SITE INFORMATION

Report Type: Closure

General Site Information:

Site:	**Pinto 29 Federal #1 Tank Battery**					
Company:	**COG Operating LLC**					
Section, Township and Range	**Unit B**	**Sec 29**	**T17S**	**R30E**		
Lease Number:	**API-30-015-31956**					
County:	**Eddy County**					
GPS:	**32.81165° N**			**103.99159° W**		
Surface Owner:	Federal					
Mineral Owner:						
Directions:	In Loco Hills, from the intersection of Haggerman Cutoff (CR 217) and Hwy 82, travel south on CR 217 for 0.2 mile, turn right (west) and travel 0.2 mile, turn left (south) and travel 0.1 mile to the site.					

Release Data:

Date Released:	4/3/2013
Type Release:	Oil
Source of Contamination:	Steel line from circulating pump.
Fluid Released:	15 bbls
Fluids Recovered:	14 bbls

Official Communication:

Name:	Robert McNeill		Ike Tavarez
Company:	COG Operating, LLC		Tetra Tech
Address:	One Concho Center		1910 N. Big Spring
	600 W. Illinois Ave.		
City:	Midland Texas, 79701		Midland, Texas
Phone number:	(432) 686-3023		(432) 682-4559
Fax:	(432) 684-7137		
Email:	pellis@conchoresources.com		ike.tavarez@tetratech.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

RECEIVED
JAN 24 2014
NMOCD ARTESIA

TETRA TECH

November 19, 2013

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

Re: Closure Report for the COG Operating LLC., Pinto 29 Federal #1 Tank Battery, Unit B, Section 29, 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 Pinto 29 Federal #1 Tank Battery located in Unit B, Section 29, Township 17 South, Range 30 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.81165°, W 103.99159°. 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 April 3, 2013, and released approximately fifteen (15) barrels of oil from a steel line from the circulating pump. Fourteen (14) barrels of oil were recovered. COG has replaced the steel line and returned it back to service. The spill affected an area inside the firewalls measuring approximately 20' x 20' on the pad. The initial C-141 form is enclosed in Appendix A.

Groundwater

No water wells were listed within Section 29. According to the NMOCD groundwater map, the average depth to groundwater in this area is approximately 250' below surface. The groundwater data is shown in Appendix B.

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

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.

Spill Assessment and Analytical Results

On May 29, 2013, Tetra Tech personnel inspected and sampled the spill area. One (1) auger hole (AH-1) was 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, AH-1 exceeded the RRAL for TPH, Benzene and Total BTEX, but declined below regulatory levels at a depth of 3.0' below surface. Auger hole (AH-1) did not show a chloride impact to the area.

Remedial Activities

On October 10, 2013, Tetra Tech supervised the excavation of AH-1 area to approximately 3.0' below surface. Once excavated, a confirmation sample was collected and taken to a lab for analysis. Referring to Table 1, the confirmation sample showed a TPH concentration of 6,804 mg/kg. Due to lab results, a trench was installed using a backhoe to vertically define the impact of the excavation bottom. Per the trench data, the excavation bottom was further excavated to 4.5' below surface where the concentrations of Total BTEX and TPH were below the RRAL at 6.12 mg/kg and 1,957 mg/kg, respectively. The excavated area was then backfilled with clean material to surface grade, and approximately 48 cubic yards of excavated soil was transported offsite to proper disposal.

TETRA TECH

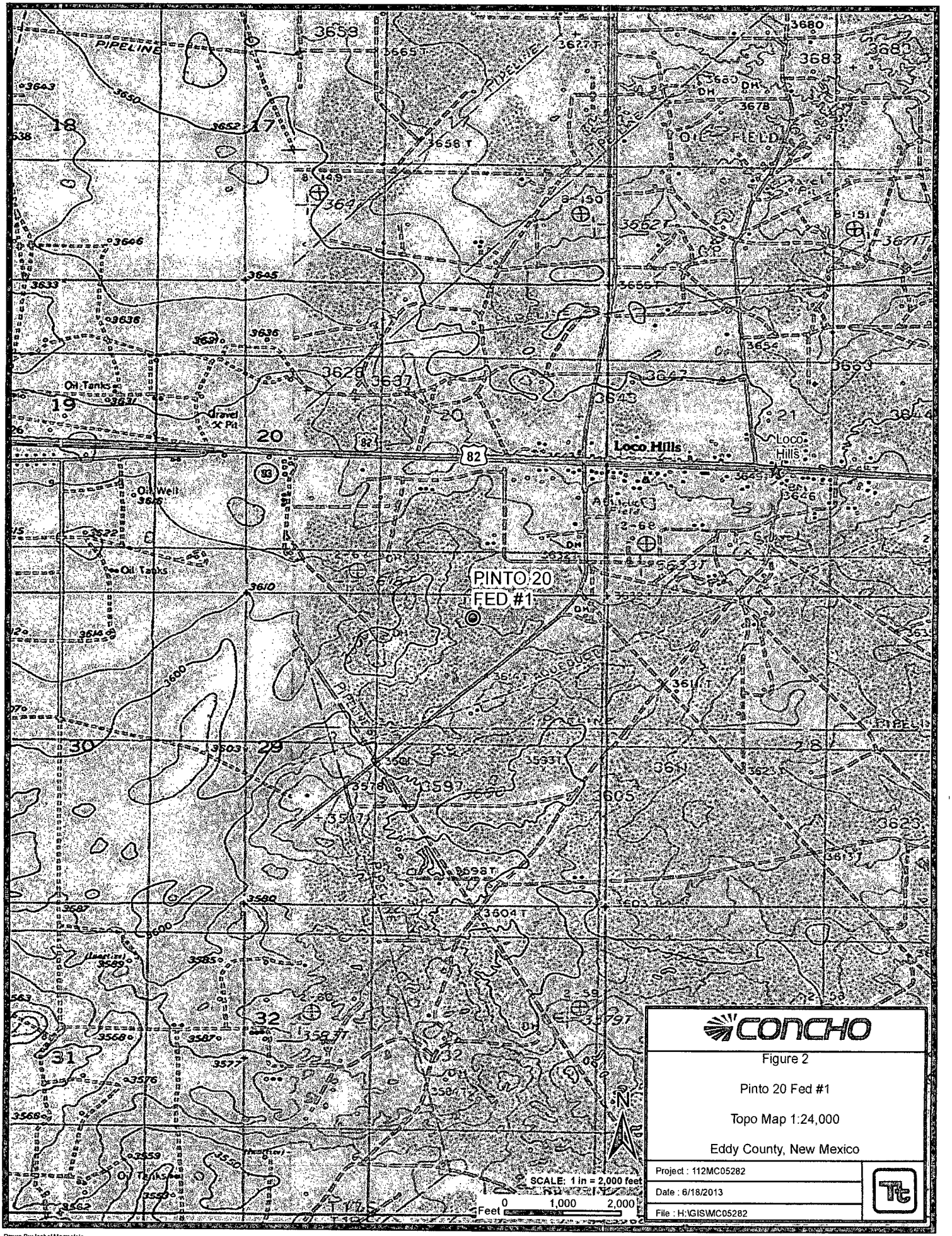
Conclusion

Due to remedial activities performed, COG requests closure of the site. The final C-141 is enclosed in Appendix A. If you have any questions or comments concerning the assessment or the remediation activities for this site, please call me at (432) 682-4559.

Respectfully submitted,
TETRA TECH

Ike Tavarez, PG
Senior Project Manager

cc: Robert McNeill – COG
Mike Burton - BLM



CONCHO

Figure 2

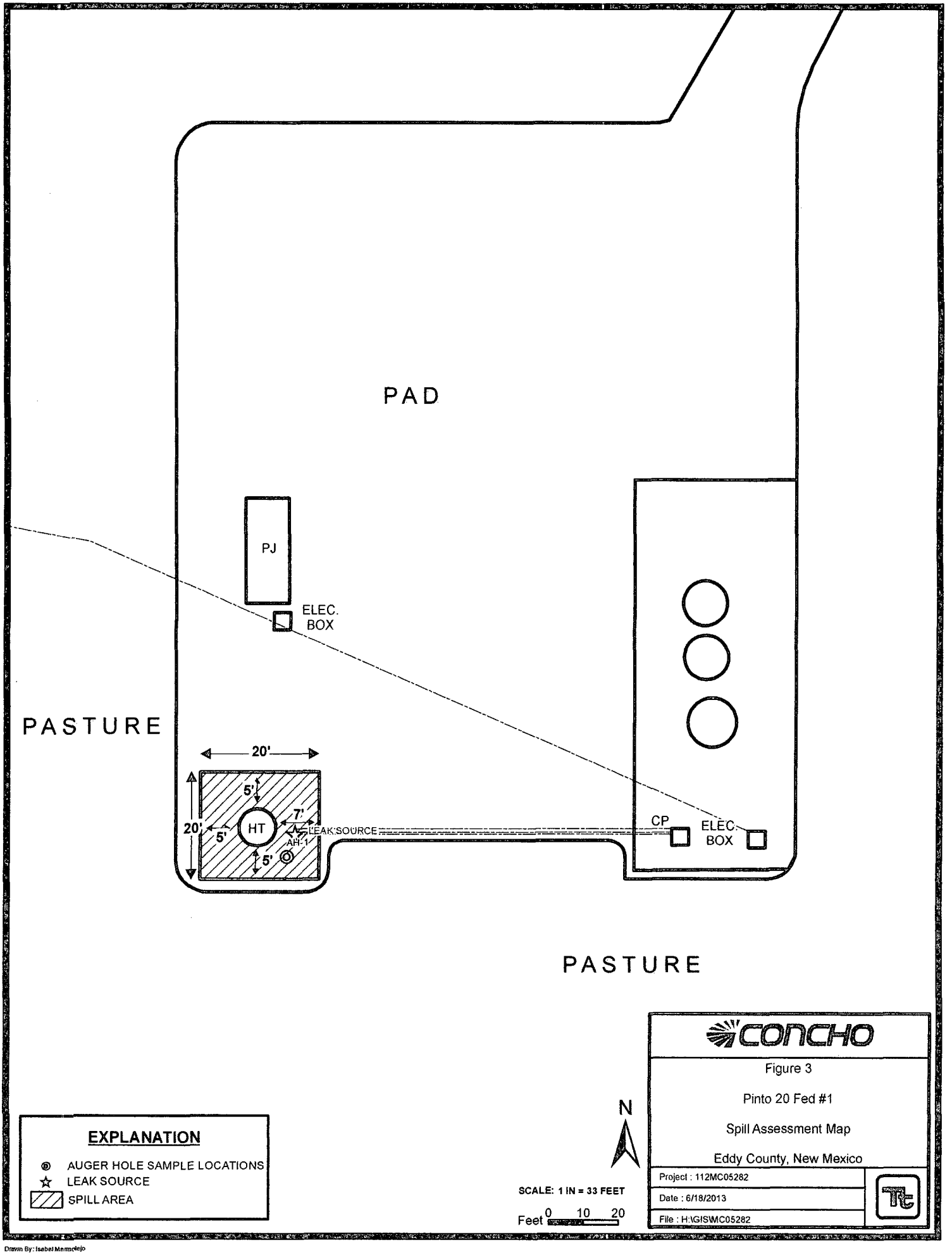
Pinto 20 Fed #1

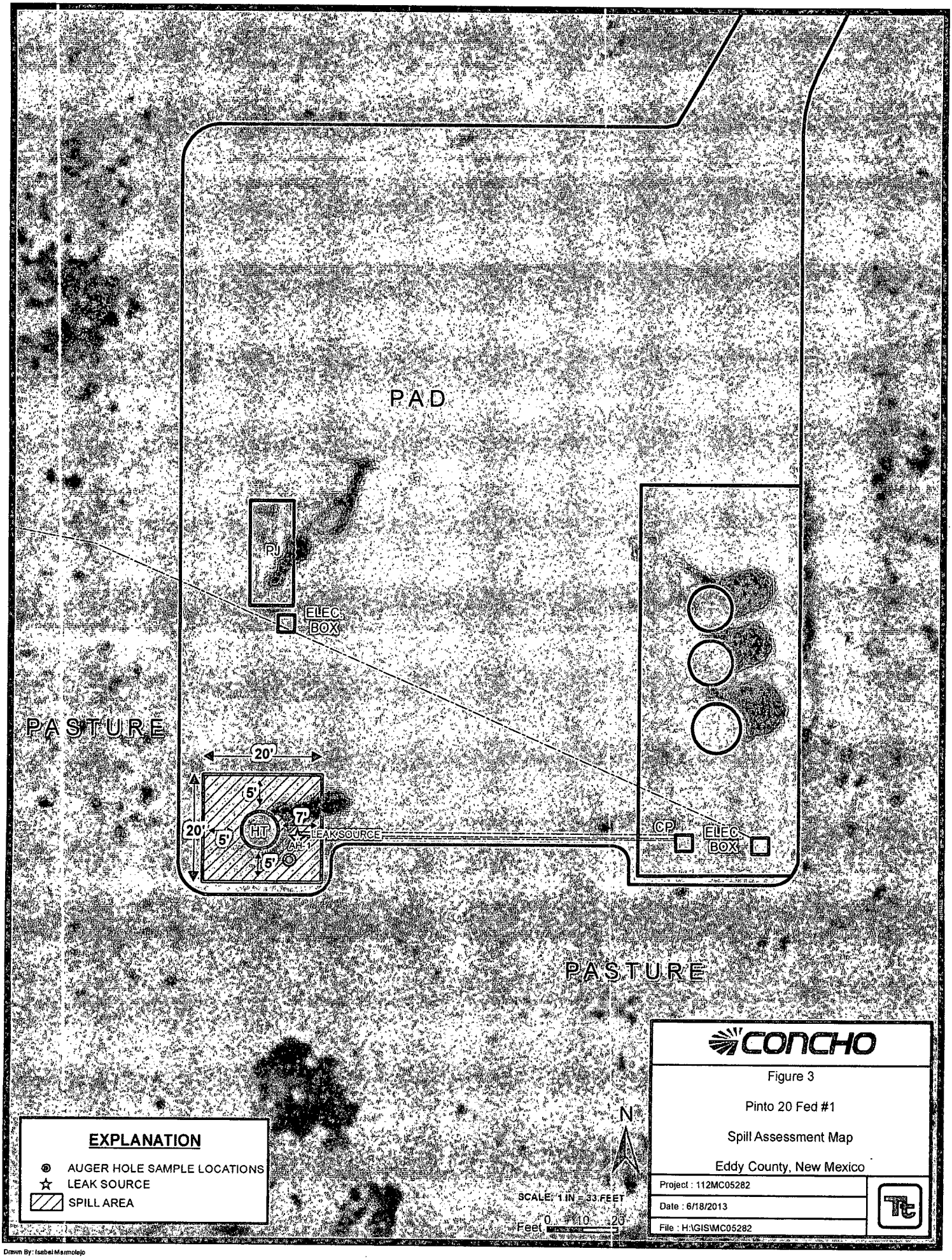
Topo Map 1:24,000

Eddy County, New Mexico

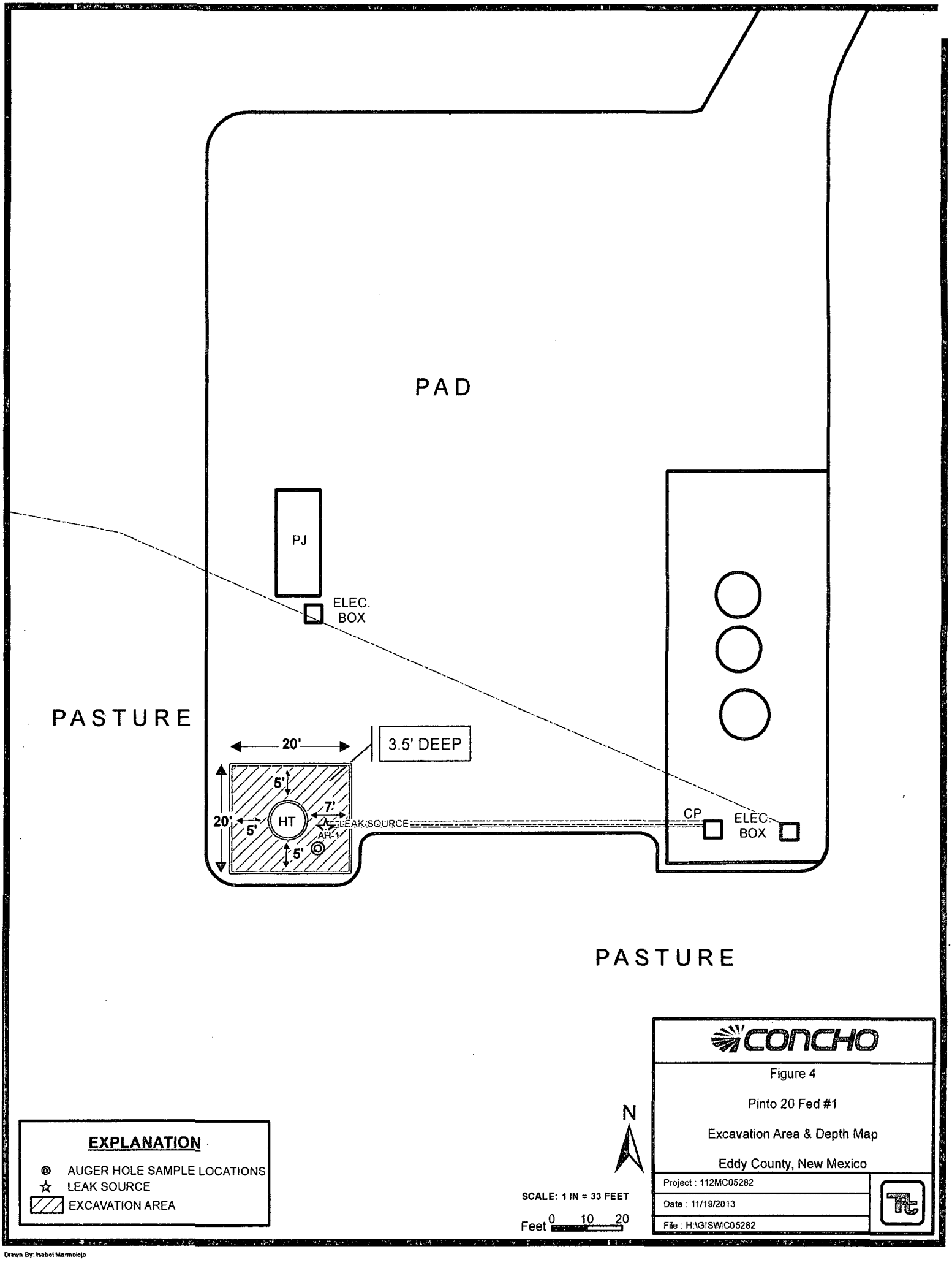
Project : 112MC05282	
Date : 6/18/2013	
File : H:\GIS\MC05282	

Drawn By: Isabel Manmolejo


PAD
PJ
ELEC.
BOX
PASTURE
20'
5'
7'
20'
5'
HT
LEAK SOURCE
AH-1
5'
CP
ELEC.
BOX
PASTURE
EXPLANATION
AUGER HOLE SAMPLE LOCATIONS
LEAK SOURCE
SPILL AREA
N
SCALE: 1 IN = 33 FEET
Feet 0 10 20
CONCHO
Figure 3
Pinto 20 Fed #1
Spill Assessment Map
Eddy County, New Mexico
Project : 112MC05282
Date : 6/18/2013
File : H:\GIS\MC05282
Drawn By: Isabel Marmolejo



Drawn By: Isabel Marmolejo


PAD
PJ
ELEC. BOX
PASTURE
20'
3.5' DEEP
5'
7'
20'
5'
HT
LEAK SOURCE
AH-1
5'
CP
ELEC. BOX
PASTURE
EXPLANATION
AUGER HOLE SAMPLE LOCATIONS
LEAK SOURCE
EXCAVATION AREA
N
SCALE: 1 IN = 33 FEET
Feet 0 10 20
CONCHO
Figure 4
Pinto 20 Fed #1
Excavation Area & Depth Map
Eddy County, New Mexico
Project : 112MC05282
Date : 11/19/2013
File : H:\GIS\MC05282
Drawn By: Isabel Marmolejo

Tables

Table 1
COG Operating LLC.
Pinto 29 Federal #1
Eddy County, New Mexico

Sample ID	Sample Date	BEB Sample Depth (ft)	Excavation Bottom 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	5/29/2013	0-1	0		X	2,530	5,820	**8,350**	2.62	45.5	51.9	61.9	**162**	<20.0
	"	1-1.5	"		X	3,920	3,330	**7,250**	**14.9**	144	102	67.5	**328**	87.3
	"	2-2.5	"		X	8,560	3,190	**11,750**	**45.5**	401	238	252	**937**	123
	"	3-3.5	"		X	428	372	800	<0.200	5.00	7.27	7.99	20.3	-
CS-1	10/22/2013	-	3.0		X	474	**6,330**	**6,804**	0.252	6.19	5.47	7.35	19.3	-
T-1	10/23/2013	0.5	3.5		X	99.7	1,120	1,219.7	<0.100	0.291	0.458	0.798	1.55	-
	"	1.0	4.5	X		<10.0	40.9	40.9	<0.050	<0.050	<0.050	<0.150	<0.300	-
		1.5	5.0	X		247	1,710	1,957	<0.200	0.739	2.00	3.38	6.12	-

(-) Not Analyzed

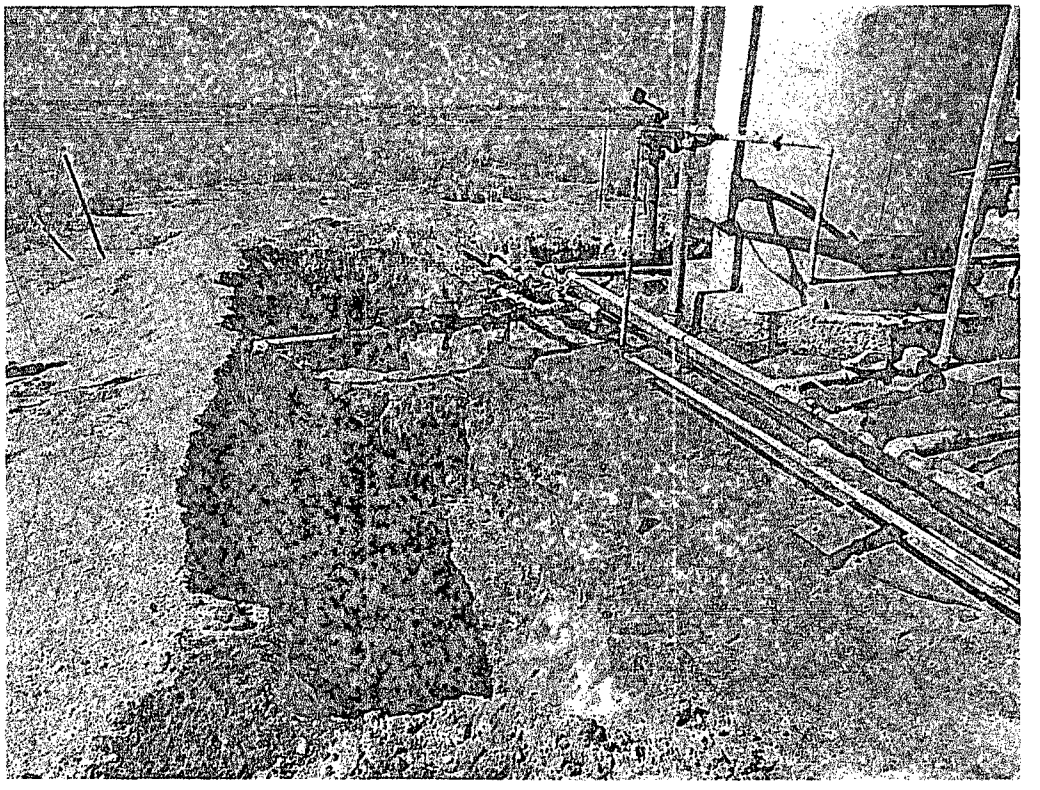
(BEB) Below Excavation Bottom

Excavate Depths

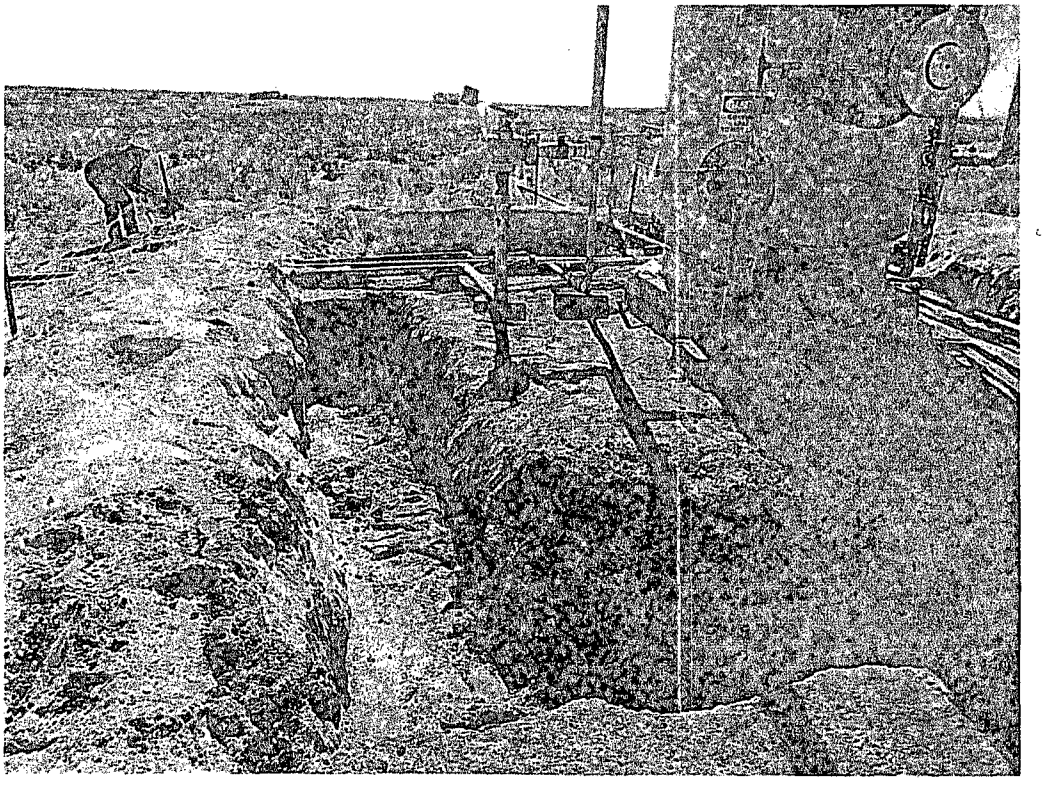
Photos

COG Operating LLC
Pinto 29 Fed #1
Tank Battery
Eddy County, New Mexico

TETRA TECH



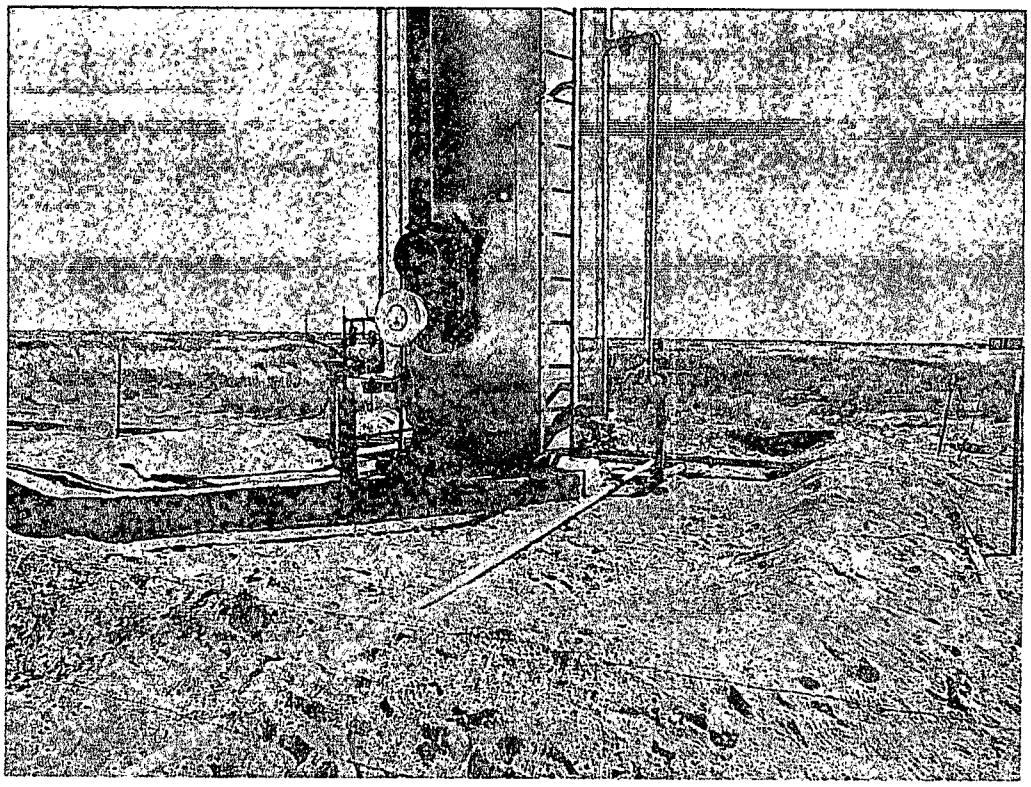
View South – AH-1 area



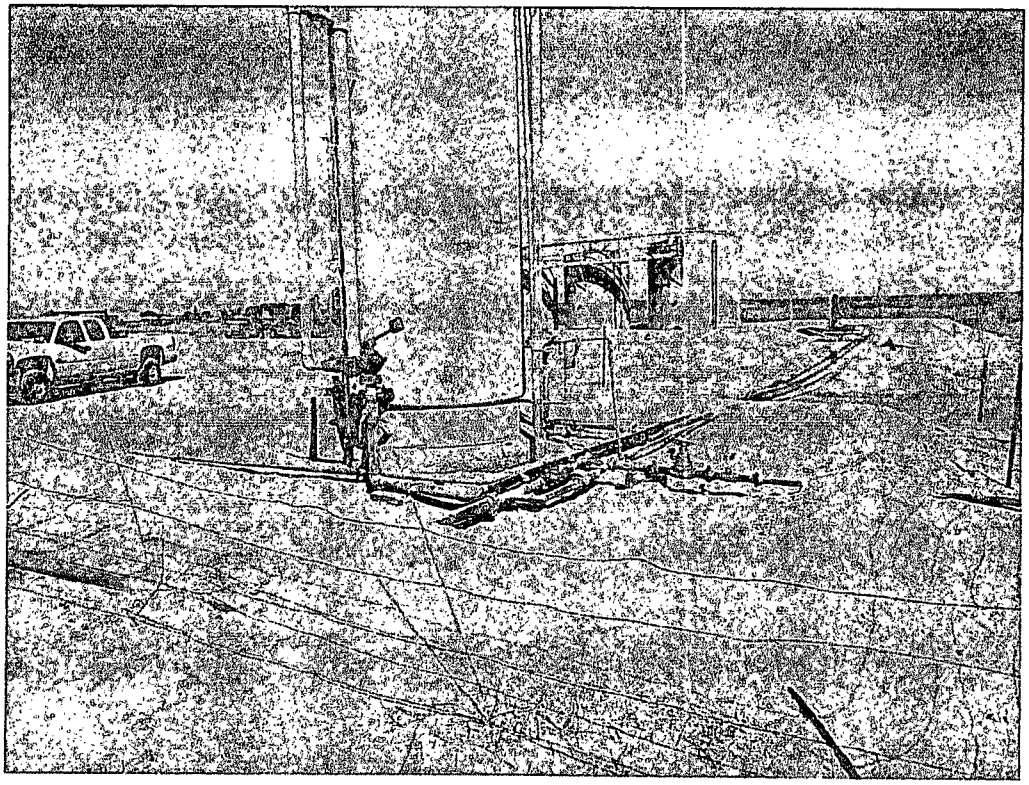
View East – AH-1 area

COG Operating LLC
Pinto 29 Fed #1
Tank Battery
Eddy County, New Mexico

TETRA TECH



View East – AH-1 backfilled



View North – AH-1 Backfilled

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	600 West Illinois Avenue, Midland, TX 79701	Telephone No.	432-230-0077
Facility Name	PINTO 29 FEDERAL #001	Facility Type	TANK BATTERY

Surface Owner FEDERAL	Mineral Owner	Lease No. (API#) 30-015-31956

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
B	29	17S	30E					EDDY

Latitude 32.81194 **Longitude** 103.99204

NATURE OF RELEASE

Type of Release Oil	Volume of Release 15bbls	Volume Recovered 14bbls
Source of Release Steel line from circulating pump.	Date and Hour of Occurrence 04-03-2013	Date and Hour of Discovery 04-03-2013 3:30pm
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.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

A hole had developed in a steel line going from the circulating pump to the heater treater. The steel line has been replaced.

Describe Area Affected and Cleanup Action Taken.*

Initially 15bbls of oil were released from a steel line that had developed a hole going from the circulating pump to the heater treater. We were able to recover 14bbls with a vacuum truck. The release was contained within the inside of the facility walls. All free fluids have been recovered. 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: Senior Environmental Coordinator	Approval Date:	Expiration Date:
E-mail Address: jrusso@concho.com	Conditions of Approval:	Attached ☐
Date: 4-5-2013 Phone: 432-212-2399		

* 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 Robert McNeill
Address 600 **W. Illinois Ave, Midland, Texas 79701**	Telephone No. **(432) 685-4332**
Facility Name Pinto 29 Federal #1	Facility Type **Tank Battery**

Surface Owner: Federal	Mineral Owner	Lease No. (API#) 30-015-31956

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
B	29	17S	30E					

Latitude 32.81194° N **Longitude** 103.99204° W

NATURE OF RELEASE

Type of Release: Oil	Volume of Release 15 bbls	Volume Recovered 14 bbls
Source of Release: Steal line from circulation pump	Date and Hour of Occurrence 4/3/13	Date and Hour of Discovery 4/3/2013 3:30 pm
Was Immediate Notice Given? ☐ Yes ☒ No ☒ Not Required	If YES, To Whom?	
By Whom? Josh Russo	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*

N/A

Describe Cause of Problem and Remedial Action Taken.*

A hole had developed in a steel line going from the circulating pump to the heater treater. The steel line has been replaced.

Describe Area Affected and Cleanup Action Taken.*

Initially 15 bbls of oil were released from a steel line that had developed a hole going from the circulating pump to the heater treater. 14 bbls were recovered with a vacuum truck. The release was contained within the inside of the facility walls. Tetra Tech inspected site and collected samples to define spills extent. Soil that exceeded RRAL was removed and hauled away for proper disposal. Site was then brought up to surface grade with clean backfill material. Tetra Tech prepared closure report and submitted to NMOCD for review.

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: 11-19-13 Phone: (432) 682-4559		

* Attach Additional Sheets If Necessary

Appendix B

Water Well Data
Average Depth to Groundwater (ft)
COG-Pinto 29 Federal #1 Tank Battery
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 **220** dry	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 **290**	1
7	8	9	10	11	12 **288**
18	17	16	15	14 **314**	13 **299** **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 **80**	21	22	23	24
30	29 SITE	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 **95**	11	12
18	17	16	15	14	13
19	20	21	22	23	24 **158**
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
- Field water level
- New Mexico Water and Infrastructure Data System

Appendix C

Summary Report

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

Report Date: June 13, 2013

Work Order: 13060304

Project Location: Eddy Co., NM
Project Name: COG/Pinto 29 Fed. #1
Project Number: 112MC05282

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
330710	AH-1 0-1'	soil	2013-05-29	00:00	2013-05-31
330711	AH-1 1-1.5'	soil	2013-05-29	00:00	2013-05-31
330712	AH-1 2-2.5'	soil	2013-05-29	00:00	2013-05-31
330713	AH-1 3-3.5'	soil	2013-05-29	00:00	2013-05-31

	BTEX				TPH DRO - NEW	TPH GRO
	Benzene	Toluene	Ethylbenzene	Xylene	DRO	GRO
Sample - Field Code	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)
330710 - AH-1 0-1'	**2.62**	**45.5**	**51.9**	**61.9**	**5820**	**2530**
330711 - AH-1 1-1.5'	**14.9**	**144**	**102**	**67.5**	**3330**	**3920**
330712 - AH-1 2-2.5'	**45.5**	**401**	**238**	**252**	**3190**	**8560**
330713 - AH-1 3-3.5'	<0.200	**5.00**	**7.27**	**7.99**	**372**	**428**

Sample: 330710 - AH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		<20.0	mg/Kg	4

Sample: 330711 - AH-1 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**87.3**	mg/Kg	4

Sample: 330712 - AH-1 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**123**	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 915•585•3443 FAX 915•585•4944
5002 Basin Street, Suite A1 Midland, Texas 79703 432•689•6301 FAX 432•689•6313
(BioAquatic) 2501 Mayes Rd., Suite 100 Carrollton, Texas 75006 972•242•7750
E-Mail: lab@traceanalysis.com WEB: www.traceanalysis.com

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

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

Report Date: June 13, 2013

Work Order: 13060304

Project Location: Eddy Co., NM
Project Name: COG/Pinto 29 Fed. #1
Project Number: 112MC05282

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
330710	AH-1 0-1'	soil	2013-05-29	00:00	2013-05-31
330711	AH-1 1-1.5'	soil	2013-05-29	00:00	2013-05-31
330712	AH-1 2-2.5'	soil	2013-05-29	00:00	2013-05-31
330713	AH-1 3-3.5'	soil	2013-05-29	00:00	2013-05-31

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/Pinto 29 Fed. #1 were received by TraceAnalysis, Inc. on 2013-05-31 and assigned to work order 13060304. Samples for work order 13060304 were received intact at a temperature of 5.1 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	86470	2013-06-05 at 11:30	102079	2013-06-07 at 08:53
BTEX	S 8021B	86528	2013-06-07 at 10:00	102127	2013-06-10 at 10:24
BTEX	S 8021B	86555	2013-06-09 at 21:00	102164	2013-06-11 at 10:59
BTEX	S 8021B	86655	2013-06-12 at 15:00	102281	2013-06-12 at 15:00
Chloride (Titration)	SM 4500-Cl B	86384	2013-06-04 at 08:55	102061	2013-06-06 at 15:01
TPH DRO - NEW	S 8015 D	86425	2013-06-04 at 13:00	102009	2013-06-05 at 11:27
TPH DRO - NEW	S 8015 D	86484	2013-06-06 at 08:00	102081	2013-06-07 at 09:16
TPH GRO	S 8015 D	86503	2013-06-06 at 10:30	102101	2013-06-07 at 14:40
TPH GRO	S 8015 D	86551	2013-06-09 at 21:00	102163	2013-06-11 at 09:45
TPH GRO	S 8015 D	86645	2013-06-12 at 15:00	102267	2013-06-12 at 15:00

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

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 13060304 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: 330710 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	102079	Date Analyzed:	2013-06-07	Analyzed By:	KC
Prep Batch:	86470	Sample Preparation:	2013-06-05	Prepared By:	KC

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene		1	**2.62**	mg/Kg	10	0.0200
Toluene		1	**45.5**	mg/Kg	10	0.0200
Ethylbenzene		1	**51.9**	mg/Kg	10	0.0200
Xylene		1	**61.9**	mg/Kg	10	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			16.2	mg/Kg	10	20.0	81	70 - 130
4-Bromofluorobenzene (4-BFB)			17.0	mg/Kg	10	20.0	85	70 - 130

Sample: 330710 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	102061	Date Analyzed:	2013-06-06	Analyzed By:	AR
Prep Batch:	86384	Sample Preparation:	2013-06-04	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride	U		<20.0	mg/Kg	5	4.00

Sample: 330710 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	102009	Date Analyzed:	2013-06-05	Analyzed By:	CW
Prep Batch:	86425	Sample Preparation:	2013-06-04	Prepared By:	CW

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
DRO		1	**5820**	mg/Kg	5	50.0

Surrogate		Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qsr	Qsr		502	mg/Kg	5	100	502	55.1 - 135.7

Sample: 330710 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	102101	Date Analyzed:	2013-06-07	Analyzed By:	KC
Prep Batch:	86503	Sample Preparation:	2013-06-06	Prepared By:	KC

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	**2530**	mg/Kg	20	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			34.8	mg/Kg	20	40.0	87	70 - 130
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr	83.3	mg/Kg	20	40.0	208	70 - 130

Sample: 330711 - AH-1 1-1.5'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	102127	Date Analyzed:	2013-06-10	Analyzed By:	KC
Prep Batch:	86528	Sample Preparation:	2013-06-07	Prepared By:	KC

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene		1	**14.9**	mg/Kg	100	0.0200
Toluene		1	**144**	mg/Kg	100	0.0200
Ethylbenzene		1	**102**	mg/Kg	100	0.0200
Xylene		1	**67.5**	mg/Kg	100	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			170	mg/Kg	100	200	85	70 - 130
4-Bromofluorobenzene (4-BFB)			193	mg/Kg	100	200	96	70 - 130

Sample: 330711 - AH-1 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	102061	Date Analyzed:	2013-06-06	Analyzed By:	AR
Prep Batch:	86384	Sample Preparation:	2013-06-04	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**87.3**	mg/Kg	5	4.00

Sample: 330711 - AH-1 1-1.5'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	102081	Date Analyzed:	2013-06-07	Analyzed By:	CW
Prep Batch:	86484	Sample Preparation:	2013-06-06	Prepared By:	CW

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1	**3330**	mg/Kg	5	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qsr	Qsr	326	mg/Kg	5	100	326	55.1 - 135.7

Sample: 330711 - AH-1 1-1.5'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	102101	Date Analyzed:	2013-06-07	Analyzed By:	KC
Prep Batch:	86503	Sample Preparation:	2013-06-06	Prepared By:	KC

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	**3920**	mg/Kg	100	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			176	mg/Kg	100	200	88	70 - 130
4-Bromofluorobenzene (4-BFB)			234	mg/Kg	100	200	117	70 - 130

Sample: 330712 - AH-1 2-2.5'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	102164	Date Analyzed:	2013-06-11	Analyzed By:	KC
Prep Batch:	86555	Sample Preparation:	2013-06-09	Prepared By:	KC

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene		1	**45.5**	mg/Kg	100	0.0200
Toluene		1	**401**	mg/Kg	100	0.0200
Ethylbenzene		1	**238**	mg/Kg	100	0.0200
Xylene		1	**252**	mg/Kg	100	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			170	mg/Kg	100	200	85	70 - 130
4-Bromofluorobenzene (4-BFB)			218	mg/Kg	100	200	109	70 - 130

Sample: 330712 - AH-1 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	102061	Date Analyzed:	2013-06-06	Analyzed By:	AR
Prep Batch:	86384	Sample Preparation:	2013-06-04	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**123**	mg/Kg	5	4.00

Sample: 330712 - AH-1 2-2.5'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	102081	Date Analyzed:	2013-06-07	Analyzed By:	CW
Prep Batch:	86484	Sample Preparation:	2013-06-06	Prepared By:	CW

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
DRO		1	**3190**	mg/Kg	5	50.0

Surrogate		Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qsr	Qsr		205	mg/Kg	5	100	205	55.1 - 135.7

Sample: 330712 - AH-1 2-2.5'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	102163	Date Analyzed:	2013-06-11	Analyzed By:	KC
Prep Batch:	86551	Sample Preparation:	2013-06-09	Prepared By:	KC

Parameter	Flag	Cert	Result	RL	Units	Dilution	RL
GRO		1	**8560**		mg/Kg	100	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			179	mg/Kg	100	200	90	70 - 130
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr	291	mg/Kg	100	200	146	70 - 130

Sample: 330713 - AH-1 3-3.5'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	102281	Date Analyzed:	2013-06-12	Analyzed By:	KC
Prep Batch:	86655	Sample Preparation:	2013-06-12	Prepared By:	KC

Parameter	Flag	Cert	Result	RL	Units	Dilution	RL
Benzene	U	1	<0.200		mg/Kg	10	0.0200
Toluene		1	**5.00**		mg/Kg	10	0.0200
Ethylbenzene		1	**7.27**		mg/Kg	10	0.0200
Xylene		1	**7.99**		mg/Kg	10	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			16.5	mg/Kg	10	20.0	82	70 - 130
4-Bromofluorobenzene (4-BFB)			19.5	mg/Kg	10	20.0	98	70 - 130

Sample: 330713 - AH-1 3-3.5'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	102081	Date Analyzed:	2013-06-07	Analyzed By:	CW
Prep Batch:	86484	Sample Preparation:	2013-06-06	Prepared By:	CW

continued ...

sample 330713 continued ...

Parameter	Flag	Cert	RL Result	Units	Dilution	RL

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1	**372**	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	55.1 - 135.7

Sample: 330713 - AH-1 3-3.5'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	102267	Date Analyzed:	2013-06-12	Analyzed By:	KC
Prep Batch:	86645	Sample Preparation:	2013-06-12	Prepared By:	KC

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	**428**	mg/Kg	10	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			17.9	mg/Kg	10	20.0	90	70 - 130
4-Bromofluorobenzene (4-BFB)			23.6	mg/Kg	10	20.0	118	70 - 130

Method Blanks

Method Blank (1) QC Batch: 102009

QC Batch:	102009	Date Analyzed:	2013-06-05	Analyzed By:	CW
Prep Batch:	86425	QC Preparation:	2013-06-04	Prepared By:	CW

Parameter	Flag	Cert	MDL Result	Units	RL
DRO		1	<10.2	mg/Kg	50

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			128	mg/Kg	1	100	128	55.1 - 135.7

Method Blank (1) QC Batch: 102061

QC Batch:	102061	Date Analyzed:	2013-06-06	Analyzed By:	AR
Prep Batch:	86384	QC Preparation:	2013-06-04	Prepared By:	AR

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

Method Blank (1) QC Batch: 102079

QC Batch:	102079	Date Analyzed:	2013-06-07	Analyzed By:	KC
Prep Batch:	86470	QC Preparation:	2013-06-05	Prepared By:	KC

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.00810	mg/Kg	0.02
Toluene		1	<0.00750	mg/Kg	0.02
Ethylbenzene		1	<0.00730	mg/Kg	0.02
Xylene		1	<0.00700	mg/Kg	0.02

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.64	mg/Kg	1	2.00	82	70 - 130

continued ...

method blank continued ...

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
4-Bromofluorobenzene (4-BFB)			1.64	mg/Kg	1	2.00	82	70 - 130

Method Blank (1) QC Batch: 102081

QC Batch: 102081 | Date Analyzed: 2013-06-07 | Analyzed By: CW
Prep Batch: 86484 | QC Preparation: 2013-06-06 | Prepared By: CW

Parameter	Flag	Cert	MDL Result	Units	RL
DRO		1	<10.2	mg/Kg	50

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			85.0	mg/Kg	1	100	85	55.1 - 135.7

Method Blank (1) QC Batch: 102101

QC Batch: 102101 | Date Analyzed: 2013-06-07 | Analyzed By: KC
Prep Batch: 86503 | QC Preparation: 2013-06-06 | Prepared By: KC

Parameter	Flag	Cert	MDL Result	Units	RL
GRO		1	6.99	mg/Kg	4

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.80	mg/Kg	1	2.00	90	70 - 130
4-Bromofluorobenzene (4-BFB)			1.73	mg/Kg	1	2.00	86	70 - 130

Method Blank (1) QC Batch: 102127

QC Batch: 102127 | Date Analyzed: 2013-06-10 | Analyzed By: KC
Prep Batch: 86528 | QC Preparation: 2013-06-07 | Prepared By: KC

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.00810	mg/Kg	0.02
Toluene		1	<0.00750	mg/Kg	0.02
Ethylbenzene		1	<0.00730	mg/Kg	0.02
Xylene		1	<0.00700	mg/Kg	0.02

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.67	mg/Kg	1	2.00	84	70 - 130
4-Bromofluorobenzene (4-BFB)			1.68	mg/Kg	1	2.00	84	70 - 130

Method Blank (1) QC Batch: 102163

QC Batch: 102163 | Date Analyzed: 2013-06-11 | Analyzed By: KC
Prep Batch: 86551 | QC Preparation: 2013-06-09 | Prepared By: KC

Parameter	Flag	Cert	MDL Result	Units	RL
GRO		1	3.56	mg/Kg	4

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.85	mg/Kg	1	2.00	92	70 - 130
4-Bromofluorobenzene (4-BFB)			1.77	mg/Kg	1	2.00	88	70 - 130

Method Blank (1) QC Batch: 102164

QC Batch: 102164 | Date Analyzed: 2013-06-11 | Analyzed By: KC
Prep Batch: 86555 | QC Preparation: 2013-06-09 | Prepared By: KC

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.00810	mg/Kg	0.02
Toluene		1	<0.00750	mg/Kg	0.02
Ethylbenzene		1	<0.00730	mg/Kg	0.02
Xylene		1	<0.00700	mg/Kg	0.02

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.72	mg/Kg	1	2.00	86	70 - 130

continued ...

method blank continued ...

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
4-Bromofluorobenzene (4-BFB)			1.72	mg/Kg	1	2.00	86	70 - 130

Method Blank (1) QC Batch: 102267

QC Batch: 102267 Date Analyzed: 2013-06-12 Analyzed By: KC
Prep Batch: 86645 QC Preparation: 2013-06-12 Prepared By: KC

Parameter	Flag	Cert	MDL Result	Units	RL
GRO		1	3.43	mg/Kg	4

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.74	mg/Kg	1	2.00	87	70 - 130
4-Bromofluorobenzene (4-BFB)			1.66	mg/Kg	1	2.00	83	70 - 130

Method Blank (1) QC Batch: 102281

QC Batch: 102281 Date Analyzed: 2013-06-12 Analyzed By: KC
Prep Batch: 86655 QC Preparation: 2013-06-12 Prepared By: KC

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.00810	mg/Kg	0.02
Toluene		1	<0.00750	mg/Kg	0.02
Ethylbenzene		1	<0.00730	mg/Kg	0.02
Xylene		1	<0.00700	mg/Kg	0.02

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.60	mg/Kg	1	2.00	80	70 - 130
4-Bromofluorobenzene (4-BFB)			1.60	mg/Kg	1	2.00	80	70 - 130

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 102009 | Date Analyzed: 2013-06-05 | Analyzed By: CW
Prep Batch: 86425 | QC Preparation: 2013-06-04 | Prepared By: CW

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	214	mg/Kg	1	250	<10.2	86	66.9 - 119.9

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	194	mg/Kg	1	250	<10.2	78	66.9 - 119.9	10	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	138	123	mg/Kg	1	100	138	123	76.8 - 140.2

Laboratory Control Spike (LCS-1)

QC Batch: 102061 | Date Analyzed: 2013-06-06 | Analyzed By: AR
Prep Batch: 86384 | QC Preparation: 2013-06-04 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2550	mg/Kg	1	2500	<3.85	102	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			2660	mg/Kg	1	2500	<3.85	106	85 - 115	4	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: 102079 | Date Analyzed: 2013-06-07 | Analyzed By: KC
Prep Batch: 86470 | QC Preparation: 2013-06-05 | Prepared By: KC

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.81	mg/Kg	1	2.00	<0.00810	90	70 - 130
Toluene		1	1.93	mg/Kg	1	2.00	<0.00750	96	70 - 130
Ethylbenzene		1	2.03	mg/Kg	1	2.00	<0.00730	102	70 - 130
Xylene		1	5.92	mg/Kg	1	6.00	<0.00700	99	70 - 130

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	1.77	mg/Kg	1	2.00	<0.00810	88	70 - 130	2	20
Toluene		1	1.89	mg/Kg	1	2.00	<0.00750	94	70 - 130	2	20
Ethylbenzene		1	1.97	mg/Kg	1	2.00	<0.00730	98	70 - 130	3	20
Xylene		1	5.77	mg/Kg	1	6.00	<0.00700	96	70 - 130	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
Trifluorotoluene (TFT)	1.73	1.69	mg/Kg	1	2.00	86	84	70 - 130
4-Bromofluorobenzene (4-BFB)	1.91	1.76	mg/Kg	1	2.00	96	88	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 102081 | Date Analyzed: 2013-06-07 | Analyzed By: CW
Prep Batch: 86484 | QC Preparation: 2013-06-06 | Prepared By: CW

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	247	mg/Kg	1	250	<10.2	99	66.9 - 119.9

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	258	mg/Kg	1	250	<10.2	103	66.9 - 119.9	4	20

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

continued ...

control spikes continued . . .

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Tricosane	99.9	104	mg/Kg	1	100	100	104	76.8 - 140.2

Laboratory Control Spike (LCS-1)

QC Batch: 102101 | Date Analyzed: 2013-06-07 | Analyzed By: KC
Prep Batch: 86503 | QC Preparation: 2013-06-06 | Prepared By: KC

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	20.3	mg/Kg	1	20.0	<2.32	102	70 - 130

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
GRO		1	20.3	mg/Kg	1	20.0	<2.32	102	70 - 130	0	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)	1.83	1.83	mg/Kg	1	2.00	92	92	70 - 130
4-Bromofluorobenzene (4-BFB)	1.94	1.89	mg/Kg	1	2.00	97	94	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 102127 | Date Analyzed: 2013-06-10 | Analyzed By: KC
Prep Batch: 86528 | QC Preparation: 2013-06-07 | Prepared By: KC

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.72	mg/Kg	1	2.00	<0.00810	86	70 - 130
Toluene		1	1.84	mg/Kg	1	2.00	<0.00750	92	70 - 130
Ethylbenzene		1	1.91	mg/Kg	1	2.00	<0.00730	96	70 - 130
Xylene		1	5.59	mg/Kg	1	6.00	<0.00700	93	70 - 130

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	1.70	mg/Kg	1	2.00	<0.00810	85	70 - 130	1	20
Toluene		1	1.81	mg/Kg	1	2.00	<0.00750	90	70 - 130	2	20
Ethylbenzene		1	1.87	mg/Kg	1	2.00	<0.00730	94	70 - 130	2	20
Xylene		1	5.47	mg/Kg	1	6.00	<0.00700	91	70 - 130	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)	1.59	1.68	mg/Kg	1	2.00	80	84	70 - 130
4-Bromofluorobenzene (4-BFB)	1.70	1.67	mg/Kg	1	2.00	85	84	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 102163 | Date Analyzed: 2013-06-11 | Analyzed By: KC
Prep Batch: 86551 | QC Preparation: 2013-06-09 | Prepared By: KC

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	19.9	mg/Kg	1	20.0	<2.32	100	70 - 130

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
GRO		1	19.4	mg/Kg	1	20.0	<2.32	97	70 - 130	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)	1.88	1.75	mg/Kg	1	2.00	94	88	70 - 130
4-Bromofluorobenzene (4-BFB)	1.90	1.76	mg/Kg	1	2.00	95	88	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 102164 | Date Analyzed: 2013-06-11 | Analyzed By: KC
Prep Batch: 86555 | QC Preparation: 2013-06-09 | Prepared By: KC

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.72	mg/Kg	1	2.00	<0.00810	86	70 - 130

continued ...

control spikes continued ...

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Toluene		1	1.84	mg/Kg	1	2.00	<0.00750	92	70 - 130
Ethylbenzene		1	1.88	mg/Kg	1	2.00	<0.00730	94	70 - 130
Xylene		1	5.47	mg/Kg	1	6.00	<0.00700	91	70 - 130

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	1.76	mg/Kg	1	2.00	<0.00810	88	70 - 130	2	20
Toluene		1	1.86	mg/Kg	1	2.00	<0.00750	93	70 - 130	1	20
Ethylbenzene		1	1.90	mg/Kg	1	2.00	<0.00730	95	70 - 130	1	20
Xylene		1	5.56	mg/Kg	1	6.00	<0.00700	93	70 - 130	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)	1.77	1.69	mg/Kg	1	2.00	88	84	70 - 130
4-Bromofluorobenzene (4-BFB)	1.83	1.72	mg/Kg	1	2.00	92	86	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 102267 | Date Analyzed: 2013-06-12 | Analyzed By: KC
Prep Batch: 86645 | QC Preparation: 2013-06-12 | Prepared By: KC

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	20.5	mg/Kg	1	20.0	<2.32	102	70 - 130

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
GRO		1	20.8	mg/Kg	1	20.0	<2.32	104	70 - 130	1	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)	1.83	1.78	mg/Kg	1	2.00	92	89	70 - 130
4-Bromofluorobenzene (4-BFB)	1.85	1.79	mg/Kg	1	2.00	92	90	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 102281 | Date Analyzed: 2013-06-12 | Analyzed By: KC
Prep Batch: 86655 | QC Preparation: 2013-06-12 | Prepared By: KC

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.69	mg/Kg	1	2.00	<0.00810	84	70 - 130
Toluene		1	1.79	mg/Kg	1	2.00	<0.00750	90	70 - 130
Ethylbenzene		1	1.86	mg/Kg	1	2.00	<0.00730	93	70 - 130
Xylene		1	5.46	mg/Kg	1	6.00	<0.00700	91	70 - 130

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	1.70	mg/Kg	1	2.00	<0.00810	85	70 - 130	1	20
Toluene		1	1.80	mg/Kg	1	2.00	<0.00750	90	70 - 130	1	20
Ethylbenzene		1	1.85	mg/Kg	1	2.00	<0.00730	92	70 - 130	0	20
Xylene		1	5.44	mg/Kg	1	6.00	<0.00700	91	70 - 130	0	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)	1.73	1.72	mg/Kg	1	2.00	86	86	70 - 130
4-Bromofluorobenzene (4-BFB)	1.85	1.75	mg/Kg	1	2.00	92	88	70 - 130

Matrix Spike (MS-1) Spiked Sample: 330697

QC Batch: 102009 | Date Analyzed: 2013-06-05 | Analyzed By: CW
Prep Batch: 86425 | QC Preparation: 2013-06-04 | Prepared By: CW

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	232	mg/Kg	1	250	57.9	70	36.1 - 147.2

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
DRO		1	223	mg/Kg	1	250	57.9	66	36.1 - 147.2	4	20

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

continued ...

matrix spikes continued ...

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Tricosane	129	126	mg/Kg	1	100	129	126	78.3 - 131.6

Matrix Spike (MS-1) Spiked Sample: 330835

QC Batch: 102061 | Date Analyzed: 2013-06-06 | Analyzed By: AR
Prep Batch: 86384 | QC Preparation: 2013-06-04 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			6060	mg/Kg	10	2500	3600	98	78.9 - 121

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			6400	mg/Kg	10	2500	3600	112	78.9 - 121	5	20

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

Matrix Spike (MS-1) Spiked Sample: 330825

QC Batch: 102079 | Date Analyzed: 2013-06-07 | Analyzed By: KC
Prep Batch: 86470 | QC Preparation: 2013-06-05 | Prepared By: KC

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	2.20	mg/Kg	1	2.00	<0.00810	110	70 - 130
Toluene		1	2.36	mg/Kg	1	2.00	<0.00750	118	70 - 130
Ethylbenzene		1	2.46	mg/Kg	1	2.00	<0.00730	123	70 - 130
Xylene		1	7.20	mg/Kg	1	6.00	<0.00700	120	70 - 130

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	2.21	mg/Kg	1	2.00	<0.00810	110	70 - 130	0	20
Toluene		1	2.37	mg/Kg	1	2.00	<0.00750	118	70 - 130	0	20
Ethylbenzene		1	2.47	mg/Kg	1	2.00	<0.00730	124	70 - 130	0	20

continued ...

matrix spikes continued ...

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Xylene		1	7.25	mg/Kg	1	6.00	<0.00700	121	70 - 130	1	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)	1.60	1.68	mg/Kg	1	2	80	84	70 - 130
4-Bromofluorobenzene (4-BFB)	1.69	1.72	mg/Kg	1	2	84	86	70 - 130

Matrix Spike (xMS-1) Spiked Sample: 330714

QC Batch: 102081 | Date Analyzed: 2013-06-07 | Analyzed By: CW
Prep Batch: 86484 | QC Preparation: 2013-06-06 | Prepared By: CW

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	222	mg/Kg	1	250	88.8	53	36.1 - 147.2

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
DRO		1	249	mg/Kg	1	250	88.8	64	36.1 - 147.2	12	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	91.3	104	mg/Kg	1	100	91	104	78.3 - 131.6

Matrix Spike (MS-1) Spiked Sample: 330830

QC Batch: 102101 | Date Analyzed: 2013-06-07 | Analyzed By: KC
Prep Batch: 86503 | QC Preparation: 2013-06-06 | Prepared By: KC

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	18.2	mg/Kg	1	20.0	<2.32	91	70 - 130

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	17.4	mg/Kg	1	20.0	<2.32	87	70 - 130	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)	1.80	1.83	mg/Kg	1	2	90	92	70 - 130
4-Bromofluorobenzene (4-BFB)	1.92	1.95	mg/Kg	1	2	96	98	70 - 130

Matrix Spike (MS-1) Spiked Sample: 330830

QC Batch: 102127 | Date Analyzed: 2013-06-10 | Analyzed By: KC
Prep Batch: 86528 | QC Preparation: 2013-06-07 | Prepared By: KC

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.57	mg/Kg	1	2.00	<0.00810	78	70 - 130
Toluene		1	1.69	mg/Kg	1	2.00	<0.00750	84	70 - 130
Ethylbenzene		1	1.75	mg/Kg	1	2.00	<0.00730	88	70 - 130
Xylene		1	5.13	mg/Kg	1	6.00	<0.00700	86	70 - 130

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	1.65	mg/Kg	1	2.00	<0.00810	82	70 - 130	5	20
Toluene		1	1.76	mg/Kg	1	2.00	<0.00750	88	70 - 130	4	20
Ethylbenzene		1	1.84	mg/Kg	1	2.00	<0.00730	92	70 - 130	5	20
Xylene		1	5.38	mg/Kg	1	6.00	<0.00700	90	70 - 130	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
Trifluorotoluene (TFT)	1.72	1.62	mg/Kg	1	2	86	81	70 - 130
4-Bromofluorobenzene (4-BFB)	1.81	1.70	mg/Kg	1	2	90	85	70 - 130

Matrix Spike (MS-1) Spiked Sample: 330883

QC Batch: 102163 | Date Analyzed: 2013-06-11 | Analyzed By: KC
Prep Batch: 86551 | QC Preparation: 2013-06-09 | Prepared By: KC

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	22.0	mg/Kg	1	20.0	<2.32	110	70 - 130

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	22.6	mg/Kg	1	20.0	<2.32	113	70 - 130	3	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)	1.91	1.77	mg/Kg	1	2	96	88	70 - 130
4-Bromofluorobenzene (4-BFB)	1.98	1.82	mg/Kg	1	2	99	91	70 - 130

Matrix Spike (MS-1) Spiked Sample: 330883

QC Batch: 102164 | Date Analyzed: 2013-06-11 | Analyzed By: KC
Prep Batch: 86555 | QC Preparation: 2013-06-09 | Prepared By: KC

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.85	mg/Kg	1	2.00	<0.00810	92	70 - 130
Toluene		1	1.97	mg/Kg	1	2.00	<0.00750	98	70 - 130
Ethylbenzene		1	2.00	mg/Kg	1	2.00	<0.00730	100	70 - 130
Xylene		1	5.84	mg/Kg	1	6.00	<0.00700	97	70 - 130

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	1.70	mg/Kg	1	2.00	<0.00810	85	70 - 130	8	20
Toluene		1	1.80	mg/Kg	1	2.00	<0.00750	90	70 - 130	9	20
Ethylbenzene		1	1.84	mg/Kg	1	2.00	<0.00730	92	70 - 130	8	20
Xylene		1	5.37	mg/Kg	1	6.00	<0.00700	90	70 - 130	8	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)	1.65	1.75	mg/Kg	1	2	82	88	70 - 130
4-Bromofluorobenzene (4-BFB)	1.91	1.80	mg/Kg	1	2	96	90	70 - 130

Matrix Spike (MS-1) Spiked Sample: 331415

QC Batch: 102267 | Date Analyzed: 2013-06-12 | Analyzed By: KC
Prep Batch: 86645 | QC Preparation: 2013-06-12 | Prepared By: KC

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	17.2	mg/Kg	1	20.0	<2.32	86	70 - 130

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	16.7	mg/Kg	1	20.0	<2.32	84	70 - 130	3	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)	1.85	1.87	mg/Kg	1	2	92	94	70 - 130
4-Bromofluorobenzene (4-BFB)	1.86	1.86	mg/Kg	1	2	93	93	70 - 130

Matrix Spike (MS-1) Spiked Sample: 331415

QC Batch: 102281 | Date Analyzed: 2013-06-12 | Analyzed By: KC
Prep Batch: 86655 | QC Preparation: 2013-06-12 | Prepared By: KC

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.66	mg/Kg	1	2.00	<0.00810	83	70 - 130
Toluene		1	1.77	mg/Kg	1	2.00	<0.00750	88	70 - 130
Ethylbenzene		1	1.81	mg/Kg	1	2.00	<0.00730	90	70 - 130
Xylene		1	5.30	mg/Kg	1	6.00	<0.00700	88	70 - 130

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	1.70	mg/Kg	1	2.00	<0.00810	85	70 - 130	2	20
Toluene		1	1.81	mg/Kg	1	2.00	<0.00750	90	70 - 130	2	20
Ethylbenzene		1	1.87	mg/Kg	1	2.00	<0.00730	94	70 - 130	3	20
Xylene		1	5.46	mg/Kg	1	6.00	<0.00700	91	70 - 130	3	20

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

continued ...

matrix spikes continued ...

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.66	1.67	mg/Kg	1	2	83	84	70 - 130
4-Bromofluorobenzene (4-BFB)	1.68	1.67	mg/Kg	1	2	84	84	70 - 130

Calibration Standards

Standard (CCV-1)

QC Batch: 102009 | Date Analyzed: 2013-06-05 | Analyzed By: CW

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	257	103	80 - 120	2013-06-05

Standard (CCV-2)

QC Batch: 102009 | Date Analyzed: 2013-06-05 | Analyzed By: CW

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	213	85	80 - 120	2013-06-05

Standard (CCV-3)

QC Batch: 102009 | Date Analyzed: 2013-06-05 | Analyzed By: CW

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	214	86	80 - 120	2013-06-05

Standard (CCV-4)

QC Batch: 102009 | Date Analyzed: 2013-06-05 | Analyzed By: CW

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	207	83	80 - 120	2013-06-05

Standard (CCV-1)

QC Batch: 102061 | Date Analyzed: 2013-06-06 | 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	97.8	98	85 - 115	2013-06-06

Standard (CCV-2)

QC Batch: 102061 | Date Analyzed: 2013-06-06 | 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	102	102	85 - 115	2013-06-06

Standard (CCV-1)

QC Batch: 102079 | Date Analyzed: 2013-06-07 | Analyzed By: KC

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0830	83	80 - 120	2013-06-07
Toluene		1	mg/kg	0.100	0.0866	87	80 - 120	2013-06-07
Ethylbenzene		1	mg/kg	0.100	0.0862	86	80 - 120	2013-06-07
Xylene		1	mg/kg	0.300	0.254	85	80 - 120	2013-06-07

Standard (CCV-2)

QC Batch: 102079 | Date Analyzed: 2013-06-07 | Analyzed By: KC

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0952	95	80 - 120	2013-06-07
Toluene		1	mg/kg	0.100	0.0967	97	80 - 120	2013-06-07
Ethylbenzene		1	mg/kg	0.100	0.0962	96	80 - 120	2013-06-07
Xylene		1	mg/kg	0.300	0.281	94	80 - 120	2013-06-07

Standard (CCV-3)

QC Batch: 102079 | Date Analyzed: 2013-06-07 | Analyzed By: KC

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0928	93	80 - 120	2013-06-07
Toluene		1	mg/kg	0.100	0.0959	96	80 - 120	2013-06-07
Ethylbenzene		1	mg/kg	0.100	0.0954	95	80 - 120	2013-06-07
Xylene		1	mg/kg	0.300	0.276	92	80 - 120	2013-06-07

Standard (CCV-1)

QC Batch: 102081 | Date Analyzed: 2013-06-07 | Analyzed By: CW

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	256	102	80 - 120	2013-06-07

Standard (CCV-2)

QC Batch: 102081 | Date Analyzed: 2013-06-07 | Analyzed By: CW

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	229	92	80 - 120	2013-06-07

Standard (CCV-3)

QC Batch: 102081 | Date Analyzed: 2013-06-07 | Analyzed By: CW

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	284	114	80 - 120	2013-06-07

Standard (CCV-1)

QC Batch: 102101 | Date Analyzed: 2013-06-07 | Analyzed By: KC

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	2013-06-07

Standard (CCV-2)

QC Batch: 102101 | Date Analyzed: 2013-06-07 | Analyzed By: KC

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	1.04	104	80 - 120	2013-06-07

Standard (CCV-3)

QC Batch: 102101 | Date Analyzed: 2013-06-07 | Analyzed By: KC

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	1.11	111	80 - 120	2013-06-07

Standard (CCV-1)

QC Batch: 102127 | Date Analyzed: 2013-06-10 | Analyzed By: KC

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0937	94	80 - 120	2013-06-10
Toluene		1	mg/kg	0.100	0.0971	97	80 - 120	2013-06-10
Ethylbenzene		1	mg/kg	0.100	0.0965	96	80 - 120	2013-06-10
Xylene		1	mg/kg	0.300	0.279	93	80 - 120	2013-06-10

Standard (CCV-2)

QC Batch: 102127 | Date Analyzed: 2013-06-10 | Analyzed By: KC

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0858	86	80 - 120	2013-06-10
Toluene		1	mg/kg	0.100	0.0894	89	80 - 120	2013-06-10
Ethylbenzene		1	mg/kg	0.100	0.0880	88	80 - 120	2013-06-10
Xylene		1	mg/kg	0.300	0.257	86	80 - 120	2013-06-10

Standard (CCV-3)

QC Batch: 102127 | Date Analyzed: 2013-06-10 | Analyzed By: KC

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0866	87	80 - 120	2013-06-10
Toluene		1	mg/kg	0.100	0.0901	90	80 - 120	2013-06-10
Ethylbenzene		1	mg/kg	0.100	0.0870	87	80 - 120	2013-06-10
Xylene		1	mg/kg	0.300	0.250	83	80 - 120	2013-06-10

Standard (CCV-1)

QC Batch: 102163 | Date Analyzed: 2013-06-11 | Analyzed By: KC

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.950	95	80 - 120	2013-06-11

Standard (CCV-2)

QC Batch: 102163 | Date Analyzed: 2013-06-11 | Analyzed By: KC

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	1.10	110	80 - 120	2013-06-11

Standard (CCV-1)

QC Batch: 102164 Date Analyzed: 2013-06-11 Analyzed By: KC

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0858	86	80 - 120	2013-06-11
Toluene		1	mg/kg	0.100	0.0890	89	80 - 120	2013-06-11
Ethylbenzene		1	mg/kg	0.100	0.0879	88	80 - 120	2013-06-11
Xylene		1	mg/kg	0.300	0.256	85	80 - 120	2013-06-11

Standard (CCV-2)

QC Batch: 102164 Date Analyzed: 2013-06-11 Analyzed By: KC

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0930	93	80 - 120	2013-06-11
Toluene		1	mg/kg	0.100	0.0960	96	80 - 120	2013-06-11
Ethylbenzene		1	mg/kg	0.100	0.0930	93	80 - 120	2013-06-11
Xylene		1	mg/kg	0.300	0.269	90	80 - 120	2013-06-11

Standard (CCV-1)

QC Batch: 102267 Date Analyzed: 2013-06-12 Analyzed By: KC

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.994	99	80 - 120	2013-06-12

Standard (CCV-2)

QC Batch: 102267 Date Analyzed: 2013-06-12 Analyzed By: KC

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	2013-06-12

Standard (CCV-1)

QC Batch: 102281 | Date Analyzed: 2013-06-12 | Analyzed By: KC

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0821	82	80 - 120	2013-06-12
Toluene		1	mg/kg	0.100	0.0851	85	80 - 120	2013-06-12
Ethylbenzene		1	mg/kg	0.100	0.0836	84	80 - 120	2013-06-12
Xylene		1	mg/kg	0.300	0.244	81	80 - 120	2013-06-12

Standard (CCV-2)

QC Batch: 102281 | Date Analyzed: 2013-06-12 | Analyzed By: KC

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0872	87	80 - 120	2013-06-12
Toluene		1	mg/kg	0.100	0.0903	90	80 - 120	2013-06-12
Ethylbenzene		1	mg/kg	0.100	0.0886	89	80 - 120	2013-06-12
Xylene		1	mg/kg	0.300	0.258	86	80 - 120	2013-06-12

Standard (CCV-3)

QC Batch: 102281 | Date Analyzed: 2013-06-12 | Analyzed By: KC

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0905	90	80 - 120	2013-06-12
Toluene		1	mg/kg	0.100	0.0933	93	80 - 120	2013-06-12
Ethylbenzene		1	mg/kg	0.100	0.0912	91	80 - 120	2013-06-12
Xylene		1	mg/kg	0.300	0.266	89	80 - 120	2013-06-12

Appendix

Report Definitions

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

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	T104704392-12-4	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.
MI1	Split peak or shoulder peak
MI2	Instrument software did not integrate
MI3	Instrument software misidentified the peak
MI4	Instrument software integrated improperly
MI5	Baseline correction
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.

130603O4

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

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 112MC05282

PROJECT NAME: COG/ Pinto 29 Fed #1 Eddy Co, NM

LAB I.D. NUMBER	DATE 2013	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE
330710	5/29		S		X	AH 1 (0-1')	1				X	
711			S		X	(1-1.5')	1				X	
712			S		X	(2-2.5')	1				X	
713			S		X	(3-3.5')	1				X	
714			S		X	(4-4.5')	1				X	
715	↓		S		X	(5-5.5')	1				X	

ANALYSIS REQUEST (Circle or Specify Method No.)

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
X	X												X				
													X				
													X				
													Hold				
													Hold				
													Hold				

RELINQUISHED BY: (Signature) — Date: 5/29/13 Time: 1535
RECEIVED BY: (Signature) C. Hernandez — Date: 5-31-13 Time: 15:35
SAMPLED BY: (Print & Initial) RR/AG — Date: 5/29/13 Time: 1535

RELINQUISHED BY: (Signature) — Date: Time:
RECEIVED BY: (Signature) — Date: Time:
SAMPLE SHIPPED BY: (Circle) FEDEX BUS HAND DELIVERED UPS
AIRBILL #:
OTHER:

RELINQUISHED BY: (Signature) — Date: Time:
RECEIVED BY: (Signature) — Date: Time:
TETRA TECH CONTACT PERSON: Ike Tavarez
Results by:

RECEIVING LABORATORY: Trace
ADDRESS:
CITY: Midland STATE: ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature)
DATE: TIME:
RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 5.1°C

REMARKS: Run deeper samples if TPH exceeds 5,000 mg/kg / run deeper samples if Benzene exceeds 10 mg/kg or total BTex exceeds 50 mg/kg. Midland Lab

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

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

October 23, 2013

IKE TAVAREZ

TETRA TECH

1910 N. BIG SPRING STREET

MIDLAND, TX 79705

RE: COG / PINTO 29 FED TB #1

Enclosed are the results of analyses for samples received by the laboratory on 10/22/13 14:35.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TETRA TECH
IKE TAVAREZ
1910 N. BIG SPRING STREET
MIDLAND TX, 79705
Fax To: (432) 682-3946

Received:	10/22/2013	Sampling Date:	10/22/2013
Reported:	10/23/2013	Sampling Type:	Soil
Project Name:	COG / PINTO 29 FED TB #1	Sampling Condition:	Cool & Intact
Project Number:	112MCO5282	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

Sample ID: CS (AH 3) 3' (H302551-01)

BTEX 8021B mg/kg Analyzed By: MS S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**0.252**	0.250	10/22/2013	ND	2.14	107	2.00	0.577	
Toluene*	**6.19**	0.500	10/22/2013	ND	2.14	107	2.00	0.813	
Ethylbenzene*	**5.47**	0.500	10/22/2013	ND	2.16	108	2.00	0.211	
Total Xylenes*	**7.35**	1.50	10/22/2013	ND	6.37	106	6.00	0.365	
Total BTEX	**19.3**	2.75	10/22/2013	ND					

Surrogate: 4-Bromofluorobenzene (PID *127 %* *89.4-126*

TPH 8015M mg/kg Analyzed By: MS S-06

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	**474**	100	10/22/2013	ND	200	99.9	200	3.36	
DRO >C10-C28	**6330**	100	10/22/2013	ND	192	95.9	200	2.97	

Surrogate: 1-Chlorooctane *217 %* *65.2-140*

Surrogate: 1-Chlorooctadecane *362 %* *63.6-154*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

Analysis Request of Chain of Custody Record

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

H302551

CLIENT NAME: C06

SITE MANAGER: Ike Tavarez

PROJECT NO.: 112mc05282

PROJECT NAME: C06 / Pinto 29 Fed TB #1 Eddy Co, NM

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB I.D. NUMBER	DATE 2013	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD. TX1005 (Ext. to C35)	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
1	10/22		S		X	CS (AH3) 3'	1				X		X	X															

RELINQUISHED BY: (Signature) — Date: 10/22/13 Time: 1530 — RECEIVED BY: (Signature) — Date: 10/22/13 Time: 14:35 — SAMPLED BY: (Print & Initial) — Date: 10/21/13 Time: 1530

RELINQUISHED BY: (Signature) — Date: — Time: — RECEIVED BY: (Signature) — Date: — Time: — SAMPLE SHIPPED BY: (Circle) FEDEX BUS HAND DELIVERED UPS — AIRBILL #: — OTHER:

RELINQUISHED BY: (Signature) — Date: — Time: — RECEIVED BY: (Signature) — Date: — Time: — TETRA TECH CONTACT PERSON: Ike Tavarez, Ryan Reich — Results by:

RECEIVING LABORATORY: Cardinal — RECEIVED BY: (Signature)

ADDRESS:

CITY: Hobbs STATE: NM ZIP:

CONTACT: PHONE: DATE: TIME:

RUSH Charges Authorized: (Yes) No

SAMPLE CONDITION WHEN RECEIVED: 3.8°C

REMARKS: * straight from field @ Rush @

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

#54

Ryan.reich@tetratech.com

Ike.tavarez@tetratech.com

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

October 24, 2013

IKE TAVAREZ

TETRA TECH

1910 N. BIG SPRING STREET

MIDLAND, TX 79705

RE: PINTO FED #20

Enclosed are the results of analyses for samples received by the laboratory on 10/23/13 14:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TETRA TECH
IKE TAVAREZ
1910 N. BIG SPRING STREET
MIDLAND TX, 79705
Fax To: (432) 682-3946

Received:	10/23/2013	Sampling Date:	10/23/2013
Reported:	10/24/2013	Sampling Type:	Soil
Project Name:	PINTO FED #20	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

Sample ID: BEB 1' (H302570-01)

BTEX 8021B mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/24/2013	ND	2.05	103	2.00	0.398	
Toluene*	<0.050	0.050	10/24/2013	ND	2.14	107	2.00	0.0304	
Ethylbenzene*	<0.050	0.050	10/24/2013	ND	2.17	108	2.00	0.263	
Total Xylenes*	<0.150	0.150	10/24/2013	ND	6.55	109	6.00	1.57	
Total BTEX	<0.300	0.300	10/24/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIL *105 %* *89.4-126*

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/24/2013	ND	192	95.8	200	2.53	
DRO >C10-C28	**40.9**	10.0	10/24/2013	ND	189	94.6	200	3.08	

Surrogate: 1-Chlorooctane *77.9 %* *65.2-140*

Surrogate: 1-Chlorooctadecane *86.0 %* *63.6-154*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TETRA TECH
IKE TAVAREZ
1910 N. BIG SPRING STREET
MIDLAND TX, 79705
Fax To: (432) 682-3946

Received:	10/23/2013	Sampling Date:	10/23/2013
Reported:	10/24/2013	Sampling Type:	Soil
Project Name:	PINTO FED #20	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

Sample ID: BEB 1.5' (H302570-02)

BTEX 8021B mg/kg **Analyzed By: MS** **S-04**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.200	0.200	10/24/2013	ND	2.05	103	2.00	0.398	
Toluene*	**0.739**	0.200	10/24/2013	ND	2.14	107	2.00	0.0304	
Ethylbenzene*	**2.00**	0.200	10/24/2013	ND	2.17	108	2.00	0.263	
Total Xylenes*	**3.38**	0.600	10/24/2013	ND	6.55	109	6.00	1.57	
Total BTEX	**6.12**	1.20	10/24/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIL *190 %* *89.4-126*

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	**247**	50.0	10/24/2013	ND	192	95.8	200	2.53	
DRO >C10-C28	**1710**	50.0	10/24/2013	ND	189	94.6	200	3.08	

Surrogate: 1-Chlorooctane *110 %* *65.2-140*

Surrogate: 1-Chlorooctadecane *139 %* *63.6-154*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

TETRA TECH
IKE TAVAREZ
1910 N. BIG SPRING STREET
MIDLAND TX, 79705
Fax To: (432) 682-3946

Received:	10/23/2013	Sampling Date:	10/23/2013
Reported:	10/24/2013	Sampling Type:	Soil
Project Name:	PINTO FED #20	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	EDDY COUNTY, NM		

Sample ID: 3.5' (H302570-03)

BTEX 8021B mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.100	0.100	10/24/2013	ND	2.05	103	2.00	0.398	
Toluene*	**0.291**	0.100	10/24/2013	ND	2.14	107	2.00	0.0304	
Ethylbenzene*	**0.458**	0.100	10/24/2013	ND	2.17	108	2.00	0.263	
Total Xylenes*	**0.798**	0.300	10/24/2013	ND	6.55	109	6.00	1.57	
Total BTEX	**1.55**	0.600	10/24/2013	ND					

Surrogate: 4-Bromofluorobenzene (PID *116 %* *89.4-126*

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	**99.7**	50.0	10/24/2013	ND	192	95.8	200	2.53	
DRO >C10-C28	**1120**	50.0	10/24/2013	ND	189	94.6	200	3.08	

Surrogate: 1-Chlorooctane *88.6 %* *65.2-140*

Surrogate: 1-Chlorooctadecane *118 %* *63.6-154*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

Company Name:	Tetra Tech	BILL TO	
Project Manager:	Ike Tavarez	P.O. #:	
Address:		Company:	
City:	State: Zip:	Attn:	
Phone #:	Fax #:	Address:	
Project #:	Project Owner: COG	City:	
Project Name:	Pinto Fed #20	State: Zip:	
Project Location:	Eddy Co. NM	Phone #:	
Sampler Name:	Henry Perez	Fax #:	

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST	
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	BTEX	TPH 8015
H302570																
1	BEB 1'	G	1			✓							10/23/13	1:30	✓	✓
2	BEB 1.5'	G	1			✓									✓	✓
3	3.5'	G	1			✓									✓	✓

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:	Date: 10-29-13	Received By: Jodi Henson	Phone Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 2:45		Fax Result: ☐ Yes ☐ No Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS: RUSH!!
	Time:		Ike henry.perez@tetratech.com

Delivered By: (Circle One)
Sampler - UPS - Bus - Other: 4.2°C

Sample Condition: Cool ☑ Yes ☐ No; Intact ☑ Yes ☐ No

CHECKED BY: (Initials)

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

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