Ag As	les Votatiles	Volgalies	8240/82		909		ن	(Air)	tos)	s/Catio		
LAB I.D. NUMBER	DA	ATE Ol		MATRIX	COMP	GRAB	Edo	G., NM IDENTIFICATION	NI MOED OF CONTAINED	FILTERED (Y/N)	¥ČL	HNO3	ICE	NONE	DTEV 0004D	TPH 8015	Ιœ	RCRA Metals	TCLP Metals /	TCI P Somi Votatiles	RCI Sellin	GC.MS Vol. 8240/	GC.MS Semi. Vol.	PCB's 8080/608	Pest. 808/608	Gamma Spec.	Alpha Beta (Air)	PLM (Asbes	Major Anlons/Cations,		
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XW0#: 11070105

Analysis Request of Ch	ain of Custody	Re	Э С	0	rd								PAGI	Ē:	4	4	OF:	4	2
										(C					JEST thod	No.)			
1910 N. Big Midland, To (432) 682-455	xas 79705 • Fax (432) 682-3946						05 (Ext. to C35)	Cd Or Pb Hg Se	Cd Vr Pd Hg Se								pH, TDS		
CLIENT NAME: SITE MANACE SITE	Tavace	NERS	Р		RVATI THOD		TX1005	As Ba C	As Ba C			260/624	270/2				ns, pH,		
PROJECT NO.: PROJECT NAME: PROJECT NAME: PROJECT NAME: PROJECT NAME:	20/ TB	F CONTA (Y/N)		T			5 MOD.			iles		8240/8	7608 7608	80		(Air)	ns/Catio		
IABID X .	LE IDENTIFICATION	NUMBER OF CONTAINERS FILTERED (Y/N)	HC.	HNO3	NONE	BTEX 8021B	TPH 8015	PAH 8270 RCRA Metals Ag	TCLP Metals Ag	TCLP Volatiles TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	PCB's 808(Pest, 808/608	Calloride Gamma Spec.	Alpha Beta (Air)	Major Anions/Cations,		
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2010 # 11070105

Analysis Request of Chai	n of Custody	Re)C	0	rd									PA	GE:		2	5	OF:	_	0
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TETRA 7 1910 N. Big Sp Midland, Texas (432) 682-4559 • F	ring St. 79705						1 1	5 (Ext. to C35)	d Cr Pb Hg Se	Vr Pd Hg									SQ		
CLIENT NAME: SITE MANAGER:	avare	NEHS	PF		ERVA	TIVE		TX1005	rg l	s Ba Cd			60/624	270/625					ns, pH, TDS		
PROJECT NO.: PROJECT NAME: POLICE FOLICE	1 TB	Y/N)			Ī			MOD.	Is Ag A	us Ag As	Volatiles		8240/82	ni. Vol. 8	809/	3	Sc.	(Air)	stos) 1s/Catio		
Eddy Eddy	AVARE I TB Co., NM DENTIFICATION	NUMBEH OF	HCL HCL	HNO3	35 SE	NONE	1~1	TPH 8015 PAH 8270	RCRA Metals Ag As B	TCLP Metals Ag	TCLP Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Sen	PCB's 8080/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Aspestos) Major Anions/Cations,		
270936 6/29 S X SB-5 0-1					X											X					
937 640 3'		Ш			\coprod											X					
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XW0 #: 11070105

Analysis Reques	t of Chain of Custo	dy Record		P/	AGE:	9 OF: 6
			-		IS REQUEST ecify Method N	lo.)
	TETRA TECH 1910 N. Big Spring St. Midland, Texas 79705 (432) 682-4559 • Fax (432) 682-3946		005 (Ext to C35) Cd Cr Pb Hg Se Cd Vr Pd Hg Se			TDS
CLIENT NAME:	SITE MANAGER: The Tames	PRESERVATIVE METHOD		es 3260/624 8270/625		ions, pH,
PROJECT NO.: PROJECT NAM 14-6400890 COG 1	FOIK FEDERAL TB	PRESERVATIVE METHOD	MOD.	Volatiles 8240/82	/608 08 3c.	
LAB I.D. DATE TIME XI WOOD OF THE PARTY OF T	SAMPLE IDENTIFICATION	NUMBER OF CO FILTERED (Y/N) HCL HNO3 ICE	BTEX 8021B TPH 8015 MOD. PAH 8270 RCRA Metals Ag A	TCLP Volatiles TCLP Semi Volatiles RCI GC.MS Vol. 8240/8260/624 GC.MS Semi. Vol. 8270/625	PCB's 8080/60 Pest. 808/608 Chloride Gamma Spec.	Aipha Beta (Arr) PLM (Asbestos) Major Anions/Ca
27 6/29 S X S	860-1	N X			X	
CAST CAST CAST CAST CAST CAST CAST CAST	3'	1 1			X	
OH8 (1994)	5'	N			X	
OFF. COMPANY	71				X	
950	10'	1			X	
The Control of the Co	15'	1			X	
Company	20'	N I I			X	
200300	25'				X	
954 (100)	30'					
	40'					
RELINQUISHED BY: (Signature) RELINQUISHED BY: (Signature) Date: Time: Time:	1645 RESERVED ST. (Signature)	Date:	SAMPLE SH	Y: (Print & Initial) PPED BY: (Circle) BUS	Al	Date: 6/30/// Time: 6/30/// RBILL #:
RELINQUISHED BY: (Signature) Date: Time:		Date: Time:	TETRA TECH	IVERED UPS I CONTACT PERSON		Results by:
CONTACT: PHONE:	RECEIVED BY: (Signature) ZIP: DATE:	TIME:		ke Tavar	<i>o</i> -	RUSH Charges Authorized: Yes No
SAMPLE CONDITION WHEN RECEIVED: SAMPLE CONDITION WHEN RECEIVED: ACL Please fill out all copies a Labor	REMARKS: atory retains Yellow copy - Return Orginal copy	to Tetra Tach - Project Manage	retaine Pink Con	v - Accounting	receives Colo	LCON

Report-Date: June 1, 2011 Work Order:-11051609 Page Number: 1 of 3

Summary Report

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

Report Date: June 1, 2011

Work Order: 11051609

Project Location: Eddy Co., NM

Project Name: COG/Folk Federal Tank Battery

Project Number: 114-6400890

			Date	\mathbf{Time}	Date
\mathbf{Sample}	Description	Matrix	Taken	Taken	Received
266551	AH-1 0-0.5'	soil	2011-05-11	00:00	2011-05-16
266552	AH2 0-0.5'	soil	2011-05-11	00:00	2011-05-16
266553	AH-3 0-1'	soil	2011-05-11	00:00	2011-05-16
266554	AH-3 1-1.5'	soil	2011-05-11	00:00	2011-05-16
266555	AH-3 2-2.5'	soil	2011-05-11	00:00	2011-05-16
266556	AH-4 0-1'	soil	2011-05-11	00:00	2011-05-16
266557	AH-5 0-1'	soil	2011-05-11	00:00	2011-05-16
266558	AH-6 0-1'	soil	2011-05-11	00:00	2011-05-16
266559	AH-7 0-1'	soil	2011-05-11	00:00	2011-05-16
266560==	AH-7-1-1.5'	soil	2011-05-11	00:00	2011-05-16
266561	AH-7 2-2.5'	soil	2011-05-11	00:00	2011-05-16
266562	AH-7 2.5-3'	soil	2011-05-11	00:00	2011-05-16
266563	AH-8 0-1'	soil	2011-05-11	00:00	2011-05-16
266564	AH-8 1-1.5'	soil	2011-05-11	00:00	2011-05-16
266565	AH-8 2-2.5'	soil	2011-05-11	00:00	2011-05-16

]	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)
266551 - AH-1 0-0.5'	< 0.0200	0.133	< 0.0200	< 0.0200	<50.0	3.58
266552 - AH2 0-0.5'					< 50.0	< 2.00
266553 - AH-3 0-1'	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 50.0	3.44
266556 - AH-4 0-1'	< 0.100	< 0.100	< 0.100	< 0.100	473	56.3
266557 - AH-5 0-1'				İ	<50.0	< 2.00
266558 - AH-6 0-1'	< 0.0200	< 0.0200	< 0.0200	< 0.0200	< 50.0	< 2.00
266559 - AH-7 0-1'					< 50.0	< 2.00
266563 - AH-8 0-1'					<50.0	< 2.00

Sample: 266551 - AH-1 0-0.5'

	1, 2011	Work Order: 11051609	Page .	Number: 2 of 3
Param	Flag	Result	Units	m RL
Chloride		12400	mg/Kg	4
Sample: 266552				
Param	Flag	Result	Units	. RL
Chloride		19900	mg/Kg	4
Sample: 266553 ·	- AH-3 0-1'			
Param	Flag	Result	Units	RL
Chloride		8590	mg/Kg	4
		Result	Units	RL
Param Chloride Sample: 266555		8260	mg/Kg	4
Chloride Sample: 266555 Param		Result	Units	RL 4
Chloride Sample: 266555	- AH-3 2-2.5' Flag		Units mg/Kg	RL
Chloride Sample: 266555 - Param Chloride Sample: 266556 - Param	- AH-3 2-2.5' Flag	Result 3540 Result	Units mg/Kg Units	RL 4
Chloride Sample: 266555 Param Chloride Sample: 266556	- AH-3 2-2.5' Flag - AH-4 0-1'	Result 3540	Units mg/Kg	RL 4
Chloride Sample: 266555 - Param Chloride Sample: 266556 - Param	- AH-3 2-2.5' Flag - AH-4 0-1' Flag	Result 3540 Result	Units mg/Kg Units	RL 4
Chloride Sample: 266555 - Param Chloride Sample: 266556 - Param Chloride	- AH-3 2-2.5' Flag - AH-4 0-1' Flag	Result 3540 Result 1060	Units mg/Kg Units units mg/Kg	RL 4 RL 4
Chloride Sample: 266555 Param Chloride Sample: 266556 Param Chloride Sample: 266557	- AH-3 2-2.5' Flag - AH-4 0-1' Flag	Result 3540 Result	Units mg/Kg Units	RL 4
Chloride Sample: 266555 Param Chloride Sample: 266556 Param Chloride Sample: 266557	- AH-3 2-2.5' Flag - AH-4 0-1' Flag - AH-5 0-1' Flag	Result 3540 Result 1060	Units mg/Kg Units mg/Kg	RL 4 RL 4
Chloride Sample: 266555 - Param Chloride Sample: 266556 - Param Chloride Sample: 266557 - Param Chloride	- AH-3 2-2.5' Flag - AH-4 0-1' Flag - AH-5 0-1' Flag	Result 3540 Result 1060	Units mg/Kg Units mg/Kg	RL 4 RL 4

Report Date: June 1,	2011	Work Order: 11051609	Page 1	Page Number: 3 of 3	
Sample: 266559 - A	MH-7 0-1'				
Param	Flag	Result	Units	RL	
Chloride		6710	mg/Kg	4	
Sample: 266560 - A	AH-7 1-1.5'				
Param	Flag	Result	Units	RL	
Chloride		5530	mg/Kg	4	
Sample: 266561 - A	AH-7 2-2.5				
Param	Flag	Result	Units	RL	
Chloride		261	mg/Kg	4	
Sample: 266562 - A Param Chloride	AH-7 2.5-3' Flag	Result 1140	Units mg/Kg	RL 4	
Sample: 266563 - A	.H-8 0-1'				
Param	Flag	Result	Units	RL	
Chloride	Flag	8790	mg/Kg		
Sample: 266564 - A	AH-8 1-1.5'				
Param	Flag	Result	Units	RL	
Chloride		7650	mg/Kg	4	
Sample: 266565 - A	AH-8 2-2.5'				
Param	Flag	Result	Units	RL	
Chloride		15400	mg/Kg	4	



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Certifications

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

Analytical and Quality Control Report

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

Report Date: June 1, 2011

Work Order: 11051609

Project Location: Eddy Co., NM

COG/Folk Federal Tank Battery Project Name:

Project Number: 114-6400890

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	Täken	Received
266551	AH-1 0-0.5'	soil	2011-05-11	00:00	2011-05-16
266552	AH2 0-0.5'	soil	2011-05-11	00:00	2011-05-16
266553	AH-3 0-1'	soil	2011-05-11	00:00	2011-05-16
266554	AH-3 1-1.5'	soil	2011-05-11	00:00	2011-05-16
266555	AH-3 2-2.5'	soil	2011-05-11	00:00	2011-05-16
266556	AH-4 0-1'	soil	2011-05-11	00:00	2011-05-16
266557	AH-5 0-1'	soil	2011-05-11	00:00	2011-05-16
266558	AH-6 0-1'	soil	2011-05-11	00:00	2011-05-16
266559	AH-7 0-1'	soil	2011-05-11	00:00	2011-05-16
266560	AH-7 1-1.5'	soil	2011-05-11	00:00	2011-05-16
266561	AH-7 2-2.5'	soil	2011-05-11	00:00	2011-05-16
266562	AH-7 2.5-3'	soil	2011-05-11	00:00	2011-05-16
266563	AH-8 0-1'	soil	2011-05-11	00:00	2011-05-16
266564	AH-8 1-1.5'	soil	2011-05-11	00:00	2011-05-16
266565	AH-8 2-2.5'	soil	2011-05-11	00:00	2011-05-16

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 29 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

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Case Narrative

Samples for project COG/Folk Federal Tank Battery were received by TraceAnalysis, Inc. on 2011-05-16 and assigned to work order 11051609. Samples for work order 11051609 were received intact at a temperature of 3.5 C.

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

		Prep	Prep	$_{ m QC}$	Analysis
Test	Method	Batch	Date	Batch	Date
BTEX	S 8021B	69052	2011-05-17 at 12:30	81336	2011-05-17 at 12:55
Chloride (Titration)	SM 4500-Cl B	69151	2011-05-20 at 10:57	81652	2011-05-26 at 14:23
Chloride (Titration)	SM 4500-Cl B	69151	2011-05-20 at 10:57	81653	2011-05-26 at 14:24
TPH DRO - NEW	S 8015 D	69091	2011-05-18 at 09:14	81382	2011-05-18 at 09:14
TPH GRO	S 8015 D	69052	2011-05-17 at 12:30	81337	2011-05-17 at 15:12

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 11051609 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: June 1, 2011

114-6400890

Work Order: 11051609 COG/Folk Federal Tank Battery Page Number: 6 of 29 Eddy Co., NM

Analytical Report

Sample: 266551 - AH-1 0-0.5'

Laboratory: Midland

Analysis:

BTEX 81336

Analytical Method: Date Analyzed:

S 8021B

2011-05-17

Prep Method: S 5035 Analyzed By: MEME

QC Batch: Prep Batch: 69052

Sample Preparation:

2011-05-17

Prepared By:

			RL.			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Benzene		1	< 0.0200	mg/Kg	1	0.0200
Toluene		1	0.133	mg/Kg	1	0.0200
Ethylbenzene		1	< 0.0200	mg/Kg	1	0.0200
Xvlene		1	< 0.0200	mg/Kg	1	0.0200

						Spike	Percent	Recovery
Surrogate	\mathbf{Flag}	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			2.56	mg/Kg	1	2.00	128	52.8 - 137
4-Bromofluorobenzene (4-BFB)			2.81	mg/Kg	1	2.00	140	38.4 - 157

Sample: 266551 - AH-1 0-0.5'

Laboratory: Midland

Analysis: Chloride (Titration) QC Batch: 81652

Analytical Method: Date Analyzed:

SM 4500-Cl B 2011-05-26

Prep Method: N/A Analyzed By: AR

Prep-Batch: 69151

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride			12400	mg/Kg	100	4.00

Sample: 266551 - AH-1 0-0.5'

Laboratory:

Midland

Analysis: TPH DRO - NEW QC Batch: 81382 Prep Batch: 69091

Analytical Method: Date Analyzed:

S 8015 D 2011-05-18 Sample Preparation: 2011-05-18

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

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

Report Date: June 1, 2011

114-6400890

Work Order: 11051609 COG/Folk Federal Tank Battery Page Number: 7 of 29 Eddy Co., NM

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			102	mg/Kg	1	100	102	70 - 130

Sample: 266551 - AH-1 0-0.5'

Midland Laboratory:

Analysis: TPH GRO 81337 QC Batch: Prep Batch: 69052

Analytical Method: S 8015 D Date Analyzed:

2011-05-17 Sample Preparation: 2011-05-17 Prep Method: S 5035 Analyzed By: ME

RL

2.00

Prepared By: ME

RLCert

Parameter Flag Result Units Dilution GRO 3.58 mg/Kg

						\mathbf{Spike}	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			2.90	mg/Kg	1	2.00	145	48.5 - 152
4-Bromofluorobenzene (4-BFB)			3.02	mg/Kg	1	2.00	151	42 - 159

Sample: 266552 - AH2 0-0.5'

Laboratory: Midland

Prep Batch:

Analysis: Chloride (Titration) QC Batch: 81652 69151

Analytical Method: SM 4500-Cl B Date Analyzed: 2011-05-26 Sample Preparation: 2011-05-20

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

RLCert Result Dilution RLParameter Flag Units Chloride 19900 mg/Kg 100 4.00

Sample: 266552 - AH2 0-0.5'

Laboratory: Midland

Analysis: TPH DRO - NEW QC Batch: 81382 Prep Batch: 69091

Analytical Method: S 8015 D Date Analyzed: 2011-05-18 Sample Preparation: 2011-05-18

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

RLParameter Flag Cert Result Units Dilution RLDRO < 50.0 mg/Kg 50.0

						S	Spike	Percent	
Surrogate	Flag	Cert	Result	Units	Dilu		nount	Recovery	
n-Tricosane			87.5	mg/Kg	1	l	100	88	_
-	6552 - AH2 0-0.5	o'							
Laboratory:	Midland		A 1 C1	3.6.41 . 1	0.001	. D		D 34.41.	
Analysis:	TPH GRO		Analytical		S 801			Prep Metho	
QC Batch:	81337		Date Anal		2011-0			Analyzed B	
Prep Batch:	69052		Sample Pr	eparation	: 2011-0	J5-17		Prepared B	
D		Flag	Cert	D	RL esult	Uni	4 -a	Dilution	
Parameter GRO		riag			(2.00	mg/K		1	
GIO			1			mg/ i	· 8		
							Spike	Percent	
							apike	rercent	
Surrogate		Flag	g Cert l	Result	Units	Dilution	Amount	Recovery	
Trifluorotolue		Flag	g Cert l	2.65	mg/Kg	1	Amount 2.00	Recovery 132	
Trifluorotolue	ene (TFT) robenzene (4-BFB)	Flag	g Cert]	2.65			Amount	Recovery	
Trifluorotolue 4-Bromofluor			Analytical l Date Analy Sample Pre	2.65 2.68 Method: zed:	mg/Kg	1 1 8 5-17	Amount 2.00	Recovery 132 134 Prep Method Analyzed B	,
Trifluorotolus 4-Bromofluor Sample: 26 Laboratory: Analysis: QC Batch: Prep Batch:	6553 - AH-3 0-1' Midland BTEX 81336		Analytical l Date Analy Sample Pre	2.65 2.68 Method: zed: paration:	mg/Kg mg/Kg S 80211 2011-05 2011-05 RL	1 1 8 5-17 5-17	Amount 2.00 2.00	Prep Metho Analyzed B Prepared B	
Trifluorotoluc 4-Bromofluor Sample: 26 Laboratory: Analysis: QC Batch: Prep Batch:	6553 - AH-3 0-1' Midland BTEX 81336		Analytical I Date Analy Sample Pre	2.65 2.68 Method: zed: paration:	mg/Kg mg/Kg S 80211 2011-05 2011-05 RL Result	1 1 8 5-17 5-17 Unit	Amount 2.00 2.00	Recovery 132 134 Prep Metho Analyzed B Prepared B Dilution	
Trifluorotolus 4-Bromofluor Sample: 26 Laboratory: Analysis: QC Batch: Prep Batch: Parameter Benzene	6553 - AH-3 0-1' Midland BTEX 81336		Analytical I Date Analy Sample Pre	2.65 2.68 Method: zed: paration:	S 80211 2011-05 2011-05 RL Result	1 1 3-17 5-17 Unit	Amount 2.00 2.00 2.00	Prep Metho Analyzed B Prepared B Dilution	
Trifluorotoluc 4-Bromofluor Sample: 26 Laboratory: Analysis: QC Batch: Prep Batch:	6553 - AH-3 0-1' Midland BTEX 81336 69052		Analytical I Date Analy Sample Pre	2.65 2.68 Method: zed: paration: F <0 <0	mg/Kg mg/Kg S 80211 2011-05 2011-05 RL Result	1 1 8 5-17 5-17 Unit	Amount 2.00 2.00	Recovery 132 134 Prep Metho Analyzed B Prepared B	

Flag

 Cert

Result

2.44 2.65 Units

mg/Kg mg/Kg Dilution

1 1 Amount

2.00 2.00 Recovery

122 132 Limits

52.8 - 137 38.4 - 157

Surrogate

Trifluorotoluene (TFT)
4-Bromofluorobenzene (4-BFB)

COG/Folk Federal Tank Battery Eddy Co., NM 114-6400890 Sample: 266553 - AH-3 0-1' Midland Laboratory: Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A Analyzed By: AR QC Batch: 81652 Date Analyzed: 2011-05-26 Prep Batch: 69151 Sample Preparation: 2011-05-20 Prepared By: AR RLDilution RLParameter Flag Cert Result Units Chloride 8590 mg/Kg 100 4.00 Sample: 266553 - AH-3 0-1' Midland Laboratory: TPH DRO - NEW S 8015 D Prep Method: N/A Analysis: Analytical Method: QC Batch: 81382 Analyzed By: Date Analyzed: 2011-05-18 kg Prep Batch: 69091 Sample Preparation: 2011-05-18 Prepared By: kg RLCert Result Units Dilution RLParameter Flag DRO <50.0 mg/Kg 50.0 Percent Spike Recovery Flag Cert Result Units Dilution Amount Recovery Limits Surrogate 100 88 70 - 130 n-Tricosane 87.5 mg/Kg 1 Sample: 266553 - AH-3 0-1' Laboratory: Midland TPH GRO S 8015 D S 5035 Analysis: Analytical Method: Prep Method: QC Batch: 81337 2011-05-17 Analyzed By: ME Date Analyzed: Prep Batch: 69052 Sample Preparation: 2011-05-17 Prepared By: ME RLResult Dilution RLParameter Flag Cert Units

3.44

Units

mg/Kg

mg/Kg

1

Cert

Result

2.76

2.97

Flag

mg/Kg

Dilution

1

1

Spike

Amount

2.00

2.00

Percent

Recovery

138

148

Work Order: 11051609

Report Date: June 1, 2011

GRO

Surrogate

Trifluorotoluene (TFT)

4-Bromofluorobenzene (4-BFB)

Page Number: 9 of 29

2.00

Recovery

Limits

48.5 - 152

42 - 159

Report Date 114-6400890	: June 1, 2011	Work COG/Folk		Page Number: 10 of 29 Eddy Co., NM			
Sample: 26	6554 - AH-3 1-1.5'						
Laboratory:	Midland						
Analysis:	Chloride (Titration)		al Method:	SM 4500-Cl B	Prep Method:	N/A	
QC Batch:	81652	•		2011-05-26	Analyzed By:	AR	
Prep Batch:	69151	•		2011-05-20	Prepared By:	AR	
			RL				
Parameter	Flag	Cert	Result	Units	Dilution	RL	
Chloride			8260	mg/Kg	100	4.00	
Sample: 26	6555 - AH-3 2-2.5'						
Laboratory:	Midland						
Analysis:	Chloride (Titration)	Analytic	al Method:	SM 4500-Cl B	Prep Method:	N/A	
		· · ·	. 1		4 1 1 73		
QC Batch:	81652	Date An	aıyzea:	2011-05-26	Analyzed By:	AR	
QC Batch: Prep Batch:	81652 69151		aryzea: Preparation:	2011-05-26 2011-05-20	Analyzed By: Prepared By:	AR AR	

Result

3540

Units

mg/Kg

Dilution

100

Cert

Flag

RL

4.00

Parameter

Chloride

Laboratory: Midland								
Analysis: BTEX		Analytica	l Method	: S 80211	В		Prep Metho	d: S 5035
QC Batch: 81336		Date Ana	lyzed:	2011-05	5-17		Analyzed B	y: ME
Prep Batch: 69052		Sample P	reparatio	n: 2011-05	5-17		Prepared B	y: ME
				RL				
Parameter	Flag	Cert		Result	Unit	s	Dilution	RL
Benzene		1		< 0.100	mg/K	g	5	0.0200
Toluene		1		< 0.100	mg/K	g	5	0.0200
Ethylbenzene		1		< 0.100	mg/K	g	5	0.0200
Xylene		1		< 0.100	mg/K	g	5	0.0200
						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			5.90	mg/Kg	5	5.00	118	52.8 - 137
4-Bromofluorobenzene (4-BFB)			6.54	mg/Kg	5	5.00	131	38.4 - 157

Report Date: June 1, 2011

Work Order: 11051609

Page Number: 11 of 29

114-6400890

COG/Folk Federal Tank Battery

Eddy Co., NM

Sample: 266556 - AH-4 0-1'

Laboratory:

Midland

Analysis: QC Batch:

Chloride (Titration)

81652 Prep Batch: 69151

Analytical Method: Date Analyzed: Sample Preparation: SM 4500-Cl B 2011-05-26

Prep Method: N/A Analyzed By:

2011-05-20

AR Prepared By: AR

RLCert Result

Flag Parameter Chloride

Dilution RLUnits mg/Kg 100 4.00

Sample: 266556 - AH-4 0-1'

Laboratory:

Midland

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

81382 69091 Analytical Method:

S 8015 D 2011-05-18 Prep Method: N/A

Date Analyzed: Sample Preparation: 2011-05-18

1060

Analyzed By: Prepared By:

RL Flag Parameter Cert Result Units Dilution RLDRO 473 mg/Kg 50.0 1

~		~		**	D11 (1	Spike	Percent	Recovery
Surrogate	\mathbf{Flag}	Cert	Result	Units	Dilution	Amount	Recovery	Limits
n-Tricosane			175	mg/Kg	1	100	175	70 - 130

Sample: 266556 - AH-4 0-1'

Laboratory: Midland

Analysis: TPH GRO QC Batch: 81337 Prep Batch: 69052

Analytical Method: Date Analyzed:

S 8015 D 2011-05-17 Sample Preparation: 2011-05-17 Prep Method: S 5035 Analyzed By: ME Prepared By: ME

RL Dilution Result Parameter Flag Cert Units RLGRO 56.3 2.00 mg/Kg 5

						Spike	Percent	Recovery
Surrogate	\mathbf{Flag}	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			6.69	mg/Kg	5	5.00	134	48.5 - 152
4-Bromofluorobenzene (4-BFB)			6.76	mg/Kg	5	5.00	135	42 - 159

Report Date: June 1, 2011 Work Order: 11051609 Page Number: 12 of 29 114-6400890 COG/Folk Federal Tank Battery Eddy Co., NM Sample: 266557 - AH-5 0-1' Laboratory: Midland Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A Analyzed By: QC Batch: 81652 Date Analyzed: 2011-05-26 AR Prep Batch: 69151 Sample Preparation: 2011-05-20 Prepared By: AR RLParameter Flag Cert Result Units Dilution RLChloride 2870 mg/Kg 100 4.00 Sample: 266557 - AH-5 0-1' Laboratory: Midland Analysis: TPH DRO - NEW Analytical Method: S 8015 D Prep Method: N/A QC Batch: Date Analyzed: 2011-05-18 81382 Analyzed By: kg Prep Batch: Sample Preparation: 2011-05-18 Prepared By: 69091 kg RLFlag Cert Result Units Dilution RLParameter <50.0 DRO mg/Kg 50.0 Spike Percent Recovery Surrogate Flag Cert Result Units Dilution Amount Recovery Limits mg/Kg 70 - 130 n-Tricosane 89.8 1 100 90

Sample:	266557 ·	- AH-5 0-1'
---------	-----------------	-------------

Parameter

GRO

-Laboratory: Midland Analysis: TPH GRO QC Batch: 81337 Prep Batch: 69052

Flag

Analytical Method: S 8015 D 2011-05-17 Date Analyzed: Sample Preparation: 2011-05-17

RLCert Result Dilution Units RL< 2.00 mg/Kg 2.00

Prep Method:

Analyzed By:

Prepared By:

S 5035

ME

ME

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.61	mg/Kg	1	2.00	130	48.5 - 152
4-Bromofluorobenzene (4-BFB)			2.62	mg/Kg	1	2.00	131	42 - 159

1

Report Date: June 1, 2011 114-6400890

Work Order: 11051609 COG/Folk Federal Tank Battery Page Number: 13 of 29 Eddy Co., NM

Sample: 266558 - AH-6 0-1'

Laboratory: Midland

Analysis: BTEX QC Batch: 81336 Prep Batch: 69052

Analytical Method: S 8021B Date Analyzed: 2011-05-17 Sample Preparation: 2011-05-17

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

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Benzene		1	< 0.0200	mg/Kg	1	0.0200
Toluene		1	< 0.0200	mg/Kg	1	0.0200
Ethylbenzene		1	< 0.0200	mg/Kg	1	0.0200
Xylene		1	< 0.0200	mg/Kg	11	0.0200

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			2.43	mg/Kg	1	2.00	122	52.8 - 137
4-Bromofluorobenzene (4-BFB)			2.62	mg/Kg	1	2.00	131	38.4 - 157

Sample: 266558 - AH-6 0-1'

Laboratory: Midland

Analysis: Chloride (Titration) QC Batch: 81652 Prep Batch: 69151

Analytical Method: Date Analyzed: Sample Preparation:

SM 4500-Cl B 2011-05-26 2011-05-20

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

			RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride			9950	mg/Kg	100	4.00

Sample: 266558 - AH-6 0-1'

Laboratory:

Midland

TPH DRO - NEW Analysis: QC Batch: 81382 Prep Batch: 69091

Analytical Method: Date Analyzed:

S 8015 D 2011-05-18 Sample Preparation: 2011-05-18 Prep Method: N/A Analyzed By: kg Prepared By:

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

						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
n-Tricosane			87.7	mg/Kg	1	100	88	70 - 130

COG/Folk Federal Tank Battery Eddy Co., NM 114-6400890 Sample: 266558 - AH-6 0-1' Laboratory: Midland Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035 Analyzed By: QC Batch: 81337 Date Analyzed: 2011-05-17 MESample Preparation: Prepared By: Prep Batch: 69052 2011-05-17 ME RLDilution Parameter Flag Cert Result Units RLGRO < 2.00 2.00 mg/Kg 1 Spike Percent Recovery Surrogate Flag Cert Result Units Dilution Amount Recovery Limits Trifluorotoluene (TFT) 2.75 mg/Kg 1 2.00 138 48.5 - 152 2.00 136 42 - 159 4-Bromofluorobenzene (4-BFB) 2.73 mg/Kg 1 Sample: 266559 - AH-7 0-1' Laboratory: Midland Analytical Method: SM 4500-Cl B Analysis: Chloride (Titration) Prep Method: N/A QC Batch: Date Analyzed: 2011-05-26 Analyzed By: AR 81652 Prep Batch: Sample Preparation: 2011-05-20 69151 Prepared By: ARRLParameter Flag Cert Result Units Dilution RLChloride 6710 mg/Kg 100 4.00 Sample: 266559 - AH-7 0-1' Laboratory: Midland Analysis: TPH DRO - NEW Analytical Method: S 8015 D Prep Method: N/A QC Batch: 81382 Date Analyzed: 2011-05-18 Analyzed By: kg Prep Batch: 69091 Sample Preparation: Prepared By: 2011-05-18 RL Cert Parameter Flag Result Units Dilution RLDRO <50.0 mg/Kg Percent Spike Recovery

Work Order: 11051609

Report Date: June 1, 2011

Surrogate

n-Tricosane

Flag

Cert

Result

89.2

Units

mg/Kg

Dilution

1

Amount

100

Recovery

89

Limits

70 - 130

Page Number: 14 of 29

Report Date: June 1, 2011 114-6400890

Work Order: 11051609 COG/Folk Federal Tank Battery Page Number: 15 of 29 Eddy Co., NM

Sample: 266559 - AH-7 0-1'

Laboratory:

Midland

TPH GRO Analysis: QC Batch: 81337 Prep Batch: 69052

Analytical Method: Date Analyzed:

S 8015 D 2011-05-17 Sample Preparation: 2011-05-17 Prep Method: S 5035 Analyzed By: ME Prepared By: ME

RL

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Recovery	Limits
Trifluorotoluene (TFT)			2.76	mg/Kg	1	2.00	138	48.5 - 152
4-Bromofluorobenzene (4-BFB)			2.73	mg/Kg	1	2.00	136	42 - 159

Sample: 266560 - AH-7 1-1.5'

Laboratory:

Prep Batch:

Midland

Analysis: Chloride (Titration) QC Batch: 81652

Analytical Method: Date Analyzed: 69151 Sample Preparation:

SM 4500-Cl B 2011-05-26

2011-05-20

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

RLRLParameter Flag Cert Result Units Dilution Chloride 5530 mg/Kg 100 4.00

Sample: 266561 - AH-7 2-2.5'

Laboratory:

Midland

81653

69151

Analysis: QC Batch:

Prep Batch:

Chloride (Titration)

Analytical Method: Date Analyzed: Sample Preparation:

SM 4500-Cl B 2011-05-26 2011-05-20

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

RLFlagParameter Cert Result Units Dilution RLChloride 261 mg/Kg 50 4.00 Report Date: June 1, 2011 114-6400890

Work Order: 11051609 COG/Folk Federal Tank Battery Page Number: 16 of 29 Eddy Co., NM

Sample: 266562 - AH-7 2.5-3'

Laboratory:

Analysis:

Midland

Chloride (Titration)

Analytical Method: Date Analyzed:

SM 4500-Cl B 2011-05-26

Prep Method: N/A Analyzed By: AR

QC Batch: 81653 Prep Batch: 69151

Sample Preparation: 2011-05-20 Prepared By: AR

RL

Cert Result Units Dilution RLParameter Flag Chloride 1140 mg/Kg 100 4.00

Sample: 266563 - AH-8 0-1'

Laboratory:

Midland

Analysis:

Chloride (Titration)

Analytical Method:

SM 4500-Cl B

mg/Kg

Prep Method: N/A

QC Batch: Prep Batch: 81653 69151

Date Analyzed: Sample Preparation:

2011-05-26 2011-05-20 Analyzed By: AR Prepared By: AR.

RL

Flag Cert Result Parameter 8790 Chloride

Units Dilution RL

100

Sample: 266563 - AH-8 0-1'

Laboratory:

Midland

Analysis:

TPH DRO - NEW

Analytical Method:

S 8015 D

Prep Method: N/A

4.00

QC Batch: 81382 - ------Prep Batch:

69091

Date-Analyzed: -----2011-05-18-Sample Preparation: 2011-05-18

Analyzed-By:--kg Prepared By:

RL

Dilution Parameter Flag Cert Result Units RLDRO < 50.0 mg/Kg 50.0

Spike Percent Recovery Flag Units Dilution Surrogate Cert Result Amount Recovery Limits 92 n-Tricosane 91.8 mg/Kg 1 100 70 - 130

Sample: 266563 - AH-8 0-1'

Laboratory:

Midland

Analysis: QC Batch: Prep Batch:

TPH GRO 81337 69052

Analytical Method: Date Analyzed:

Sample Preparation:

S 8015 D 2011-05-17 2011-05-17 Prep Method: S 5035 Analyzed By: ME Prepared By: ME

114-6400890

Work Order: 11051609 COG/Folk Federal Tank Battery Page Number: 17 of 29

Eddy Co., NM

					RL				
Parameter	Flag		Cert		Result	Uni	ts	Dilution	RL
GRO					< 2.00	mg/Kg		1	2.00
							Spike	Percent	Recovery
Surrogate		Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		i		2.65	mg/Kg	1	2.00	132	48.5 - 152
4-Bromofluorobenzene (4-BFB)				2.58	mg/Kg	1	2.00	129	42 - 159

Sample: 266564 - AH-8 1-1.5'

Laboratory: Midland

Analysis: QC Batch: Chloride (Titration)

81653 Prep Batch: 69151

Analytical Method:

Date Analyzed:

SM 4500-Cl B

2011-05-26

Prep Method: N/A Analyzed By: AR

Prepared By: AR

	•		\mathbf{RL}			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride			7650	mg/Kg	100	4.00

Sample Preparation: 2011-05-20

Sample: 266565 - AH-8 2-2.5'

Laboratory: Midland

Analysis:

Chloride (Titration)

Analytical Method:

SM 4500-Cl B

Prep Method: N/A Analyzed By: AR

QC Batch: 81653 Prep Batch: 69151

Date Analyzed: 2011-05-26

Sample Preparation: 2011-05-20

Prepared By: AR

			m RL			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride			15400	mg/Kg	100	4.00

114-6400890

Work Order: 11051609 COG/Folk Federal Tank Battery Page Number: 18 of 29 Eddy Co., NM

Method Blanks

Method Blank (1)

QC Batch: 81336

QC Batch:

81336

Date Analyzed:

2011-05-17

Analyzed By: ME

Prep Batch: 69052

QC Preparation: 2011-05-17

Prepared By: AG

			MDL		
Parameter	Flag	Cert	Result	Units	RL
Benzene		1	< 0.0118	mg/Kg	0.02
Toluene		1	< 0.00600	mg/Kg	0.02
Ethylbenzene		1	< 0.00850	mg/Kg	0.02
Xylene		1	< 0.00613	mg/Kg	0.02

_		~ .	- ·			Spike	Percent	Recovery
Surrogate	\mathbf{Flag}	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			1.90	mg/Kg	1	2.00	95	66.6 - 122
4-Bromofluorobenzene (4-BFB)			1.91	mg/Kg	1	2.00	96	55.4 - 124

Method Blank (1)

QC Batch: 81337

QC Batch:

81337

Date Analyzed:

2011-05-17

Analyzed By: ME

Prep Batch: 69052

QC Preparation: 2011-05-17

Prepared By: AG

Parameter	Flag		Cert		Result		Units	RL
GRO			1		< 0.753		mg/Kg	2
						Spike	Percent	Recovery
Surrogate	\mathbf{Flag}	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			2.19	mg/Kg	1	2.00	110	67.6 - 150
4-Bromofluorobenzene (4-BFB)			2.02	mg/Kg	1	2.00	101	52.4 - 130

Method Blank (1)

QC Batch: 81382

QC Batch: Prep Batch: 69091

81382

Date Analyzed:

2011-05-18

QC Preparation: 2011-05-18

Analyzed By: kg Prepared By: kg

114-6400890

Work Order: 11051609 COG/Folk Federal Tank Battery Page Number: 19 of 29

Eddy Co., NM

Parameter DRO ,		Fla	ag	Cert		DL sult	Units	RL
				1	<1	15.7	mg/Kg	50
Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			107	mg/Kg	1	100	107	70 - 130

Method Blank (1)

QC Batch: 81652

QC Batch: Prep Batch: 69151

81652

Date Analyzed: QC Preparation:

2011-05-26 2011-05-20 Analyzed By: AR

Prepared By: AR

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

Method Blank (1)

QC Batch: 81653

QC Batch:

81653

Date Analyzed:

2011-05-26

Analyzed By: AR

Prep Batch: 69151

Chloride

QC Preparation:

2011-05-20

<3.85

Prepared By: AR

MDL Parameter Flag \mathbf{Cert} Result Units RL

mg/Kg

Report Date: June 1, 2011 114-6400890

Work Order: 11051609 COG/Folk Federal Tank Battery Page Number: 20 of 29 Eddy Co., NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: Prep Batch: 69052

81336

Date Analyzed:

2011-05-17 QC Preparation: 2011-05-17 Analyzed By: ME

Prepared By: AG

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.78	mg/Kg	1	2.00	< 0.0118	89	81.9 - 108
Toluene		1	2.01	mg/Kg	1	2.00	< 0.00600	100	81.9 - 118
Ethylbenzene		1	1.77	mg/Kg	1	2.00	< 0.00850	88	78.4 - 115
Xylene		1	5.28	mg/Kg	1	6.00	< 0.00613	88	79.1 - 116

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

			LCSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene		1	2.05	mg/Kg	1	2.00	< 0.0118	102	81.9 - 108	14	20
Toluene		1	2.28	mg/Kg	1	2.00	< 0.00600	114	81.9 - 118	13	20
Ethylbenzene		1	1.97	mg/Kg	1	2.00	< 0.00850	98	78.4 - 115	11	20
Xylene		1	5.89	mg/Kg	1	6.00	< 0.00613	98	79.1 - 116	11	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	LCS Rec.	LCSD Rec.	Rec. Limit	
Trifluorotoluene (TFT)	1.72	1.77	mg/Kg	1	2.00	86	88	70.2 - 114	
4-Bromofluorobenzene (4-BFB)	1.82	1.84	mg/Kg-		2:00	91	92	-69:8121	

Laboratory Control Spike (LCS-1)

QC Batch: Prep Batch: 69052

81337

Date Analyzed:

2011-05-17

QC Preparation: 2011-05-17

Analyzed By: ME

Prepared By: AG

			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	C	Result	Units	Dil.	Amount	Result	Rec.	Limit
GRO		1	16.8	mg/Kg	1	20.0	< 0.753	84	60.9 - 95.4

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result. $continued \dots$

114-6400890

Work Order: 11051609 COG/Folk Federal Tank Battery Page Number: 21 of 29 Eddy Co., NM

control	spikes	continued			
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Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	17.6	mg/Kg	1	20.0	< 0.753	88	60.9 - 95.4	5	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)	2.04	2.19	mg/Kg	1	2.00	102	110	61.9 - 142
4-Bromofluorobenzene (4-BFB)	1.96	2.10	mg/Kg	1	2.00	98	105	68.2 - 132

Laboratory Control Spike (LCS-1)

QC Batch:

81382 Prep Batch: 69091 Date Analyzed: QC Preparation:

2011-05-18 2011-05-18 Analyzed By: kg

Prepared By: kg

			LCS			Spike	Matrix		Rec.
Param	F	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
DRO		1	238	mg/Kg	1	250	<15.7	95	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	\mathbf{F}	C	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
DRO		1_	221	mg/Kg	1	250	<15.7	88	47.5 - 144.1	7	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	111	112	mg/Kg	1	100	111	112	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch:

81652

Date Analyzed:

2011-05-26

Analyzed By: AR

Prep Batch: 69151

QC Preparation: 2011-05-20

Prepared By: AR

			LCS			Spike	Matrix		Rec.
Param	\mathbf{F}	C	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride			97.4	mg/Kg	ī	100	< 3.85	97	85 - 115

114-6400890

Work Order: 11051609 COG/Folk Federal Tank Battery Page Number: 22 of 29 Eddy Co., NM

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

			$_{ m LCSD}$			Spike	Matrix		Rec.		RPD
Param	F	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			104	mg/Kg	1	100	<3.85	104	85 - 115	7	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:

81653

Date Analyzed:

2011-05-26

Analyzed By: AR

Prep Batch: 69151

QC Preparation: 2011-05-20

Prepared By: AR

			LCS			Spike	Matrix		Rec.
Param	F	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride			95.7	mg/Kg	1	100	< 3.85	96	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			105	mg/Kg	1	100	<3.85	105	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: 266604

QC Batch: Date Analyzed:

2011-05-17 QC Preparation: 2011-05-17 Prep Batch: 69052

Analyzed By: ME Prepared By: AG

			MS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Benzene		1	1.97	mg/Kg	1	2.00	< 0.0118	98	80.5 - 112
Toluene		1	2.25	mg/Kg	1	2.00	< 0.00600	112	82.4 - 113
Ethylbenzene		1	1.98	mg/Kg	1	2.00	0.1103	93	83.9 - 114
Xylene		1	5.78	mg/Kg	1	6.00	0.3528	90	84 - 114

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	\mathbf{Units}	Dil.	Amount	Result	Rec.	\mathbf{Limit}	RPD	Limit
Benzene		1	1.96	mg/Kg	1	2.00	< 0.0118	98	80.5 - 112	0	20
Toluene		1	2.21	mg/Kg	1	2.00	< 0.00600	110	82.4 - 113	2	20
Ethylbenzene		1	1.99	mg/Kg	1	2.00	0.1103	94	83.9 - 114	0	20
Xylene		1	5.83	mg/Kg	1	6.00	0.3528	91	84 - 114	1	20

Report Date: June 1, 2011 114-6400890

Work Order: 11051609 COG/Folk Federal Tank Battery Page Number: 23 of 29 Eddy Co., NM

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)	2.15	2.51	mg/Kg	1	2	108	126	41.3 - 117
4-Bromofluorobenzene (4-BFB)	2.50	2.80	mg/Kg	1	2	125	140	35.5 - 129

Matrix Spike (MS-1) Spiked Sample: 266558

QC Batch: 81337 Prep Batch: 69052

Date Analyzed: 2011-05-17 QC Preparation: 2011-05-17 Analyzed By: ME

Prepared By: AG

			MS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
GRO		1	22.2	mg/Kg	1	20.0	< 0.753	111	61.8 - 114

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

			MSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	C	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
GRO		1	20.5	mg/Kg	1	20.0	< 0.753	102	61.8 - 114	8	20

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

	MS	MSD			Spike	MS	MSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFT)	2.69	2.63	mg/Kg	1	2	134	132	50 - 162
4-Bromofluorobenzene (4-BFB)	2.83	2.76	mg/Kg	1	2	142	138	50 - 162

Matrix Spike (MS-1) Spiked Sample: 266559

QC Batch: Prep Batch: 69091

81382

Date Analyzed: QC Preparation:

2011-05-18 2011-05-18 Analyzed By: kg Prepared By: kg

			MS			Spike	Matrix		Rec.
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
DRO		1	214	mg/Kg	1	250	<15.7	86	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	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
DRO		1	207	mg/Kg	1	250	<15.7	83	11.7 - 152.3	3	20

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

114-6400890

Work Order: 11051609 COG/Folk Federal Tank Battery Page Number: 24 of 29

Eddy Co., NM

	MS	MSD			Spike	MS	MSD	Rec.
Surrogate	Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
n-Tricosane	105	103	mg/Kg	1	100	105	103	70 - 130

Matrix Spike (MS-1)

Spiked Sample: 266560

QC Batch:

81652

Date Analyzed:

2011-05-26

Analyzed By: AR

Prep Batch: 69151

QC Preparation: 2011-05-20

Prepared By: AR

			MS			Spike	Matrix		Rec.
Param	\mathbf{F}	C	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride		_	14400	mg/Kg	100	10000	5530	89	80 - 120

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

			MSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			15100	mg/Kg	100	10000	5530	96	80 - 120	5	20

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

Matrix Spike (MS-1)

Prep Batch: 69151

Spiked Sample: 266565

QC Batch:

81653

Date Analyzed:

2011-05-26

QC Preparation: 2011-05-20

Analyzed By: AR

Prepared By: AR

ere was a real or the lease of	te e de la companya de la companya de la companya de la companya de la companya de la companya de la companya								
			MS			Spike	Matrix		Rec.
Param	${f F}$	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit
Chloride			24800	mg/Kg	100	10000	15400	94	80 - 120

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

			MSD			Spike	Matrix		Rec.		RPD
Param	F	\mathbf{C}	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			25400	mg/Kg	100	10000	15400	100	80 - 120	2	20

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

114-6400890

Work Order: 11051609 COG/Folk Federal Tank Battery Page Number: 25 of 29 Eddy Co., NM

Calibration Standards

Standard (CCV-1)

QC Batch: 81336

Date Analyzed: 2011-05-17

Analyzed By: ME

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/Kg	0.100	0.0954	95	80 - 120	2011-05-17
Toluene		1	mg/Kg	0.100	0.107	107	80 - 120	2011-05-17
Ethylbenzene		1	mg/Kg	0.100	0.0935	94	80 - 120	2011-05-17
Xylene		1	mg/Kg	0.300	0.279	93	80 - 120	2011-05-17

Standard (CCV-2)

QC Batch: 81336

Date Analyzed: 2011-05-17

Analyzed By: ME

				CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		1	mg/Kg	0.100	0.0958	96	80 - 120	2011-05-17
Toluene		1	mg/Kg	0.100	0.106	106	80 - 120	2011-05-17
Ethylbenzene		1	mg/Kg	0.100	0.0910	91	80 - 120	2011-05-17
Xylene		1	mg/Kg	0.300	0.275	92	80 - 120	2011-05-17

Standard (CCV-3)

QC Batch: 81336

Date Analyzed: 2011-05-17

Analyzed By: ME

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		1	mg/Kg	0.100	0.0915	92	80 - 120	2011-05-17
Toluene		1	mg/Kg	0.100	0.101	101	80 - 120	2011-05-17
Ethylbenzene		1	mg/Kg	0.100	0.0879	88	80 - 120	2011-05-17
Xylene		1	mg/Kg	0.300	0.262	87	80 - 120	2011-05-17

Report Date:	June	1,	2011
114-6400890			

Work Order: 11051609 COG/Folk Federal Tank Battery Page Number: 26 of 29 Eddy Co., NM

Standard (CCV-1	L	1
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QC Batch: 81337

Date Analyzed: 2011-05-17

Analyzed By: ME

_		_		CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		1	mg/Kg	1.00	1.18	118	80 - 120	2011-05-17

Standard (CCV-2)

QC Batch: 81337

Date Analyzed: 2011-05-17

Analyzed By: ME

				CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		1	mg/Kg	1.00	1.11	111	80 - 120	2011-05-17

Standard (CCV-3)

QC Batch: 81337

Date Analyzed: 2011-05-17

Analyzed By: ME

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO	1.08	1	mg/Kg	1.00	1.16	116	80 - 120	2011-05-17

Standard (CCV-1)

QC Batch: 81382

Date Analyzed: 2011-05-18

Analyzed By: kg

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO		1	mg/Kg	250	219	88	80 - 120	2011-05-18

Standard (CCV-2)

QC Batch: 81382

Date Analyzed: 2011-05-18

Analyzed By: kg

114-6400890

Work Order: 11051609 COG/Folk Federal Tank Battery Page Number: 27 of 29

Eddy Co., NM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	266	106	80 - 120	2011-05-18

Standard (CCV-3)

QC Batch: 81382

Date Analyzed: 2011-05-18

Analyzed By: kg

n	TO!	a .	T T */	CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO		1	mg/Kg	250	268	107	80 - 120	2011-05-18

Standard (ICV-1)

QC Batch: 81652

Date Analyzed: 2011-05-26

Analyzed By: AR

n	Tal.	a	TT 14.	ICVs True	ICVs Found	ICVs Percent	Percent Recovery	Date
Param	\mathbf{Flag}	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			mg/Kg	100	99.9	100	85 - 115	2011-05-26

Standard (CCV-1)

QC Batch: 81652

Date Analyzed: 2011-05-26

Analyzed By: AR

				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2011-05-26

Standard (ICV-1)

QC Batch: 81653

Date Analyzed: 2011-05-26

Analyzed By: AR

114-6400890

Work Order: 11051609 COG/Folk Federal Tank Battery Page Number: 28 of 29

Eddy Co., NM

				ICVs	ICVs	ICVs	Percent	D (
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			mg/Kg	100	95.6	96	85 - 115	2011-05-26

Standard (CCV-1)

QC Batch: 81653

Date Analyzed: 2011-05-26

Analyzed By: AR

				CCVs True	CCVs Found	${ m CCVs} \ { m Percent}$	Percent Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride			mg/Kg	100	104	104	85 - 115	2011-05-26

Report Date: June 1, 2011 114-6400890

Work Order: 11051609 COG/Folk Federal Tank Battery Page Number: 29 of 29 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
1	NELAP	T104704392-10-TX	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.
- 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 PAGE: OF: **ANALYSIS REQUEST** (Circle or Specify Method No.) TETRA TECH 88 Ext. to C35 1910 N. Big Spring St. Midland, Texas 79705 8 2 (432) 682-4559 • Fax (432) 682-3946 ঠ ≽ 8015 MOD TX1005 RCRA Metals Ag As Ba Cd
TCLP Metals Ag As Ba Cd
TCLP Volatiles
TCLP Semi Volatiles
RCI
GC.MS Vol. 8240/9260/624
GC.MS Semi. Vol. 8270/625
PCB's 8080/608
Pest. 808/608
Chlorids
Chlorids
Gamma Spec.
Ajphis Beta (Air)
PLM (Asbestos) CUENT NAME: SITE MANAGER: PRESERVATIVE CO4 The Towarez METHOD PROJECT NO .: PROJECT NAME: FILTERED (Y/N)
HCL
HNO3 Folk Federa 114-6400390 Tank Battery Eddy Co NM LAB I.D. MATRIX COMP. GRAB DATE TIME SAMPLE IDENTIFICATION NONE NUMBER DOU 266555 X 4H-1 Ø - 0.5` 552 o-0.5° 553 ALL -3 334 E-44 555 2-25 55 0-11 44-4 557 0-1' 538 0-1' 538 <u>o-1'</u> 500 SAMPLED BY: (Print & Initial) Times SAMPLE SHIPPED BY: (Circle) REUNDUSKED BY: (Signature) AIRBILL #: HAND DELIVERED UPS OTHER: RELINQUISHED BY: (Signature) RECEIVED BY: (Signature) TETRA TECH CONTACT PERSON: Results by: Time: RECEIVING LABORATORY: Trace RECEIVED BY: (Signature) RUSH Charges Ike Tavarez Authorized: STATE: 7% ZIP: PHONE: No SAMPLE CONDITION WHEN RECEIVED: REMARKS: If total TPH > 5,000 Run deeper sample

3.5 CINACH

If total TPH > 5,000 Kun deeper Sampre

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

RM ISTEX ON 4 highest TPH

200 #: 11001609

Analysis Request of Chain of Custody Record								PAGE: A OF: A																								
										ANALYSIS REQUEST (Circle or Specify Method No.)																						
TETRA TECH 1910 N. Big Spring St. Midland, Texas 79705 (432) 682-4559 • Fax (432) 682-394 CLIENT NAME: SITE MANAGER:											<u>a</u>	T			/ATIV	Έ	01008 (Ext to 035)		8	Ba Cd Vr Pd Hg Se			/624	0/825					pH, TDS			
PROJECT N			Toor) IEC	TNA	NE.		<u>Le</u>	Tavarez		N N	-	 N	TTH	יטט די			3	[2]	8	18	3	8260	827	1			1	Hons,			
114-640			F1						ank Battery	[NUMBER OF CONTAINERS	FILTERED (Y/N)					8021B	2	RCRA Metals Ag	TCLP Metais Ag	TCLP Sami Votatiles		GC.MS Vol. 8240/8260/624	Semi. Vol.	PCB's 8080/608		Spec.	Alpha Beta (Air)	PLM (Aspestos) Major Anions/Cet			
LAB I.D. NUMBER	DATE	TIME	MATRIX	GRAB				SAMP	E IDENTIFICATION		NUMBE		HNO3	ICE	NONE		BIEX 8021	PAH 8Z	RCRA A	TCLP Metais	101P	2	GC.MS	GC.MS	PCB's	Chlorid	Gamma Spec.	Alpha	Major			
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RM BTEX on 4 highest TPH