SITE INFORMATION

Report Type: Closure Report

General Site Infor Site:	mation:		the second second second	53. 9 . d	and the second	4 (A & A & A & A & A & A & A & A & A & A			
Site:		· ·	1	ы. 					
		RJ Unit #134							
Company:		COG Operat							
Section, Townshi	p and Range	Unit O	Sec. 27	T-17-S I	R-29-E				
Lease Number:		API-30-015-3							
County:		Eddy Count							
GPS:			32.80056° N		104.	.05979° W			
Surface Owner:		Federal							
Mineral Owner:	· · · · · · · · · · · · · · · · · · ·			1		00.010 1.7			
Directions:					2 4.4 mi, turn left on /ay. (Near Apache W		•		
Release Data:			and the state of the				e's, 4		
Date Released:		3/5/2012		an to construct a sign	IBECH	FIVED			
Type Release:	·	Produced Flu							
Source of Contam	ination:	Steel line rup			NOV	1 2012			
Fluid Released:			8 bbls of produce						
Fluids Recovered:			6 bbls of produce		INMOCD	ARTESIA			
Official Communi	cation:	े. जन्म	an f		2	1	· · · · · · · · · · · · · · · · · · ·		
Name:	Pat Ellis				ke Taravez				
Company:	COG Operating, L	LC		[1	etra Tech				
Address:	550 W. Texas Ave	. Ste. 1300	1	1	910 N. Big Spring				
P.O. Box		· · · · ·					<u> </u>		
	Midland Texas, 79	701			Aidland, Texas				
Phone number:	(432) 686-3023				432) 682-4559	·····			
Fax:	(432) 684-7137		†						
Email:	pellis@conchoreso	ources.com		Ike.Tavarez@tetratech.com					
Ranking Criteria	** 50, 0 *******************************	ે અને અને તે કે			ال من				
Depth to Groundwa	ater:		Ranking Score		Site Dat	ta			
<50 ft			20						
50-99 ft		·····	10						
>100 ft.			0		0				
WellHead Protectio			Ranking Score		Site Dat				
Water Source <1,00		 ft.	20		Sile Da	ia			
Water Source >1,00			0		0	· ·			
	· · · · · · · · · · · · · · · · · · ·								
Surface Body of Wa	ater:		Ranking Score		Site Da	ta			
<200 ft.			20						
200 ft - 1,000 ft.			10						
>1,000 ft.	<u></u>		0		0	and the second			
Tota	l Ranking Score		0						
		l'est l'Annamé							
		Accepta	ible Soil RRAL (n	ıg/кg)					
			Tat-I DTCV						
		Benzene 10	Total BTEX 50	TPH 5,000					



October 22, 2012

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



Re: Closure Report for the COG Operating LLC., RJ Unit #134 Flowline, Unit O, Section 27, 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 RJ Unit #134 Flowline, Unit O, Section 27, Township 17 South, Range 29 East, Eddy County, New Mexico. (Site). The spill site coordinates are N 32.80056°, W 104.05979°. The site location is shown on Figures 1 and 2.

Background

According to the C-141 Initial Report, the leak was discovered on March 5, 2012, and released approximately eight (8) barrels of produced water and two (2) barrels of oil from a steel flowline that ruptured due to corrosion. COG repaired the line and returned it to service. COG recovered approximately six (6) barrels of produced water and one (1) barrel of oil. The spill initiated from the flowline located in the pasture impacting an area of approximately 10' x 70'. The spill is located on a COG right-of-way between flowlines and a COG water disposal line. The initial C-141 form is enclosed in Appendix A.

Groundwater

No water wells were listed within Section 27. According to the NMOCD groundwater map, the average depth to groundwater in this area is approximately 150' below surface. The groundwater data is shown in Appendix B.



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, ethyl-benzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene). Based upon the depth to groundwater, the proposed RRAL for TPH is 5,000 mg/kg.

Soil Assessment and Analytical Results

On March 28, 2011, Tetra Tech personnel inspected and sampled the spill area. One (1) auger hole (AH-1) was installed in the center of the spill area using a stainless steel hand auger to assess the impacted soils. Samples were collected to a depth of 9-9.5' below surface. 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 reports and chain-of-custody documentation are included in Appendix C. The sampling results are summarized in Table 1. The auger hole location is shown on Figure 3.

Referring to Table 1, all of the samples were below the RRAL for BTEX and TPH. A chloride concentration of 2,240 mg/kg (0-1') was detected in the shallow soil, which declined to <200 mg/kg at 1-1.5' down to 7.0' below surface. The bottom hole sample at 9-9.5' spiked to 6,400 mg/kg and was not vertically defined.

On April 20, 2012, Tetra Tech supervised the installation of one borehole (BH-1) using an air rotary drilling rig to assess the soils. The borehole was installed to a total depth of 60.0' below surface. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The borehole results are summarized in Table 1.

Referring to Table 1, elevated chloride concentrations were detected from 4.0' to 20.0' below surface, with concentrations ranging from 2,160 mg/kg to 9,010 mg/kg. The deeper samples from 24-25' significantly declined with depth.



Remediation and Conclusion

Based on the approved work plan, Tetra Tech personnel supervised the excavation of the site. The excavated area and depths are highlighted in Table 1. Due to safety concerns, deeper excavation could not be achieved at the site as proposed. Active lines near the excavation and geology (sandy soil) hinder the deeper excavation in the area. Approximately 300 cubic yards of soil were excavated and transported to the R360 facility for proper disposal.

The excavated area measured approximately 7' x 70' at a depth of approximately 10' below surface. As requested by the BLM, Tetra Tech collected confirmation samples for the bottom hole and side wall samples for chloride evaluation. The sampling results are shown in Table 1.

Referring to Table 1, all of the sidewall samples showed chloride concentrations ranging from <20.0 mg/kg to 238 mg/kg. The bottom hole sample exhibited a chloride of 6,020 mg/kg. Once approved for backfilling, the excavated area was then capped with a 40 mil liner at 4.0' excavation bottom. The excavation was then backfilled to grade with clean material, and installed a windrow to prevent erosion.

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

Respectfully submitted,

TETRA TÉCH

Ike⁽Tavárez, PG Senior Project Manager

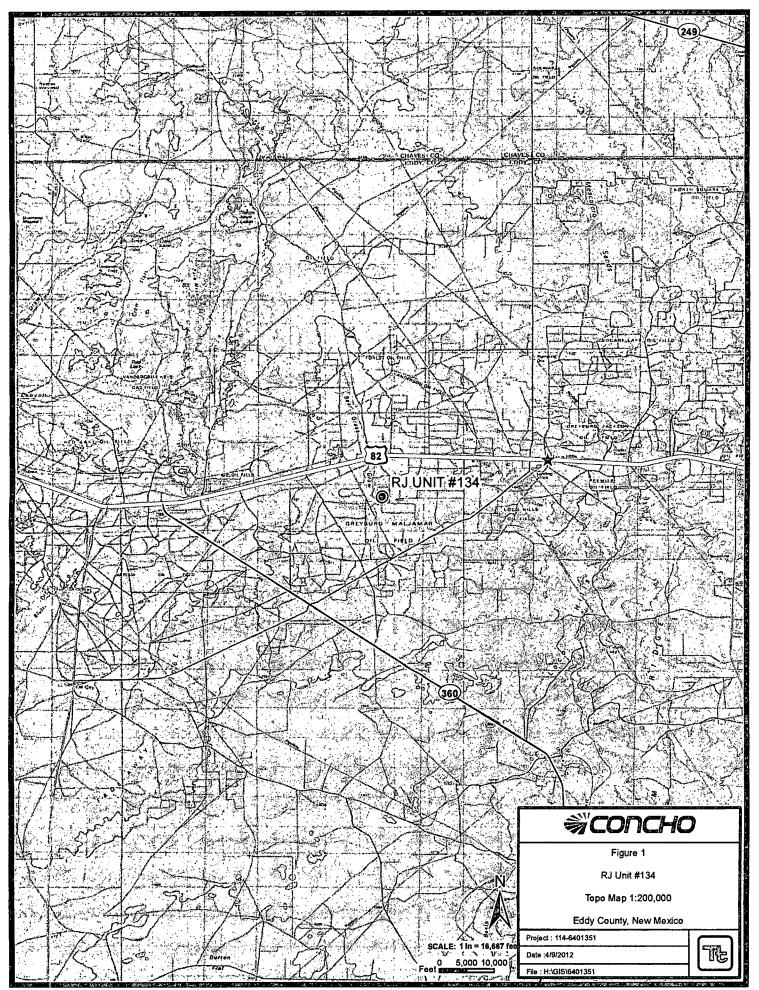
cc: Pat Ellis – COG Terry Gregston - BLM

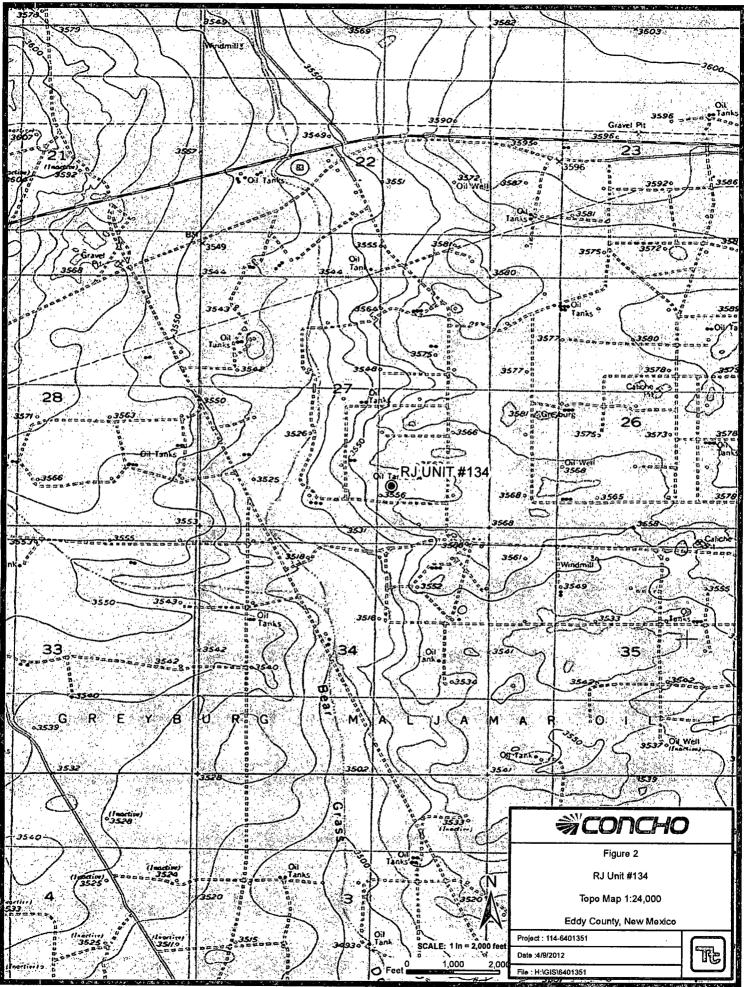
FIGURES

.

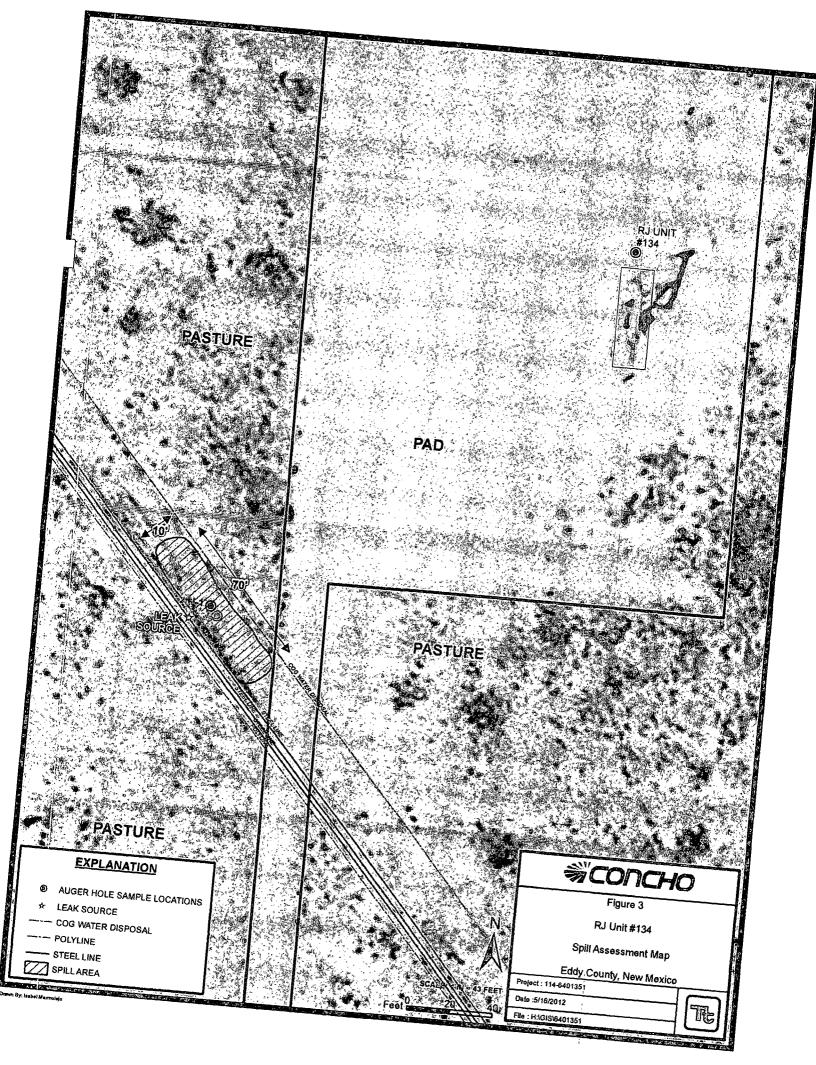
.

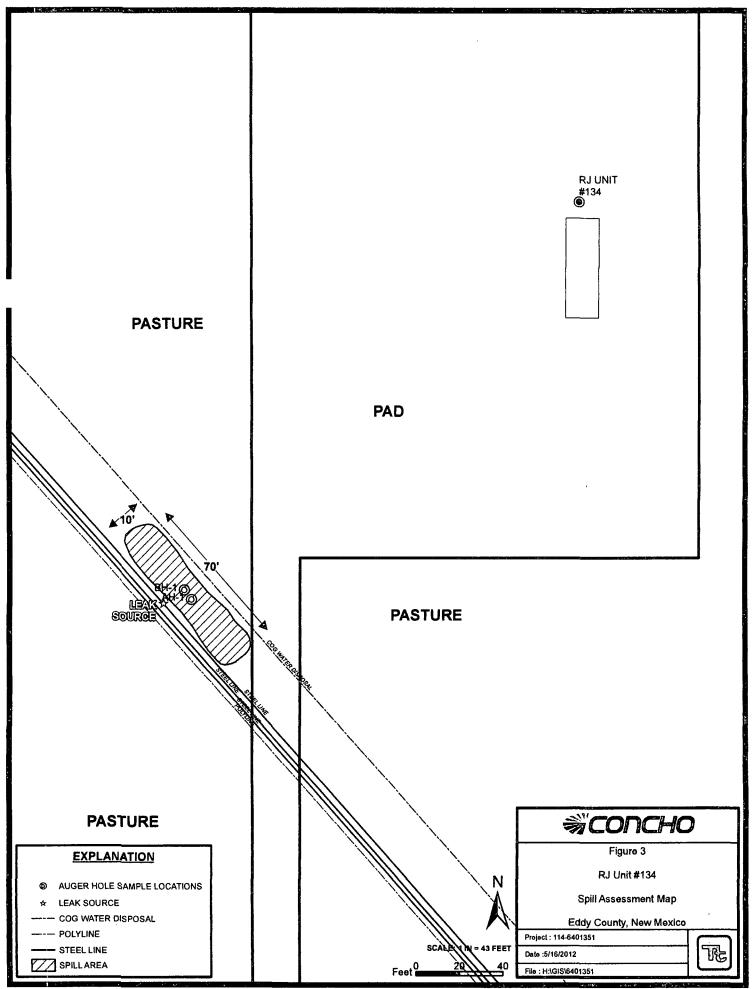
.





Drawn By: Isebei Marmolejo





Tables

.

Table 1 COG Operating LLC. RJ Unit 134 Eddy County, New Mexico

Comple ID	Sample Date	Sample	Soil S	Status				Toluene	Ethlybenzene	Xylene	Total BTEX	Chloride	
Sample ID	Sample Date	Depth (ft)	In-Situ	Removed	GRO	DRO	Total	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
AH-1	3/28/2012	0-1	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	X	223	1,770	1,993	<0.200	-0.457	0.449	1.37	2.28	2,240
		. 1-1 -5		X - ₹				ð a se carte					< <u>2</u> 00
	н	2-2.5		X									<200
	μ	3-3.5		X 7		6.29 C							<200
		4-4.5		X			197			1383 - A.		الم المراجع ال محمد المراجع الم محمد المراجع ال	<200
	п	5-5.5 "		X -		- 1997			N				<200
	ρ	6-6.5	1	X				24 24					<200
······································	u	<i>7-7.5</i>		₹ X		3.5					All Cartes		<200
	n	8-8.5		X		÷	2000 - 2000 1911 - 2010 1911 - 2010				AL		504
	a	9-9.5		X	5								6,400
	4/24/2010					1				N 1 25 2 2 5 3 7			6,510
BH-1	4/24/2012	4-5		» X		-	-						the second s
	u	6-7 9-10		X				-			. =		2,160
		0.0	, #1 . 	X	nar i∎ sei.			<u>,</u>					6,820
	a	14-15	X		-			-	-	-		-	9,010
		19-20	X		-			-		-		-	4,620
	n	24-25	X		-		-	-					114
······		29-30	X		-	-	-	-	-	-			617
		39-40	X		-		-	-	-	-	-		203
		49-50	X		-		-	-	-	-		-	55.8
	n	59-60	X		-	-	-	-	-	-	-	-	20.3
Side Wall 1	7/10/2012		X		-	-	-	-	-	-	-	-	<20.0
Side Wall 2	n		X		-	-	-	-	-	-	-	-	238
Side Wall 3	n		x	1	-	-	-	-	-		-	-	24
Side Wall 4	n		х		-	-		-	-	-	-	-	<20.0
Bottom Hole 1		10	x		-	-		-	-	-	-		6,020



Not Analyzed

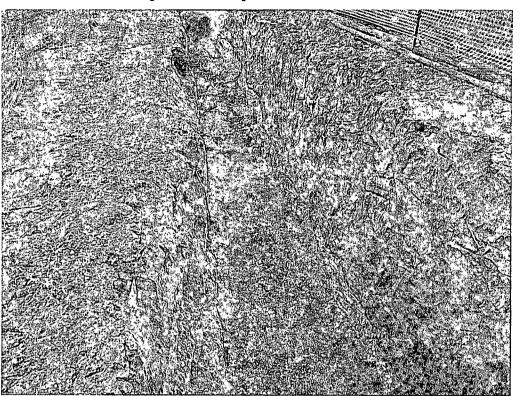
Excavation Depth



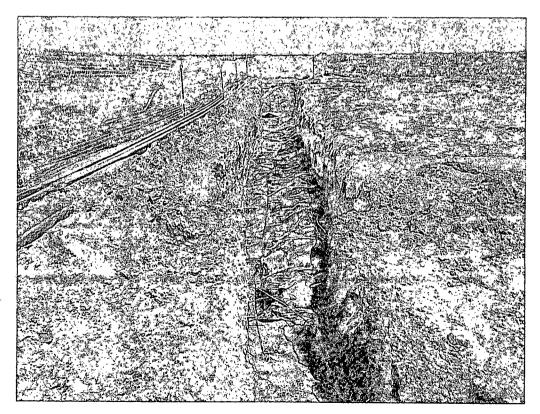
40 mil Liner

Photos

COG Operating LLC RJ Unit #134 Eddy County, New Mexico

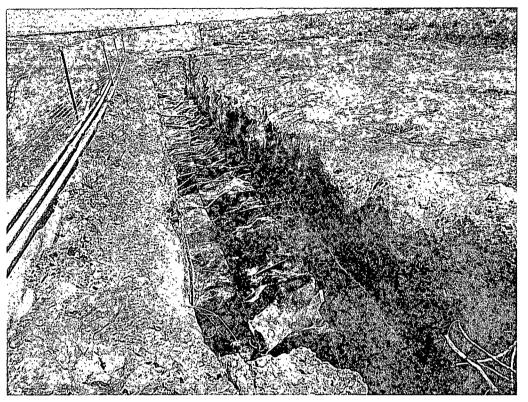


View Southeast - Area of AH-1 and BH-1

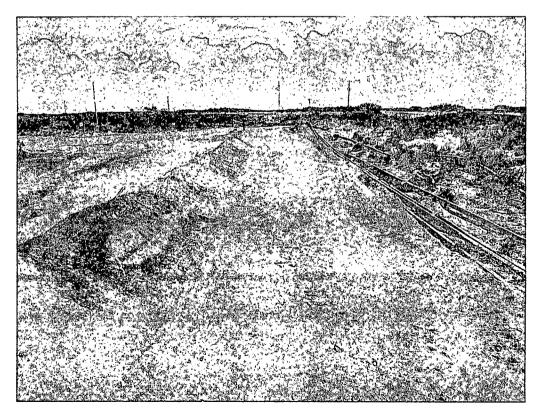


View Northwest - Liner

COG Operating LLC RJ Unit #134 Eddy County, New Mexico



View Northwest - Liner



View Southeast - Backfill

ល

Appendix A

State of New Mexico Energy Minerals and Natural Resources

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

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

Release Notification and Corrective Action

		OPERATOR	[Initial Report	🖾 Final Report
Name of Company	COG Operating LLC	Contact	Pat Ellis		
Address 550 W. Texa	as, Suite 1300 Midland, Texas 79701	Telephone No.	(432) 230-007	7	
Facility Name	RJ Unit #134	Facility Type	Flowline		
		· · · ·			
Surface Owner: Federal	Mineral Owne	r		Lease No. (API#)	30-015-34573

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County		
0	27	17S	29E					Eddy		

Latitude N 32.80056° Longitude W 104.05979°

NATURE OF RELEASE

Type of Release: Produced Fluid	Volume of Release 8bbls PW 2bbls Oil	Volume R	ecovered 6bbls PW 1bbl Oil	
Source of Release: Steel Flowline	Date and Hour of Occurrence 03/05/2012		Hour of Discovery 2 11:30 a.m.	
Was Immediate Notice Given?	If YES, To Whom?	ot. I		
By Whom?	Date and Hour			
Was a Watercourse Reached?	If YES, Volume Impacting the W	atercourse.		
🗌 Yes 🖾 No	N/A			
If a Watercourse was Impacted, Describe Fully.*			EIVED	-
Describe Cause of Problem and Remedial Action Taken.*		NOV	0 1 2012	
The RJ Unit #134 steel flowline ruptured due to corrosion. The flowline	has been repaired.	NMOCD	ARTESIA	
Describe Area Affected and Cleanup Action Taken.*				-
Tetra Tech personnel inspected the site and collected samples to define the proper disposal. The site was then brought up to surface grade with clean NMOCD for review.				
I hereby certify that the information given above is true and complete to regulations all operators are required to report and/or file certain release public health or the environment. The acceptance of a C-141 report by the should their operations have failed to adequately investigate and remedia or the environment. In addition, NMOCD acceptance of a C-141 report of federal, state, or local laws and/or regulations.	notifications and perform corrective a he NMOCD marked as "Final Report tte contamination that pose a threat to	ctions for relea does not relie ground water,	ases which may endanger we the operator of liability surface water, human health	
	OIL CONSER	VATION I	DIVISION	
Signature: 4 Printed Name: Ike Tavarez (AGCAT Su COG)	Approved by District Supervisor:		· · · · · · · · · · · · · · · · · · ·	
Title: Project Manager	Approval Date:	Expiration D	Pate:	
E-mail Address: Ike.Tavarez@TetraTech.com	Conditions of Approval:		Attached	
Date: Phone: (432) 682-4559				

* Attach Additional Sheets If Necessary

State of New Mexico Energy Minerals and Natural Resources

Form C-141 Revised October 10, 2003

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

Release Notification and Corrective Action

	OPERATOR	\boxtimes	Initial Report	Final Report
Name of Company COG OPERATING LLC	Contact	Pat Ellis		
Address 550 W. Texas, Suite 100, Midland, TX 79701	Telephone No.	432-230-0077		
Facility Name RJ Unit #134	Facility Type	Flowline		

Surface Owner	Federal	Mineral Owner	Lease No.	(API#) 30-015-34573
the second s				

LOCATION	OF	REL	EASE
----------	----	-----	-------------

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
0	27	175	29E					Eddy

Latitude 32 48.042 Longitude 104 03.583

NATURE	OF	RELEASE

Type of Release Produced fluid	Volume of Release 8bbls PW 2bbls OIL	Volume R	ecovered 6bblsPW 1bbl OIL				
Source of Release Steel flowline	Date and Hour of Occurrence 03/05/2012		Hour of Discovery 2 11: 30 a.m.				
Was Immediate Notice Given?	If YES, To Whom?	<u></u>					
By Whom?	Date and Hour						
Was a Watercourse Reached?							
If a Watercourse was Impacted, Describe Fully.*							
Describe Cause of Problem and Remedial Action Taken.*							
The RJ Unit #134 steel flowline ruptured due to corrosion. The flowline h	has been repaired.						
Describe Area Affected and Cleanup Action Taken.*							
release is the RJ Unit #119 (API# 30-015-03146). The spill area measured sample the spill site area to delineate any possible contamination from the approval prior to any significant remediation work.	release and we will present a remed	iation work pl	an to the NMOCD/BLM for				
I hereby certify that the information given above is true and complete to the regulations all operators are required to report and/or file certain release no public health or the environment. The acceptance of a C-141 report by the should their operations have failed to adequately investigate and remediate or the environment. In addition, NMOCD acceptance of a C-141 report do federal, state, or local laws and/or regulations.	otifications and perform corrective as e NMOCD marked as "Final Report" e contamination that pose a threat to	ctions for relea does not relie ground water,	ases which may endanger we the operator of liability surface water, human health				
	OIL CONSER	VATION I	DIVISION				
Signature:							
Printed Name: Josh Russo	Approved by District Supervisor:						
Title: HSE Coordinator	Approval Date:	Expiration D	ate:				
E-mail Address: jrusso@conchoresources.com	Conditions of Approval:		Attached				
Date: 03/12/2012 Phone: 432-212-2399							

* Attach Additional Sheets If Necessary

Appendix B

Water Well Data Average Depth to Groundwater (ft) COG - RJ Unit #134 Eddy County, New Mexico

29 East

29 East

29 East

16 South

17 South

18 South

	16 Sc	outh	28	East	
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

	17	South	:	28 East	t
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22 79	23	24
30	29	28	27	26	25
31	32	33	34 53	35	36

	18	South		28 East	t
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35 65	36

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19 110	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

SITE

	16	South	;	30 East	
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

	17	South		30 East	t
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

	18 Sc	outh	30	East	
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

New Mexico State Engineers Well Reports

USGS Well Reports

New Mexico Water and Infrastructure Data System

Site Location

Appendix C

Summary Report

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

Project Location:Eddy Co., NMProject Name:COG/RJ Unit #134Project Number:114-6401351

		Date	Time	Date
Description	Matrix	Taken	Taken	Received
Side Wall 1	soil	2012-07-10	00:00	2012-07-17
Side Wall 2	soil	2012-07-10	00:00	2012-07-17
Side Wall 3	soil	2012-07-10	00:00	2012-07-17
Side Wall 4	soil	2012-07-10	00:00	2012-07-17
Bottom Hole 1	soil	2012-07-10	00:00	2012-07-17
-	Side Wall 1 Side Wall 2 Side Wall 3 Side Wall 4	Side Wall 1soilSide Wall 2soilSide Wall 3soilSide Wall 4soil	DescriptionMatrixTakenSide Wall 1soil2012-07-10Side Wall 2soil2012-07-10Side Wall 3soil2012-07-10Side Wall 4soil2012-07-10	Description Matrix Taken Taken Side Wall 1 soil 2012-07-10 00:00 Side Wall 2 soil 2012-07-10 00:00 Side Wall 3 soil 2012-07-10 00:00 Side Wall 4 soil 2012-07-10 00:00

Sample: 303976 - Side Wall 1 Param Flag Result Units RLChloride <20.0 mg/Kg 4 Sample: 303977 - Side Wall 2 Param Flag Result Units \mathbf{RL} Chloride 238 mg/Kg 4 Sample: 303978 - Side Wall 3 Flag Param Result Units RLChloride 24.3 mg/Kg 4

Sample: 303979 - Side Wall 4

TraceAnalysis, Inc. • 6701 Aberdeen Ave., Suite 9 • Lubbock, TX 79424-1515 • (806) 794-1296 This is only a summary. Please, refer to the complete report package for quality control data.

Report Date: July 25, 2012

Work Order: 12071723

Report Date: July 25, 2012		Work Order: 12071723	Page I	Page Number: 2 of 2	
Param	Flag	Result	Units	RL	
Chloride		<20.0	mg/Kg	4	

Sample: 303980 - Bottom Hole 1

٦

Param	Flag	Result	Units	\mathbf{RL}
Chloride		6020	mg/Kg	4

TraceAnalysis, Inc. • 6701 Aberdeen Ave., Suite 9 • Lubbock, TX 79424-1515 • (806) 794-1296 This is only a summary. Please, refer to the complete report package for quality control data.



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

 Lubbock
 Texas 79424
 800-378-1296
 866

 El Paso
 Texas 79922
 915

 Midland
 Texas 79703
 432

 Suite 100
 Carroliton
 Texas 75006
 972

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

806+794+1296 FAX 806+794+1298 915+585+3443 FAX 915+585+4944 432+689+6301 FAX 432+689+6313 972+242+7750

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: July 25, 2012

Work Order: 12071723

Project Location:Eddy Co., NMProject Name:COG/RJ Unit #134Project Number:114-6401351

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
303976	Side Wall 1	soil	2012-07-10	00:00	2012-07-17
303977	Side Wall 2	soil	2012-07-10	00:00	2012-07-17
303978	Side Wall 3	soil	2012-07-10	00:00	2012-07-17
303979	Side Wall 4	soil	2012-07-10	00:00	2012-07-17
303980	Bottom Hole 1	soil	2012-07-10	00:00	2012-07-17

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

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

Report Contents

Case Narrative	3
Analytical Report	4
Sample 303976 (Side Wall 1)	
Sample 303977 (Side Wall 2)	
Sample 303978 (Side Wall 3)	
Sample 303979 (Side Wall 4)	
Sample 303980 (Bottom Hole 1)	5
Method Blanks	6
QC Batch 93333 - Method Blank (1)	6
Laboratory Control Spikes	7
QC Batch 93333 - LCS (1)	7
QC Batch 93333 - MS (1)	7
	8
QC Batch 93333 - CCV (1)	8
QC Batch 93333 - CCV (2)	
	9
Report Definitions	9
	9
Standard Flags	9
Attachments	9

Case Narrative

Samples for project COG/RJ Unit #134 were received by TraceAnalysis, Inc. on 2012-07-17 and assigned to work order 12071723. Samples for work order 12071723 were received intact at a temperature of 4.0 C.

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	79131	2012-07-20 at 09:06	93333	2012-07-24 at 15:08

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 12071723 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 25, 2012 114-6401351

Analytical Report

Sample: 303976 - Side Wall 1

Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (Titration) 93333 79131	Date An	al Method: alyzed: Preparation:	SM 4500-Cl B 2012-07-24 2012-07-20	Prep Method: Analyzed By: Prepared By:	AR
Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	U	υ <20.0 mg/Kg		mg/Kg	5	4.00

Sample: 303977 - Side Wall 2

Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (Titration) 93333 79131	Date An	al Method: alyzed: Preparation:	SM 4500-Cl B 2012-07-24 2012-07-20	Prep Method: Analyzed By: Prepared By:	AR
Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			238	mg/Kg	5	4.00

Sample: 303978 - Side Wall 3

Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (Titration) 93333 79131	Date An	al Method: alyzed: Preparation:	SM 4500-Cl B 2012-07-24 2012-07-20	Prep Method: Analyzed By: Prepared By:	AR
Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	1108		24.3	mg/Kg	5	4.00

Report Date 114-6401351	: July 25, 2012		Order: 1207 G/RJ Unit #	Page Number: 5 of 9 Eddy Co., NM						
Sample: 30	3979 - Side Wall 4									
Laboratory:	Midland									
Analysis:	Chloride (Titration)	Analytica	l Method:	SM 4500-Cl B	Prep Method:	N/A				
QC Batch:	93333	Date Ana	lyzed:	2012-07-24	Analyzed By:	\mathbf{AR}				
Prep Batch:	79131	Sample P	reparation:	2012-07-20	Prepared By:	AR				
			RL							
Parameter	Flag	Cert	Result	Units	Dilution	RL				
Chloride	U		<20.0	mg/Kg	5	4.00				
Sample: 30	3980 - Bottom Hole 1									
Laboratory:	Midland									
Laboratory: Analysis:	Midland Chloride (Titration)	Analytica	l Method:	SM 4500-Cl B	Prep Method:	N/A				
		Analytica Date Ana		SM 4500-Cl B 2012-07-24	Prep Method: Analyzed By:	N/A AR				

Chloride				6020	mg/Kg	10	4.00
Parameter		Flag	Cert	RL Result	Units	Dilution	RL
Prep Batch:	79131		Sample 1	Preparation:	2012-07-20	Prepared By:	AR

Report Date: July 25, 2012 114-6401351

Work Order: 12071723 COG/RJ Unit #134 Page Number: 6 of 9 Eddy Co., NM

Method Blanks

Method Blank (1)	QC Batch: 93333				
QC Batch: 93333 Prep Batch: 79131		Date Analyzed: QC Preparation:	2012-07-24 2012-07-20	Analyzed By: Prepared By:	
Parameter	Flag	Cert	MDL Result	Units	RL
Chloride			<3.85	mg/Kg	4

Report Date: July 25, 2012 114-6401351

20

11

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

v -											
Param		F	С	LCS Result	Units	Dil.	Spike Amour			ec.	Rec. Limit
Chloride				2730	mg/K		2500	$\frac{10}{<3}$			<u>11111</u> 35 - 115
Percent recovery is	based on the snik	e resi	ilt RPI								
I ercent recovery is	based on the spin	0 1030				pire and	spike dupi	Cate reau	υ.		
_		_	LCSE			Spike	Matrix		Rec.		RPD
Param	F	C	Resul			Amoun		Rec.	Limit	RPD	Limit
Chloride			2600	mg/K	(g 1	2500	<3.85	104	85 - 115	5	20
Matrix Spike (M	S-1) Spiked Sa	ample	: 304065	5							
QC Batch: 93333				e Analyze	-	2-07-24			Anal	yzed By	: AR
Prep Batch: 79131			\mathbf{QC}	Preparat	ion: 201	2-07-20			Prepa	ared By	: AR
Param		F	СЕ	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.		Rec. imit
Chloride		+		3720	mg/Kg	10	2500	1040	107		- 120.6
Percent recovery is	based on the spik	e resi	ılt. RPI			pike and	spike dupli		t.	10.4	
_	_	~	MSD			Spike	Matrix	_	Rec.		RPD
Param	F	С	Result	Units	Dil.	Amount	Result]	Rec.	Limit	RPD	Limit

Chloride3330mg/Kg10250010409279.4 - 120.6Percent recovery is based on the spike result.RPD is based on the spike and spike duplicate result.

Calibration Standards

Standard (CCV-1)

QC Batch:	93333			Date A	nalyzed: 2	012-07-24		Analy	zed By: AR
					CCVs	CCVs	CCVs	Percent	
					True	Found	Percent	Recovery	Date
Param		Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride				mg/Kg	100	99.7	100	85 - 115	2012-07-24

Standard (CCV-2)

QC Batch:	93333			Date A	nalyzed: 2	012-07-24		Analy	zed By: AR
					CCVs	CCVs	\mathbf{CCVs}	Percent	
					True	Found	Percent	Recovery	Date
Param		Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride				mg/Kg	100	100	100	85 - 115	2012-07-24

Work Order: 12071723 COG/RJ Unit #134 Page Number: 9 of 9 Eddy Co., NM

Appendix

Report Definitions

NameDefinitionMDLMethod Detection LimitMQLMinimum Quantitation LimitSDLSample Detection Limit

Laboratory Certifications

	Certifying	Certification	Laboratory
С	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.

120	11	72	3
1010		191	

Δn	Analysis Request of Chain of Custody Record							T	PAGE: OF:																				
	aiya		10	4				stody					ة. 						(Circ			IS RI ecify)		•	
	TETRA TECH 1910 N. Big Spring St. Midland, Texas 79705 (432) 682-4559 • Fax (432) 682-3946 CLIENT NAME: SITE MANAGER: g PRESERVATIVE									TX1005 (Ext. to C35)		Cd Cr Pb Hg Se			24	\$25						H, TDS							
COC	1						worez		Î Î Î Î		Ň	IETH					As Ba Ac Ba			260/6	270/6						us, p		
PROJECT N		5(PR	R	ECT I	NAME: Unit # 131	Loy CO NM		OF CONTA	(N)				a to	8015 MOD.			atiles	TCLP Semi Volatiles	ol. 8240/8	GC.MS Semi. Vol. 8270/625	80/608	/608	Spec.	ta (Air)	oestos)	Major Anions/Cations, pH, TDS		
LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB		E IDENTIFICATION		NUMBER	FILTERED (Y/N)	HNO3	ICE	NONE	RTEX 80018	TPH 80	PAH 8270	RCRA Metals Ag	TCLP Volatiles	TCLP Sa	GC.MS V	GC.MS S	PCB's 8080/608	Pest. 808/608	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major An		
303976	7/10		5		X	Side Wall			1)	(
977					1	Side Wall	2		<u>h </u>			<u> </u>																	
978			Ш		\parallel	Side Wall	3																						
579						Side Wall	4																						
980			V		V	Bottom H	ole 1		V															,					
						. <u></u>																							
				d																									
RELINQUISHED		LH	51-	X	١	Date:/17/17 Time:1400	RECEIVER BY: (Signature)				Date: Time:					د د	TF_		Print &							ate: _ me: _	7-1	- 01	<u> </u>
RELINQUISHED	BY: (Signatur	e) /				Date:	RECEIVED BY: (Signature)				Date: Time:					EE	DEX	_	ED BY:	BU	IS					BILL #	:]
RELINQUISHED	NQUISHED BY: (Signature) Date:								_		ND D		RED DATAC	UP	-	1:			отн	_	ilts by:								
RECEIVING LAB	CEIVING LABORATORY: Track RECEIVED BY: (Signature)										T	20	Ta	Ja	~~~	>				RUS Auth	H Cha orized	rges							
CONTACT:	TION WHEN			PH	ONE:	REMARKS:	DATE:		TIM	E:							ست سر										'es		No
SAMPLE CONDITION WHEN RECEIVED: REMARKS:																					\angle	17	,						

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

Summary Report

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

Project Location:Eddy Co., NMProject Name:COG/RJ Unit #134Project Number:114-6401351

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
295433	BH-1 @ AH-1 4-5'	soil	2012-04-24	00:00	2012-04-26
295434	BH-1 @ AH-1 6-7'	soil	2012-04-24	00:00	2012-04-26
295435	BH-1 @ AH-1 9-10'	soil	2012-04-24	00:00	2012-04-26
295436	BH-1 @ AH-1 14-15'	soil	2012-04-24	00:00	2012-04-26
295437	BH-1 @ AH-1 19-20'	soil	2012-04-24	00:00	2012-04-26
295438	BH-1 @ AH-1 24-25'	soil	2012-04-24	00:00	2012-04-26
295439	BH-1 @ AH-1 29-30'	soil	2012-04-24	00:00	2012-04-26
295440	BH-1 @ AH-1 39-40'	soil	2012-04-24	00:00	2012-04-26
295441	BH-1 @ AH-1 49-50"	soil	2012-04-24	00:00	2012-04-26
295442	BH-1 @ AH-1 59-60'	soil	2012-04-24	00:00	2012-04-26

Sample: 295433 - BH-1 @ AH-1 4-5'

Param	Flag	Result	Units	\mathbf{RL}
Chloride		6510	mg/Kg	4

Sample: 295434 - BH-1 @ AH-1 6-7'

Param	Flag	Result	Units	\mathbf{RL}
Chloride		2160	mg/Kg	4

Sample: 295435 - BH-1 @ AH-1 9-10'

TraceAnalysis, Inc. • 6701 Aberdeen Ave., Suite 9 • Lubbock, TX 79424-1515 • (806) 794-1296 This is only a summary. Please, refer to the complete report package for quality control data.

Report Date: May 9, 2012

Work Order: 12042611

Report Date: May 9, 2012	Work Order: 12042611	Page	Page Number: 2 of 2	
Param Flag	Result	Units	RL	
Chloride	6820	mg/Kg	4	
Sample: 295436 - BH-1 @ AH-1 14-15'				
Param Flag	Result	Units	RL	
Chloride	9010	mg/Kg	4	
Sample: 295437 - BH-1 @ AH-1 19-20'				
Param Flag	Result	Units	RL	
Chloride	4620	mg/Kg	4	
Sample: 295438 - BH-1 @ AH-1 24-25'				
Param Flag	Result	Units	RL	
Chloride	114	mg/Kg	4	
Sample: 295439 - BH-1 @ AH-1 29-30' Param Flag Chloride Flag	Result 617	Units mg/Kg	RL 4	
Sample: 295440 - BH-1 @ AH-1 39-40'				
Param Flag	Result	Units	\mathbf{RL}	
Chloride	203	mg/Kg	4	
Sample: 295441 - BH-1 @ AH-1 49-50"				
Param Flag	Result	Units	\mathbf{RL}	
Chloride	55.8	mg/Kg	4	
Sample: 295442 - BH-1 @ AH-1 59-60'				
Param Flag	Result	Units	RL	
Chloride	20.3	mg/Kg	4	

TraceAnalysis, Inc. • 6701 Aberdeen Ave., Suite 9 • Lubbock, TX 79424-1515 • (806) 794-1296 This is only a summary. Please, refer to the complete report package for quality control data.



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

Lubbock. Texas 79424 800-378-1296 El Paso, Texas 79922 Texas 79703 Midland. Carroldon. Texas 75006

E-Mail lab@traceanalysis.com WE8: www.traceanalysis.com

432-689-6301 FAX 432-689-6313 972-242-7750

806-794-1296

915-585-3443

Certifications

HUB NCTRCA DBE NELAP DoD LELAP WBE Oklahoma ISO 17025 Kansas

Analytical and Quality Control Report

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

Report Date: May 9, 2012

FAX 806 • 794 • 1298

FAX 915-585-4944

Work Order: 12042611

Project Location: Eddy Co., NM **Project Name:** COG/RJ Unit #134 Project Number: 114-6401351

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
295433	BH-1 @ AH-1 4-5'	soil	2012-04-24	00:00	2012-04-26
295434	BH-1 @ AH-1 6-7'	soil	2012-04-24	00:00	2012-04-26
295435	BH-1 @ AH-1 9-10'	soil	2012-04-24	00:00	2012-04-26
295436	BH-1 @ AH-1 14-15'	soil	2012-04-24	00:00	2012-04-26
295437	BH-1 @ AH-1 19-20'	soil	2012-04-24	00:00	2012-04-26
295438	BH-1 @ AH-1 24-25'	soil	2012-04-24	00:00	2012-04-26
295439	BH-1 @ AH-1 29-30'	soil	2012-04-24	00:00	2012-04-26
295440	BH-1 @ AH-1 39-40'	soil	2012-04-24	00:00	2012-04-26
295441	BH-1 @ AH-1 49-50"	soil	2012-04-24	00:00	2012-04-26
295442	BH-1 @ AH-1 59-60'	soil	2012-04-24	00:00	2012-04-26

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 and

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

Report Contents

Case Narrative	4
Analytical Report	5
Sample 295433 (BH-1 @AH-1 4-5')	5
Sample 295434 (BH-1 @AH-1 6-7')	5
Sample 295435 (BH-1 @AH-1 9-10')	5
Sample 295436 (BH-1 @AH-1 14-15')	5
Sample 295437 (BH-1 @AH-1 19-20')	6
Sample 295438 (BH-1 @AH-1 24-25')	6
Sample 295439 (BH-1 @AH-1 29-30')	6
Sample 295440 (BH-1 @AH-1 39-40')	7
Sample 295441 (BH-1 @AH-1 49-50")	7
Sample 295442 (BH-1 @AH-1 59-60')	7
Method Blanks	8
QC Batch 91024 - Method Blank (1)	8
QC Batch 91040 - Method Blank (1)	8
Laboratory Control Spikes	0
Laboratory Control Spikes	9
QC Batch 91024 - LCS (1)	9
QC Batch 91024 - LCS (1)	9 9
QC Batch 91024 - LCS (1)	9 9 9
QC Batch 91024 - LCS (1)	9 9
QC Batch 91024 - LCS (1)	9 9 9
QC Batch 91024 - LCS (1)	9 9 9 10
QC Batch 91024 - LCS (1)	9 9 9 10 11 11
QC Batch 91024 - LCS (1)	9 9 9 10 11 11 11
QC Batch 91024 - LCS (1)	9 9 10 11 11 11 11
QC Batch 91024 - LCS (1) QC Batch 91040 - LCS (1) QC Batch 91024 - MS (1) QC Batch 91040 - MS (1) QC Batch 91040 - MS (1) QC Batch 91024 - CCV (1) QC Batch 91024 - CCV (2) QC Batch 91040 - CCV (2) QC Batch 91040 - CCV (2) QC Batch 91040 - CCV (2)	9 9 9 10 11 11 11
QC Batch 91024 - LCS (1)	9 9 9 10 11 11 11 11 11 11 11
QC Batch 91024 - LCS (1)	9 9 9 10 11 11 11 11 11
QC Batch 91024 - LCS (1)	9 9 9 10 11 11 11 11 11 11 11
QC Batch 91024 - LCS (1)	9 9 9 10 11 11 11 11 11 11 11 11 12 12

Case Narrative

Samples for project COG/RJ Unit #134 were received by TraceAnalysis, Inc. on 2012-04-26 and assigned to work order 12042611. Samples for work order 12042611 were received intact at a temperature of 4.0 C.

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	77160	2012-05-04 at 09:09	91024	2012-05-09 at 10:46
Chloride (Titration)	SM 4500-Cl B	77160	2012-05-04 at 09:09	91040	2012-05-09 at 14:09

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 12042611 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: May 9, 2012 114-6401351 Work Order: 12042611 COG/RJ Unit #134 Page Number: 5 of 12 Eddy Co., NM

Analytical Report

Sample: 295433 - BH-1 @ AH-1 4-5'

Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (Titration) 91024 77160	Date	rtical Method: Analyzed: le Preparation:	SM 4500-Cl B 2012-05-09 2012-05-04	Prep Method: Analyzed By: Prepared By:	AR
			\mathbf{RL}			
Parameter	Flag	Cert	Result	Units	Dilution	$\mathbb{R}\mathbb{L}$
Chloride	<u> </u>		6510	mg/Kg	10	4.00

Sample: 295434 - BH-1 @ AH-1 6-7'

Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (Titration) 91024 77160	Date An	al Method: alyzed: Preparation:	SM 4500-Cl B 2012-05-09 2012-05-04	Prep Method: Analyzed By: Prepared By:	A R
Parameter	Flag	Cert	RL Result	Units	Dilution	\mathbf{RL}
Chloride	······································		2160	mg/Kg	10	4.00

Sample: 295435 - BH-1 @ AH-1 9-10'

Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (Titration) 91024 77160	Analytical Method: Date Analyzed: Sample Preparation:		SM 4500-Cl B 2012-05-09 2012-05-04	Prep Method: Analyzed By: Prepared By:	AR
Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			6820	mg/Kg	10	4.00

Report Date 114-6401351	:: May 9, 2012		Order: 12042 /RJ Unit #1	-	Page Number: Eddy Co	
Sample: 29	5436 - BH-1 @ AH-1 14-15'					
Laboratory:	Midland					
Analysis:	Chloride (Titration)	Analytica	l Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	91024	Date Ana	lyzed:	2012-05-09	Analyzed By:	AR
Prep Batch:	77160	Sample P	reparation:	2012-05-04	Prepared By:	AR
			\mathbf{RL}			
Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride	······································		9010	mg/Kg	10	4.00
Sample: 29	5437 - BH-1 @ AH-1 19-20'					
Laboratory:	Midland					
Analysis:	Chloride (Titration)	Analvtica	l Method:	SM 4500-Cl B	Prep Method:	N/A
					•	
•	91024	Date Ana	lyzed:	2012-05-09	Analyzed By:	AR
QC Batch: Prep Batch:	91024 77160	Date Ana Sample P	lyzed: reparation:	2012-05-09 2012-05-04	Analyzed By: Prepared By:	
QC Batch:			-			AR
QC Batch:			reparation:			AR

Sample: 295438 - BH-1 @ AH-1 24-25'

Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (Titration) 91024 77160	Date An	al Method: alyzed: Preparation:	SM 4500-Cl B 2012-05-09 2012-05-04	Prep Method: Analyzed By: Prepared By:	AR
Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			114	mg/Kg	5	4.00

Sample: 295439 - BH-1 @ AH-1 29-30'

.

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	91024	Date Analyzed:	2012-05-09	Analyzed By:	AR
Prep Batch:	77160	Sample Preparation:	2012-05-04	Prepared By:	AR

Report Date: May 9, 2012 114-6401351		Work Order: 12042611 COG/RJ Unit #134			Page Number: 7 of 12 Eddy Co., NM		
Parameter	Flag	Cert	RL Result	Units	Dilution	\mathbf{RL}	
Chloride	_		617	mg/Kg	5	4.00	

Sample: 295440 - BH-1 @ AH-1 39-40'

Laboratory: Analysis: QC Batch: Prep Batch:	Midland Chloride (Titration) 91040 77160	Date An	al Method: alyzed: Preparation:	SM 4500-Cl B 2012-05-09 2012-05-04	Prep Method: Analyzed By: Prepared By:	AR
			RL			
Parameter	Flag	Cert	\mathbf{Result}	Units	Dilution	\mathbf{RL}
Chloride		· · · · · · · · · · · · · · · · · · ·	203	mg/Kg	5	4.00

Sample: 295441 - BH-1 @ AH-1 49-50"

Laboratory:	Midland					
Analysis:	Chloride (Titration)	Analytic	al Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	91040	Date An	alyzed:	2012-05-09	Analyzed By:	AR
Prep Batch:	77160	U U		2012-05-04	Prepared By:	AR
			RL			
Parameter	Flag	Cert	Result	Units	Dilution	\mathbf{RL}
Chloride	// // // // // // // // // // //		55.8	mg/Kg	5	4.00

Sample: 295442 - BH-1 @ AH-1 59-60'

Chloride			20.3	mg/Kg	5	4.00
Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Prep Batch:	77160	Sample I	Sample Preparation: 2012		Prepared By:	AR
QC Batch:	91040	Date Analyzed:		2012-05-09	Analyzed By:	AR
Analysis:	Chloride (Titration)	Analytic	al Method:	SM 4500-Cl B	Prep Method:	N/A
Laboratory:	Midland					

Report Date: May 9, 2012 114-6401351

Work Order: 12042611 COG/RJ Unit #134

Method Blanks

Method Blank (1)	QC Batch: 91024				
QC Batch: 91024 Prep Batch: 77160		Date Analyzed: QC Preparation:	2012-05-09 2012-05-04	Analyzed By: Prepared By:	AR AR
Parameter	Flag	Cert	MDL Result	Units	\mathbf{RL}
Chloride			<3.85	mg/Kg	4
Method Blank (1)	QC Batch: 91040				
QC Batch: 91040		Date Analyzed:	2012-05-09	Analyzed By:	AR
Prep Batch: 77160		QC Preparation:	2012-05-04	Prepared By:	AR
			MDL		
Parameter	Flag	Cert	Result	Units	RL
Chloride			<3.85	mg/Kg	4

Report Date: May 9, 2012 114-6401351

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 91024 Prep Batch: 77160			te Analyze Preparati		2-05-09 2-05-04			Analyzed Prepared	
Param	F	С	LCS Result	Units	Dil.	Spike Amount	Matriz Result		Rec. Limit
Chloride	<u>г</u>		2500	mg/Kg		2500	<3.85		<u>85 - 115</u>
Percent recovery is based on the spik	o rocu					-			
reicent recovery is based on the spik	e resu	.16. IGF 1	D is based	on the sp	nke and sp	ike dupilea	ate result.		
		LCSI			Spike	Matrix		Rec.	RPD
Param F	C	Resul		Dil.	Amount	Result			PD Limit
Chloride		2590) mg/Kg	g 1	2500	<3.85	104 85	- 115	4 20
Percent recovery is based on the spik	e resu	lt. RP	D is based	on the sp	oike and sp	ike duplica	ate result.		
Laboratory Control Spike (LCS-	-1)								
QC Batch: 91040		Dat	te Analyzed	d: 2012	2-05-09			Analyzed	By: AR
Prep Batch: 77160		QC	Preparatio	on: 2012	2-05-04			Prepared	-
			LCS			Spike	Matrix	Ľ	Rec.
Param	F	C	Result	Units	Dil.	Amount	Result		Limit
Chloride			2480	mg/Kg	1	2500	<3.85	99	85 - 115
Percent recovery is based on the spik	e resu	lt. RPI	D is based	on the sp	ike and sp	ike duplica	te result.		
		LCSI)		Spike	Matrix]	Rec.	RPD

			0000			opine	MAGUIN		1000.		
Param	F	С	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			2430	mg/Kg	1	2500	<3.85	97	85 - 115	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: 295439		
QC Batch: 91024 Prep Batch: 77160	Date Analyzed: QC Preparation:	Analyzed By: Prepared By:	

Report Date: May 9, 2012 114-6401351				Order: 12 RJ Unit		I	Page Nu	imber: 1 Eddy C				
Param		F	CI	MS Result	Units	Dil.	Spike Amount		latrix esult	Rec.		lec. imit
Chloride				3090	mg/Kg		2500		617	99		- 120.6
Percent recovery is based on th	he spike	e res	ult. RPI									
-	-		MSD			Spike	Matrix		R	.ec.	תםם	RPD Limit
Param Chloride	F	C	Result 3150	Units mg/Kg		Amount 2500	Result 617	Rec. 101		mit • 120.6	$\frac{\text{RPD}}{2}$	Limit 20
Percent recovery is based on th	-					spine and	spine dup.					
Matrix Spike (MS-1) Spi QC Batch: 91040	-		e: 29547: Dat		ed: 20	12-05-09 12-05-04	opino adp				yzed By ared By:	
Matrix Spike (MS-1) Spi QC Batch: 91040 Prep Batch: 77160	iked Sa	mpl	e: 29547: Dat QC	3 e Analyze Preparat MS	ed: 20 ion: 20	12-05-09 12-05-04	Spike	М	atrix	Prepa	ared By: F	AR lec.
Matrix Spike (MS-1) Spi QC Batch: 91040 Prep Batch: 77160 Param	iked Sa		e: 29547: Dat QC	3 e Analyze Preparat	ed: 20 ion: 20 Units	12-05-09		M R			ared By: F L	AR lec. imit
Matrix Spike (MS-1) Spi QC Batch: 91040	iked Sa	mple F	e: 29547: Dat QC <u>C I</u> ult. RPI	3 Preparat MS Result 9250	ed: 20 ion: 20 Units mg/Kg	12-05-09 112-05-04 Dil. 10 spike and	Spike Amount 2500 spike dupl	M R 7	atrix esult 7040 result.	Prepa Rec.	ared By: F L	AR lec. imit - 120.6
Matrix Spike (MS-1) Spi QC Batch: 91040 Prep Batch: 77160 Param Chloride	iked Sa	mple F	e: 29547: Dat QC 1	3 Preparat MS Result 9250	ed: 20 ion: 20 Units mg/Kg	12-05-09 12-05-04 Dil. 10	Spike Amount 2500	M R 7	atrix esult 7040 result. R	Prepa Rec.	ared By: F L	AR lec. imit

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

Report Date: May 9, 2012 114-6401351

Calibration Standards

Standard (CCV-1)

QC Batch:	91024			Date A	nalyzed: 2	012-05-09		Analy	zed 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	2012-05-09

Standard (CCV-2)

QC Batch:	91024			Date A	Analyzed: 2	2012-05-09		Analy	zed By: AR
					CCVs	CCVs	CCVs	Percent	
					True	Found	Percent	Recovery	Date
Param		Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride				mg/Kg	100	99.3	99	85 - 115	2012-05-09

Standard (CCV-1)

QC Batch:	91040			Date A	nalyzed:	2012-05-09		Analy	zed 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	2012-05-09

Standard (CCV-2)

QC Batch:	91040			Date A	Analyzed:	2012-05-09		Analy	zed By: AR
					CCVs	CCVs	CCVs	Percent	
					True	Found	Percent	Recovery	Date
Param		Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride				mg/Kg	100	99.7	100	85 - 115	2012-05-09

Work Order: 12042611 COG/RJ Unit #134 Page Number: 12 of 12 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
С	Authority	Number	Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704392-11-3	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.

/	· · · ·					12042011																			,			
An		sis F	?e	20	U	est of Chain of Custody	/ F	Re	C	0	rc	ł	T								PAC	GE:			-	F:	1	
													4					(Cir				REC			lo.)			
						TETRATECH 1910 N. Big Spring St. Midland, Texas 79705 (432) 682-4559 • Fax (432) 682-3946								15 (Ext. to C35)		Cd Cr Pb Hg Se Cd Vr Pd Ho Se										TDS		
CLIENT NAM	AE: CO	6				SITE MANAGER: IKC Tavarez	NERS		PF		ERV			TX1005		88	1			60/624	270/625					.'Hd 'su		
PROJECT N	0.: ふこ		PF	ROJ	ECT	NAME: Sレ 13イ	CONTAL	(N)	Τ			Τ		8015 MOD.		s Ag As s Ag As	es a	/olatiles		8240/82	i. Vol. 8:	808		ij	(Air) tos	s/Catio		
LAB I.D. NUMBER	DATE ZOIZ	TIME	MATRIX	COMP	GRAB	Eddy Co., NM SAMPLE IDENTIFICATION	I I I I I I I I I I I I I I I I I I I	FILTERED ()	HC	HN03	ICE	NONE	RTEY ROOTH	TPH 8015	PAH 8270	RCRA Metals Ag TCLP Metals Ag	TCLP Volatil	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Sem	Pest. 808/60	Chloride	Gamma Spe	Alpha Beta (Air) PLM (Asbestos)	Major Anions/Cations, pH, TDS		
295433	4/24		S		X	BH-1@AH-1 4-5'	1																X					
436	(/		Ш	6-7'	1																X					
437						9-10'	1																Х					
438						14-15'	l																Х					
439						19-20'	l																X					
410						24-25'	1																X					
441						29-30'	l																Х					
442						39-40'	l																Х					
443						49-50'	1																Х					
YARY	0	1	1		/	Date: 476/12 ACCENERRY (Signature)					12	1.	_										K					
RITINOUISTED			-						Da Tin	te//	- 4		50			APLED						in	1		Date: Time.	-41	241	12-
RELINQUISHED	BY: (Signatur	re)				Date: RECEIVED BY: (Signature) Time:			Da Tin	te: _ ne: _				=1	FE	IPLE S		_		BUS								
RELINQUISHED	BY: (Signatur	re)				Date: RECEIVED BY: (Signature) Time:			Da Tin	-				=1	_	AND D	-	_						0	THER:	sults t		
RECEIVING LAB	ORATORY:	TRI STATE:	42e	7		RECEIVED BY: (Signature)								-	•	Ik	æ	Ta	àu	a/	e z	!			RI AL	JSH Cl nthoriz	arges ed:	
SAMPLE CONDI	TION WHEN			<u>~ 14</u>	HONE	E: DATE: REMARKS:	<u></u>	IE:						 ()	ĺ	Ik ! k	n	k	A	X	19	M	١d	la	L V	Yes L		No

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

.

						12042611																		المستقذ					_
An	alvs	sis F	Re	a	16	est of Chain of Custody	/ F	?e	C:	0	rc										PAG					F:			_
			-															(Cir				REC ify M			lo.)				
CI JENT MAN			C	Jan Contraction	رو	Midland, Texas 79705 (432) 682-4559 • Fax (432) 682-3946		.	0	DES	501	ATIVE		TX1005 (Ext. to C35)	01 01 0P 110	Cd Vr Pd Hg Se				24	325					pH, TDS			
CLIENT NAM	ت) "	in p	n.7	5	<u>'</u>	2 SITE MANAGER: Ike Taranez	INERS		- F 1		TH			1 1		As Ba As Ba		0		260/6	3270/6								
PROJECT N	0.: 5101	351	PR	oje <i>f</i>	ст ?З	NAME: し 13イ	CONTA	Î						MOD		2 S	a se	/olatile		3240/8	, Vol.	909 90		4	Air)	s/Cati			
LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP	GHAB	Eddy Co., NM SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	HCL	HN03	ICE	NONE	BTEX 8021B	TPH 8015	PAH 8270	TCI P Metals Ag	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 Spe	Alpha Beta (Air) Pt M (Ashestos)	Major Anions/Cations,			
295433	4/24		S		2	BH-1@AH-1 4-5'	1															1	X	Π		Π			
438	(17		71	6-7'	1				1		T			╎	╎	1	T			1.	Ā	Π		T	\square		T
4375		1				9-10'	1						Ť			1	ϯ	t				T	苁	\prod		T			T
4386		<u> </u>			Ħ	14-15'	l						+-	\uparrow		Ť			T	T		1	٠X	\square		T		T	T
4397	1	1			Ħ	19-23'	1						T				T	T		Γ			·χ	\square		T	Π	T	T
4/8			T 1		Ħ	24-25' .	1	T					╈					T	╞			1	Ĵ,			+	[]		Ť
499		1			I	29-30'	1	T										Ť	╎			1	Ā	Π			Π		T
4420		T .			1	39-40'	1						1	Π				╋	1	T		1.	X	\square			Π		T
4431			17	\square	Π	49-50'	1	1-	Γ								T	T	T	T		T	·X	1		T			T
YARY	70	1	17			59-60'	1				1			Π									·X	\mathbf{T}			Π		T
RELINQUISTED	BY: Gighat	are)				Date: 47612 Procentoraty (Bignature)		<u> </u>		Date Time: '	72	11:2	$\frac{\omega}{\omega}$	_	SAI	MPLE	DBY	(Pri	nt &	Initial	, k	Kir	5		Dat Tim	e: _4	72	1/12	-
RELINQUISHED) BY: (Signat	ure)				Date: RECEI/ED BY: (Signature)				Date: Time:						MPLE		PPEC	BY:	(Circ BU					AIRBI				
RELINQUISHED) BY: (Signat	ure)				Date: RECEIVED BY: (Signature) Time:			1	Date:				_		AND	-				S RSON				OTHE	R: Result:	s by:	<u></u>	
RECEIVING LA		-	ACC	<u> </u>		RECEIVED BY: (Signature)				Time:				_	1						~e-				1	RUSH Author	-		
	110CA~	SIAIE			ONE		т	IME:										_				-			ľ	Author Ye:		N	0
SAMPLE CONF	TON WHE		r.			REMARKS:								0	Ũ	l	te	th		Ì	ĝ(10	'nι	Ù	an	d			A
	Please	e fill out a	ll cop	oies	- L	aboratory retains Yellow copy - Return Orginal copy to 1	etra 1	ſech) -	Proj	ect	Manag	er n	atain	is Pi	ink c	:op	y -	Acc	coui	nting	rec	eive	s Gc	old c	ору.			7

.

Summary Report

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

Project Location: Eddy Co., NM Project Name: COG/RJ Unit #134 Project Number: 114-6401351

Time Date Description Taken Received Sample Matrix Taken 293054 2012-03-30 AH-1 0-1' 2012-03-28 soil 00:00 AH-1 1-1.5' 293055 soil 2012-03-28 00:00 2012-03-30 293056 AH-1 2-2.5' 2012-03-28 00:00 2012-03-30 soil 293057 AH-1 3-3.5' 2012-03-30 soil 2012-03-28 00:00 293058 AH-1 4-4.5' 2012-03-28 00:00 2012-03-30 soil AH-1 5-5.5' 293059 2012-03-30 soil 2012-03-28 00:00 2012-03-30 293060 AH-1 6-6.5' 2012-03-28 00:00 soil AH-1 7-7.5' 2012-03-30 293061 soil 2012-03-28 00:00 293062 AH-1 8-8.5' soil 2012-03-28 00:00 2012-03-30 293063 AH-1 9-9.5' soil 2012-03-28 00:00 2012-03-30

		В	TEX	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)
293054 - AH-1 0-1'	<0.200 Qr	0.457 qr	0.449 Qr	1.37 Qr	1770	223

Sample: 293054 - AH-1 0-1'

Param	Flag	Result	Units	\mathbf{RL}
Chloride		2240	mg/Kg	4

Sample: 293055 - AH-1 1-1.5'

Param	Flag	Result	Units	RL
Chloride	· · · · · · · · · · · · · · · · · · ·	<200	mg/Kg	4

TraceAnalysis, Inc. • 6701 Aberdeen Ave., Suite 9 • Lubbock, TX 79424-1515 • (806) 794-1296 This is only a summary. Please, refer to the complete report package for quality control data.

Report Date: April 5, 2012

Work Order: 12033032

Date

Report Date: April 5, 2012	Work Order: 12033032	Page	Number: 2 of 2
Sample: 293056 - AH-1 2-2.5	5,		
Param Fl	ag Result	Units	\mathbf{RL}
Chloride	<200	mg/Kg	4
Sample: 293057 - AH-1 3-3.5	5,		
Param Fl	ag Result	Units	\mathbf{RL}
Chloride	<200	mg/Kg	4
Sample: 293058 - AH-1 4-4.5	5,		
Param Fl	ag Result	Units	\mathbf{RL}
Chloride	<200	mg/Kg	4
Sample: 293059 - AH-1 5-5.5	5,		
Param Fl	ag Result	Units	RL
Chloride	<200	mg/Kg	4
Sample: 293060 - AH-1 6-6.5	ş ,		
Param F1	ag Result	Units	\mathbf{RL}
Chloride	<200	mg/Kg	4
Sample: 293061 - AH-1 7-7.5	;,		
Param Fl	ag Result	Units	\mathbf{RL}
Chloride	<200	mg/Kg	4
Sample: 293062 - AH-1 8-8.5	;,		
Param Fl	ag Result	Units	RL
Chloride	504	mg/Kg	4
Sample: 293063 - AH-1 9-9.5	;,		
Param Fl	ag Result	Units	\mathbf{RL}
Chloride	6400	mg/Kg	4

TraceAnalysis, Inc. • 6701 Aberdeen Ave., Suite 9 • Lubbock, TX 79424-1515 • (806) 794-1296 This is only a summary. Please, refer to the complete report package for quality control data.



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

9 Lubbock, Texas 79424 800-378-1296 806-El Paso, Texas 79922 915-Midland, Texas 79703 432-Svite 100 Carroliton, Texas 75006 972-E-Mail: lab@traceanalysis.com WEB: www.traceanalysis.com

806-794-1296 FAX 806-794-1298 915-585-3443 FAX 915-585-4944 432-689-6501 FAX 432-689-6313 972-242-7750

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: April 5, 2012

Work Order: 12033032

Project Location:Eddy Co., NMProject Name:COG/RJ Unit #134Project Number:114-6401351

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

		Date	Time	Date
Description	Matrix	Taken	Taken	Received
AH-1 0-1'	soil	2012-03-28	00:00	2012-03-30
AH-1 1-1.5'	soil	2012-03-28	00:00	2012-03-30
AH-1 2-2.5'	soil	2012-03-28	00:00	2012-03-30
AH-1 3-3.5'	soil	2012-03-28	00:00	2012-03-30
AH-1 4-4.5'	soil	2012-03-28	00:00	2012-03-30
AH-1 5-5.5'	soil	2012-03-28	00:00	2012-03-30
AH-1 6-6.5'	soil	2012-03-28	00:00	2012-03-30
AH-1 7-7.5'	soil	2012-03-28	00:00	2012-03-30
AH-1 8-8.5'	soil	2012-03-28	00:00	2012-03-30
AH-1 9-9.5'	soil	2012-03-28	00:00	2012-03-30
	AH-1 0-1' AH-1 1-1.5' AH-1 2-2.5' AH-1 3-3.5' AH-1 4-4.5' AH-1 5-5.5' AH-1 6-6.5' AH-1 6-6.5' AH-1 7-7.5' AH-1 8-8.5'	AH-1 0-1' soil AH-1 1-1.5' soil AH-1 2-2.5' soil AH-1 3-3.5' soil AH-1 4-4.5' soil AH-1 5-5.5' soil AH-1 6-6.5' soil AH-1 7-7.5' soil AH-1 8-8.5' soil	DescriptionMatrixTakenAH-1 0-1'soil2012-03-28AH-1 1-1.5'soil2012-03-28AH-1 2-2.5'soil2012-03-28AH-1 3-3.5'soil2012-03-28AH-1 4-4.5'soil2012-03-28AH-1 5-5.5'soil2012-03-28AH-1 6-6.5'soil2012-03-28AH-1 7-7.5'soil2012-03-28AH-1 8-8.5'soil2012-03-28	DescriptionMatrixTakenTakenAH-1 0-1'soil2012-03-2800:00AH-1 1-1.5'soil2012-03-2800:00AH-1 2-2.5'soil2012-03-2800:00AH-1 3-3.5'soil2012-03-2800:00AH-1 4-4.5'soil2012-03-2800:00AH-1 5-5.5'soil2012-03-2800:00AH-1 6-6.5'soil2012-03-2800:00AH-1 7-7.5'soil2012-03-2800:00AH-1 8-8.5'soil2012-03-2800:00

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

This report consists of a total of 18 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Michael Abal

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

Report Contents

Case Narrative	4
Analytical Report	5
Sample 293054 (AH-1 0-1')	5
Sample 293055 (AH-1 1-1.5')	6
Sample 293056 (AH-1 2-2.5')	6
Sample 293057 (AH-1 3-3.5')	7
Sample 293058 (AH-1 4-4.5')	7
Sample 293059 (AH-1 5-5.5')	7
Sample 293060 (AH-1 6-6.5')	8
Sample 293061 (AH-1 7-7.5')	8
Sample 293062 (AH-1 8-8.5')	8
Sample 293063 (AH-1 9-9.5')	8
	0
Method Blanks	10
QC Batch 89888 - Method Blank (1)	10
QC Batch 89908 - Method Blank (1)	10
QC Batch 89915 - Method Blank (1)	10
QC Batch 89955 - Method Blank (1)	11
4 0 2000 0000 12000 2000 (-) · · · · · · · · · · · · · · · · · · ·	
Laboratory Control Spikes	12
QC Batch 89888 - LCS (1)	12
QC Batch 89908 - LCS (1)	12
QC Batch 89915 - LCS (1)	13
QC Batch 89955 - LCS (1)	13
QC Batch 89888 - $MS(1)$	13
QC Batch 89908 - MS (1)	14
QC Batch 89915 - MS (1)	14
QC Batch 89955 - $MS(1)$	15
	10
Calibration Standards	16
QC Batch 89888 - CCV (2)	16
QC Batch 89888 - CCV (3)	16
QC Batch 89908 - CCV (1)	16
QC Batch 89908 - CCV (2)	16
QC Batch 89915 - CCV (1)	16
QC Batch 89915 - CCV (2)	17
QC Batch 89955 - ICV (1)	17
QC Batch 89955 - CCV (1)	17
**	18
Report Definitions	18
Laboratory Certifications	18
Standard Flags	18
Attachments	18

Case Narrative

Samples for project COG/RJ Unit #134 were received by TraceAnalysis, Inc. on 2012-03-30 and assigned to work order 12033032. Samples for work order 12033032 were received intact at a temperature of 0.9 C.

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

		Prep	Prep	\mathbf{QC}	Analysis
Test	Method	Batch	Date	Batch	Date
BTEX	S 8021B	76308	2012-04-02 at 10:48	89915	2012-04-02 at 11:09
Chloride (Titration)	SM 4500-Cl B	76336	2012-04-03 at 09:27	89955	2012-04-04 at 10:50
TPH DRO - NEW	S 8015 D	76291	2012-04-02 at 13:55	89888	2012-04-02 at 13:59
TPH GRO	S 8015 D	76308	2012-04-02 at 10:48	89908	2012-04-03 at 11:36

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

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 12033032 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: April 5, 2012 114-6401351

Analytical Report

Sample: 293054 - AH-1 0-1'

Laboratory: Analysis: QC Batch: Prep Batch:	Midland BTEX 89915 76308		D	ate Ana	l Method: lyzed: reparatior	2012	21B -04-02 -04-02		Prep Met Analyzed Prepared	By:	S 5035 tc tc
						\mathbf{RL}					
Parameter		Flag		Cert		Result		nits	Dilution		RL
Benzene		Qr,U		1		< 0.200	mg/	Kg	10		$0.0\overline{2}00$
Toluene		Qr		1		0.457	mg/	Kg	10		0.0200
Ethylbenzene	9	Qr		1		0.449	mg/		10		0.0200
Xylene		Qr		1		1.37	mg/	Kg	10		0.0200
Surrogate			Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery		overy nits
Trifluorotolue	ene (TFT)	Qsr	Qar		6.20	mg/Kg	g 10	10.0	62	75 -	135.4
4-Bromofluor	obenzene (4-BFB)				7.05	mg/Kį	g 10	10.0	70	63.6 -	158.9
Sample: 29 Laboratory: Analysis: QC Batch: Prep Batch:	3054 - AH-1 0-1' Midland Chloride (Titration 89955 76336	n)		Date	lytical Me Analyzec ple Prepar	ł:	SM 4500-Cl 2012-04-04 2012-04-03	В	Prep M Analyza Prepare	ed By:	N/A AR AR
-				a .		RL					
Parameter		Flag		Cert		Result		nits	Dilution		RL
Chloride						2240	mg	ng	100		4.00
Sample: 29	3054 - AH-1 0-1'										
Laboratory:	Midland								_		
Analysis:	TPH DRO - NEW				alytical M		S 8015 D		Prep M		N/A
QC Batch:	89888				e Analyze		2012-04-02		Analyz	•	DA
Prep Batch:	76291			San	nple Prepa	aration:	2012-04-02		Prepare	ed By:	DA

Prep Batch: 702	391	Sample	Preparation: A	2012-04-02	Prepared By	: DA
			\mathbf{RL}			
Parameter	Flag	Cert	Result	Units	Dilution	\mathbf{RL}
DRO		1	1770	mg/Kg	5	50.0

Report Date: 114-6401351	April 5,	, 2012			Work Order: COG/RJ U	Page Number: 6 of 18 Eddy Co., NM				
Surrogate		Flag	Cert	Result	$\mathbf{U}\mathbf{n}\mathbf{i}\mathbf{t}\mathbf{s}$	Dilution	Spike Amount	Percent Recovery	Recovery Limits	
n-Tricosane	QBT	Qar		421	mg/Kg	5	100	421	49.3 - 157.5	
Sample: 293	3054 - A	.H-1 0-1								

Laboratory:MidlandAnalysis:TPH GROQC Batch:89908Prep Batch:76308		Date A	cal Metho nalyzed: Preparat	2012	15 D -04-03 -04-02		Prep Met Analyzed Prepared	By: tc
				\mathbf{RL}				
Parameter	Flag	Cert		Result	U	nits	Dilution	\mathbf{RL}
GRO		1		223	mg/	′Kg	10	2.00
						Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)			6.21	mg/Kg	10	10.0	62	58.5 - 155.1
4-Bromofluorobenzene (4-BFB)			7.18	mg/Kg	10	10.0	72	45.1 - 162.2

Sample: 293055 - AH-1 1-1.5'

Laboratory: Analysis: QC Batch: Prep Batch:	alysis: Chloride (Titration) Batch: 89955		al Method: alyzed: Preparation:	SM 4500-Cl B 2012-04-04 2012-04-03	Prep Method: Analyzed By: Prepared By:	AR
			\mathbf{RL}			
Parameter	Flag	Cert	Result	Units	Dilution	\mathbf{RL}
Chloride	U		<200	mg/Kg	50	4.00

Sample: 293056 - AH-1 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	89955	Date Analyzed:	2012-04-04	Analyzed By:	AR
Prep Batch:	76336	Sample Preparation:	2012-04-03	Prepared By:	AR

continued ...

Report Date 114-6401351	: April 5, 2012		(Order: 1203 G/RJ Unit #			Page Number: 7 of 18 Eddy Co., NM		
sample 2930	56 continued							
			\mathbf{RL}					
Parameter	Flag	Cert	Result	Units	Dilution	RL		
			\mathbf{RL}					
Parameter	\mathbf{Flag}	Cert	Result	Units	Dilution	RL		
Chloride	U U		<200	mg/Kg	50	4.00		
Sample: 29	3057 - AH-1 3-3.5'							
Laboratory:	Midland							
Analysis:	Chloride (Titration)		al Method:	SM 4500-Cl B	Prep Method:	N/A		
QC Batch:	89955	Date Ar		2012-04-04	Analyzed By:	AR		
Prep Batch:	76336	Sample	Preparation:	2012-04-03	Prepared By:	AR.		
			\mathbf{RL}					
Parameter	Flag	Cert	Result	Units	Dilution	RL		
Chloride	U		<200	mg/Kg	50	4.00		
Sample: 29	3058 - AH-1 4-4.5'							
Laboratory:	Midland							
Analysis:	Chloride (Titration)		al Method:	SM 4500-Cl B	Prep Method:	N/A		
QC Batch:	89955	Date Ar		2012-04-04	Analyzed By:	AR		
Prep Batch:	76336	Sample	Preparation:	2012-04-03	Prepared By:	AR		
			RL					
Parameter	Flag	Cert	Result	Units	Dilution	RL		
Chloride	U		<200	mg/Kg	50	4.00		

Sample: 293059 - AH-1 5-5.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method: 1	N/A
QC Batch:	89955	Date Analyzed:	2012-04-04	Analyzed By:	AR
Prep Batch:	76336	Sample Preparation:	2012-04-03	Prepared By:	AR

Report Date: April 5, 2012 114-6401351			G/RJ Unit #134	Page Number: 8 of 18 Eddy Co., NM		
			RL			
Parameter	Flag	Cert	Result	Units	Dilution	\mathbf{RL}
Chloride	υ		<200	mg/Kg	50	4.00

Sample: 293060 - AH-1 6-6.5'

Laboratory: Analysis: QC Batch: Prep Batch:	lysis: Chloride (Titration) Batch: 89955		al Method: alyzed: Preparation:	SM 4500-Cl B 2012-04-04 2012-04-03	Prep Method: Analyzed By: Prepared By:	AR
			\mathbf{RL}			
Parameter	Flag	Cert	Result	Units	Dilution	\mathbf{RL}
Chloride	U		<200	mg/Kg	50	4.00

Sample: 293061 - AH-1 7-7.5'

Laboratory: Analysis: QC Batch: Prep Batch:	nalysis: Chloride (Titration) C Batch: 89955		Date An	al Method: alyzed: Preparation:	SM 4500-Cl B 2012-04-04 2012-04-03	Prep Method: Analyzed By: Prepared By:	AR
				RL			
Parameter		Flag	Cert	Result	Units	Dilution	\mathbf{RL}
Chloride	· · · · · · · · · · · · · · · · · · ·	υ		<200	mg/Kg	50	4.00

Sample: 293062 - AH-1 8-8.5'

Laboratory: Analysis: QC Batch: Prep Batch:	alysis: Chloride (Titration) Batch: 89955		al Method: alyzed: Preparation:	SM 4500-Cl B 2012-04-04 2012-04-03	Prep Method: Analyzed By: Prepared By:	AR
		-	RL			
Parameter	Flag	Cert	\mathbf{Result}	Units	Dilution	\mathbf{RL}
Chloride			504	mg/Kg	50	4.00

Report Date: April 5, 2012 114-6401351				Order: 1203 G/RJ Unit #	Page Number: 9 of 18 Eddy Co., NM			
Sample: 29	3063 - AH-1 9-9.5	,						
Laboratory: Midland								
Analysis:	Chloride (Titration	n)	Analytic	al Method:	SM 4500-Cl B	Prep Method:	N/A	
QC Batch:	89955	,	Date Analyzed:		2012-04-04	Analyzed By:	AR	
Prep Batch:	76336		Sample 1	Preparation:	2012-04-03	Prepared By:	AR	
				\mathbf{RL}				
Parameter	-	Flag	Cert	Result	Units	Dilution	RL	
Chloride				6400	mg/Kg	100	4.00	

Report Date: April 5, 2012 114-6401351

Benzene

Toluene

Work Order: 12033032 COG/RJ Unit #134

Method Blanks

Method Blank (1)	QC Ba	atch: 89888							
QC Batch: 89888			Date A	nalyzed:	2012-04-0	2		Analyze	ed By: DA
Prep Batch: 76291				eparation:	2012-04-0	2		Prepare	ed By: DA
						MDI			
Parameter		Flag		Cert		Result		Units	RL
DRO				1		<14.5		mg/Kg	50
							Spike	Percent	Recovery
Surrogate	Flag	Cert	Result	Units	Dilut	ion	Amount	Recovery	Limits
n-Tricosane			126	mg/Kg	1		100	126	52 - 140.8
Method Blank (1)	QC Ba	atch: 89908							
QC Batch: 89908			Date	Analyzed:	2012-04-	03		Analy	zed By: tc
Prep Batch: 76308				reparation:	2012-04-				red By: tc
						MDL			
Parameter		Flag		Cert		Result		Units	\mathbf{RL}
GRO		<u>_</u>		1		1.22		mg/Kg	2
Surrogate		Flag	Cert	Result	Units	Dilutior	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.65	mg/Kg	1	2.00	82	78.6 - 111
4-Bromofluorobenzene	(4-BFB)			1.53	mg/Kg	1	2.00	76	55 - 100
Method Blank (1) QC Batch: 89915 Prep Batch: 76308	QC Ba	atch: 89915		Analyzed: reparation:	2012-04-0 2012-04-0				zed By: tc red By: tc
L			¥	•					v
Parameter		Flag	,	Cert		MDI Resul		Units	RL

1

1

< 0.00470

< 0.00980

continued ...

mg/Kg mg/Kg

0.02

0.02

Report Date: April 5, 2012 114-6401351			Work Orde COG/RJ			Page Number: 11 of Eddy Co., N			
method blank continued									
	-		~ .		MDL		** •.		DY
Parameter	Flag		Cert		Result		Units		RL
Ethylbenzene			1		< 0.00500		mg/Kg		0.02
Xylene			1		<0.0170		mg/Kg		0.02
Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery		overy nits
Trifluorotoluene (TFT)			1.62	mg/Kg	1	2.00	81		123.6
4-Bromofluorobenzene (4-BFB)			1.64	mg/Kg	1	2.00	82		112.4
Method Blank (1) QC Bate	ch: 89955								
QC Batch: 89955		Date A	Analyzed:	2012-04	-04		Analy	zed By:	AR
Prep Batch: 76336			eparation:	2012-04	-03		•	red By:	AR
					MDL				
Parameter	Flag		Cert		Result		Units		\mathbf{RL}
Chloride					<3.85		mg/Kg		4

Report Date: April 5, 2012 114-6401351

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 89888 Prep Batch: 76291				Analyze Preparat)12-04-02)12-04-02				•	vzed By ared By	
				LCS			Spike	e M	atrix			Rec.
Param		F	C F	lesult	Units	Dil.	Amou		esult	Rec.	.]	Limit
DRO			1	246	mg/K	g 1	250	<	14.5	98	62	- 128.3
Percent recovery is based on the	e spike	e res	ult. RPD	is based	on the	spike and	l spike dup	olicate re	esult.			
			LCSD			Spike	Matrix			lec.		RPD
Param	F	C	Result	Units	Dil.	Amoun		Rec.		mit	RPD	Limit
DRO		l	245	mg/Kg	<u> </u>	250	<14.5	98	62 -	128.3	0	20
Percent recovery is based on the	spike	e res	ult. RPD	is based	on the	spike and	l spike dup	olicate re	esult.			
	LC	S	LCSD				Spike	LCS	L	CSD	F	lec.
Surrogate	Res	ult	Result	Ur	nits	Dil.	Amount	Rec.]	Rec.	\mathbf{L}	imit
n-Tricosane	11	6	109	mg	/Kg	1	100	116		109	58.6	- 149.6
Laboratory Control Spike (1 QC Batch: 89908 Prep Batch: 76308		.,	QC	e Analyz Preparat .CS		012-04-03 012-04-02		Ma	riv		lyzed B bared B	•
Param		F		esult	Units	Dil.	Amount			Rec.		imit
GRO					mg/Kg		20.0	<1		94		- 105.7
Percent recovery is based on the	spike	resu	alt. RPD			spike and	l spike dup	licate re	sult.			
			LCSD			Spike	Matrix	_	Re			RPD
Param	F	С	Result	Units	Dil.	Amount	Result	Rec.	Lin	-	RPD	Limit
GRO		1	19.2	mg/Kg	1	20.0	<1.22	96	68.3 -	105.7	2	20
Percent recovery is based on the	spike	resi	ult. RPD	is based	on the	spike and	l spike dup	licate re	sult.			
			LCS	LCS	SD.		Sni	ike I	LCS	LCSD	F	
O			LO0									lec.
Surrogate			Resu			Jnits I	Dil. Amo		Rec.	Rec.		lec. imit
Trifluorotoluene (TFT)				t Res	ult U 0 m	Jnits I g/Kg g/Kg	-	ount F DO	Rec. 96		Li	

.

Report Date: April 5, 2012 114-6401351						12033032 nit #134	!				Page Nu		13 of 18 Co., NM
Laboratory Control Spike (I	CCS-	1)											
QC Batch: 89915			D	ate Anal	yzed:	2012-04-0	02				Ana	lyzed B	y: tc
Prep Batch: 76308				C Prepar	-	2012-04-0						pared B	
				LCS			S	pike	Ma	trix		F	lec.
Param		F	C I	Result	Units			nount		sult	Rec.		imit
Benzene			1	2.23	mg/K			2.00		0470	112		- 124.9
Toluene			1	2.22	mg/K	-		2.00		0980	111		- 122.5
Ethylbenzene			1	2.23	mg/K			2.00		0500	112		- 118.9
Xylene			1	6.68	mg/K	<u>g 1</u>	6	5.00	<0.	0170	111	79.5	- 118.9
Percent recovery is based on the	spik	e res	ult. RP	'D is base	ed on th	ne spike ar	nd spi	ike dupli	cate 1	result.			
			LCSD			Spike	Μ	latrix		F	Rec.		RPD
Param	\mathbf{F}	С	Result	Units	Dil.	Amount	R	esult	Rec.	\mathbf{L}	imit	RPD	Limit
Benzene		1	2.19	mg/Kg	g 1	2.00	<0	.00470	110	86.5	- 124.9	2	20
Toluene		1	2.20	mg/Kg		2.00	<0	.00980	110	84.7	- 122.5	1	20
Ethylbenzene		1	2.21	mg/Kg		2.00	<0	.00500	110	79.4	- 118.9	1	20
Xylene		1	6.70	mg/Kg		6.00	<0).0170	112	79.5	- 118.9	0	20
Percent recovery is based on the	spik	e res	ult. RP	'D is base	ed on th	ie spike ar	nd spi	ike dupli	cate 1	result.			
			L	CS L	CSD			Spik	е	LCS	LCSD	F	lec.
Surrogate					esult	Units	Dil.	Amou		Rec.	Rec.		mit
Trifluorotoluene (TFT)			1.	.89 1	1.95	mg/Kg	1	2.00)	94	98	73.9	- 127
4-Bromofluorobenzene (4-BFB)			1.	.90 1	1.93	mg/Kg	1	2.00)	95	96	70.4	- 119.9
Laboratory Control Spike (I QC Batch: 89955 Prep Batch: 76336	CS-	1)		te Analy C Prepare		2012-04-04 2012-04-03					-	zed By: red By:	
-				LCS				Spike		Matrix	- (-	Rec.
Param		F	C	Result	Un			Amoun	t	Result			Limit
Chloride				98.8	mg/	<u>/Kg 1</u>	<u> </u>	100		<3.85	99	8	5 - 115
Percent recovery is based on the	spike	e res			ed on th	-	-	-	cate r		-		
Percent recovery is based on the	-		LCS	D		Spil	ke -	Matrix		1	Rec.		RPD
	spike F	e res C	LCS	D lt Uni	ts D	Spil	ke unt	-	cate r Rec 103	1 2. L	Rec. Jimit - 115	RPD 6	RPD Limit 20

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

Report Date: April 5, 2012 114-6401351		<u> </u>		Order: 12 /RJ Unit				Page Nu	mber: 1 Eddy C	
Matrix Spike (MS-1) Spike	ed Samp	le: 293135								
QC Batch: 89888 Prep Batch: 76291			e Analyz Preparat		12-04-02 12-04-02				vzed By ared By:	
D	Б	a	MS	TT 14	וית	Spike				Rec. Jimit
Param DRO	F	<u> </u>	Result 1040	Units mg/Kg	Dil. 5	Amoun 250	it Res 86			$\frac{5}{5} - 127$
									40.	0-121
Percent recovery is based on the	spike rea	sult. RPL	is based	l on the	spike and	spike dup	licate res	uit.		
		MSD			Spike	Matrix		Rec.		RPD
Param	F C	Result	Units	Dil.	Amount		Rec.	Limit	RPD	Limit
DRO	1	1040	mg/Kį		250	865	70	45.5 - 127	0	20
Percent recovery is based on the	spike re	sult. RPE	is based	l on the :	spike and	spike dup	licate res	ult.		
	MS	М	SD			Spike	MS	MSD	F	lec.
Surrogate	Resu			Units	Dil.	Amount	Rec.	Rec.		mit
n-Tricosane Qar Qar	290	- 29	97 r	ng/Kg	5	100	290	297	45.4	- 145.8
Matrix Spike (MS-1) Spike QC Batch: 89908 Prep Batch: 76308	ed Sampl		e Analyz Prepara)12-04-03)12-04-02				lyzed B pared B	-
			MS			Spike	Matr		τ	.ec.
Param	F		esult	Units	Dil.	Amount	Resu			mit
GRO				mg/Kg	5	50.0	34.18			- 157.2
Percent recovery is based on the	snike res	ult RPD			pike and	spike dup	licate res	ult.		
	opinio ros		10 00000							
Param	FC	MSD Bogult	TT=:+-	Dil	Spike	Matrix	Pag	Rec. Limit	RPD	RPD Limit
Param GRO		Result 97.4	Units mg/Kg	<u>Dil.</u>	Amount 50.0	Result 34.1827	Rec. 126 2	$\frac{1}{8.2 - 157.2}$	$\frac{RPD}{8}$	20
Percent recovery is based on the							~~~~~			
in the second of the					r					
Suma anto		M			Inita T	Sp		AS MSD		ec.
Surrogate Trifluorotoluene (TFT)		Res 5.3			Jnits I g/Kg			ec. Rec. 07 109		mit - 122.3
4-Bromofluorobenzene (4-BFB)		5.0			g/Kg			07 109		- 122.3
· Stomonuorooonache (+DFD)			<u> </u>		0/**6	<u> </u>	1	102		100.7

Report Date: April 5, 2012 114-6401351							:: 12033032 Jnit #134]	Page Nu		15 of 18 Co., NM
Matrix Spike (MS-1)	Spiked	d Sa	mple	e: 293 1:	25									
QC Batch: 89915				Ð	ate Ana	lyzed:	2012-04-0	2				Ana	lyzed B	y: tc
Prep Batch: 76308				Q	C Prepa	aration:	2012-04-0	2				Prep	pared B	y: tc
					MS			Spil	ke	Ma	trix		F	lec.
Param]	F	C	Result	Unit		Amo			sult	Rec.		imit
Benzene				1	1.90	mg/H		2.0			0470	95		- 159.2
Toluene				1	1.93	mg/F		2.0			0980	96		' - 157
Ethylbenzene				1	2.01	mg/F		2.0			0500	100		- 158.2
Xylene		_		1	6.02	mg/F		6.0			0170	100	10.8	- 159.8
Percent recovery is based or	n the s	spike	res	ult. RF	PD is ba	sed on f	the spike an	d spike	e dupli	icate 1	esult.			
				MSD)		Spike	Ma	trix		F	Rec.		RPD
Param		\mathbf{F}	С	Resul		ts Dil	-			Rec.	\mathbf{L}	imit	RPD	Limit
Benzene	Qr	Qr	1	2.42		Kg 1	2.00	<0.0	0470	121	69.3	- 159.2	24	20
Toluene	Qr	Qr	1	2.48	mg/l		2.00	< 0.0	0980	124	68.7	7 - 157	25	20
Ethylbenzene	Qr	Qr	1	2.59	mg/l	Kg 1	2.00	<0.0	0500	130	71.6	- 158.2	25	20
Xylene	Qr	Qr	1	7.83	mg/]	Kg 1	6.00	<0.0	0170	130	70.8	- 159.8	26	20
Percent recovery is based or	1 the s	pike	res	ult. RF	D is ba	sed on t	the spike an	d spike	e dupli	icate r	esult.			
						MOD			a- •	1	Ma	MOD	r	
Second and a					MS	MSD	Units	Dil.	Spi Amo		MS Rec.	MSD Rec.		lec. imit
Surrogate Trifluorotoluene (TFT)					esult .84	$\frac{\text{Result}}{2.20}$	mg/Kg	$\frac{Dn}{1}$	2		92	<u></u>		- 133.9
4-Bromofluorobenzene (4-B	ព្រខ				l.76	2.20 2.17	mg/Kg	1	2		88	108		- 144.1
Matrix Spike (MS-1) QC Batch: 89955 Prep Batch: 76336	Spiked	d Sa	mple		63 ate Anal C Prepa		2012-04-04 2012-04-05						zed By red By:	
Param			F	С	MS Result	Uni	its Dil.	-	oike Jount		atrix sult	Rec.		lec. imit

16800 Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Chloride

			MSD			Spike	Matrix		Rec.		RPD
Param	\mathbf{F}	С	Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Chloride			16200	mg/Kg	100	10000	6400	98	79.4 - 120.6	4	20

mg/Kg

100

10000

6400

104

79.4 - 120.6

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

Calibration Standards

Standard (CCV-2)

QC Batch:	89888		Date	Analyzed:	2012-04-02		Analy	zed By: DA
				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO		1	mg/Kg	250	258	103	80 - 120	2012-04-02

Standard (CCV-3)

QC Batch:	89888		Date	Analyzed:	2012-04-02		Analy	zed By: DA
				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
DRO		1	mg/Kg	250	242	97	80 - 120	2012-04-02

Standard (CCV-1)

QC Batch:	89908		Date	Analyzed:	2012-04-03		Ana	lyzed By: tc
				CCVs True	CCVs Found	CCVs Percent	Percent Recovery	Date
						rercent	Ū	
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO		1	mg/Kg	1.00	1.17	117	80 - 120	2012-04-03

Standard (CCV-2)

QC Batch:	89908			Date	Analyzed:	2012-04-03		Ana	lyzed By: tc
					CCVs	CCVs Found	CCVs	Percent	Dete
					True	Found	Percent	Recovery	Date
Param		Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
GRO			1	mg/Kg	1.00	1.15	115	80 - 120	2012-04-03

Report Date: April 5, 114-6401351	2012			ork Order: 1 OG/RJ Uni	Page Number: 17 of 18 Eddy Co., NM			
Standard (CCV-1)								
QC Batch: 89915			Date An	alyzed: 20	12-04-02		Anal	yzed By: tc
				CCVs	CCVs	CCVs	Percent	
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		1	mg/kg	0.100	0.105	105	80 - 120	2012-04-02
Toluene		1	mg/kg	0.100	0.106	106	80 - 120	2012-04-02
Ethylbenzene		1	mg/kg	0.100	0.106	106	80 - 120	2012-04-02
Xylene		1	mg/kg	0.300	0.318	106	80 - 120	2012-04-02

Standard (CCV-2)

QC Batch: 89915			Date An	Analyzed By: tc				
				CCVs	CCVs	CCVs	Percent	-
				True	Found	Percent	Recovery	Date
Param	Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Benzene		1	mg/kg	0.100	0.109	109	80 - 120	2012-04-02
Toluene		1	mg/kg	0.100	0.108	108	80 - 120	2012-04-02
Ethylbenzene		1	mg/kg	0.100	0.106	106	80 - 120	2012-04-02
Xylene		1	mg/kg	0.300	0.315	105	80 - 120	2012-04-02

•

Standard (ICV-1)

QC Batch:	89955			Date A	Analyzed:	2012-04-04		Analy	zed By: AR
					ICVs	ICVs	ICVs	Percent	
					True	Found	Percent	Recovery	Date
Param		Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride				mg/Kg	100	96.7	97	85 - 115	2012-04-04

Standard (CCV-1)

QC Batch:	89955			Date A	nalyzed:	2012-04-04		Analy	zed By: AR
					CCVs	CCVs	CCVs	Percent	
					True	Found	Percent	Recovery	Date
Param		Flag	Cert	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride				mg/Kg	100	103	103	85 - 115	2012-04-04

Report Date: April 5, 2012 114-6401351 Work Order: 12033032 COG/RJ Unit #134 Page Number: 18 of 18 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
С	Authority	Number	Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis
1	NELAP	T104704392-11-3	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.

#12033032

An	al	vs	is F	<i>le</i>	d	IU	est of Chain of Custody	v F	Re	<u>)</u>	20	r	1	Ţ									AGE	_	Τ			OF:		T	
				-										{					(0			-			UES etho		lo.)				
							TETRATECH 1910 N. Big Spring St. Midland, Texas 79705 (432) 682-4559 • Fax (432) 682-3946								15 (Ext. to C35)	4	с Р	Vr Pd Hg				T					T	LOS			T
CLIENT NAM							SITE MANAGER: I.K. TONOUCEZ	CONTAINERS		F			VATIV	/E	TX1005	- 1	As Ba Cd	å		e	260/624	8270/625						, Hq , Sno			
PROJECT N		351		PF			NAME: Unit # 134		(N)								Is Ag	Is Ag	les Malaula	VOIANIE	8240/8	i. Vol. i	/608	8		e l	(Aur)	s/Catic			
LAB I.D. NUMBER	ai	ATE	TIME	MATRIX	COMP.	GRAB	Eddy Co NM SAMPLE IDENTIFICATION	NUMBER OF	FILTERED (Y/N)	HCL	HNO3	ICE	NONE		TPH B015	PAH 8270	RCRA Metals Ag	TCLP Metals Ag	TCLP Soluties	RCI	GC.MS Vol.	GC.MS Semi. Vol. 8270/625	PCB's 8080	Pest. 808/6	Chlonder	Gamma spi	Alpha Beta (Air) PLM (Asbestos)	Major Anions/Cations, pH, TDS			
293054	3	1/28		5		X	AH-1 0=1'	1				X		Ī	T	9			T	T	T	Γ	Γ		X	Ī				T	T
055							1-1.5								\parallel										X						
056						Ц_	2-2.5																		X						
୦୨୦						∥_	3-3.5	\square																	¥						\downarrow
058				1		║	4-4.5'	Щ																	Ý				Ц	\downarrow	\downarrow
OSA			, , , , , , , , , , , , , , , , , , , ,			1	5-5.5'																		Y	\downarrow				\downarrow	\perp
060				⊥			6-6.5'											_							Ý	\downarrow				\downarrow	1
061				\prod		╢_	7-7.5							$ \downarrow$											Ŋ	\downarrow				\perp	┶
062				\prod		╢_	8-8.5																		Ŷ	\downarrow				\downarrow	\perp
2063	J	b	<u>.</u>	V	1	V	Date: 3/30/12 (RECEVED P. 19 pature)					Į													L	\square				8-1	\perp
RELINQUISHED							Date: 3:40 Pm RECEIVED BY (Signature) Date:				Date: 5 20/11 Time: 45 (115 Date: Time:					SAMPLED BY: (Print & Initia) IF SAMPLE SHIPPED BY: (Circle) FEDEX HAND DELIVERED UPS										Ai	Time. RBILL	#:			
RELINQUISHED							Date: RECEIVED BY: (Signature) Time: RECEIVED BY: (Signature)				Date: Time:				' '		TRA				T PE	diam'r a san a	N:					sults	by:		
ADDRESS: CITY:	1	<u>_</u>	STATE:			HON	ZIP:	T									\mathcal{I}	e	-	Ta	æ	ve	ζ				RL AL	ISH C thoria Yes	harge ted:	es N	ło
SAMPLE COND	bo	10	L				REMARKS: Deeper Dayle of	TĮ	pA	l	Øz	10	ne.	de	2		\$		2	5			0		~?	- 1	1/2	14			
//	7 Pla			cop	oies		Laboratory retains Yellow Copy - Return Orginal copy to The Anialas It benque													Acc					3	88	5	,y.	' <i>X</i>	9y	æ