

SITE INFORMATION

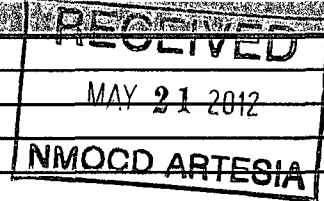
Report Type: Work Plan

General Site Information:

Site:	Foster Eddy #14 Well Site					
Company:	COG Operating LLC					
Section, Township and Range	Unit F	Sec 17	T17S	R31E		
Lease Number:	API-30-015-37136					
County:	Eddy County					
GPS:	32.83719° N			103.89308° W		
Surface Owner:	Federal					
Mineral Owner:						
Directions:	From the intersection of CR 529 and Hwy 82 east of Loco Hills, travel west of Hwy 82 for 1.0 mile, turn right onto lease road and travel 1.0 mile, stay to the left and travel 0.4 miles to the site.					

Release Data:

Date Released:	9/16/2011
Type Release:	Produced Fluid
Source of Contamination:	Gauge on the top of the wellhead
Fluid Released:	15 bbls
Fluids Recovered:	14 bbls



Official Communication:

Name:	Pat Ellis		Ike Tavaréz
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) 682-4559
Fax:	(432) 684-7137		
Email:	pellis@conchoresources.com		ike.tavaréz@tetrattech.com

Ranking Criteria

Depth to Groundwater:	Ranking Score	Site Data
<50 ft	20	
50-99 ft	10	
>100 ft.	0	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

March 27, 2012

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

Re: Work Plan for the COG Operating LLC., Foster Eddy #14 Well Site, Unit F, Section 17, Township 17 South, Range 31 East, Eddy County, New Mexico.

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC. (COG) to assess a spill from Foster Eddy #14 located in Unit F, Section 17, Township 17 South, Range 31 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.83719 °, W 103.89308 °. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico C-141 Initial Report, the leak was discovered on September 16, 2011 and released approximately fifteen (15) barrels of produced fluid from the top of the wellhead. To alleviate the problem, COG personnel replaced the faulty gauge on the well head. Fourteen (14) barrels of standing fluids were recovered. The spill initiated on the pad and ran into the pasture affecting an area approximately 25' X 55'. The initial C-141 form is enclosed in Appendix A.

Tetra Tech

1910 North Big Spring, Midland, TX 79705

Tel 432.682.4559 Fax 432.682.3946 www.tetratech.com



Groundwater

No water wells were listed within Section 17. According to the NMOCD groundwater map, the average depth to groundwater in this area is approximately 325' below surface. The groundwater data is shown in Appendix B.

Regulatory

A risk-based evaluation was performed for the Site in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases, dated August 13, 1993. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene). Based upon the depth to groundwater, the proposed RRAL for TPH is 5,000 mg/kg.

Soil Assessment and Analytical Results

On October 31, 2011, Tetra Tech personnel inspected and sampled the spill area. Three (3) auger holes (AH-1 and AH-3) were installed using a stainless steel hand auger to assess the impacted soils. Selected samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The sampling results are summarized in Table 1. The auger hole locations are shown on Figure 3.

Referring to Table 1, none of the samples exceeded the TPH and BTEX RRAL. Auger holes (AH-1 and AH-2) did not show a chloride impact to the soils. However, the area of AH-3 showed a shallow impact with a chloride high of 2,920 mg/kg at 0-1.0' and declined to 216 mg/kg at 1-1.5' below surface.

Work Plan

COG proposes to remove impacted material as highlighted (green) in Table 1 and shown on Figure 4. The area of AH-3 will be excavated 1.0' and hauled to proper disposal. Once the area is excavated to the appropriate depth, the excavation will be backfilled with clean soil.



TETRA TECH

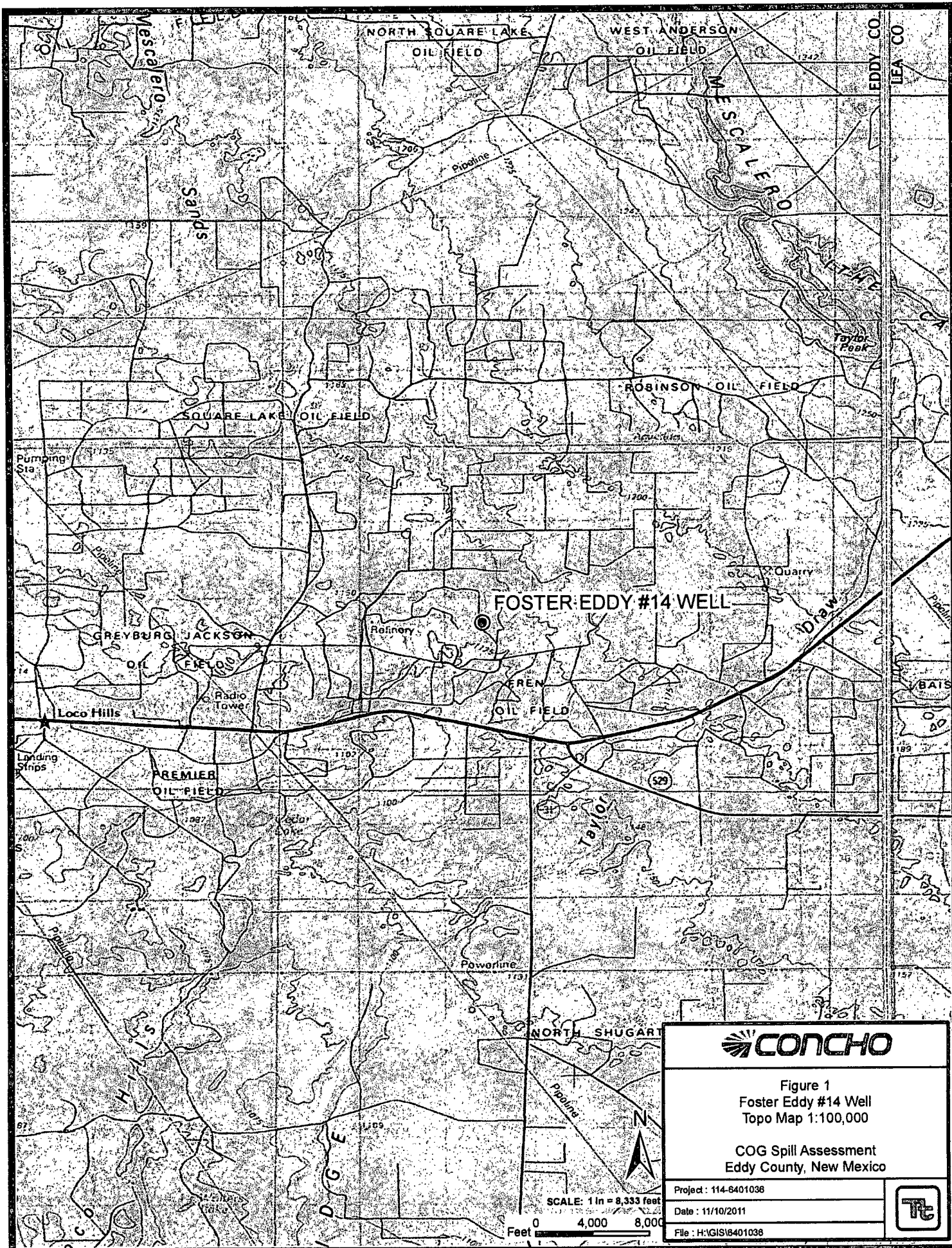
Upon completion, a final report will be submitted to the NMOCD. If you have any questions or comments concerning the assessment or the proposed remediation activities for this site, please call me at (432) 682-4559.

Respectfully submitted,
TETRA TECH

Ike Tavaréz
Project Manager

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

Figures



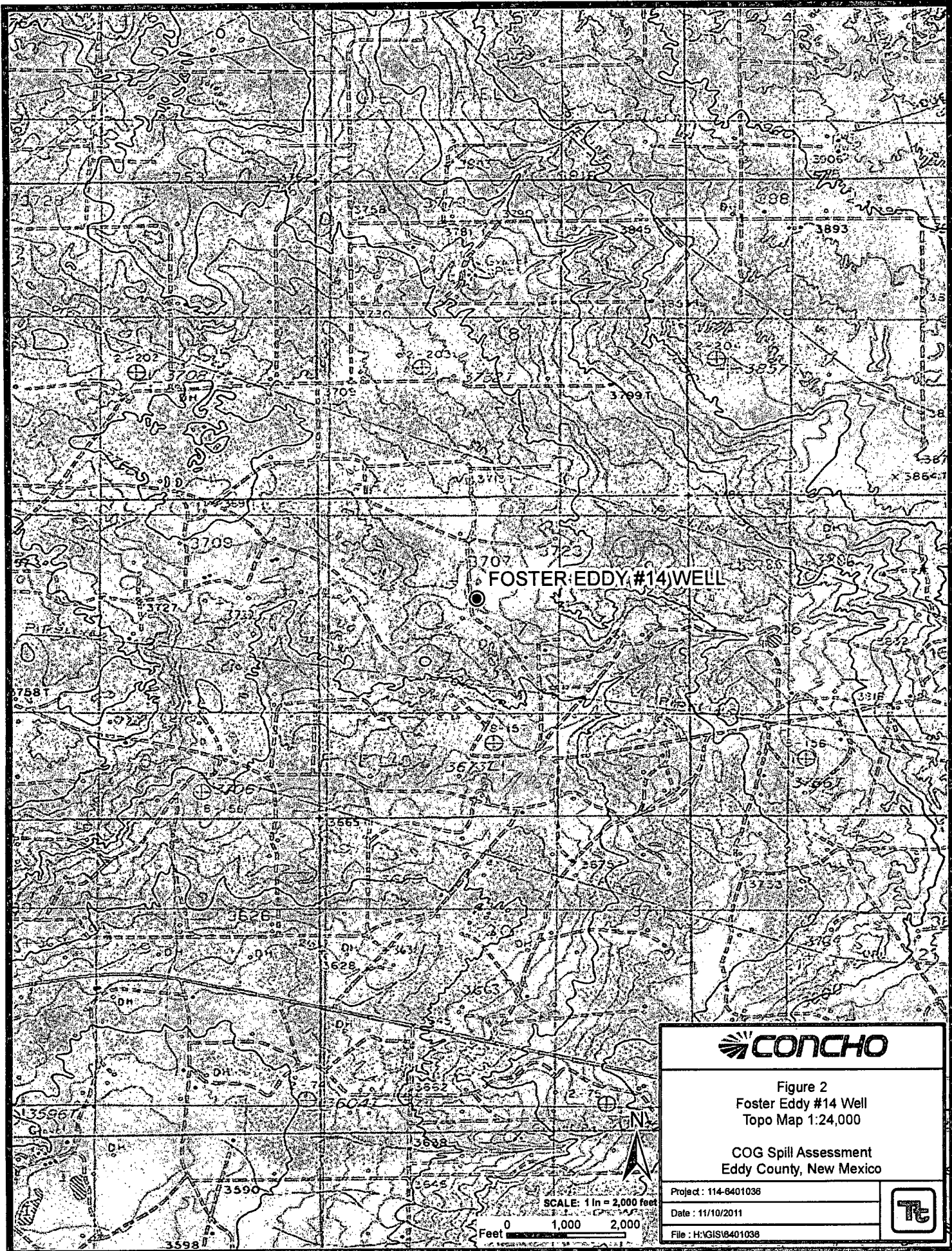


Figure 2
Foster Eddy #14 Well
Topo Map 1:24,000

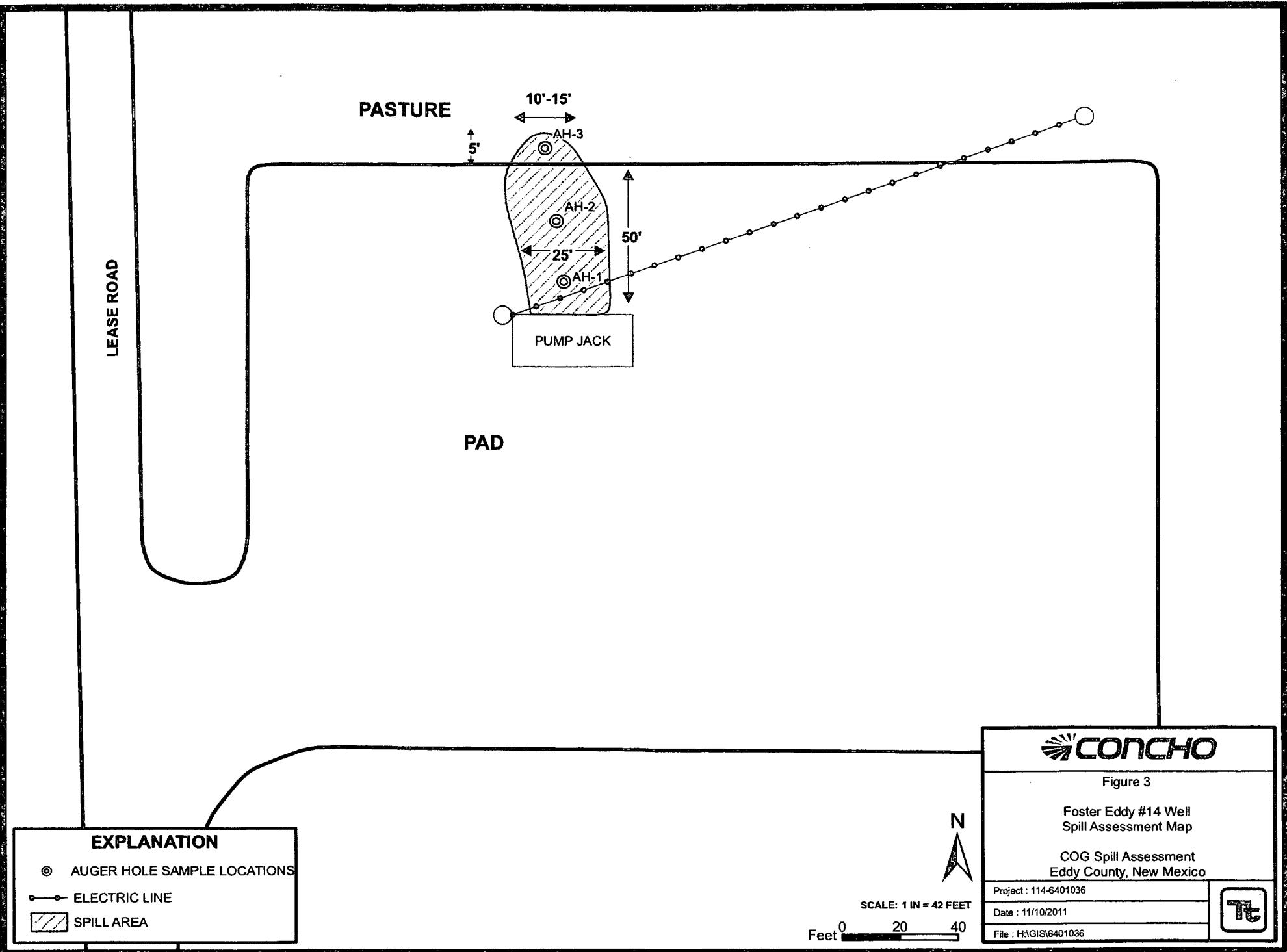
COG Spill Assessment
Eddy County, New Mexico

Project : 114-6401036

Date : 11/10/2011

File : H:\GIS\6401036





EXPLANATION

- ⊙ AUGER HOLE SAMPLE LOCATIONS
- ELECTRIC LINE
- ▨ SPILL AREA



SCALE: 1 IN = 42 FEET

Feet 0 20 40





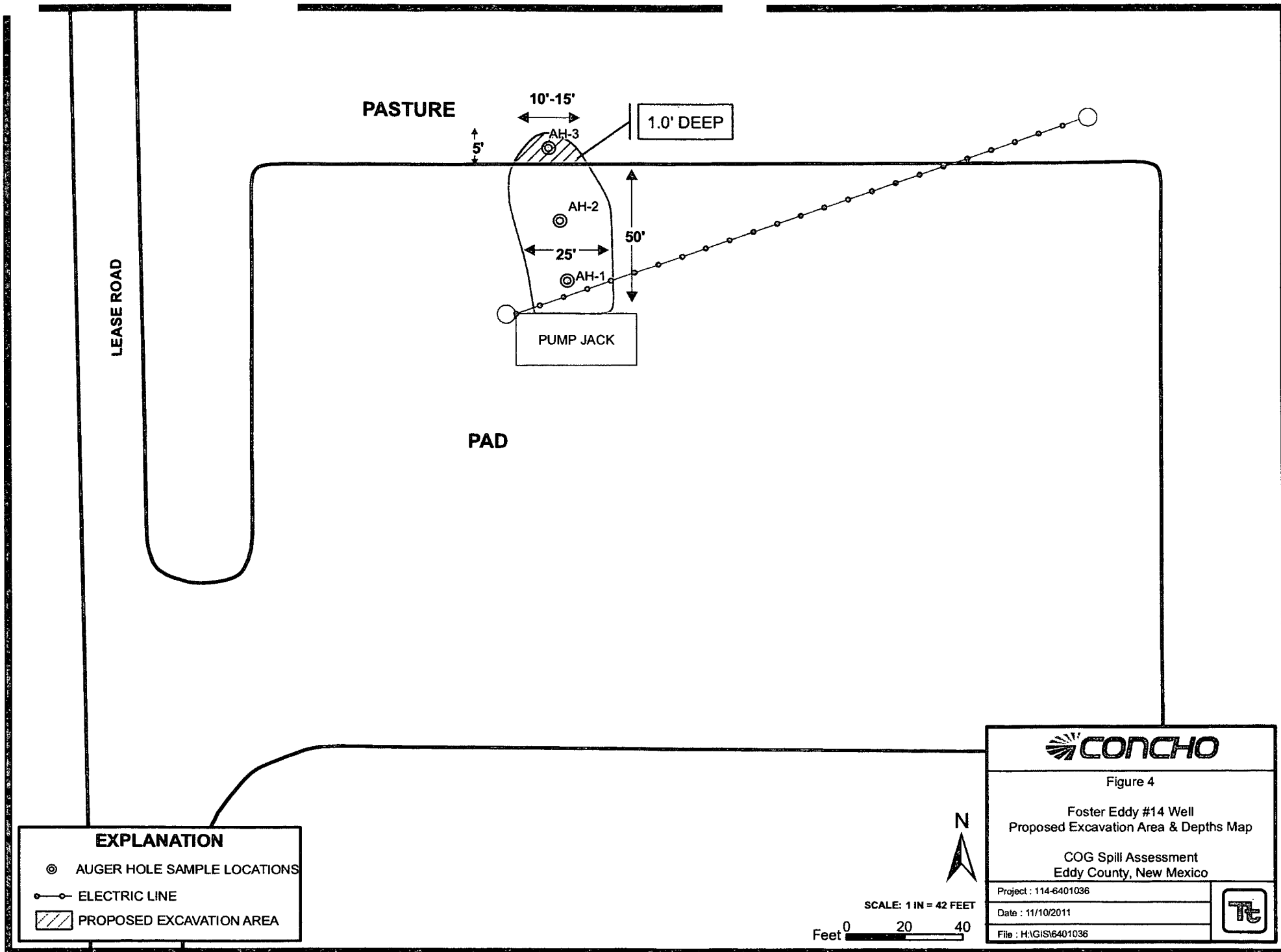
Figure 3

Foster Eddy #14 Well
Spill Assessment Map

COG Spill Assessment
Eddy County, New Mexico

Project : 114-6401036
Date : 11/10/2011
File : H:\GIS\6401036





Tables

Table 1
COG Operating LLC
Foster Eddy #14 Well
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Depth (BEB)	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	10/31/2011	0-1'	-	X		3.53	<50.0	3.53	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	280
		1-1.5'	-	X		-	-	-	-	-	-	-	-	<200
		2-2.5'	-	X		-	-	-	-	-	-	-	-	286
AH-2	10/31/2011	0-1'	-	X		3.30	<50.0	3.30	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<200
		1-1.5'	-	X		-	-	-	-	-	-	-	-	<200
		2-2.5'	-	X		-	-	-	-	-	-	-	-	<200
AH-3	10/31/2011	0-1'	-	X		3.68	<50.0	3.68	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	2,920
		1-1.5'	-	X		-	-	-	-	-	-	-	-	216
		2-2.5'	-	X		-	-	-	-	-	-	-	-	<200

(--)

Not Analyzed



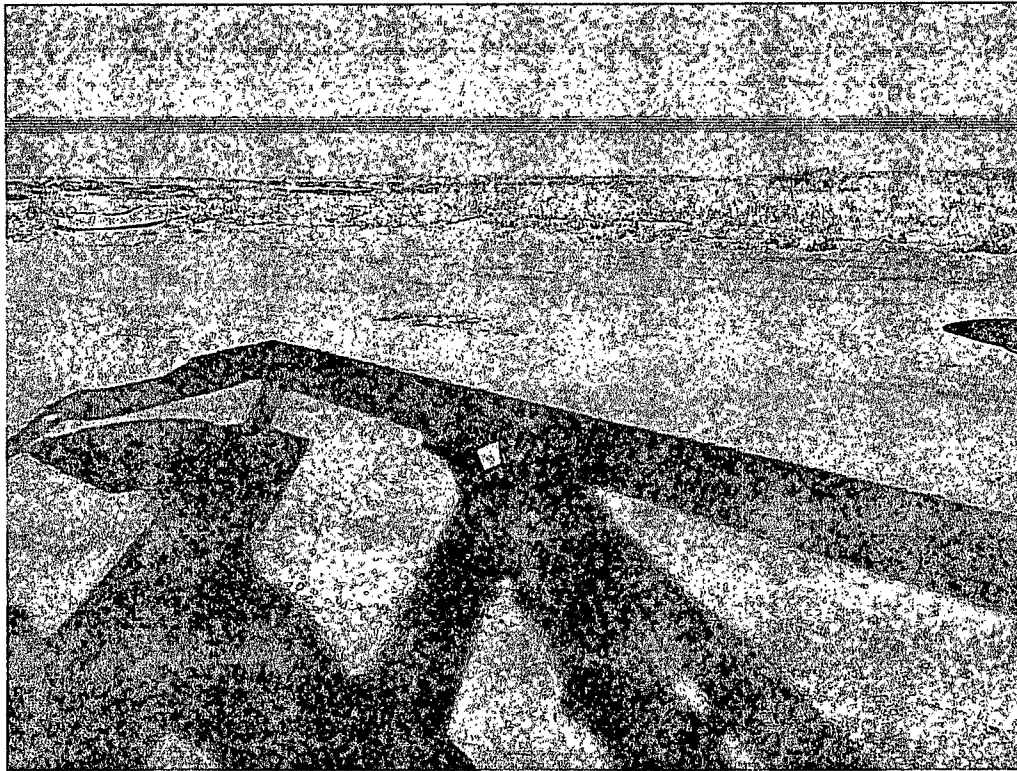
Proposed Excavation Depths

Photos

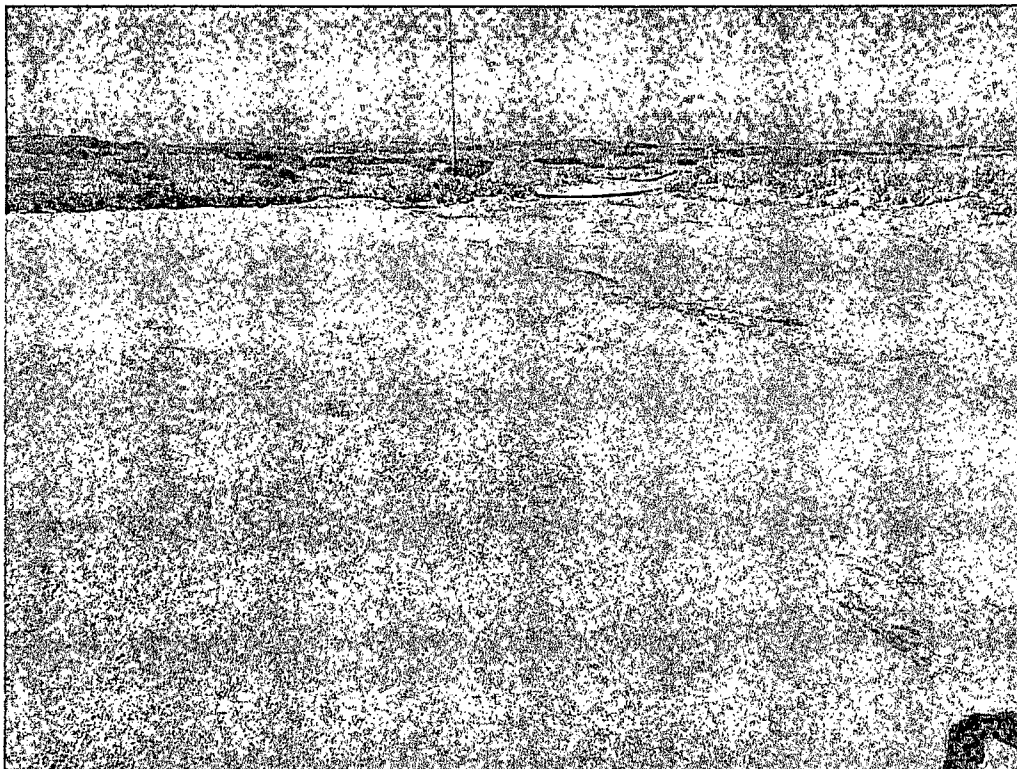
COG Operating LLC
Foster Eddy #14
Eddy County, New Mexico



TETRA TECH



View North – Area of AH-1 and AH-2

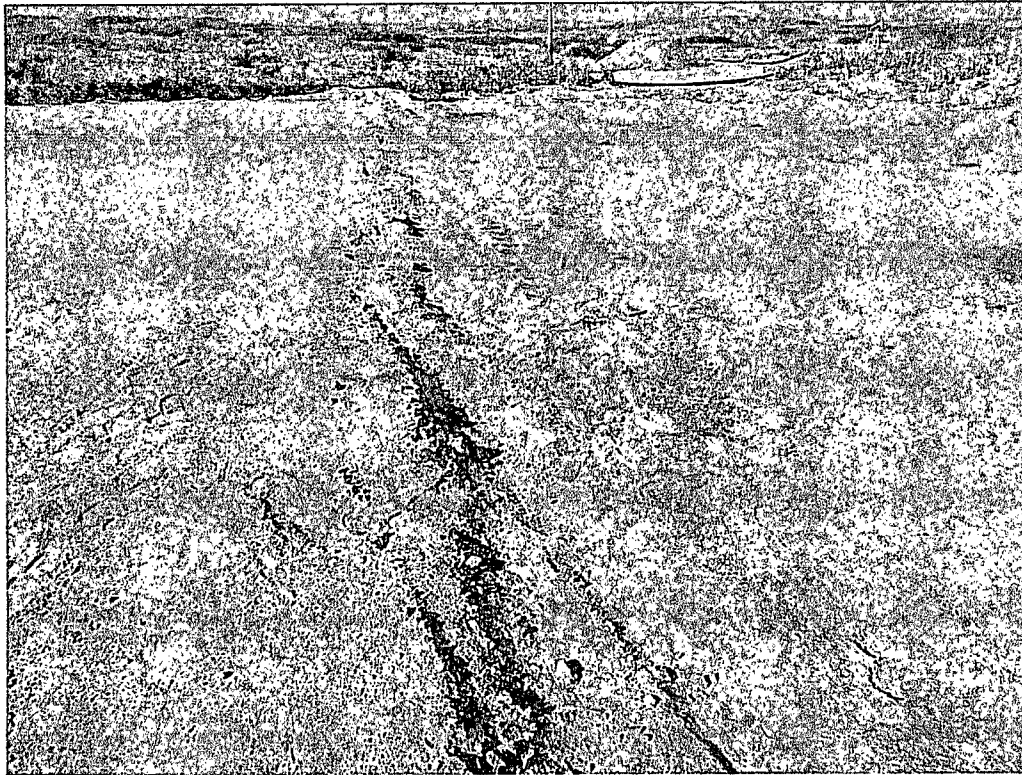


View North West – Area of AH-3

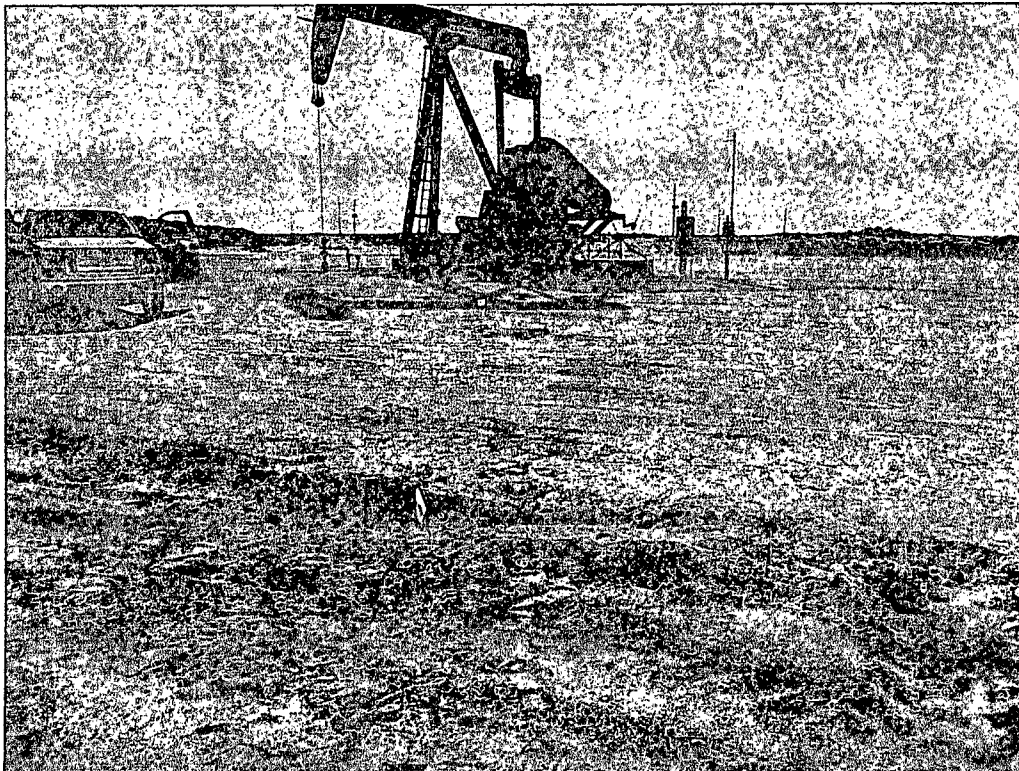
COG Operating LLC
Foster Eddy #14
Eddy County, New Mexico



TETRA TECH



View Area of AH-3



View Area of AH-3

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

RECEIVED

MAY 21 2012

NMOCD ARTESIA

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	Foster Eddy #14	Facility Type	Well
Surface Owner	Federal	Mineral Owner	
		Lease No. (API#)	30-015-37136

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North-South Line	Feet from the	East/West Line	County
F	17	17S	31E					Eddy

Latitude 32 50.217 Longitude 103 53.583

NATURE OF RELEASE

Type of Release	Produced fluid	Volume of Release	15bbls	Volume Recovered	14bbls
Source of Release	Gauge on top of wellhead	Date and Hour of Occurrence	09/16/2011	Date and Hour of Discovery	09/16/2011 9:15 a.m.
Was Immediate Notice Given?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?			
By Whom?		Date and Hour			
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

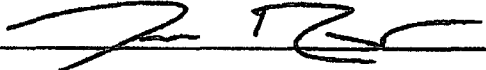
Fluid was released from the faulty gauge on top of the wellhead. The gauge has been replaced.

Describe Area Affected and Cleanup Action Taken.*

Initially 15bbls of produced fluid were released from the faulty gauge on top of the Foster Eddy #14 wellhead. The release area was limited to a 30' x 60' area around the wellhead. All free fluid has been picked up and the location has been scraped; contaminated soil has been removed and hauled off the location. Terra 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.

OIL CONSERVATION DIVISION

Signature:		Approved by District Supervisor:	
Printed Name:	Josh Russo	Approval Date:	Expiration Date:
Title:	HSE Coordinator	Conditions of Approval:	
E-mail Address:	jrusso@conchoresources.com	Attached <input type="checkbox"/>	
Date:	09/26/2011	Phone:	432-212-2399

* Attach Additional Sheets If Necessary

Appendix B

Water Well Data
Average Depth to Groundwater (ft)
COG - Foster Eddy #14
Eddy County, New Mexico

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
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			32 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		
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			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	35	36

17 South			32 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
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			32 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
-  Geology and Groundwater Conditions in Southern Eddy, County, NM
-  NMOCD - Groundwater Data
-  Field water level
-  New Mexico Water and Infrastructure Data System
-  SITE - Foster Eddy #14

Appendix C

Summary Report

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

Report Date: November 10, 2011

Work Order: 11110410



Project Location: Eddy Co., NM
Project Name: Foster Eddy #14 Well
Project Number: 114-6401036

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
281549	AH-1 0-1'	soil	2011-10-31	00:00	2011-11-03
281550	AH-1 1-1.5'	soil	2011-10-31	00:00	2011-11-03
281551	AH-1 2-2.5'	soil	2011-10-31	00:00	2011-11-03
281552	AH-2 0-1'	soil	2011-10-31	00:00	2011-11-03
281553	AH-2 1-1.5'	soil	2011-10-31	00:00	2011-11-03
281554	AH-2 2-2.5'	soil	2011-10-31	00:00	2011-11-03
281555	AH-3 0-1'	soil	2011-10-31	00:00	2011-11-03
281556	AH-3 1-1.5'	soil	2011-10-31	00:00	2011-11-03
281557	AH-3 2-2.5'	soil	2011-10-31	00:00	2011-11-03

Sample - Field Code	BTEX				TPH DRO - NEW	TPH GRO
	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	DRO (mg/Kg)	GRO (mg/Kg)
281549 - AH-1 0-1'	<0.0200 Qr	<0.0200 Qr	<0.0200 Qr	<0.0200 Qr	<50.0	3.53
281552 - AH-2 0-1'	<0.0200 Qr	<0.0200 Qr	<0.0200 Qr	<0.0200 Qr	<50.0	3.30
281555 - AH-3 0-1'	<0.0200 Qr	<0.0200 Qr	<0.0200 Qr	<0.0200 Qr	<50.0	3.68

Sample: 281549 - AH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		280	mg/Kg	4

Sample: 281550 - AH-1 1-1.5'

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

Sample: 281551 - AH-1 2-2.5'

Param	Flag	Result	Units	RL
Chloride		286	mg/Kg	4

Sample: 281552 - AH-2 0-1'

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

Sample: 281553 - AH-2 1-1.5'

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

Sample: 281554 - AH-2 2-2.5'

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

Sample: 281555 - AH-3 0-1'

Param	Flag	Result	Units	RL
Chloride		2920	mg/Kg	4

Sample: 281556 - AH-3 1-1.5'

Param	Flag	Result	Units	RL
Chloride		216	mg/Kg	4

Sample: 281557 - AH-3 2-2.5'

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



6701 Abbot Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1296
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: November 10, 2011

Work Order: 11110410



Project Location: Eddy Co., NM
Project Name: Foster Eddy #14 Well
Project Number: 114-6401036

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
281549	AH-1 0-1'	soil	2011-10-31	00:00	2011-11-03
281550	AH-1 1-1.5'	soil	2011-10-31	00:00	2011-11-03
281551	AH-1 2-2.5'	soil	2011-10-31	00:00	2011-11-03
281552	AH-2 0-1'	soil	2011-10-31	00:00	2011-11-03
281553	AH-2 1-1.5'	soil	2011-10-31	00:00	2011-11-03
281554	AH-2 2-2.5'	soil	2011-10-31	00:00	2011-11-03
281555	AH-3 0-1'	soil	2011-10-31	00:00	2011-11-03
281556	AH-3 1-1.5'	soil	2011-10-31	00:00	2011-11-03
281557	AH-3 2-2.5'	soil	2011-10-31	00:00	2011-11-03

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

Michael Abel

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

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Sample 281551 (AH-1 2-2.5')	7
Sample 281552 (AH-2 0-1')	8
Sample 281553 (AH-2 1-1.5')	9
Sample 281554 (AH-2 2-2.5')	9
Sample 281555 (AH-3 0-1')	10
Sample 281556 (AH-3 1-1.5')	11
Sample 281557 (AH-3 2-2.5')	11
Method Blanks	13
QC Batch 86134 - Method Blank (1)	13
QC Batch 86135 - Method Blank (1)	13
QC Batch 86138 - Method Blank (1)	13
QC Batch 86236 - Method Blank (1)	14
QC Batch 86237 - Method Blank (1)	14
Laboratory Control Spikes	15
QC Batch 86134 - LCS (1)	15
QC Batch 86135 - LCS (1)	15
QC Batch 86138 - LCS (1)	16
QC Batch 86236 - LCS (1)	16
QC Batch 86237 - LCS (1)	17
QC Batch 86134 - MS (1)	17
QC Batch 86135 - MS (1)	18
QC Batch 86138 - MS (1)	18
QC Batch 86236 - MS (1)	19
QC Batch 86237 - MS (1)	19
Calibration Standards	20
QC Batch 86134 - CCV (1)	20
QC Batch 86134 - CCV (2)	20
QC Batch 86135 - CCV (1)	20
QC Batch 86135 - CCV (2)	20
QC Batch 86138 - CCV (1)	21
QC Batch 86138 - CCV (2)	21
QC Batch 86236 - ICV (1)	21
QC Batch 86236 - CCV (1)	21
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Case Narrative

Samples for project Foster Eddy #14 Well were received by TraceAnalysis, Inc. on 2011-11-03 and assigned to work order 11110410. Samples for work order 11110410 were received intact at a temperature of 4.3 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	73143	2011-11-04 at 12:45	86134	2011-11-05 at 02:47
Chloride (Titration)	SM 4500-Cl B	73222	2011-11-07 at 09:37	86236	2011-11-09 at 10:59
Chloride (Titration)	SM 4500-Cl B	73222	2011-11-07 at 09:37	86237	2011-11-09 at 11:01
TPH DRO - NEW	S 8015 D	73148	2011-11-04 at 13:42	86138	2011-11-04 at 13:42
TPH GRO	S 8015 D	73143	2011-11-04 at 12:45	86135	2011-11-05 at 03:14

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 11110410 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: November 10, 2011
114-6401036

Work Order: 11110410
Foster Eddy #14 Well

Page Number: 6 of 23
Eddy Co., NM

Analytical Report

Sample: 281549 - AH-1 0-1'

Laboratory: Midland

Analysis: BTEX

QC Batch: 86134

Prep Batch: 73143

Analytical Method: S 8021B

Date Analyzed: 2011-11-05

Sample Preparation: 2011-11-04

Prep Method: S 5035

Analyzed By: AG

Prepared By: AG

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.96	mg/Kg	1	2.00	98	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			1.98	mg/Kg	1	2.00	99	70.6 - 179

Sample: 281549 - AH-1 0-1'

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 86236

Prep Batch: 73222

Analytical Method: SM 4500-Cl B

Date Analyzed: 2011-11-09

Sample Preparation: 2011-11-07

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			280	mg/Kg	50	4.00

Sample: 281549 - AH-1 0-1'

Laboratory: Midland

Analysis: TPH DRO - NEW

QC Batch: 86138

Prep Batch: 73148

Analytical Method: S 8015 D

Date Analyzed: 2011-11-04

Sample Preparation: 2011-11-04

Prep Method: N/A

Analyzed By: kg

Prepared By: kg

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

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Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			123	mg/Kg	1	100	123	67.5 - 147.1

Sample: 281549 - AH-1 0-1'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 86135
Prep Batch: 73143

Analytical Method: S 8015 D
Date Analyzed: 2011-11-05
Sample Preparation: 2011-11-04

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

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	3.53	mg/Kg	1	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.96	mg/Kg	1	2.00	98	30 - 134.6
4-Bromofluorobenzene (4-BFB)			1.87	mg/Kg	1	2.00	94	22.4 - 149

Sample: 281550 - AH-1 1-1.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 86237
Prep Batch: 73222

Analytical Method: SM 4500-Cl B
Date Analyzed: 2011-11-09
Sample Preparation: 2011-11-07

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

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

Sample: 281551 - AH-1 2-2.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 86237
Prep Batch: 73222

Analytical Method: SM 4500-Cl B
Date Analyzed: 2011-11-09
Sample Preparation: 2011-11-07

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

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sample 281551 continued ...

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			286	mg/Kg	50	4.00

Sample: 281552 - AH-2 0-1'

Laboratory: Midland

Analysis: BTEX

QC Batch: 86134

Prep Batch: 73143

Analytical Method: S 8021B

Date Analyzed: 2011-11-05

Sample Preparation: 2011-11-04

Prep Method: S 5035

Analyzed By: AG

Prepared By: AG

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.95	mg/Kg	1	2.00	98	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			2.00	mg/Kg	1	2.00	100	70.6 - 179

Sample: 281552 - AH-2 0-1'

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 86237

Prep Batch: 73222

Analytical Method: SM 4500-Cl B

Date Analyzed: 2011-11-09

Sample Preparation: 2011-11-07

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

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

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Sample: 281552 - AH-2 0-1'

Laboratory:	Midland	Analytical Method:	S 8015 D	Prep Method:	N/A
Analysis:	TPH DRO - NEW	Date Analyzed:	2011-11-04	Analyzed By:	kg
QC Batch:	86138	Sample Preparation:	2011-11-04	Prepared By:	kg
Prep Batch:	73148				

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			132	mg/Kg	1	100	132	67.5 - 147.1

Sample: 281552 - AH-2 0-1'

Laboratory:	Midland	Analytical Method:	S 8015 D	Prep Method:	S 5035
Analysis:	TPH GRO	Date Analyzed:	2011-11-05	Analyzed By:	AG
QC Batch:	86135	Sample Preparation:	2011-11-04	Prepared By:	AG
Prep Batch:	73143				

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	3.30	mg/Kg	1	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.96	mg/Kg	1	2.00	98	30 - 134.6
4-Bromofluorobenzene (4-BFB)			1.87	mg/Kg	1	2.00	94	22.4 - 149

Sample: 281553 - AH-2 1-1.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-11-09	Analyzed By:	AR
QC Batch:	86237	Sample Preparation:	2011-11-07	Prepared By:	AR
Prep Batch:	73222				

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

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Sample: 281554 - AH-2 2-2.5'

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 86237

Prep Batch: 73222

Analytical Method: SM 4500-Cl B

Date Analyzed: 2011-11-09

Sample Preparation: 2011-11-07

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

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

Sample: 281555 - AH-3 0-1'

Laboratory: Midland

Analysis: BTEX

QC Batch: 86134

Prep Batch: 73143

Analytical Method: S 8021B

Date Analyzed: 2011-11-05

Sample Preparation: 2011-11-04

Prep Method: S 5035

Analyzed By: AG

Prepared By: AG

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.96	mg/Kg	1	2.00	98	82.8 - 143.1
4-Bromofluorobenzene (4-BFB)			2.00	mg/Kg	1	2.00	100	70.6 - 179

Sample: 281555 - AH-3 0-1'

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 86237

Prep Batch: 73222

Analytical Method: SM 4500-Cl B

Date Analyzed: 2011-11-09

Sample Preparation: 2011-11-07

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			2920	mg/Kg	100	4.00

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Sample: 281555 - AH-3 0-1'

Laboratory: Midland

Analysis: TPH DRO - NEW

QC Batch: 86138

Prep Batch: 73148

Analytical Method: S 8015 D

Date Analyzed: 2011-11-04

Sample Preparation: 2011-11-04

Prep Method: N/A

Analyzed By: kg

Prepared By: kg

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			93.0	mg/Kg	1	100	93	67.5 - 147.1

Sample: 281555 - AH-3 0-1'

Laboratory: Midland

Analysis: TPH GRO

QC Batch: 86135

Prep Batch: 73143

Analytical Method: S 8015 D

Date Analyzed: 2011-11-05

Sample Preparation: 2011-11-04

Prep Method: S 5035

Analyzed By: AG

Prepared By: AG

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO			1	3.68 mg/Kg	1	2.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.96	mg/Kg	1	2.00	98	30 - 134.6
4-Bromofluorobenzene (4-BFB)			1.88	mg/Kg	1	2.00	94	22.4 - 149

Sample: 281556 - AH-3 1-1.5'

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 86237

Prep Batch: 73222

Analytical Method: SM 4500-Cl B

Date Analyzed: 2011-11-09

Sample Preparation: 2011-11-07

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride				216 mg/Kg	50	4.00

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Sample: 281557 - AH-3 2-2.5'

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 86237

Prep Batch: 73222

Analytical Method: SM 4500-Cl B

Date Analyzed: 2011-11-09

Sample Preparation: 2011-11-07

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

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

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Method Blanks

Method Blank (1) QC Batch: 86134

QC Batch: 86134
Prep Batch: 73143

Date Analyzed: 2011-11-05
QC Preparation: 2011-11-04

Analyzed By: AG
Prepared By: AG

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)			1.88	mg/Kg	1	2.00	94	65.9 - 111.8
4-Bromofluorobenzene (4-BFB)			1.67	mg/Kg	1	2.00	84	48.4 - 123.1

Method Blank (1) QC Batch: 86135

QC Batch: 86135
Prep Batch: 73143

Date Analyzed: 2011-11-05
QC Preparation: 2011-11-04

Analyzed By: AG
Prepared By: AG

Parameter	Flag	Cert	MDL Result	Units	RL
GRO		1	0.915	mg/Kg	2

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.90	mg/Kg	1	2.00	95	67.6 - 150
4-Bromofluorobenzene (4-BFB)			1.60	mg/Kg	1	2.00	80	52.4 - 130

Method Blank (1) QC Batch: 86138

QC Batch: 86138
Prep Batch: 73148

Date Analyzed: 2011-11-04
QC Preparation: 2011-11-04

Analyzed By: kg
Prepared By: kg

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Parameter	Flag	Cert	MDL Result	Units	RL
DRO		1	<14.5	mg/Kg	50

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			114	mg/Kg	1	100	114	52.7 - 133.8

Method Blank (1) QC Batch: 86236

QC Batch: 86236
Prep Batch: 73222

Date Analyzed: 2011-11-09
QC Preparation: 2011-11-07

Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 86237

QC Batch: 86237
Prep Batch: 73222

Date Analyzed: 2011-11-09
QC Preparation: 2011-11-07

Analyzed By: AR
Prepared By: AR

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

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Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 86134
Prep Batch: 73143

Date Analyzed: 2011-11-05
QC Preparation: 2011-11-04

Analyzed By: AG
Prepared By: AG

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	2.03	mg/Kg	1	2.00	<0.0118	102	77.4 - 121.7
Toluene		1	1.98	mg/Kg	1	2.00	<0.00600	99	88.6 - 121.6
Ethylbenzene		1	1.93	mg/Kg	1	2.00	<0.00850	96	74.3 - 117.9
Xylene		1	5.83	mg/Kg	1	6.00	<0.00613	97	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	2.01	mg/Kg	1	2.00	<0.0118	100	77.4 - 121.7	1	20
Toluene		1	1.97	mg/Kg	1	2.00	<0.00600	98	88.6 - 121.6	0	20
Ethylbenzene		1	1.89	mg/Kg	1	2.00	<0.00850	94	74.3 - 117.9	2	20
Xylene		1	5.74	mg/Kg	1	6.00	<0.00613	96	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)	1.92	1.90	mg/Kg	1	2.00	96	95	65.5 - 116.7
4-Bromofluorobenzene (4-BFB)	1.93	1.94	mg/Kg	1	2.00	96	97	56.2 - 132.1

Laboratory Control Spike (LCS-1)

QC Batch: 86135
Prep Batch: 73143

Date Analyzed: 2011-11-05
QC Preparation: 2011-11-04

Analyzed By: AG
Prepared By: AG

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	17.8	mg/Kg	1	20.0	<0.753	89	60.9 - 95.4

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

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Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO		1	18.2	mg/Kg	1	20.0	<0.753	91	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)	1.97	1.96	mg/Kg	1	2.00	98	98	61.9 - 142
4-Bromofluorobenzene (4-BFB)	1.78	1.79	mg/Kg	1	2.00	89	90	56.2 - 132

Laboratory Control Spike (LCS-1)

QC Batch: 86138
Prep Batch: 73148

Date Analyzed: 2011-11-04
QC Preparation: 2011-11-04

Analyzed By: kg
Prepared By: kg

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	282	mg/Kg	1	250	<14.5	113	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	290	mg/Kg	1	250	<14.5	116	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	131	135	mg/Kg	1	100	131	135	65.3 - 135.8

Laboratory Control Spike (LCS-1)

QC Batch: 86236
Prep Batch: 73222

Date Analyzed: 2011-11-09
QC Preparation: 2011-11-07

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			97.8	mg/Kg	1	100	<3.85	98	85 - 115

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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			106	mg/Kg	1	100	<3.85	106	85 - 115	8	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 86237
Prep Batch: 73222

Date Analyzed: 2011-11-09
QC Preparation: 2011-11-07

Analyzed By: AR
Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			99.4	mg/Kg	1	100	<3.85	99	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			106	mg/Kg	1	100	<3.85	106	85 - 115	6	20

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

Matrix Spike (MS-1) Spiked Sample: 281552

QC Batch: 86134
Prep Batch: 73143

Date Analyzed: 2011-11-05
QC Preparation: 2011-11-04

Analyzed By: AG
Prepared By: AG

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	2.24	mg/Kg	1	2.00	<0.0118	112	69.4 - 123.6
Toluene		1	2.23	mg/Kg	1	2.00	<0.00600	112	75.4 - 134.3
Ethylbenzene		1	2.32	mg/Kg	1	2.00	<0.00850	116	58.8 - 133.7
Xylene		1	6.98	mg/Kg	1	6.00	<0.00613	116	57 - 134.2

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

Param				MSD			Spike	Matrix		Rec.		RPD
	F	C		Result	Units	Dil.	Amount	Result	Rec.	Limit	RPD	Limit
Benzene	Qr	Qr	1	1.72	mg/Kg	1	2.00	<0.0118	86	69.4 - 123.6	26	20
Toluene	Qr	Qr	1	1.70	mg/Kg	1	2.00	<0.00600	85	75.4 - 134.3	27	20
Ethylbenzene	Qr	Qr	1	1.76	mg/Kg	1	2.00	<0.00850	88	58.8 - 133.7	27	20
Xylene	Qr	Qr	1	5.30	mg/Kg	1	6.00	<0.00613	88	57 - 134.2	27	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.94	1.94	mg/Kg	1	2	97	97	79.4 - 141.1
4-Bromofluorobenzene (4-BFB)	2.07	2.04	mg/Kg	1	2	104	102	71 - 167

Matrix Spike (MS-1) Spiked Sample: 281555

QC Batch: 86135
Prep Batch: 73143

Date Analyzed: 2011-11-05
QC Preparation: 2011-11-04

Analyzed By: AG
Prepared By: AG

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	19.9	mg/Kg	1	20.0	3.68	81	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	22.0	mg/Kg	1	20.0	3.68	92	61.8 - 114	10	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.95	1.95	mg/Kg	1	2	98	98	29.4 - 161.7
4-Bromofluorobenzene (4-BFB)	2.01	2.02	mg/Kg	1	2	100	101	37.3 - 162

Matrix Spike (MS-1) Spiked Sample: 281552

QC Batch: 86138
Prep Batch: 73148

Date Analyzed: 2011-11-04
QC Preparation: 2011-11-04

Analyzed By: kg
Prepared By: kg

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	293	mg/Kg	1	250	23.1	108	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	302	mg/Kg	1	250	23.1	112	38.8 - 153.3	3	20

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

Report Date: November 10, 2011
114-6401036

Work Order: 11110410
Foster Eddy #14 Well

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Eddy Co., NM

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Tricosane	125	122	mg/Kg	1	100	125	122	54.6 - 149.8

Matrix Spike (MS-1) Spiked Sample: 281549

QC Batch: 86236
Prep Batch: 73222

Date Analyzed: 2011-11-09
QC Preparation: 2011-11-07

Analyzed By: AR
Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			9130	mg/Kg	100	10000	<385	88	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			9780	mg/Kg	100	10000	<385	95	79.4 - 120.6	7	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: 281569

QC Batch: 86237
Prep Batch: 73222

Date Analyzed: 2011-11-09
QC Preparation: 2011-11-07

Analyzed By: AR
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			10400	mg/Kg	100	10000	<385	104	79.4 - 120.6	2	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: 86134

Date Analyzed: 2011-11-05

Analyzed By: AG

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	2011-11-05
Toluene		1	mg/Kg	0.100	0.0981	98	80 - 120	2011-11-05
Ethylbenzene		1	mg/Kg	0.100	0.0959	96	80 - 120	2011-11-05
Xylene		1	mg/Kg	0.300	0.289	96	80 - 120	2011-11-05

Standard (CCV-2)

QC Batch: 86134

Date Analyzed: 2011-11-05

Analyzed By: AG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/Kg	0.100	0.0921	92	80 - 120	2011-11-05
Toluene		1	mg/Kg	0.100	0.0888	89	80 - 120	2011-11-05
Ethylbenzene		1	mg/Kg	0.100	0.0859	86	80 - 120	2011-11-05
Xylene		1	mg/Kg	0.300	0.260	87	80 - 120	2011-11-05

Standard (CCV-1)

QC Batch: 86135

Date Analyzed: 2011-11-05

Analyzed By: AG

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	1.07	107	80 - 120	2011-11-05

Standard (CCV-2)

QC Batch: 86135

Date Analyzed: 2011-11-05

Analyzed By: AG

Report Date: November 10, 2011
114-6401036

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Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	1.15	115	80 - 120	2011-11-05

Standard (CCV-1)

QC Batch: 86138

Date Analyzed: 2011-11-04

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	266	106	80 - 120	2011-11-04

Standard (CCV-2)

QC Batch: 86138

Date Analyzed: 2011-11-04

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	2011-11-04

Standard (ICV-1)

QC Batch: 86236

Date Analyzed: 2011-11-09

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	96.6	97	85 - 115	2011-11-09

Standard (CCV-1)

QC Batch: 86236

Date Analyzed: 2011-11-09

Analyzed By: AR

Report Date: November 10, 2011
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Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	103	103	85 - 115	2011-11-09

Standard (ICV-1)

QC Batch: 86237

Date Analyzed: 2011-11-09

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	104	104	85 - 115	2011-11-09

Standard (CCV-1)

QC Batch: 86237

Date Analyzed: 2011-11-09

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	96.2	96	85 - 115	2011-11-09

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 than 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.

W8# 11110410

Analysis Request of Chain of Custody Record

PAGE: 1 OF: 1

**TETRA TECH**

1910 N. Big Spring St.

Midland, Texas 79705

(432) 682-4559 • Fax (432) 682-3946

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME:

COG

SITE MANAGER:

Ike Tavares

PROJECT NO.:

114-6101036

PROJECT NAME:

Foster Eddy #14 Well

LAB I.D.
NUMBER

DATE

TIME

MATRIX

COMP

GRAB

Eddy Co., NM
SAMPLE IDENTIFICATION

NUMBER OF CONTAINERS

FILTERED (Y/N)

HCL

HNO3

ICE

NONE

PRESERVATIVE
METHOD

BTX 8027B	TX1005 (Ext. to C35)	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
PH 8015 MDP	PAH 8270														

281549

10/31

S

X

AH-1 0-1'

1

X

X

550

1-1.5'

1

X

551

2-2.5'

1

X

552

AH-2 0-1'

1

X

X

553

1-1.5'

1

X

554

2-2.5'

1

X

555

AH-3 0-1'

1

X

X

556

1-1.5'

1

X

557

2-2.5'

1

X

558

3-3.5'

1

X

RELINQUISHED BY: (Signature)

Date:

11-5-11

Time:

16:30

RECEIVED BY: (Signature)

Date:

Time:

SAMPLED BY: (Print & Initial)

Kim

Date:

10/31/11

Time:

RELINQUISHED BY: (Signature)

Date:

Time:

RECEIVED BY: (Signature)

Date:

Time:

SAMPLE SHIPPED BY: (Circle)

FEDEX

BUS

AIRBILL #:

HAND DELIVERED

UPS

OTHER:

RELINQUISHED BY: (Signature)

Date:

Time:

RECEIVED BY: (Signature)

Date:

Time:

TETRA TECH CONTACT PERSON:

Results by:

RECEIVING LABORATORY:

TRACE

ADDRESS:

CITY: MIDLAND

STATE: TX

ZIP:

CONTACT:

PHONE:

RECEIVED BY: (Signature)

DATE:

11-3-11

TIME:

16:50

Ike Tavares