SITE INFORMATION

Report Type: Closure Report

General Site Information:		
Site:	**Jenkins B Federal #10**	
Company:	**COG Operating LLC**	
Section, Township and Range	**Unit C - Section 20 - T-17S - R-30E**	
Lease Number:	**30-015-30668**	
County:	**Eddy County**	
GPS:	**32.82508° N**	**103.99524° W**
Surface Owner:	Federal	
Mineral Owner:		
Directions:	From the intersection of Hwy 82 and CR-217 in Loco Hills, travel west on 82 for 0.4 mi, turn right 0.3 mi, turn right 0.2 mi to location	

Release Data:	
Date Released:	2/9/2011
Type Release:	Produced Water
Source of Contamination:	Hose connection failure
Fluid Released:	10 bbls
Fluids Recovered:	5 bbls

Official Communication:			
Name:	Pat Ellis		Kim Dorey
Company:	COG Operating, LLC		Tetra Tech
Address:	550 W. Texas Ave. Ste. 1300		1910 N. Big Spring
P.O. Box			
City:	Midland Texas, 79701		Midland, Texas
Phone number:	(432) 686-3023		(432) 631-0348
Fax:	(432) 684-7137		
Email:	pellis@conchoresources.com		kim.dorey@tetratech.com

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

Acceptable Soil RRAL (mg/kg)		
Benzene	***Total BTEX***	***TPH***
10	50	5,000

TETRA TECH

September 9, 2011

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

Re: Closure for the COG Operating LLC., Jenkins B Federal #10, Unit C, Section 20, Township 17 South, Range 30 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 Jenkins B Federal #10, Unit C, Section 20, Township 17 South, Range 30 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.82508°, W 103.99524°. The site location is shown on Figures 1 and 2.

Background

On June 30, 2010, the leak was caused by a hose connection failure and released approximately ten (10) barrels of produced water. COG personnel replaced the hose and returned the well to service. Utilizing a vacuum truck, approximately five (5) barrels were recovered. The initial C-141 form is enclosed in Appendix A.

Groundwater

No water wells were listed within Section 20. According to the NMOCD groundwater map, the average depth to groundwater in this area is greater than 300' below surface. The water data is shown in Appendix B.

Regulatory

A risk-based evaluation was performed for the Site in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases, dated August 13, 1993. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene,

Tetra Tech
1910 North Big Spring, Midland,TX 79705
Tel 432.682.4559 Fax 432.682.3946 www.tetratech.com

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

Soil Assessment and Analytical Results

Prior to sampling, COG personnel performed a surfical scrape of the caliche pad that was impacted by the spills footprint. On August 11, 2011, Tetra Tech personnel sampled the spill area and installed three (3) auger holes (AH-1, AH-2, and AH-3) using a stainless steel hand auger. Select samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The sampling results are summarized in Table 1. The auger hole locations are shown on Figure 3.

Referring to Table 1, all of the selected samples were below the RRAL for TPH and BTEX. No significant chloride concentrations were detected.

Closure

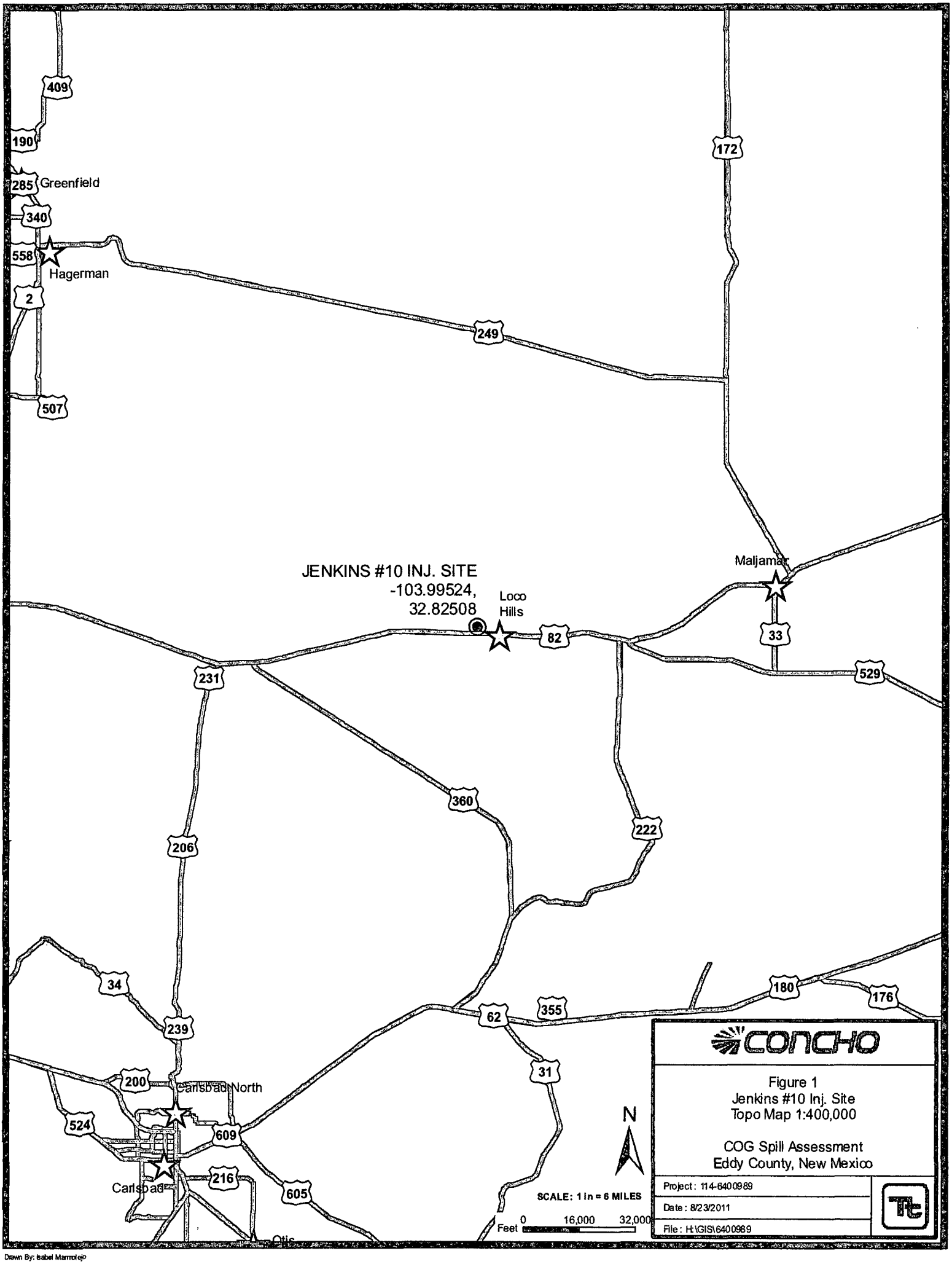
Based upon the investigation performed at this site, COG respectfully requests closure of this site. The final C-141 is enclosed in Appendix A. If you require any additional information or have any questions or comments concerning this work plan report, please call at (432) 682-4559.

Respectfully submitted,
TETRA TECH

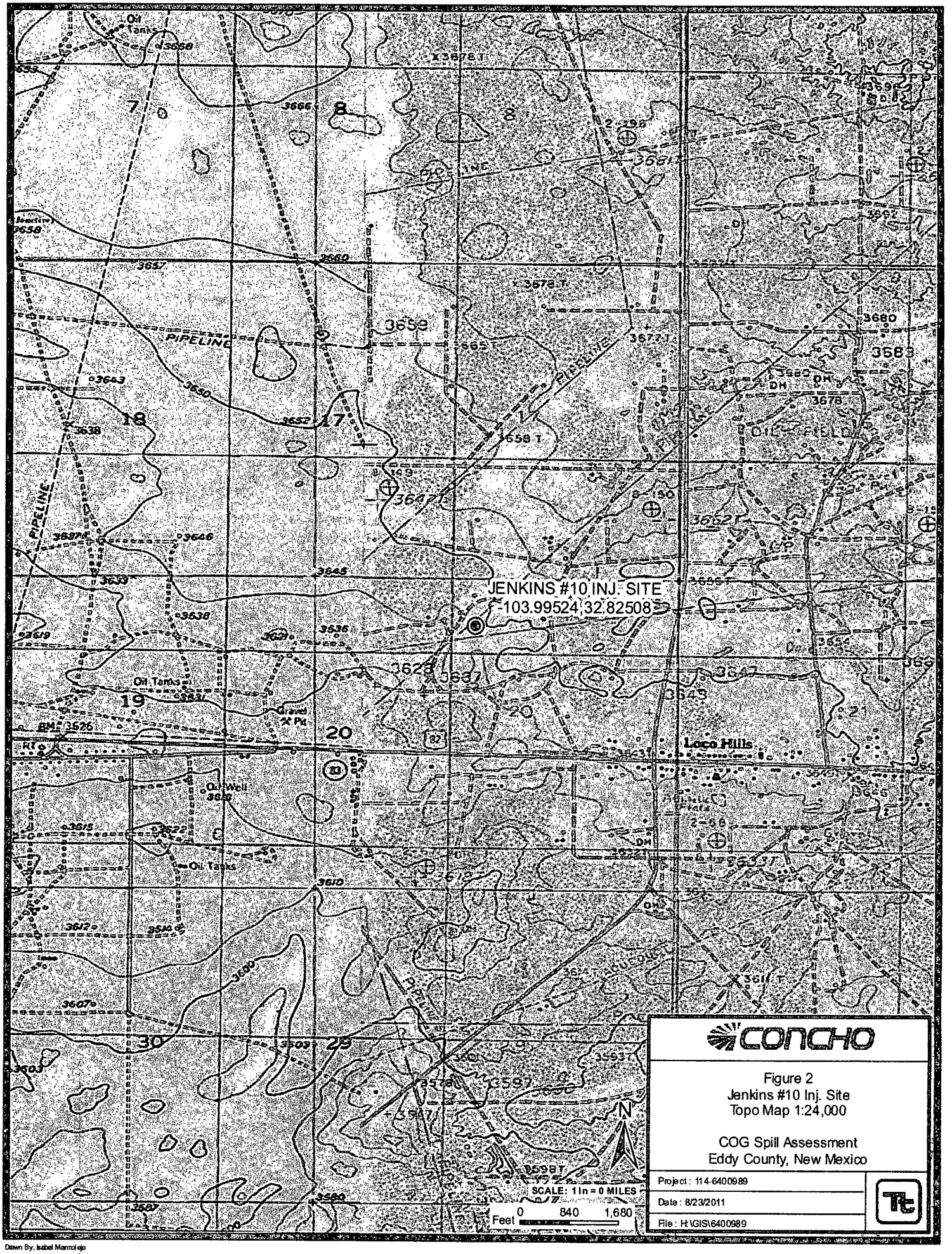
Kim Dorey
Staff II Geologist

cc: Pat Ellis – COG
cc: Terry Gregston – BLM

FIGURES



Drawn By: Isabel Marrufejo



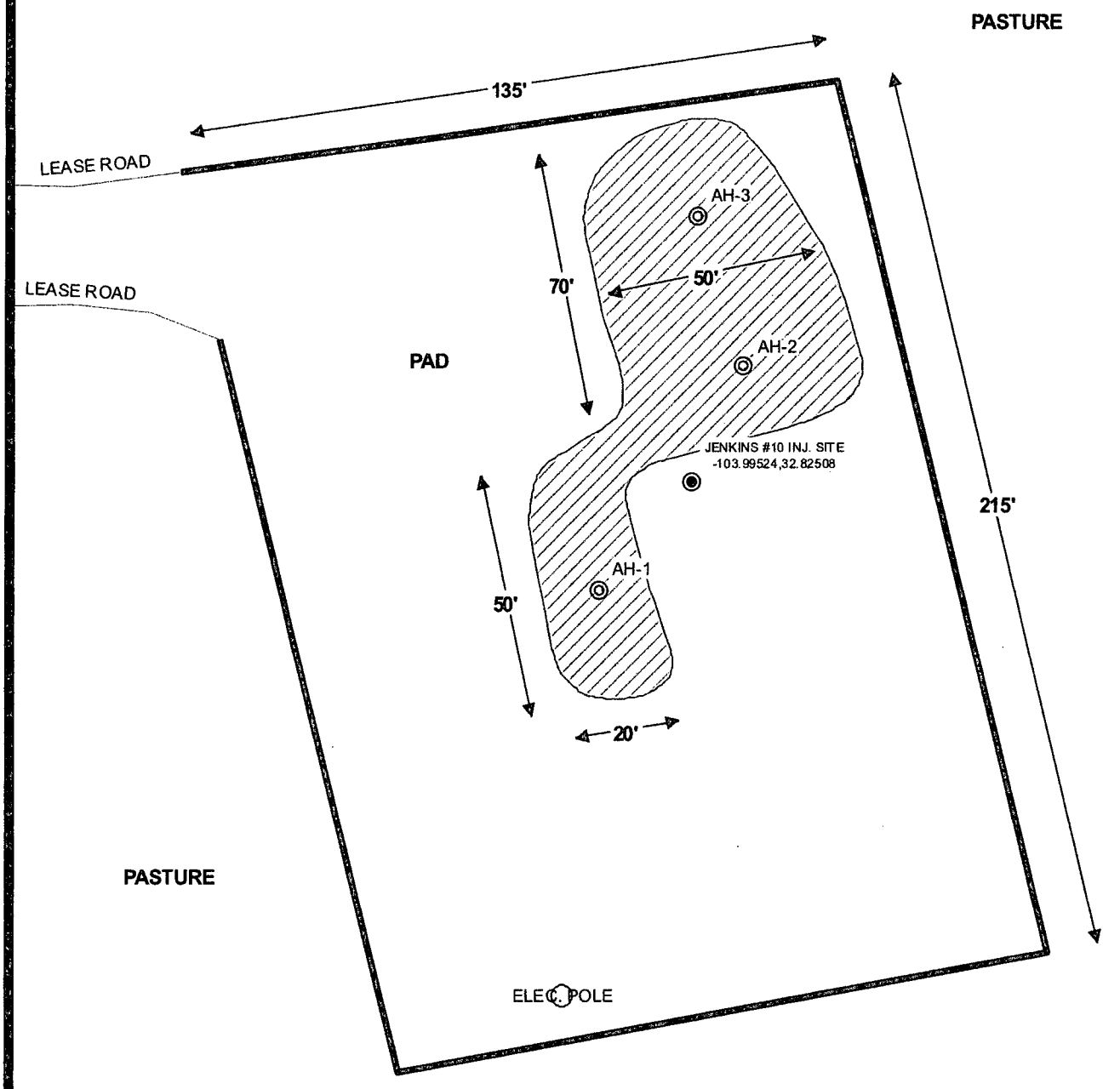
CONCHO

Figure 2
Jenkins #10 Inj. Site
Topo Map 1:24,000

COG Spill Assessment
Eddy County, New Mexico

Project : 114-6400989	
Date : 8/23/2011	
File : H:\GIS\6400989	

Drawn By: Isabel Marmolejo



EXPLANATION

- AUGER HOLE SAMPLE LOCATIONS
- SPILL AREA

N

SCALE: 1 IN = 39 FEET

Feet 0 25 50

CONCHO

Figure 3

Jenkins #10 Inj. Site
Spill Assessment Map

COG Spill Assessment
Eddy County, New Mexico

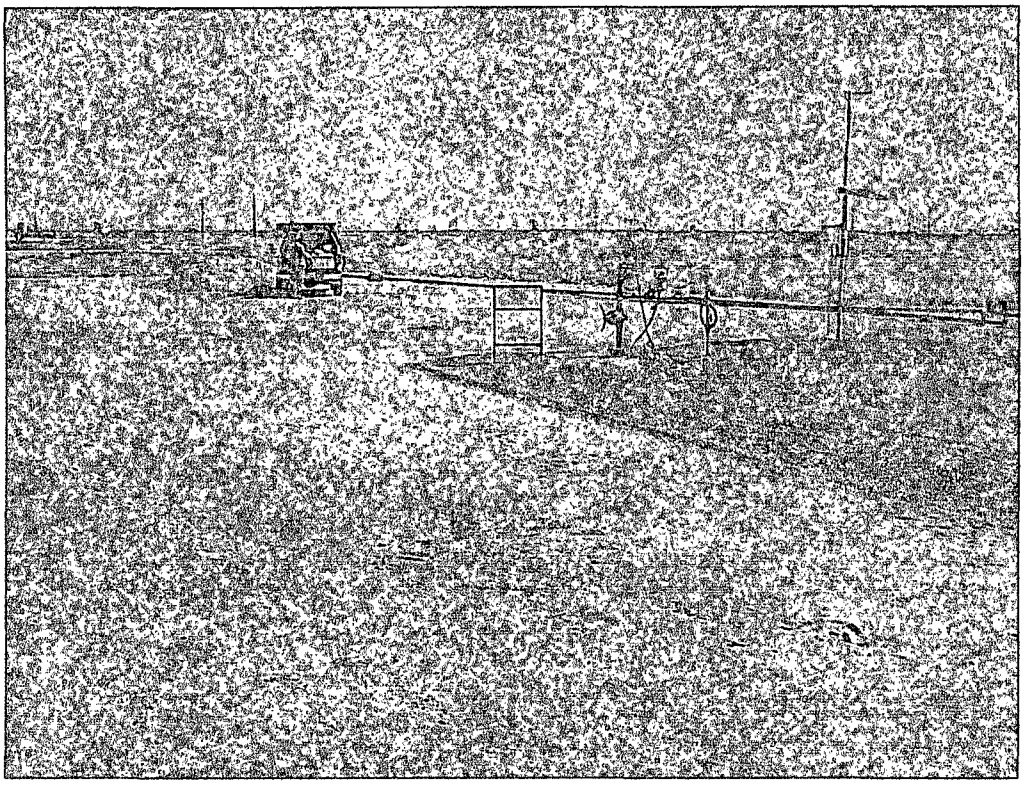
Project : 114-6400989	
Date : 8/23/2011	
File : H:\GIS\6400989	

Dawn By: Isabel Mamolejo

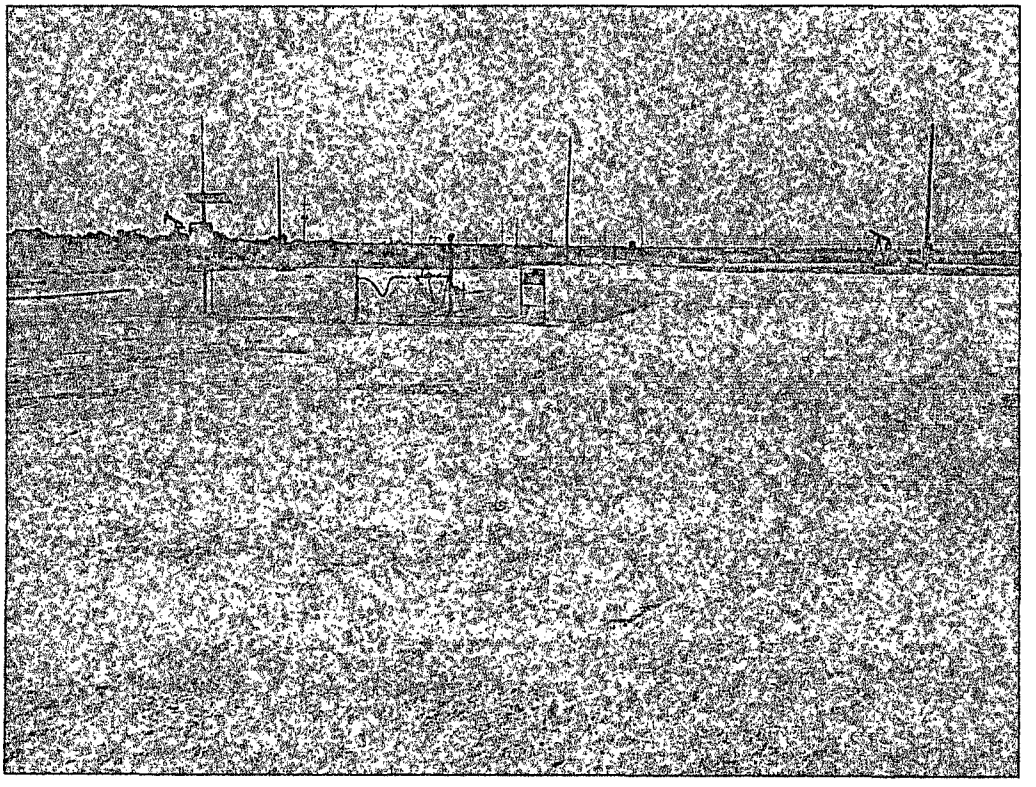
PHOTOGRAPHS

COG Operating LLC
Jenkins B Federal #10
Eddy County, New Mexico
Site Assessment: August 11, 2011

TETRA TECH



View north across spill path – Near AH-1



View south across spill path – Near AH-2

TABLES

Table 1
COG Operating LLC.
Jenkins B Federal #10
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	Total						
AH-1	8/11/2011	0-1'	X		<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	207
	"	1-1.5'	X		-	-	-	-	-	-	-	-	<200
	"	2-2.5'	X		-	-	-	-	-	-	-	-	<200
AH-2	8/11/2011	0-1'	X		<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<200
	"	1-1.5'	X		-	-	-	-	-	-	-	-	<200
	"	2-2.5'	X		-	-	-	-	-	-	-	-	627
	"	3-3.5'	X		-	-	-	-	-	-	-	-	<200
AH-3	8/11/2011	0-1'	X		<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<200
		1-1.5'	X		-	-	-	-	-	-	-	-	<200
		2-2.5'	X		-	-	-	-	-	-	-	-	545

(--) Not Analyzed

APPENDIX A

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

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. Texas, Suite 1300 Midland, Texas 79701**	Telephone No. **(432) 685-4332**
Facility Name **Jenkins B Federal #10**	Facility Type **Well Location**

Surface Owner: Federal	Mineral Owner	Lease No. (API#) 30-015-30668

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
C	20	17S	30E					

Latitude N 32 49.496° **Longitude** W 103 59.714

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release 10 bbls	Volume Recovered 5 bbls
Source of Release: Water Tank	Date and Hour of Occurrence 6/30/2011	Date and Hour of Discovery 6/30/2011 10:15 a.m.
Was Immediate Notice Given? ☐ Yes ☒ No ☐ Not Required	If YES, To Whom? **Mike Bratcher - NMOCD**	
By Whom? Josh Russo	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

RECEIVED
OCT 11 2011
NMOCD ARTESIA

If a Watercourse was Impacted, Describe Fully.*

N/A

Describe Cause of Problem and Remedial Action Taken.*
The hose connection to the Jenkins B Federal #10 injection well rupture, causing the release. The well has been shut in and the hose has been replaced.

Describe Area Affected and Cleanup Action Taken.*

Prior to sampling site, COG scraped the pad with a backhoe and transported the excavated soil to proper disposal. Tetra Tech inspected the site and collected samples to assess the spill area. Based on the assessment data, none of the samples exceeded the RRAL for TPH and BTEX. In addition, the chloride concentrations do not appear an environmental concern. Tetra Tech prepared closure report and submitted to NMOCD for review and approval.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Ike Tavarez (agent for COG)	Approved by District Supervisor:	
Title: Project Manager	Approval Date:	Expiration Date:
E-mail Address: Ike.Tavarez@TetraTech.com	Conditions of Approval:	Attached ☐
Date: 9-9-11 Phone: (432) 682-4559		

* Attach Additional Sheets If Necessary

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

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. Texas, Suite 100, Midland, TX 79701	Telephone No.	432-230-0077
Facility Name	Jenkins B Federal #10	Facility Type	Well location

Surface Owner Federal	Mineral Owner	Lease No. (API#) 30-015-30668

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
C	20	17S	30E					Eddy

Latitude 32 49.496 **Longitude** 103 59.714

NATURE OF RELEASE

Type of Release Produced water	Volume of Release 10bbls	Volume Recovered 5bbls
Source of Release Injection well hose	Date and Hour of Occurrence 06/30/2011	Date and Hour of Discovery 06/30/2011 10:15 a.m.
Was Immediate Notice Given? ☐ Yes ☒ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

RECEIVED
OCT 11 2011
NMOCD ARTESIA

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

The hose connected to the Jenkins Federal #10 Injection Well ruptured, causing the release. The well has been shut in and the hose has been replaced.

Describe Area Affected and Cleanup Action Taken.*

Initially 10bbls were released from the ruptured injection hose and we were able to recover 5bbls with a vacuum truck. The spill area measured 20' x 30' in the pasture adjacent to the Jenkins B Federal #10 location. Tetra Tech will sample the spill site area to delineate any possible contamination from the release and we will present a remediation work plan to the NMOCD / BLM for approval prior to any significant remediation work.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Josh Russo	Approved by District Supervisor:	
Title: HSE Coordinator	Approval Date:	Expiration Date:
E-mail Address: jrusso@conchoresources.com	Conditions of Approval:	Attached ☐
Date: 07/05/2011 Phone: 432-212-2399		

* Attach Additional Sheets If Necessary

APPENDIX B

Water Well Data
Average Depth to Groundwater (ft)
COG - Jenkins B Federal #10
Eddy County, New Mexico

16 South 29 East

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

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

16 South 31 East

6	5	4	3	2	1
7	8	9	10	11	12 **288**
18	17	16	15	14	13 **113**
19	20	21	22	23	24
30	29	28	27	26	25
31 **290**	32	33	34	35	36

17 South 29 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22 **80**	23	24
30	29 **210** **208'**	28	27	26	25
31	32	33	34	35 153	36

17 South 30 East

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

17 South 31 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 **271**	35	36

18 South 29 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

18 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

18 South 31 East

6	5	4	3	2	1
7	8	9	10	11	12 **400**
18	17	16	15	14 **317**	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35 **261**	36

New Mexico State Engineers Well Reports
USGS Well Reports
Geology and Groundwater Conditions in Southern Eddy, County, NM
NMOCD - Groundwater Data
Site Location - Jenkins B Federal #10

APPENDIX C

Summary Report

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

Report Date: August 23, 2011

Work Order: 11081508

Project Location: Eddy Co., NM
Project Name: COG/Jenkins B Federal #10
Project Number: 114-6400989

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
274588	AH-1 0-1'	soil	2011-08-11	00:00	2011-08-15
274589	AH-1 1-1.5'	soil	2011-08-11	00:00	2011-08-15
274590	AH-1 2-2.5'	soil	2011-08-11	00:00	2011-08-15
274591	AH-2 0-1'	soil	2011-08-11	00:00	2011-08-15
274592	AH-2 1-1.5'	soil	2011-08-11	00:00	2011-08-15
274593	AH-2 2-2.5'	soil	2011-08-11	00:00	2011-08-15
274594	AH-2 3-3.5'	soil	2011-08-11	00:00	2011-08-15
274595	AH-3 0-1'	soil	2011-08-11	00:00	2011-08-15
274596	AH-3 1-1.5'	soil	2011-08-11	00:00	2011-08-15
274597	AH-3 2-2.5'	soil	2011-08-11	00:00	2011-08-15

	BTEX				TPH DRO - NEW	TPH GRO
Sample - Field Code	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	DRO (mg/Kg)	GRO (mg/Kg)
274588 - AH-1 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
274591 - AH-2 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
274595 - AH-3 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00

Sample: 274588 - AH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		**207**	mg/Kg	4

Sample: 274589 - AH-1 1-1.5'

continued ...

sample 274589 continued ...

Param	Flag	Result	Units	RL

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

Sample: 274590 - AH-1 2-2.5'

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

Sample: 274591 - AH-2 0-1'

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

Sample: 274592 - AH-2 1-1.5'

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

Sample: 274593 - AH-2 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**627**	mg/Kg	4

Sample: 274594 - AH-2 3-3.5'

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

Sample: 274595 - AH-3 0-1'

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

Sample: 274596 - AH-3 1-1.5'

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

Sample: 274597 - AH-3 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**545**	mg/Kg	4

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
200 East Sunset Road, Suite E El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
5002 Basin Street, Suite A1 Midland, Texas 79703 432•689•6301 FAX 432•689•6313
6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132 817•201•5260
E-Mail: lab@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 23, 2011

Work Order: 11081508

Project Location: Eddy Co., NM
Project Name: COG/Jenkins B Federal #10
Project Number: 114-6400989

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

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
274588	AH-1 0-1'	soil	2011-08-11	00:00	2011-08-15
274589	AH-1 1-1.5'	soil	2011-08-11	00:00	2011-08-15
274590	AH-1 2-2.5'	soil	2011-08-11	00:00	2011-08-15
274591	AH-2 0-1'	soil	2011-08-11	00:00	2011-08-15
274592	AH-2 1-1.5'	soil	2011-08-11	00:00	2011-08-15
274593	AH-2 2-2.5'	soil	2011-08-11	00:00	2011-08-15
274594	AH-2 3-3.5'	soil	2011-08-11	00:00	2011-08-15
274595	AH-3 0-1'	soil	2011-08-11	00:00	2011-08-15
274596	AH-3 1-1.5'	soil	2011-08-11	00:00	2011-08-15
274597	AH-3 2-2.5'	soil	2011-08-11	00:00	2011-08-15

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.

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

Report Contents

Case Narrative

Samples for project COG/Jenkins B Federal #10 were received by TraceAnalysis, Inc. on 2011-08-15 and assigned to work order 11081508. Samples for work order 11081508 were received intact at a temperature of 3.1 C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	71244	2011-08-15 at 15:16	83901	2011-08-15 at 15:16
Chloride (Titration)	SM 4500-Cl B	71416	2011-08-19 at 15:42	84135	2011-08-22 at 16:25
Chloride (Titration)	SM 4500-Cl B	71416	2011-08-19 at 15:42	84136	2011-08-22 at 16:26
TPH DRO - NEW	S 8015 D	71294	2011-08-16 at 13:26	83966	2011-08-16 at 13:26
TPH GRO	S 8015 D	71244	2011-08-15 at 15:16	83902	2011-08-15 at 15:16

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 11081508 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.

Analytical Report

Sample: 274588 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	83901	Date Analyzed:	2011-08-15	Analyzed By:	ME
Prep Batch:	71244	Sample Preparation:	2011-08-15	Prepared By:	ME

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.33	mg/Kg	1	2.00	116	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			2.26	mg/Kg	1	2.00	113	70.6 - 179

Sample: 274588 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	84135	Date Analyzed:	2011-08-22	Analyzed By:	AR
Prep Batch:	71416	Sample Preparation:	2011-08-19	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**207**	mg/Kg	50	4.00

Sample: 274588 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	83966	Date Analyzed:	2011-08-16	Analyzed By:	kg
Prep Batch:	71294	Sample Preparation:	2011-08-16	Prepared By:	kg

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			115	mg/Kg	1	100	115	67.5 - 147.1

Sample: 274588 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	83902	Date Analyzed:	2011-08-15	Analyzed By:	ME
Prep Batch:	71244	Sample Preparation:	2011-08-15	Prepared By:	ME

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.22	mg/Kg	1	2.00	111	30 - 134.6
4-Bromofluorobenzene (4-BFB)			2.00	mg/Kg	1	2.00	100	22.4 - 149

Sample: 274589 - AH-1 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	84135	Date Analyzed:	2011-08-22	Analyzed By:	AR
Prep Batch:	71416	Sample Preparation:	2011-08-19	Prepared By:	AR

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

Sample: 274590 - AH-1 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	84135	Date Analyzed:	2011-08-22	Analyzed By:	AR
Prep Batch:	71416	Sample Preparation:	2011-08-19	Prepared By:	AR

continued ...

sample 274590 continued ...

Parameter	Flag	Cert	RL Result	Units	Dilution	RL

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

Sample: 274591 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	83901	Date Analyzed:	2011-08-15	Analyzed By:	ME
Prep Batch:	71244	Sample Preparation:	2011-08-15	Prepared By:	ME

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.28	mg/Kg	1	2.00	114	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			2.31	mg/Kg	1	2.00	116	70.6 - 179

Sample: 274591 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	84135	Date Analyzed:	2011-08-22	Analyzed By:	AR
Prep Batch:	71416	Sample Preparation:	2011-08-19	Prepared By:	AR

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

Sample: 274591 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	83966	Date Analyzed:	2011-08-16	Analyzed By:	kg
Prep Batch:	71294	Sample Preparation:	2011-08-16	Prepared By:	kg

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			118	mg/Kg	1	100	118	67.5 - 147.1

Sample: 274591 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	83902	Date Analyzed:	2011-08-15	Analyzed By:	ME
Prep Batch:	71244	Sample Preparation:	2011-08-15	Prepared By:	ME

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.12	mg/Kg	1	2.00	106	30 - 134.6
4-Bromofluorobenzene (4-BFB)	J		1.89	mg/Kg	1	2.00	94	22.4 - 149

Sample: 274592 - AH-2 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	84135	Date Analyzed:	2011-08-22	Analyzed By:	AR
Prep Batch:	71416	Sample Preparation:	2011-08-19	Prepared By:	AR

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

Sample: 274593 - AH-2 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	84136	Date Analyzed:	2011-08-22	Analyzed By:	AR
Prep Batch:	71416	Sample Preparation:	2011-08-19	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**627**	mg/Kg	50	4.00

Sample: 274594 - AH-2 3-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	84136	Date Analyzed:	2011-08-22	Analyzed By:	AR
Prep Batch:	71416	Sample Preparation:	2011-08-19	Prepared By:	AR

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

Sample: 274595 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	83901	Date Analyzed:	2011-08-15	Analyzed By:	ME
Prep Batch:	71244	Sample Preparation:	2011-08-15	Prepared By:	ME

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.51	mg/Kg	1	2.00	126	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			2.52	mg/Kg	1	2.00	126	70.6 - 179

Sample: 274595 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	84136	Date Analyzed:	2011-08-22	Analyzed By:	AR
Prep Batch:	71416	Sample Preparation:	2011-08-19	Prepared By:	AR

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

Sample: 274595 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	83966	Date Analyzed:	2011-08-16	Analyzed By:	kg
Prep Batch:	71294	Sample Preparation:	2011-08-16	Prepared By:	kg

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			115	mg/Kg	1	100	115	67.5 - 147.1

Sample: 274595 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	83902	Date Analyzed:	2011-08-15	Analyzed By:	ME
Prep Batch:	71244	Sample Preparation:	2011-08-15	Prepared By:	ME

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.33	mg/Kg	1	2.00	116	30 - 134.6
4-Bromofluorobenzene (4-BFB)			2.07	mg/Kg	1	2.00	104	22.4 - 149

Sample: 274596 - AH-3 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	84136	Date Analyzed:	2011-08-22	Analyzed By:	AR
Prep Batch:	71416	Sample Preparation:	2011-08-19	Prepared By:	AR

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

Sample: 274597 - AH-3 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	84136	Date Analyzed:	2011-08-22	Analyzed By:	AR
Prep Batch:	71416	Sample Preparation:	2011-08-19	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**545**	mg/Kg	50	4.00

Method Blanks

Method Blank (1) QC Batch: 83901

QC Batch: 83901 | Date Analyzed: 2011-08-15 | Analyzed By: ME
Prep Batch: 71244 | QC Preparation: 2011-08-15 | Prepared By: ME

Parameter	Flag	Cert	MDL 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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.94	mg/Kg	1	2.00	97	65.9 - 111.8
4-Bromofluorobenzene (4-BFB)			1.81	mg/Kg	1	2.00	90	48.4 - 123.1

Method Blank (1) QC Batch: 83902

QC Batch: 83902 | Date Analyzed: 2011-08-15 | Analyzed By: ME
Prep Batch: 71244 | QC Preparation: 2011-08-15 | Prepared By: ME

Parameter	Flag	Cert	MDL Result	Units	RL
GRO		1	<0.753	mg/Kg	2

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.84	mg/Kg	1	2.00	92	67.6 - 150
4-Bromofluorobenzene (4-BFB)			1.51	mg/Kg	1	2.00	76	52.4 - 130

Method Blank (1) QC Batch: 83966

QC Batch: 83966 | Date Analyzed: 2011-08-16 | Analyzed By: kg
Prep Batch: 71294 | QC Preparation: 2011-08-16 | Prepared By: kg

Parameter	Flag	Cert	MDL Result	Units	RL
DRO			<14.5	mg/Kg	50

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			93.4	mg/Kg	1	100	93	52.7 - 133.8

Method Blank (1) QC Batch: 84135

QC Batch:	84135	Date Analyzed:	2011-08-22	Analyzed By:	AR
Prep Batch:	71416	QC Preparation:	2011-08-19	Prepared By:	AR

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

Method Blank (1) QC Batch: 84136

QC Batch:	84136	Date Analyzed:	2011-08-22	Analyzed By:	AR
Prep Batch:	71416	QC Preparation:	2011-08-19	Prepared By:	AR

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

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 83901 | Date Analyzed: 2011-08-15 | Analyzed By: ME
Prep Batch: 71244 | QC Preparation: 2011-08-15 | Prepared By: ME

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	2.05	mg/Kg	1	2.00	<0.0118	102	77.4 - 121.7
Toluene		1	2.09	mg/Kg	1	2.00	<0.00600	104	88.6 - 121.6
Ethylbenzene		1	2.11	mg/Kg	1	2.00	<0.00850	106	74.3 - 117.9
Xylene		1	6.36	mg/Kg	1	6.00	<0.00613	106	73.4 - 118.8

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	2.07	mg/Kg	1	2.00	<0.0118	104	77.4 - 121.7	1	20
Toluene		1	2.11	mg/Kg	1	2.00	<0.00600	106	88.6 - 121.6	1	20
Ethylbenzene		1	2.15	mg/Kg	1	2.00	<0.00850	108	74.3 - 117.9	2	20
Xylene		1	6.46	mg/Kg	1	6.00	<0.00613	108	73.4 - 118.8	2	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)	1.84	1.85	mg/Kg	1	2.00	92	92	65.5 - 116.7
4-Bromofluorobenzene (4-BFB)	1.88	1.88	mg/Kg	1	2.00	94	94	56.2 - 132.1

Laboratory Control Spike (LCS-1)

QC Batch: 83902 | Date Analyzed: 2011-08-15 | Analyzed By: ME
Prep Batch: 71244 | QC Preparation: 2011-08-15 | Prepared By: ME

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	17.3	mg/Kg	1	20.0	<0.753	86	60.9 - 95.4

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

continued ...

control spikes continued ...

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	2	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)	2.13	2.10	mg/Kg	1	2.00	106	105	61.9 - 142
4-Bromofluorobenzene (4-BFB)	1.89	1.88	mg/Kg	1	2.00	94	94	68.2 - 132

Laboratory Control Spike (LCS-1)

QC Batch: 83966 | Date Analyzed: 2011-08-16 | Analyzed By: kg
Prep Batch: 71294 | QC Preparation: 2011-08-16 | Prepared By: kg

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	230	mg/Kg	1	250	<14.5	92	64.5 - 146.9

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1	236	mg/Kg	1	250	<14.5	94	64.5 - 146.9	3	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
n-Tricosane	90.9	91.5	mg/Kg	1	100	91	92	65.3 - 135.8

Laboratory Control Spike (LCS-1)

QC Batch: 84135 | Date Analyzed: 2011-08-22 | Analyzed By: AR
Prep Batch: 71416 | QC Preparation: 2011-08-19 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			93.5	mg/Kg	1	100	<3.85	94	85 - 115

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			108	mg/Kg	1	100	<3.85	108	85 - 115	14	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: 84136 | Date Analyzed: 2011-08-22 | Analyzed By: AR
Prep Batch: 71416 | QC Preparation: 2011-08-19 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			92.2	mg/Kg	1	100	<3.85	92	85 - 115

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			103	mg/Kg	1	100	<3.85	103	85 - 115	11	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: 274595

QC Batch: 83901 | Date Analyzed: 2011-08-15 | Analyzed By: ME
Prep Batch: 71244 | QC Preparation: 2011-08-15 | Prepared By: ME

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.89	mg/Kg	1	2.00	<0.0118	94	69.4 - 123.6
Toluene		1	1.98	mg/Kg	1	2.00	<0.00600	99	75.4 - 134.3
Ethylbenzene		1	2.07	mg/Kg	1	2.00	<0.00850	104	58.8 - 133.7
Xylene		1	6.32	mg/Kg	1	6.00	<0.00613	105	57 - 134.2

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene		1	2.02	mg/Kg	1	2.00	<0.0118	101	69.4 - 123.6	7	20
Toluene		1	2.11	mg/Kg	1	2.00	<0.00600	106	75.4 - 134.3	6	20
Ethylbenzene		1	2.21	mg/Kg	1	2.00	<0.00850	110	58.8 - 133.7	6	20
Xylene		1	6.75	mg/Kg	1	6.00	<0.00613	112	57 - 134.2	7	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.37	2.47	mg/Kg	1	2	118	124	79.4 - 141.1
4-Bromofluorobenzene (4-BFB)	2.46	2.58	mg/Kg	1	2	123	129	71 - 167

Matrix Spike (MS-1) Spiked Sample: 274591

QC Batch: 83902 | Date Analyzed: 2011-08-15 | Analyzed By: ME
Prep Batch: 71244 | QC Preparation: 2011-08-15 | Prepared By: ME

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	15.4	mg/Kg	1	20.0	<0.753	77	61.8 - 114

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	16.0	mg/Kg	1	20.0	<0.753	80	61.8 - 114	4	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.41	2.48	mg/Kg	1	2	120	124	29.4 - 161.7
4-Bromofluorobenzene (4-BFB)	2.26	2.34	mg/Kg	1	2	113	117	37.3 - 162

Matrix Spike (MS-1) Spiked Sample: 274595

QC Batch: 83966 | Date Analyzed: 2011-08-16 | Analyzed By: kg
Prep Batch: 71294 | QC Preparation: 2011-08-16 | Prepared By: kg

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	255	mg/Kg	1	250	<14.5	102	38.8 - 153.3

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO		1	268	mg/Kg	1	250	<14.5	107	38.8 - 153.3	5	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Tricosane	116	114	mg/Kg	1	100	116	114	54.6 - 149.8

Matrix Spike (MS-1) Spiked Sample: 274592

QC Batch: 84135 | Date Analyzed: 2011-08-22 | Analyzed By: AR
Prep Batch: 71416 | QC Preparation: 2011-08-19 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			10200	mg/Kg	100	10000	<385	102	79.4 - 120.6

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			11300	mg/Kg	100	10000	<385	113	79.4 - 120.6	10	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: 274912

QC Batch: 84136 | Date Analyzed: 2011-08-22 | Analyzed By: AR
Prep Batch: 71416 | QC Preparation: 2011-08-19 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			10100	mg/Kg	100	10000	<385	101	79.4 - 120.6

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			10700	mg/Kg	100	10000	<385	107	79.4 - 120.6	6	20

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

Calibration Standards

Standard (CCV-1)

QC Batch: 83901 | Date Analyzed: 2011-08-15 | 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	0.101	101	80 - 120	2011-08-15
Toluene		1	mg/Kg	0.100	0.103	103	80 - 120	2011-08-15
Ethylbenzene		1	mg/Kg	0.100	0.106	106	80 - 120	2011-08-15
Xylene		1	mg/Kg	0.300	0.319	106	80 - 120	2011-08-15

Standard (CCV-2)

QC Batch: 83901 | Date Analyzed: 2011-08-15 | 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	0.105	105	80 - 120	2011-08-15
Toluene		1	mg/Kg	0.100	0.107	107	80 - 120	2011-08-15
Ethylbenzene		1	mg/Kg	0.100	0.107	107	80 - 120	2011-08-15
Xylene		1	mg/Kg	0.300	0.323	108	80 - 120	2011-08-15

Standard (CCV-1)

QC Batch: 83902 | Date Analyzed: 2011-08-15 | Analyzed By: ME

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	1.06	106	80 - 120	2011-08-15

Standard (CCV-2)

QC Batch: 83902 | Date Analyzed: 2011-08-15 | Analyzed By: ME

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	1.00	100	80 - 120	2011-08-15

Standard (CCV-1)

QC Batch: 83966 Date Analyzed: 2011-08-16 Analyzed By: kg

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	230	92	80 - 120	2011-08-16

Standard (CCV-2)

QC Batch: 83966 Date Analyzed: 2011-08-16 Analyzed By: kg

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	237	95	80 - 120	2011-08-16

Standard (ICV-1)

QC Batch: 84135 Date Analyzed: 2011-08-22 Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.4	99	85 - 115	2011-08-22

Standard (CCV-1)

QC Batch: 84135 Date Analyzed: 2011-08-22 Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	101	101	85 - 115	2011-08-22

Standard (ICV-1)

QC Batch: 84136 Date Analyzed: 2011-08-22 Analyzed By: AR

Param	Flag	Cert	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	101	101	85 - 115	2011-08-22

Standard (CCV-1)

QC Batch: 84136 Date Analyzed: 2011-08-22 Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	98.9	99	85 - 115	2011-08-22

Appendix

Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory 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.

* WO #: 11081508

Analysis Request of Chain of Custody Record

PAGE: 1 OF: 2

TETRA TECH
1910 N. Big Spring St.
Midland, Texas 79705
(432) 682-4559 • Fax (432) 682-3946

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-640 0989

PROJECT NAME: COG / Jenkins B Federal #10

Eddy Co., NM

LAB I.D. NUMBER	DATE 2011	TIME	MATRIX	COMP	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH TX1005 (Ext. to C35)	TPH 8015 MOD.	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
274588	8/11		S		X	AH-1 0-1'	1				X		X	X												X				
589						1-1.5'	1				X															X				
590						2-2.5'	1				X															X				
591						AH-2 0-1'	1				X		X	X												X				
592						1-1.5'	1				X															X				
593						2-2.5'	1				X															X				
594						3-3.5'	1				X															X				
595						AH-3 0-1'	1				X		X	X												X				
596						1-1.5'	1				X															X				
597						2-2.5'	1				X															X				

ANALYSIS REQUEST (Circle or Specify Method No.)

RELINQUISHED BY: (Signature)	Date: 8/12/11 Time: 10:30	RECEIVED BY: (Signature)	Date: 8/13/11 Time: 1015
RELINQUISHED BY: (Signature)	Date: 8/13/11 Time: 1015	RECEIVED BY: (Signature)	Date: 8/13/11 Time: 0:15
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:

SAMPLED BY: (Print & Initial) Kim RS Date: 8/12/11 Time:

SAMPLE SHIPPED BY: (Circle) FEDEX HAND DELIVERED BUS UPS

AIRBILL #:

OTHER:

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

RECEIVING LABORATORY: TRACE

ADDRESS:

CITY: MIDLAND STATE: TX ZIP:

CONTACT: PHONE: DATE: TIME:

RECEIVED BY: (Signature)

SAMPLE CONDITION WHEN RECEIVED: 3.1°C intact

REMARKS: Run deeper sample if TPH exceeds 5,000 mg/kg or Run deeper sample if benzene exceed 10 mg/kg or total BTEX exceeds 50 mg/kg

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