SITE INFORMATION

Report Type: Closure Report

General Site Information:						
Site:	**Save D A 21 Federal #1**					
Company:	**COG Operating LLC**					
Section, Township and Range	**Sec 21**	**T 25S**	**R 29E**			
Lease Number:	**API-30-015-34840**					
County:	**Eddy County**					
GPS:	**32.12089° N**			**103.99588° W**		
Surface Owner:	Federal					
Mineral Owner:						
Directions:	From the intersection of HWY 285 and C.R. 724 (Longhorn Rd) travel EAST on Longhorn Rd. for approximately 4.2 miles, turn NORTH/NE onto Pipline Rd Number 1 and continue for apx. 1.8 miles, turn North onto lease road and continue for apx. 3 miles, turn WEST onto lease road for .9 miles to location on South side of lease road.					

Release Data:	
Date Released:	11/29/2013
Type Release:	Oil and Produced water
Source of Contamination:	Leak in packing on polishing rod
Fluid Released:	0 bbls
Fluids Recovered:	12 bbls

Official Communication:			
Name:	Robert McNeil		Ike Tavarez
Company:	COG Operating, LLC		Tetra Tech
Address:	One Concho Center		4000 N. Big Spring
	600 W. Illinois Ave.		Ste 401
City:	Midland Texas, 79701		Midland, Texas
Phone number:	(432) 686-3023		(432) 687-8110
Fax:	(432) 684-7137		
Email:	rmcneil@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***	
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

NM OIL CONSERVATION
ARTESIA DISTRICT
JUN 04 2014
RECEIVED

TETRA TECH

March 11, 2014

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

Re: Closure Report for the COG Operating LLC., Save D A 21 Federal #1, Unit D, Section 21, Township 25 South, Range 29 East, Eddy County, New Mexico.

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC. (COG) to assess a spill from the Save D A 21 Federal #1, Unit D, Section 21, Township 25 South, Range 29 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.12089°, W 103.99588°. 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 November 29, 2013, and released approximately ten (10) barrels of produced water and five (5) barrels of oil from a leaking rod liner packing. To alleviate the problem, COG personnel will ensure that the packing is full. Zero (0) barrels of standing fluids were recovered. The spill affected an area on the pad approximately 30' x 145', as well as an area north of the pad approximately 5' x 95'. The initial C-141 form is enclosed in Appendix A.

Groundwater

No water wells were listed within Section 21. According to the NMOCD groundwater map, the average depth to groundwater in this area is greater than 125' below surface. The groundwater data is shown in Appendix B.

Tetra Tech
4000 North Big Spring, Ste 401 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.

Soil Assessment and Analytical Results

On December 16, 2013, Tetra Tech personnel inspected and sampled the spill area. Eight (8) auger holes (AH-1 through AH-8) were installed using a stainless steel hand auger to assess the impacted soils. Selected samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The sampling results are summarized in Table 1. The auger hole locations are shown on Figure 3.

Referring to Table 1, the areas of auger holes (AH-5, AH-6, and AH-8) exceeded the TPH RRAL. The areas showed TPH concentrations of 6,500 mg/kg, 12,150 mg/kg, and 18,180 mg/kg at 0-1' below surface, respectively. Auger holes (AH-5 and AH-8) were not vertically defined at 0'-1' below surface. Auger hole (AH-6) showed TPH concentrations that declined with depth below the RRAL at 1'-1.5' below surface.

In addition, the areas of auger holes (AH-4 and AH-6) exceeded the RRAL for total BTEX, but all declined below the RRAL at 1'-1.5' below surface. The area of AH-5 was not vertically defined with a total BTEX concentration of 166 mg/kg at 0-1'.

Elevated chloride concentrations were detected in majority of the auger holes (AH-1, AH-2, AH-3, AH-4, AH-5 and AH-7). The areas of AH-6 and AH-8 did not show a significant chloride impact to the soils. The chloride concentrations at auger holes (AH-1 and AH-4) declined at 1'-1.5' and vertically defined. The areas of auger holes (AH-2, AH-3, AH-5 and AH-7) were not vertically defined with bottom hole auger hole samples of 4,890 mg/kg at 1-1.5', 1,730 mg/kg at 1-1.5', 923 mg/kg at 0-1' and 3,840 mg/kg at 0-1', respectively.

Remedial Activities

On April 3, 2014, Tetra Tech began supervising the excavation of impacted materials as highlighted (green) on Table 1 and shown on Figure 4. Prior to excavating, backhoe trenches were installed in the areas of AH-2, AH-3, AH-5, AH-7, and AH-8 to evaluate the excavation bottom and define the chloride concentrations.

Referring to Table 1, T-2 and T-4 showed chloride concentrations of 512 mg/kg at 2.0' and 352 mg/kg at 1.0' below surface, respectively. The area of T-1 showed elevated chloride concentrations at 2.0' below surface of 3,760 mg/kg. However, the sample was collected on top of dense bedrock and was possibly cross-contaminated from the surrounding excavation. Tetra Tech resampled the area of AH-2 by chiseling the bedrock, which showed a chloride concentration of 240 mg/kg. The areas of T-3 (AH-5) and T-5 (AH-8) were analyzed for TPH and BTEX and did not show concentrations above the RRAL's.

The areas of AH-1, AH-4, and AH-6 were excavated to a depth of approximately 1.0', and the areas of AH-2, AH-3, AH-5, AH-7, and AH-8 were excavated to a depth of approximately 2.0' below surface.

Approximately 420 yards of excavated soil was transported offsite for proper disposal and the areas will be backfilled with clean material to surface grade.

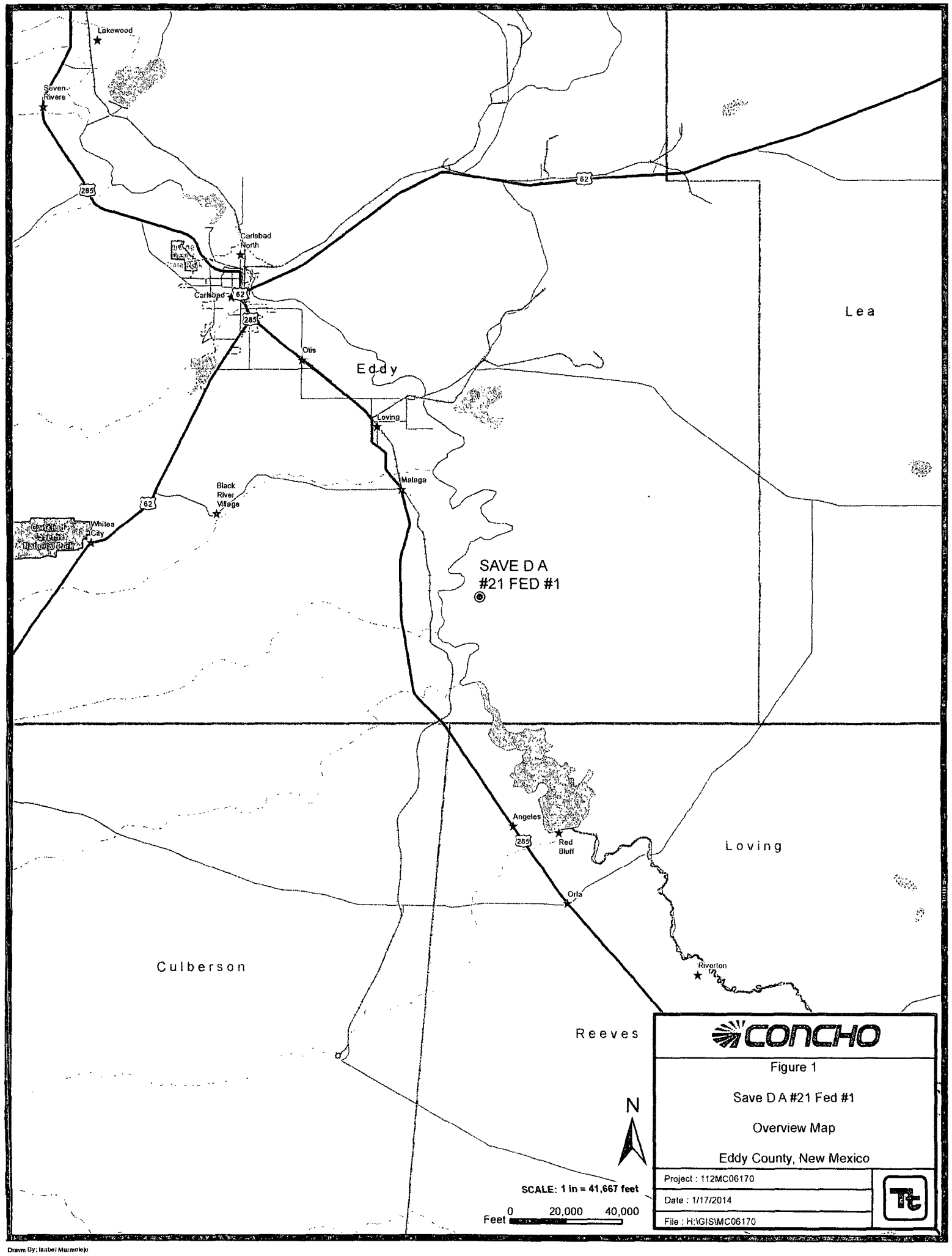
Conclusion

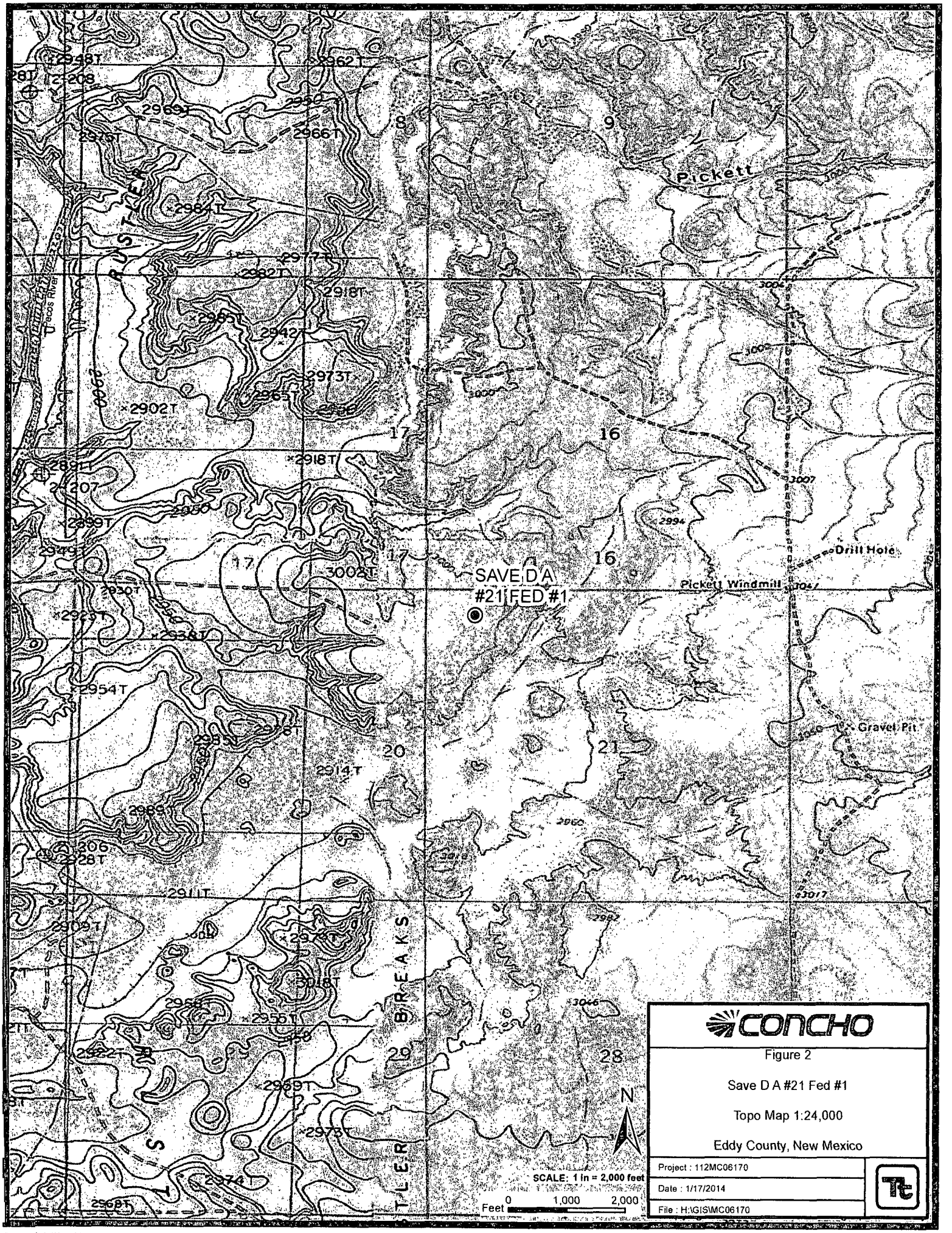
Based on the remedial actions taken, COG requests closure of the site. The Final C-141 is enclosed in Appendix A. If you have any questions or comments concerning the assessment or the remediation activities for this site, please call me at (432) 682-4559.

Respectfully submitted,
TETRA TECH

Clair Gonzales,
Geologist

cc: Robert McNeil – COG
cc: Mike Burton – BLM


Lakewood
Seven Rivers
285
62
Carlsbad North
Carlsbad
62
285
Otis
Eddy
Lea
Loving
Malaga
Black River Village
62
White's City
SAVE D A
#21 FED #1
Angeles
285
Red Bluff
Loving
Orla
Culberson
Riverton
Reeves
N
SCALE: 1 in = 41,667 feet
Feet 0 20,000 40,000
CONCHO
Figure 1
Save D A #21 Fed #1
Overview Map
Eddy County, New Mexico
Project : 112MC06170
Date : 1/17/2014
File : H:\GIS\MC06170
Drawn By: Isabel Marmolejo



CONCHO

Figure 2

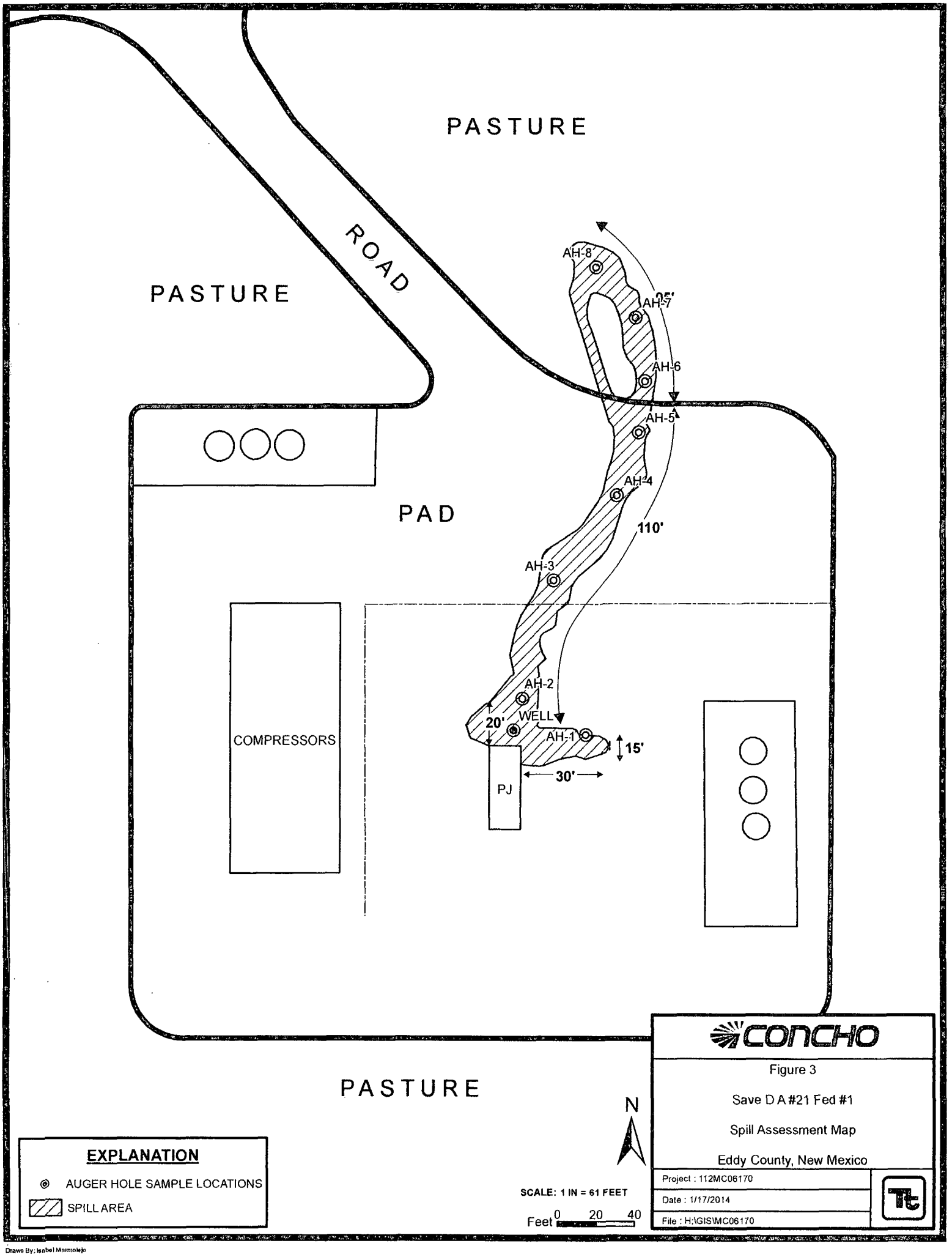
Save D A #21 Fed #1

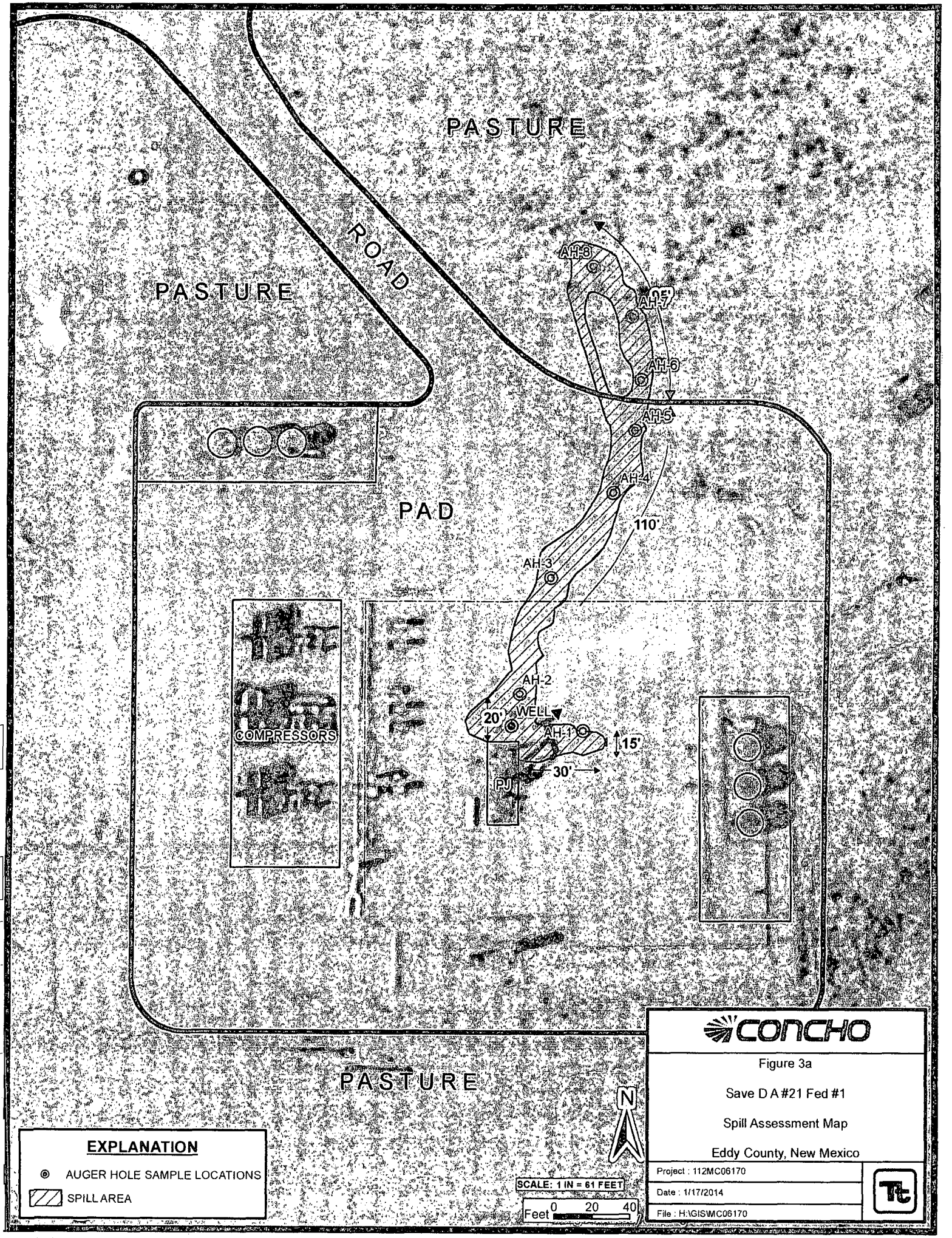
Topo Map 1:24,000

Eddy County, New Mexico

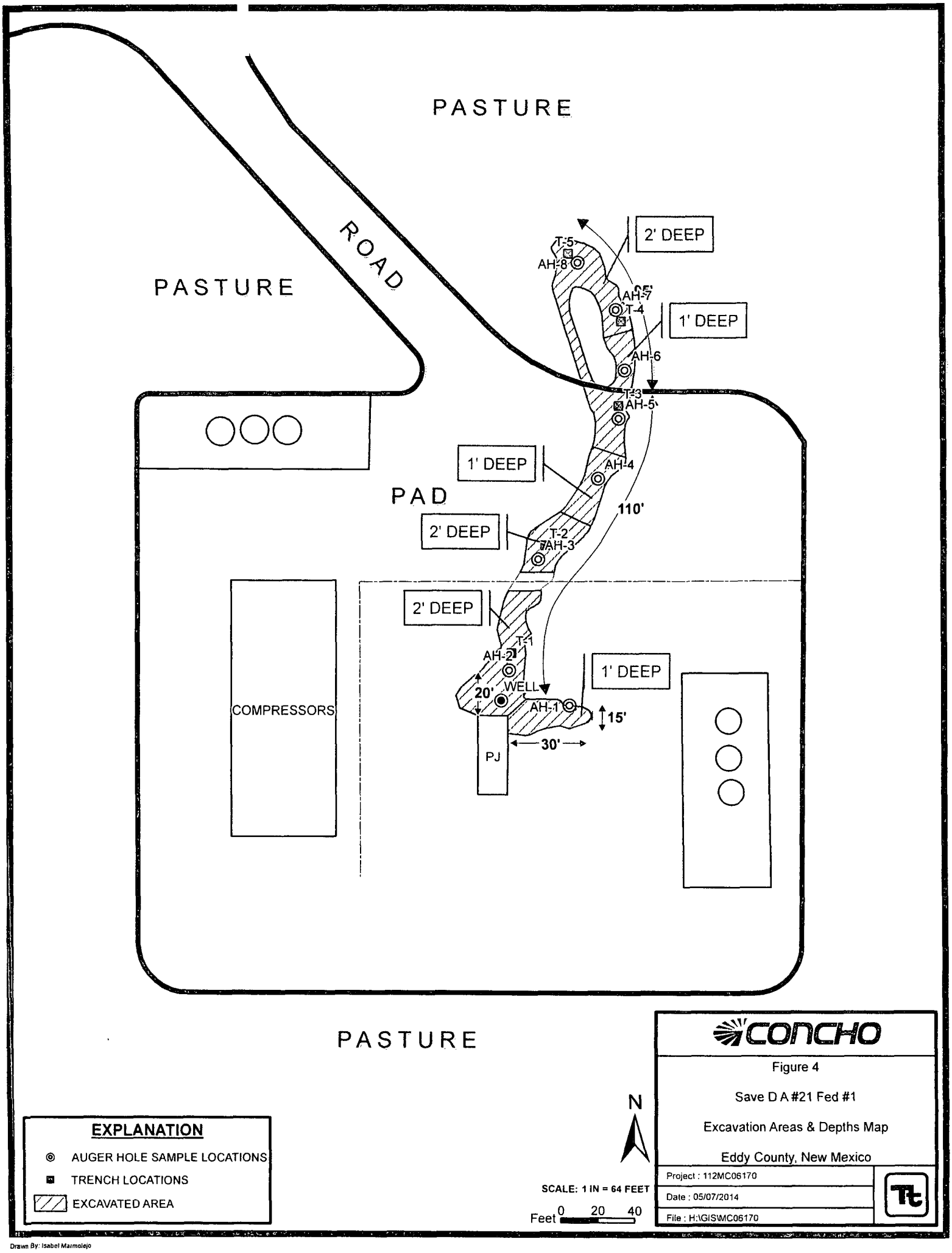
Project : 112MC06170	
Date : 1/17/2014	
File : H:\GIS\MC06170	

Drawn By: Isabel Marmolejo


PASTURE
ROAD
PASTURE
AH-8
AH-7
AH-6
AH-5
AH-4
AH-3
AH-2
AH-1
25'
110'
PAD
COMPRESSORS
WELL
20'
15'
30'
PJ
PASTURE
N
EXPLANATION
AUGER HOLE SAMPLE LOCATIONS
SPILL AREA
SCALE: 1 IN = 61 FEET
Feet 0 20 40
CONCHO
Figure 3
Save D A #21 Fed #1
Spill Assessment Map
Eddy County, New Mexico
Project : 112MC06170
Date : 1/17/2014
File : H:\GIS\MC06170
Drawn By: Isabel Marmolejo



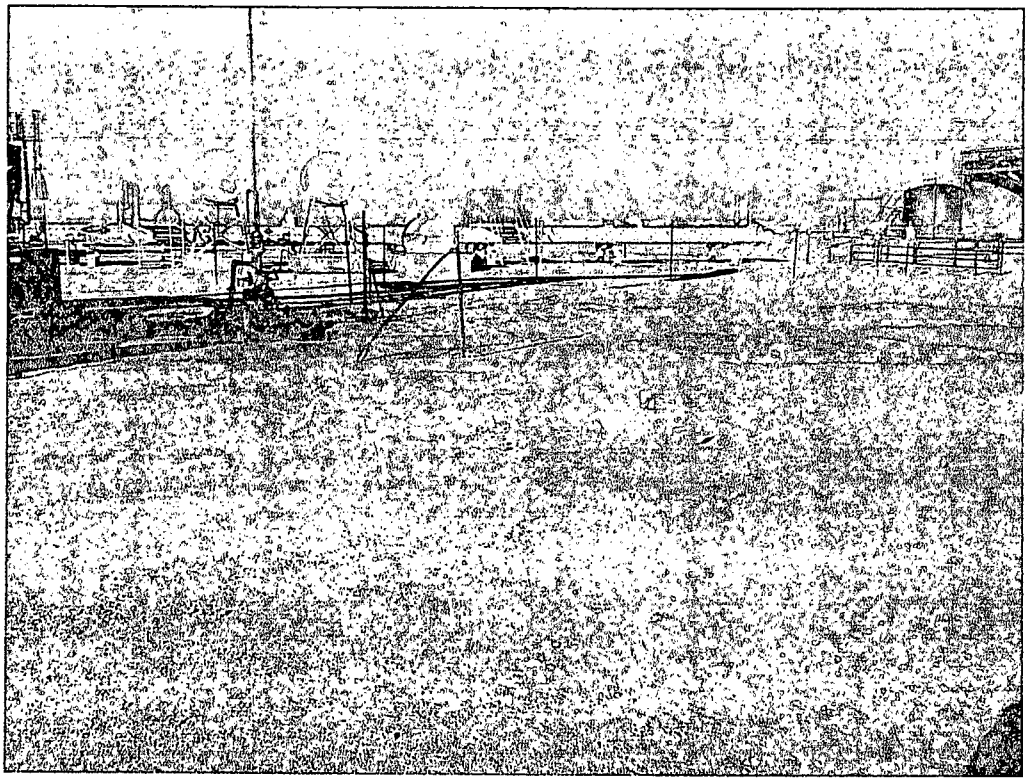
Drawn By: Isabel Marmolejo


PASTURE
ROAD
PASTURE
2' DEEP
T-5
AH-8
AH-7
T-4
1' DEEP
AH-6
T-3
AH-5
1' DEEP
AH-4
PAD
110'
2' DEEP
T-2
AH-3
2' DEEP
T-1
AH-2
1' DEEP
20'
WELL
AH-1
15'
30'
PJ
COMPRESSORS
PASTURE
N
SCALE: 1 IN = 64 FEET
Feet 0 20 40
EXPLANATION
AUGER HOLE SAMPLE LOCATIONS
TRENCH LOCATIONS
EXCAVATED AREA
CONCHO
Figure 4
Save D A #21 Fed #1
Excavation Areas & Depths Map
Eddy County, New Mexico
Project : 112MC06170
Date : 05/07/2014
File : H:\GIS\MC06170
Drawn By: Isabel Marmolejo

Photos

COG Operating LLC
Save D A 21 Federal #1
Eddy County, New Mexico

TETRA TECH

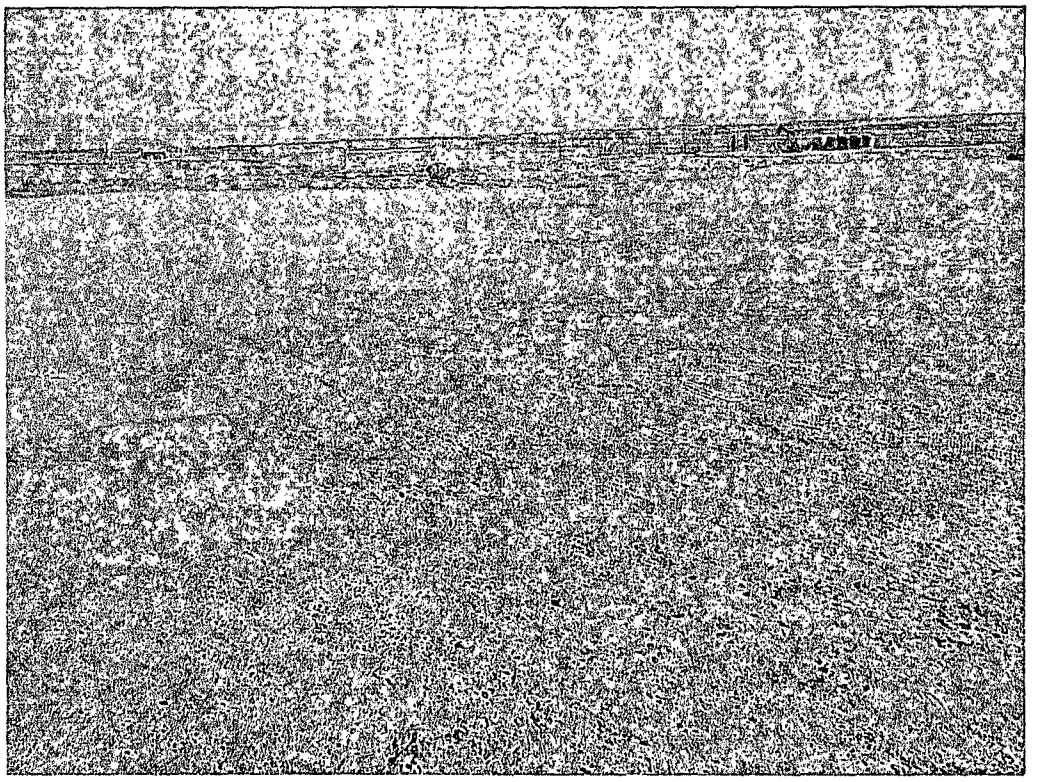


View East – Area of AH-1

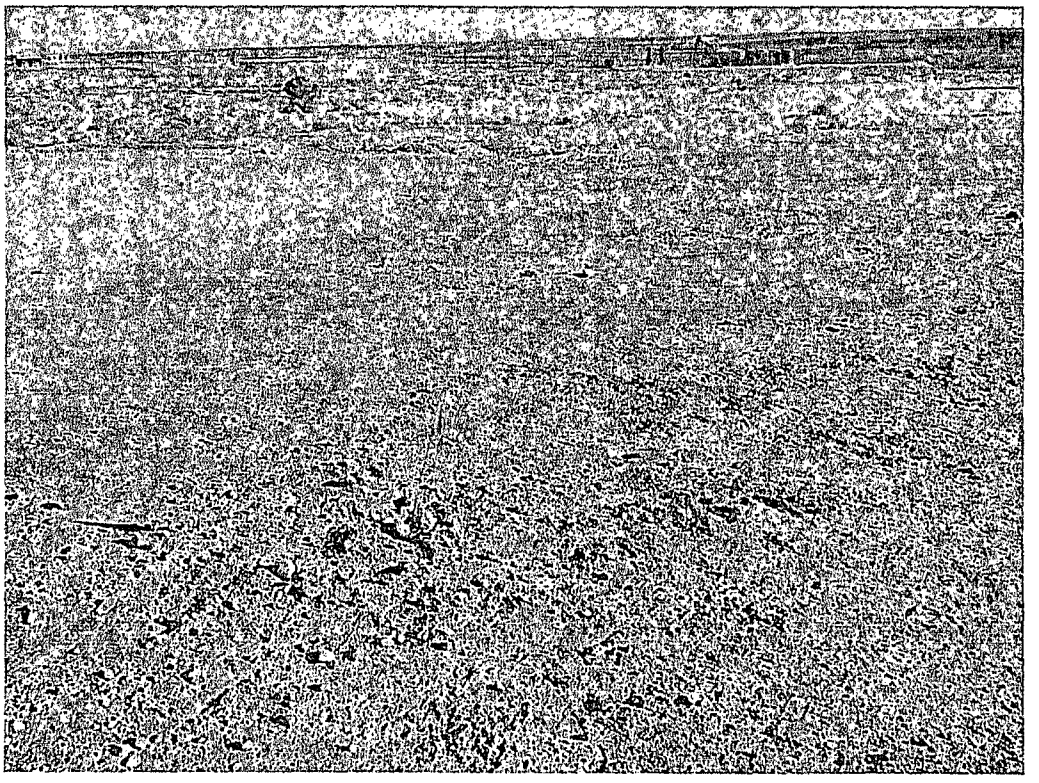
View North – Area of AH-2

COG Operating LLC
Save D A 21 Federal #1
Eddy County, New Mexico

TETRA TECH



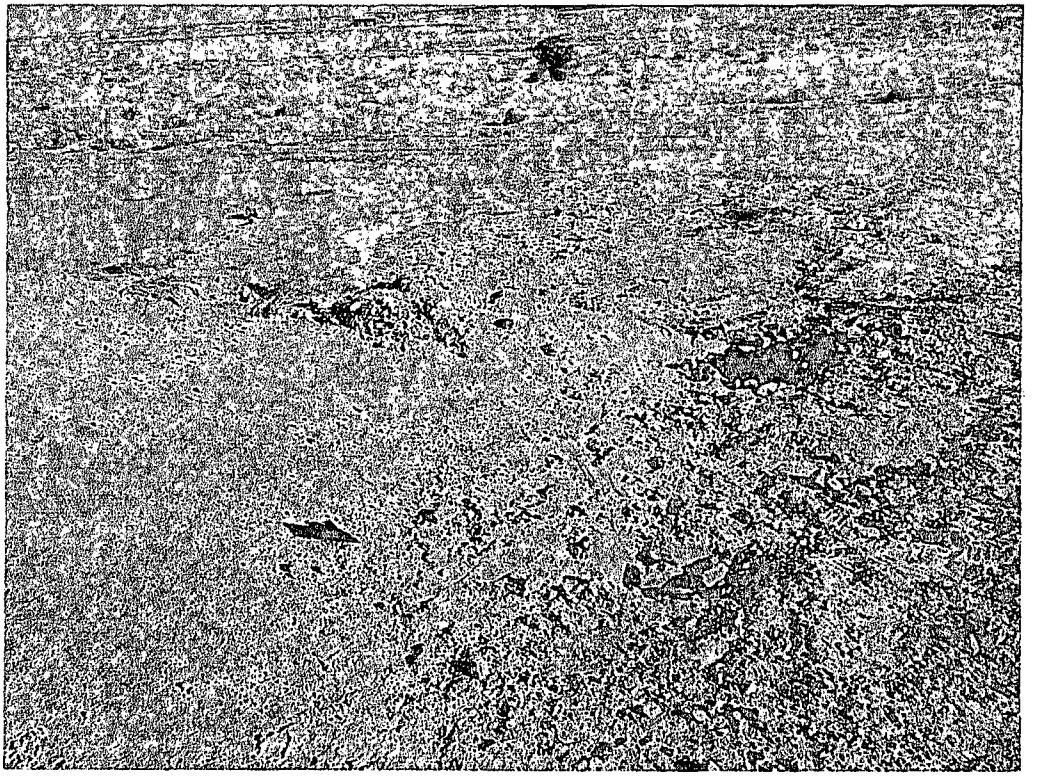
View North – Area of AH-3



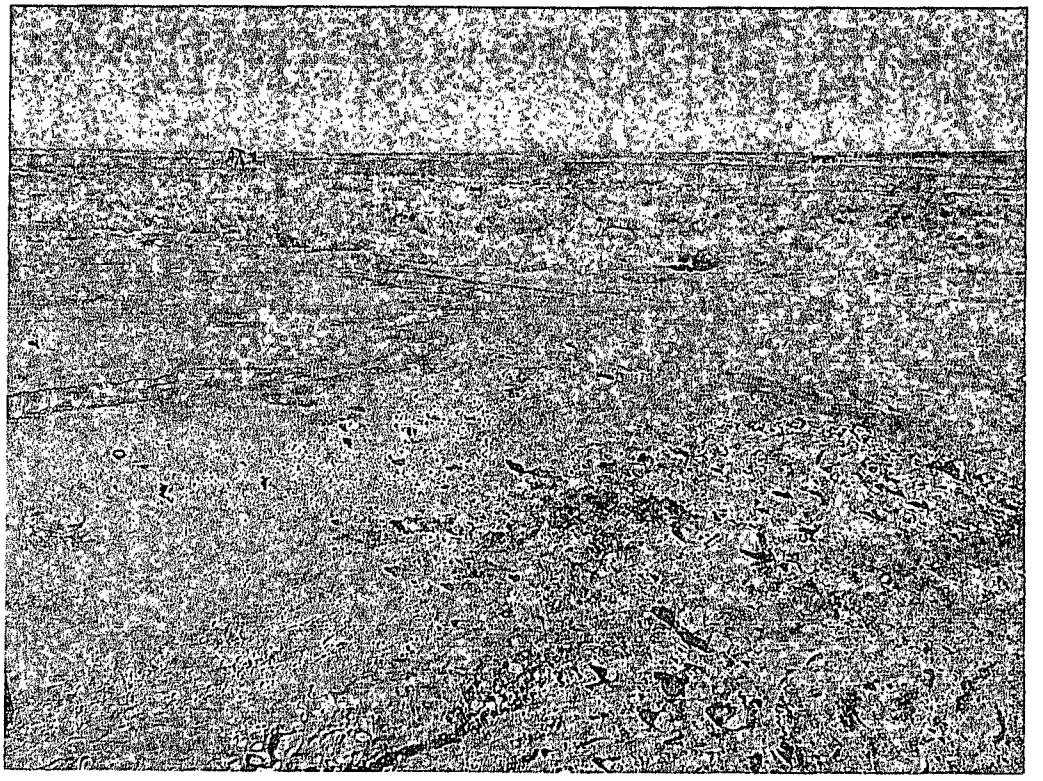
View North – Area of AH-4

COG Operating LLC
Save D A 21 Federal #1
Eddy County, New Mexico

TETRA TECH



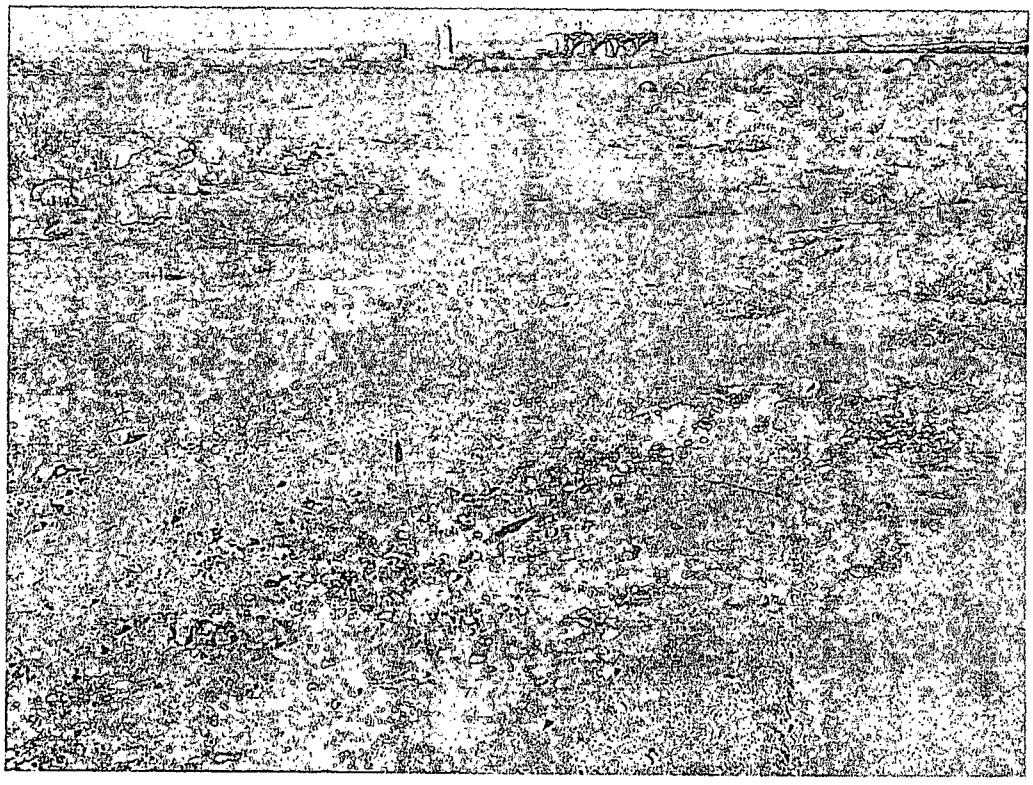
View North – Area of AH-5



View North – Area of AH-6

COG Operating LLC
Save D A 21 Federal #1
Eddy County, New Mexico

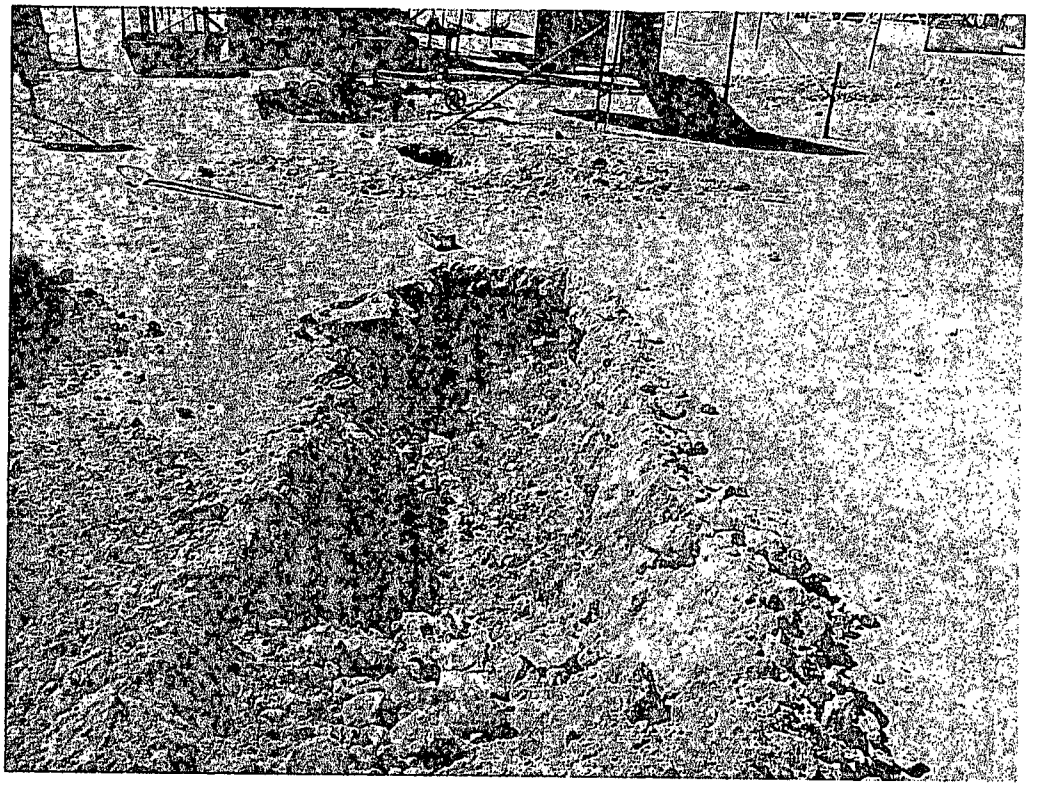
TETRA TECH



View West – Area of AH-7 and AH-8

COG Operating LLC
Save D A 21 Federal #1
Eddy County, New Mexico

TETRA TECH

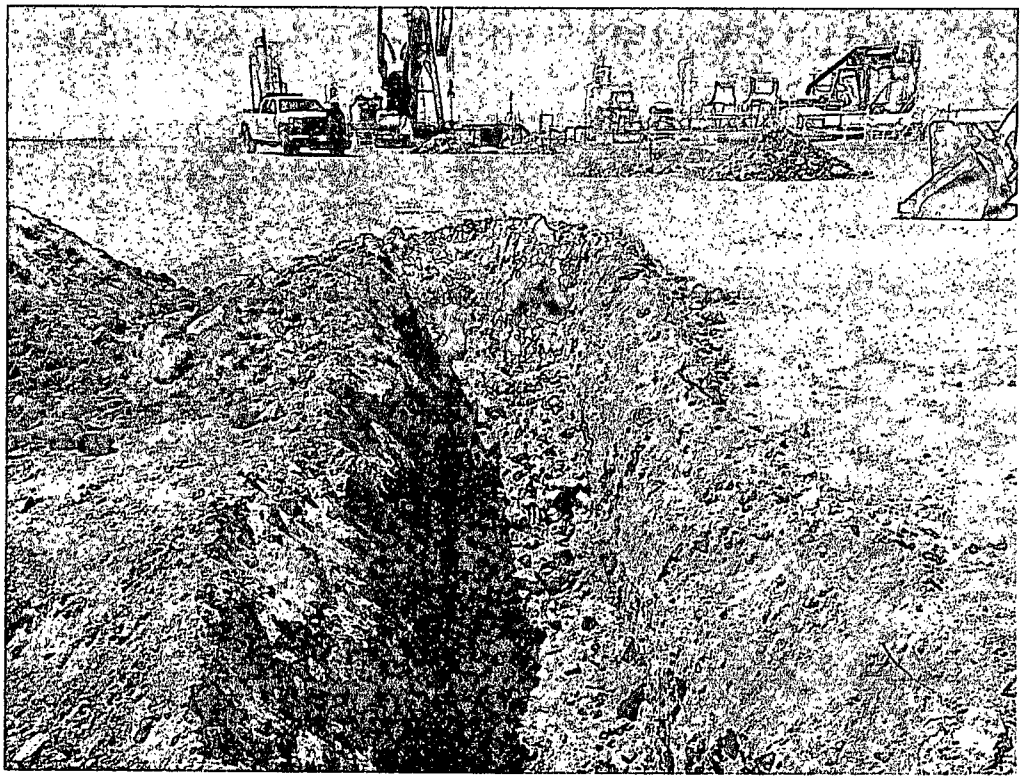


View South – Area of T-1

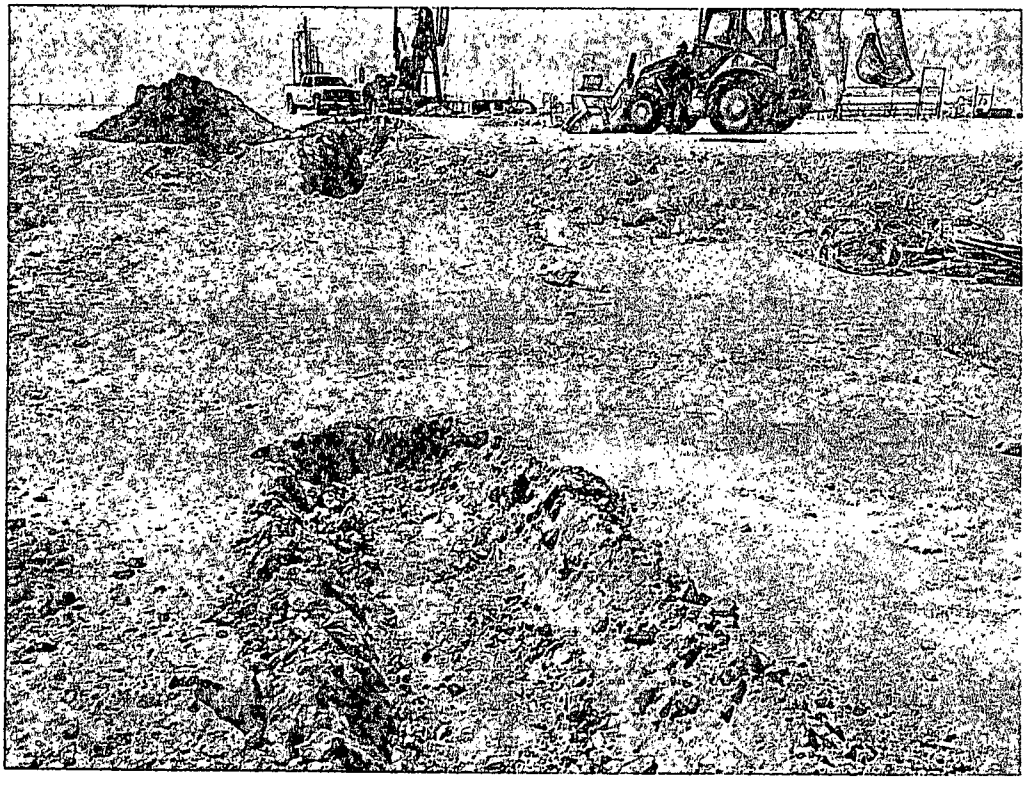
View West- Area of T-2

COG Operating LLC
Save D A 21 Federal #1
Eddy County, New Mexico

TETRA TECH



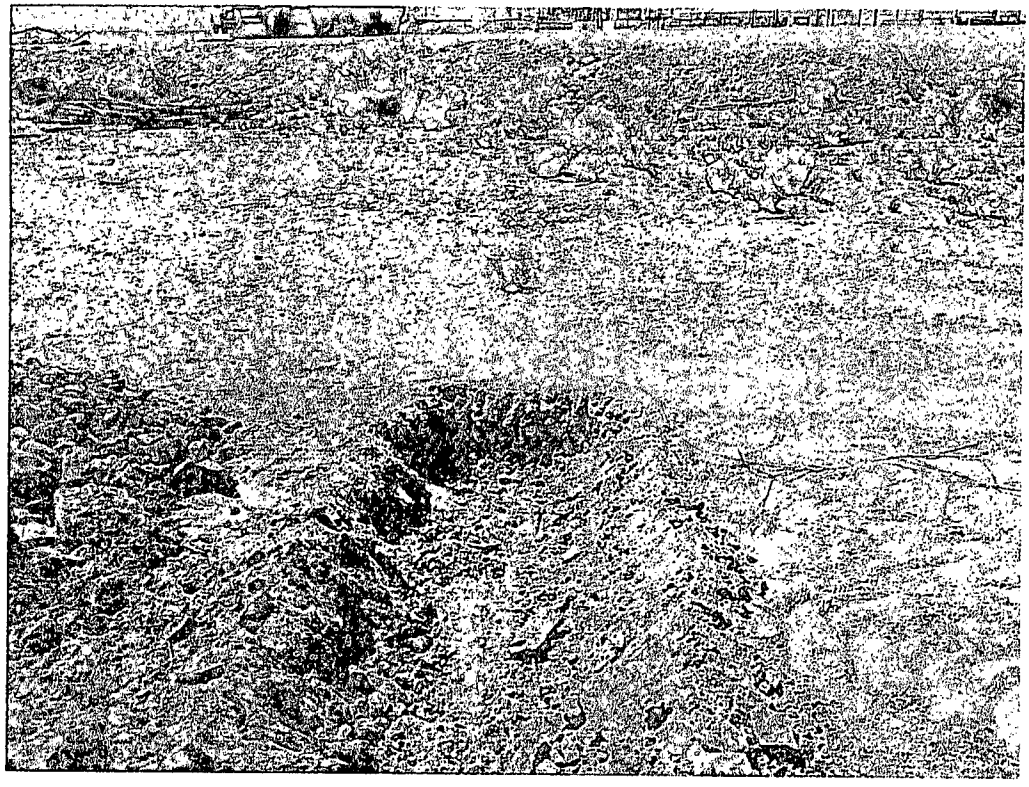
View West – Area of T-3



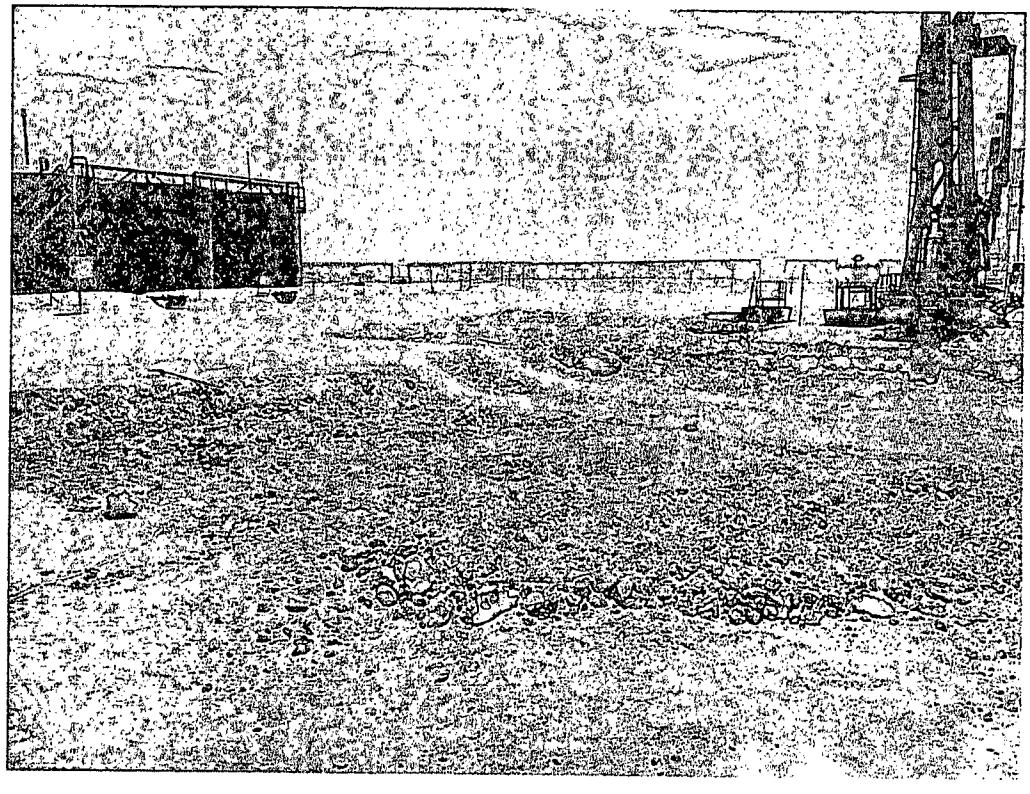
View Southwest – Area of T-4

COG Operating LLC
Save D A 21 Federal #1
Eddy County, New Mexico

TETRA TECH



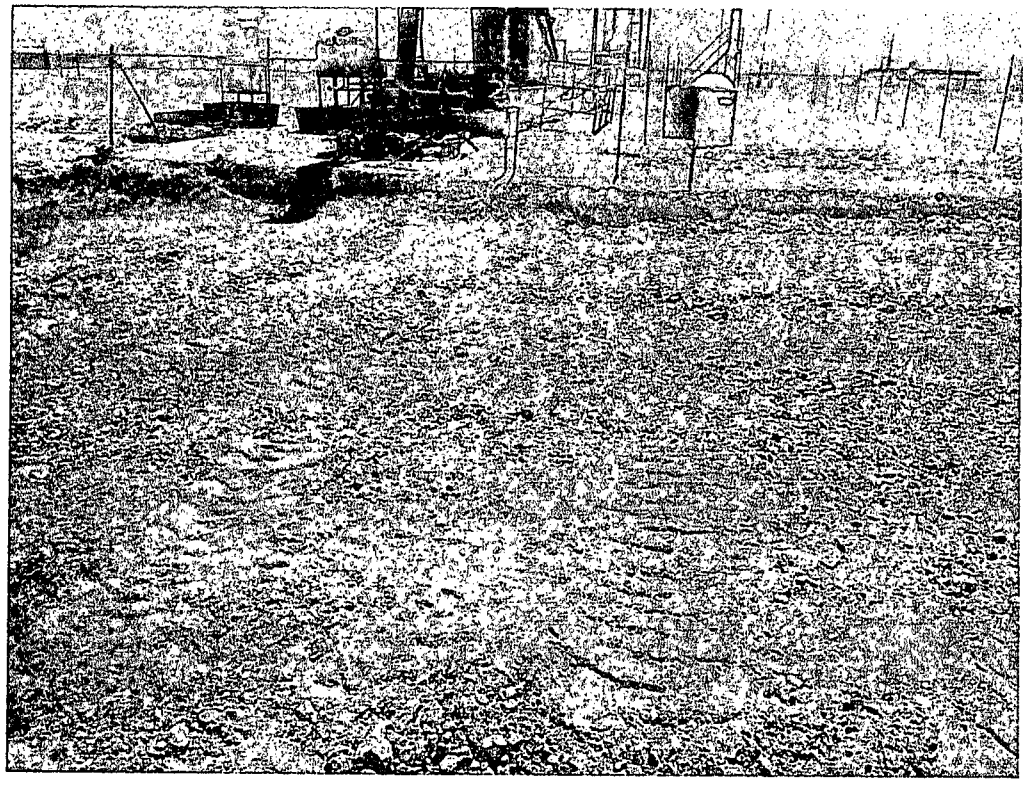
View South – Area of T-5



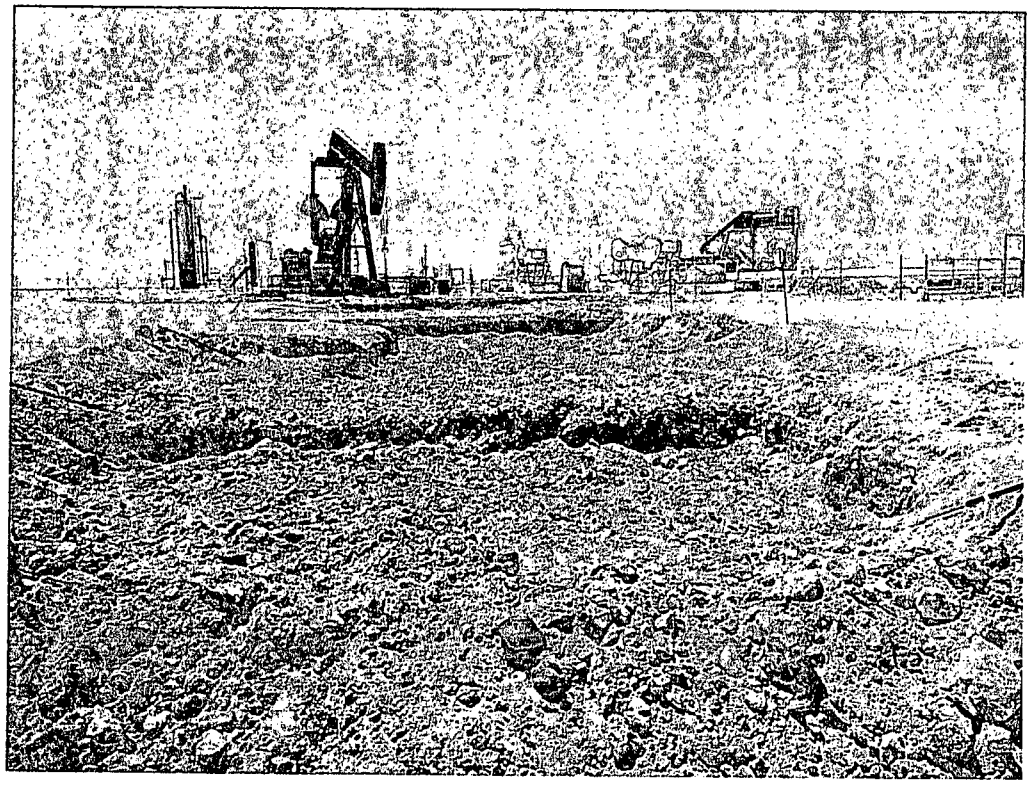
View South – Excavated area of AH-1

COG Operating LLC
Save D A 21 Federal #1
Eddy County, New Mexico

TETRA TECH



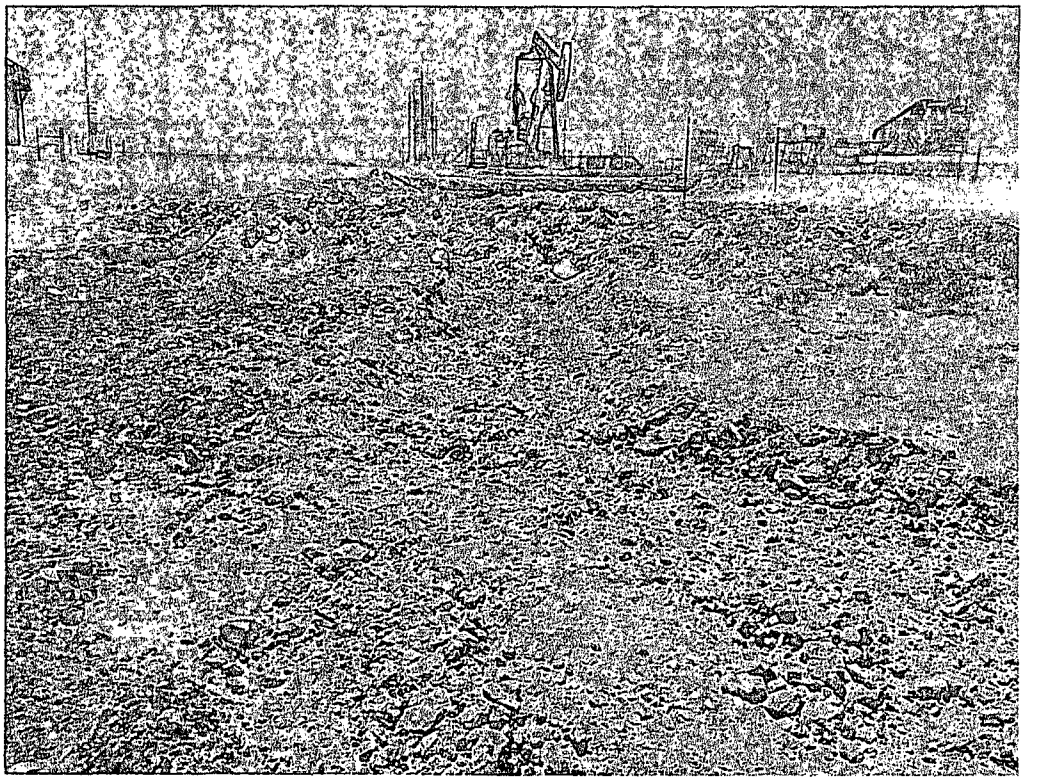
View South – Excavated area of AH-2



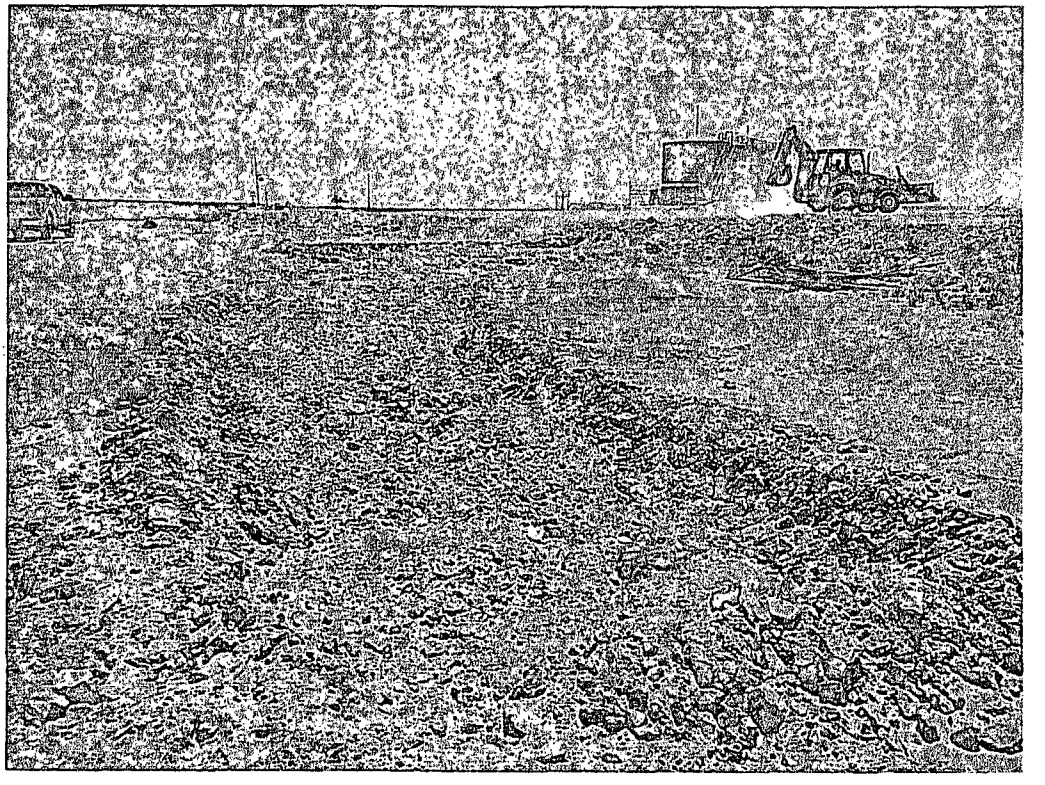
View South – Excavated area of AH-3

COG Operating LLC
Save D A 21 Federal #1
Eddy County, New Mexico

TETRA TECH



View South – Excavated areas of AH-4 and AH-5



View South – Excavated areas of AH-6, AH-7, and AH-8

Tables

Table 1
COG Operating LLC.
Save D A 21 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	12/17/2013	0-1	0		X	348	159	507	<0.100	0.176	0.634	12.1	12.9	**1,430**
	"	1-1.5	0	X		-	-	-	-	-	-	-	-	541
AH-1 North Sidewall	4/11/2014	-	-	X		-	-	-	-	-	-	-	-	912
AH-1 South Sidewall	4/11/2014	-	-	X		-	-	-	-	-	-	-	-	1,360
AH-1 East Sidewall	4/11/2014	-	-	X		-	-	-	-	-	-	-	-	736
AH-2	12/17/2013	0-1	0		X	<8.00	69.2	69.2	<0.0400	<0.0400	<0.0400	<0.0400	<0.0400	**3,780**
	"	1-1.5	0		X	-	-	-	-	-	-	-	-	**4,890**
AH-2 Bottom Hole	4/11/2014	2	0	X		-	-	-	-	-	-	-	-	240
T-1	4/8/2014	0	0		X	-	-	-	-	-	-	-	-	**2,800**
	"	2' refusal	0		X	-	-	-	-	-	-	-	-	**3,760**
AH-2 East Sidewall	4/11/2014	-	-	X		-	-	-	-	-	-	-	-	1,420
AH-2 West Sidewall	4/11/2014	-	-	X		-	-	-	-	-	-	-	-	720

Table 1
COG Operating LLC.
Save D A 21 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-3	12/17/2013	0-1	0		X	313	231	544	<0.100	0.876	0.833	10.5	12.2	**5,210**
	"	1-1.5	0		X	-	-	-	-	-	-	-	-	**1,730**
T-2	4/8/2014	0	0		X	-	-	-	-	-	-	-	-	**1,520**
	"	2' refusal	0		X	-	-	-	-	-	-	-	-	**512**
AH-3 East Sidewall	4/11/2014	-	-	X		-	-	-	-	-	-	-	-	832
AH-3 West Sidewall	4/11/2014	-	-	X		-	-	-	-	-	-	-	-	1,140
AH-4	12/17/2013	0-1	0		X	885	1,730	2,615	<0.100	6.64	4.62	45.2	**56.5**	**1,450**
	"	1-1.5	0	X		-	-	-	<0.100	0.912	0.955	7.87	9.74	689
AH-4 East Sidewall	4/11/2014	-	-	X		-	-	-	-	-	-	-	-	784
AH-4 West Sidewall	4/11/2014	-	-	X		-	-	-	-	-	-	-	-	400

Table 1
COG Operating LLC.
Save D A 21 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-5	12/17/2013	0-1	0		X	**3,200**	**3,300**	**6,500**	0.699	29.4	12.9	123	**166**	923
T-3	4/8/2014	0	0		X	<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	-
	"	2	0	X		<10.0	30.6	30.6	<0.050	<0.050	<0.050	<0.150	<0.300	-
	"	4' refusal	0	X		<10.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300	-
AH-5 South Sidewall	4/11/2014	-	-	X		-	-	-	-	-	-	-	-	368
AH-5 East Sidewall	4/11/2014	-	-	X		-	-	-	-	-	-	-	-	1,570
AH-5 West Sidewall	4/11/2014	-	-	X		-	-	-	-	-	-	-	-	416
AH-6	12/17/2013	0-1	0		X	**7,810**	**4,340**	**12,150**	**2.33**	**95.9**	**32.0**	**278**	**408**	244
	"	1-1.5	0	X		49.4	<50.0	49.4	<0.0200	<0.0200	0.0699	0.271	0.341	516
AH-6 East Sidewall	4/11/2014	-	-	X		-	-	-	-	-	-	-	-	2,040
AH-6 West Sidewall	4/11/2014	-	-	X		-	-	-	-	-	-	-	-	656

Table 1
COG Operating LLC.
Save D A 21 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-7	12/17/2013	0-1	0		X	580	385	965	<0.100	2.33	1.37	16.8	20.5	**3,840**
T-4	4/8/2014	0	0		X									**320**
	"	1' refusal	0	X		-	-	-	-	-	-	-	-	**352**
AH-7 East Sidewall	4/11/2014	-	-	X		-	-	-	-	-	-	-	-	656
AH-7 West Sidewall	4/11/2014	-	-	X		-	-	-	-	-	-	-	-	736
AH-8	12/17/2013	0-1	0		X	**2,680**	**15,500**	**18,180**	0.393	27.3	17.0	151	196	66.9
T-5	4/8/2014	0	0		X	137	2,655	2,792	<0.050	<0.050	0.696	3.57	4.27	-
	"	2	0	X		<10.0	12.5	12.5	<0.050	<0.050	<0.050	<0.150	<0.300	-
AH-8 East Sidewall	4/11/2014	-	-	X		-	-	-	-	-	-	-	-	1,040
AH-8 West Sidewall	4/11/2014	-	-	X		-	-	-	-	-	-	-	-	2,160

(-) Not Analyzed

(BEB) Below Excavation Bottom

Excavation Depths

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	Robert McNeill
Address	600 West Illinois Avenue, Midland, TX 79701	Telephone No.	432-230-0077
Facility Name	Save D A 21 Federal #001	Facility Type	Tank Battery

Surface Owner Federal	Mineral Owner	Lease No. (API#) 30-015-34840

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	21	25S	29E					Eddy

Latitude 32.12089 **Longitude** 103.99588

NATURE OF RELEASE

Type of Release Oil and produced water	Volume of Release 5bbls oil 10bbls of produced water	Volume Recovered 0bbls of oil 0bbls produced water
Source of Release Packing leak	Date and Hour of Occurrence 11-29-2013	Date and Hour of Discovery 11-29-2013 11:00am
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.*

Polishing rod liner packing leaked due to weather change. Make sure the packing is full

Describe Area Affected and Cleanup Action Taken.*

Initially 5bbls of oil and 10bbls of produced water were released from a leak in the packing on the polishing rod. We were able to recover 0bbls with a vacuum truck. All free fluids have been recovered. Concho will have the spill site sampled 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: Robert Grubbs Jr.	Approved by District Supervisor:	
Title: Senior Environmental Coordinator	Approval Date:	Expiration Date:
E-mail Address: rgrubbs@concho.com	Conditions of Approval:	Attached ☐
Date: 12-11-2013 Phone: 432-661-6601		

* Attach Additional Sheets If Necessary

NM OIL CONSERVATION
ARTESIA DISTRICT
JUN 04 2014
RECEIVED

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
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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.
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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 McNeil**
Address **600 West Illinois Ave., Midland, Texas 79701**	Telephone No. **(432) 230-0077**
Facility Name Save D A 21 Federal #001	Facility Type **Tank Battery**

Surface Owner: Federal	Mineral Owner	Lease No. (API #) 30-015-34840

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	21	25S	29E					Eddy

Latitude N 32.12089° **Longitude** W 103.99588°

NATURE OF RELEASE

Type of Release: Oil and produced water	Volume of Release 5 bbls oil 10 bbls produced water	Volume Recovered 0 bbls oil 0 bbls produced water
Source of Release: Packing	Date and Hour of Occurrence 11/29/2013	Date and Hour of Discovery 11/29/2013 11:00 a.m.
Was Immediate Notice Given? ☐ Yes ☒ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*

N/A

NM OIL CONSERVATION
ARTESIA DISTRICT
JUN 04 2014
RECEIVED

Describe Cause of Problem and Remedial Action Taken.*

Polishing rod liner packing leaked due to weather change. Make sure packing is full.

Describe Area Affected and Cleanup Action Taken.*

Initially 5 bbls of oil and 10 bbls of produced water were released from a leak in the packing on the polishing rod. None of the fluid was recovered. 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: 5-8-14 Phone: (432) 682-4559	

* Attach Additional Sheets If Necessary

Appendix B

Water Well Data
Average Depth to Groundwater (ft)
COG - Save D A 21 Federal #1
Eddy County, New Mexico

24 South 28 East

6 **70**	5 **30**	4 **30**	3	2 **55**	1 **60**
7	8 **50**	9	10 **17**	11 **20**	12 **73**
18	17 **42**	16 **29**	15 **18**	14 **52**	13 **34**
19	20 **48**	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

24 South 29 East

Carlsbad

6	5	4	3	2	1
7 **160**	8	9	10	11	12
18	17 **4**	16 **18**	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

24 South 30 East

6	5	4	3	2	1
7	8 **186**	9	10	11	12
18	17	16	15	14	13
19 **231** **150**	20	21	22	23 **400**	24
30	29	28	27	26	25
31	32	33	34	35	36

25 South 28 East

6	5 **59**	4 **35**	3 **32**	2	1 **Site**
7	8	9	10	11	12
18 **67**	17	16	15 **48** **49**	14	13
19	20 **96**	21	22	23	24
30	29 **15**	28 **90**	27	26 **40**	25
31	32	33	34	35	36 **40**

25 South 29 East

6 **40**	5	4	3	2	1
7	8	9	10 **40**	11	12
18	17	16	15 **60**	14	13
19	20	21 **SITE**	22	23	24
30 **30**	29	28	27	26	25
31	32 **115**	33	34	35	36

25 South 30 East

6	5	4	3	2 **295**	1
7 **264**	8	9 **295**	10	11	12 **390**
18	17	16	15	14	13
19	20	21 **265** **268**	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

26 South 28 East

6	5	4	3	2 **120** **21**	1
7	8	9	10	11	12 **100**
18	17	16	15	14 **120**	13 **56**
19	20	21	22 **120**	23	24
30	29	28	27	26	25
31	32	33	34	35	36

26 South 29 East

6	5 **78**	4	3	2	1
7	8	9	10	11	12
18	17	16 **125**	15	14	13
19	20	21	22 **57** **69**	23	24
30	29	28	27	26	25
31	32	33	34	35	36

26 South 30 East

6	5 **179** **180**	4	3	2	1
7	8 **172**	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24 **180**
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

Appendix C

Summary Report

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

Report Date: January 6, 2014

Work Order: 13121819

Project Location: Eddy Co, NM
Project Name: COG/Save D A 21 Fed #001
Project Number: TBD

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
349281	AH-1 0-1'	soil	2013-12-17	00:00	2013-12-18
349282	AH-1 1-1.5'	soil	2013-12-17	00:00	2013-12-18
349283	AH-2 0-1'	soil	2013-12-17	00:00	2013-12-18
349284	AH-2 1-1.5'	soil	2013-12-17	00:00	2013-12-18
349285	AH-3 0-1'	soil	2013-12-17	00:00	2013-12-18
349286	AH-3 1-1.5'	soil	2013-12-17	00:00	2013-12-18
349287	AH-4 0-1'	soil	2013-12-17	00:00	2013-12-18
349288	AH-4 1-1.5'	soil	2013-12-17	00:00	2013-12-18
349289	AH-5 0-1'	soil	2013-12-17	00:00	2013-12-18
349290	AH-6 0-1'	soil	2013-12-17	00:00	2013-12-18
349291	AH-6 1-1.5'	soil	2013-12-17	00:00	2013-12-18
349292	AH-7 0-1'	soil	2013-12-17	00:00	2013-12-18
349293	AH-8 0-1'	soil	2013-12-17	00:00	2013-12-18

Sample - Field Code	BTEX Benzene (mg/Kg)	BTEX Toluene (mg/Kg)	BTEX Ethylbenzene (mg/Kg)	BTEX Xylene (mg/Kg)	TPH DRO - NEW DRO (mg/Kg)	TPH GRO GRO (mg/Kg)
349281 - AH-1 0-1'	<0.100 Qs	**0.176** Qs	**0.634** Qs	**12.1** Qs	**159**	**348**
349283 - AH-2 0-1'	<0.0400 Qs	<0.0400 Qs	<0.0400 Qs	<0.0400 Qs	**69.2**	<8.00
349285 - AH-3 0-1'	<0.100 Qs	**0.876** Qs	**0.833** Qs	**10.5** Qs	**231**	**313**
349287 - AH-4 0-1'	<0.100 Qs	**6.64** Qs	**4.62** Qs	**45.2** Qs	**1730**	**885**
349288 - AH-4 1-1.5'	<0.100	**0.912**	**0.955**	**7.87**		
349289 - AH-5 0-1'	**0.699** Qs	**29.4** Qs	**12.9** Qs	**123** Qs	**3300**	**3200**
349290 - AH-6 0-1'	**2.33** Qs	**95.9** Qs	**32.0** Qs	**278** Qs	**4340**	**7810**
349291 - AH-6 1-1.5'	<0.0200	<0.0200	**0.0699**	**0.271**	<50.0	**49.4**
349292 - AH-7 0-1'	<0.100 Qs	**2.33** Qs	**1.37** Qs	**16.8** Qs	**385**	**580**
349293 - AH-8 0-1'	**0.393** Qs	**27.3** Qs	**17.0** Qs	**151** Qs	**15500**	**2680**

Sample: 349281 - AH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		**1430**	mg/Kg	4

Sample: 349282 - AH-1 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**541**	mg/Kg	4

Sample: 349283 - AH-2 0-1'

Param	Flag	Result	Units	RL
Chloride		**3780**	mg/Kg	4

Sample: 349284 - AH-2 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**4890**	mg/Kg	4

Sample: 349285 - AH-3 0-1'

Param	Flag	Result	Units	RL
Chloride		**5210**	mg/Kg	4

Sample: 349286 - AH-3 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**1730**	mg/Kg	4

Sample: 349287 - AH-4 0-1'

Param	Flag	Result	Units	RL
Chloride		**1450**	mg/Kg	4

Sample: 349288 - AH-4 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**689**	mg/Kg	4

Sample: 349289 - AH-5 0-1'

Param	Flag	Result	Units	RL
Chloride		**923**	mg/Kg	4

Sample: 349290 - AH-6 0-1'

Param	Flag	Result	Units	RL
Chloride		**244**	mg/Kg	4

Sample: 349291 - AH-6 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**516**	mg/Kg	4

Sample: 349292 - AH-7 0-1'

Param	Flag	Result	Units	RL
Chloride		**3840**	mg/Kg	4

Sample: 349293 - AH-8 0-1'

Param	Flag	Result	Units	RL
Chloride		**66.9**	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: January 6, 2014

Work Order: 13121819

Project Location: Eddy Co, NM
Project Name: COG/Save D A 21 Fed #001
Project Number: TBD

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
349281	AH-1 0-1'	soil	2013-12-17	00:00	2013-12-18
349282	AH-1 1-1.5'	soil	2013-12-17	00:00	2013-12-18
349283	AH-2 0-1'	soil	2013-12-17	00:00	2013-12-18
349284	AH-2 1-1.5'	soil	2013-12-17	00:00	2013-12-18
349285	AH-3 0-1'	soil	2013-12-17	00:00	2013-12-18
349286	AH-3 1-1.5'	soil	2013-12-17	00:00	2013-12-18
349287	AH-4 0-1'	soil	2013-12-17	00:00	2013-12-18
349288	AH-4 1-1.5'	soil	2013-12-17	00:00	2013-12-18
349289	AH-5 0-1'	soil	2013-12-17	00:00	2013-12-18
349290	AH-6 0-1'	soil	2013-12-17	00:00	2013-12-18
349291	AH-6 1-1.5'	soil	2013-12-17	00:00	2013-12-18
349292	AH-7 0-1'	soil	2013-12-17	00:00	2013-12-18
349293	AH-8 0-1'	soil	2013-12-17	00:00	2013-12-18

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.

TraceAnalysis, Inc.

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

Report Contents

Case Narrative

Samples for project COG/Save D A 21 Fed #001 were received by TraceAnalysis, Inc. on 2013-12-18 and assigned to work order 13121819. Samples for work order 13121819 were received intact at a temperature of 3.9 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	91171	2013-12-19 at 08:26	107765	2013-12-20 at 12:25
BTEX	S 8021B	91224	2013-12-20 at 12:31	107810	2013-12-23 at 09:48
BTEX	S 8021B	91258	2013-12-23 at 12:50	107855	2013-12-24 at 13:15
Chloride (Titration)	SM 4500-Cl B	91351	2013-12-31 at 08:40	107983	2014-01-03 at 10:26
Chloride (Titration)	SM 4500-Cl B	91351	2013-12-31 at 08:40	107984	2014-01-03 at 10:34
TPH DRO - NEW	S 8015 D	91215	2013-12-19 at 13:00	107761	2013-12-20 at 09:49
TPH DRO - NEW	S 8015 D	91251	2013-12-23 at 08:35	107808	2013-12-23 at 08:40
TPH GRO	S 8015 D	91171	2013-12-19 at 08:26	107771	2013-12-20 at 12:55
TPH GRO	S 8015 D	91224	2013-12-20 at 12:31	107811	2013-12-23 at 09:51
TPH GRO	S 8015 D	91286	2013-12-24 at 09:00	107889	2013-12-30 at 15:54

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 13121819 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: 349281 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	107765	Date Analyzed:	2013-12-20	Analyzed By:	AK
Prep Batch:	91171	Sample Preparation:	2013-12-19	Prepared By:	AK

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene	Qs,U	1	<0.100	mg/Kg	5	0.0200
Toluene	Qs	1	**0.176**	mg/Kg	5	0.0200
Ethylbenzene	Qs	1	**0.634**	mg/Kg	5	0.0200
Xylene	Qs	1	**12.1**	mg/Kg	5	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.40	mg/Kg	5	2.00	70	70 - 130
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr	5.19	mg/Kg	5	2.00	260	70 - 130

Sample: 349281 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	107983	Date Analyzed:	2014-01-03	Analyzed By:	AR
Prep Batch:	91351	Sample Preparation:	2013-12-31	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**1430**	mg/Kg	10	4.00

Sample: 349281 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	107761	Date Analyzed:	2013-12-20	Analyzed By:	KC
Prep Batch:	91215	Sample Preparation:	2013-12-19	Prepared By:	KC

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
DRO		1	**159**	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			122	mg/Kg	1	100	122	70 - 130

Sample: 349281 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	107771	Date Analyzed:	2013-12-20	Analyzed By:	AK
Prep Batch:	91171	Sample Preparation:	2013-12-19	Prepared By:	AK

Parameter	Flag	Cert	Result	RL	Units	Dilution	RL
GRO		1	**348**		mg/Kg	5	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.07	mg/Kg	5	2.00	104	70 - 130
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr	12.6	mg/Kg	5	2.00	630	70 - 130

Sample: 349282 - AH-1 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	107983	Date Analyzed:	2014-01-03	Analyzed By:	AR
Prep Batch:	91351	Sample Preparation:	2013-12-31	Prepared By:	AR

Parameter	Flag	Cert	Result	RL	Units	Dilution	RL
Chloride			**541**		mg/Kg	5	4.00

Sample: 349283 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	107765	Date Analyzed:	2013-12-20	Analyzed By:	AK
Prep Batch:	91171	Sample Preparation:	2013-12-19	Prepared By:	AK

continued ...

sample 349283 continued ...

Parameter	Flag	Cert	RL Result	Units	Dilution	RL

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	Qs,U	1	<0.0400	mg/Kg	2	0.0200
Toluene	Qs,U	1	<0.0400	mg/Kg	2	0.0200
Ethylbenzene	Qs,U	1	<0.0400	mg/Kg	2	0.0200
Xylene	Qs,U	1	<0.0400	mg/Kg	2	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.58	mg/Kg	2	2.00	79	70 - 130
4-Bromofluorobenzene (4-BFB)			1.64	mg/Kg	2	2.00	82	70 - 130

Sample: 349283 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	107983	Date Analyzed:	2014-01-03	Analyzed By:	AR
Prep Batch:	91351	Sample Preparation:	2013-12-31	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**3780**	mg/Kg	10	4.00

Sample: 349283 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	107761	Date Analyzed:	2013-12-20	Analyzed By:	KC
Prep Batch:	91215	Sample Preparation:	2013-12-19	Prepared By:	KC

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1	**69.2**	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			115	mg/Kg	1	100	115	70 - 130

Sample: 349283 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	107771	Date Analyzed:	2013-12-20	Analyzed By:	AK
Prep Batch:	91171	Sample Preparation:	2013-12-19	Prepared By:	AK

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO	U	1	<8.00	mg/Kg	2	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.15	mg/Kg	2	2.00	108	70 - 130
4-Bromofluorobenzene (4-BFB)			2.40	mg/Kg	2	2.00	120	70 - 130

Sample: 349284 - AH-2 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	107983	Date Analyzed:	2014-01-03	Analyzed By:	AR
Prep Batch:	91351	Sample Preparation:	2013-12-31	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**4890**	mg/Kg	10	4.00

Sample: 349285 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	107765	Date Analyzed:	2013-12-20	Analyzed By:	AK
Prep Batch:	91171	Sample Preparation:	2013-12-19	Prepared By:	AK

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	Qs,U	1	<0.100	mg/Kg	5	0.0200
Toluene	Qs	1	**0.876**	mg/Kg	5	0.0200
Ethylbenzene	Qs	1	**0.833**	mg/Kg	5	0.0200
Xylene	Qs	1	**10.5**	mg/Kg	5	0.0200

Surrogate		Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	Qsr	Qsr		1.39	mg/Kg	5	2.00	70	70 - 130
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr		4.60	mg/Kg	5	2.00	230	70 - 130

Sample: 349285 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	107983	Date Analyzed:	2014-01-03	Analyzed By:	AR
Prep Batch:	91351	Sample Preparation:	2013-12-31	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**5210**	mg/Kg	10	4.00

Sample: 349285 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	107761	Date Analyzed:	2013-12-20	Analyzed By:	KC
Prep Batch:	91215	Sample Preparation:	2013-12-19	Prepared By:	KC

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1	**231**	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			123	mg/Kg	1	100	123	70 - 130

Sample: 349285 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	107771	Date Analyzed:	2013-12-20	Analyzed By:	AK
Prep Batch:	91171	Sample Preparation:	2013-12-19	Prepared By:	AK

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	**313**	mg/Kg	5	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.07	mg/Kg	5	2.00	104	70 - 130
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr	11.3	mg/Kg	5	2.00	565	70 - 130

Sample: 349286 - AH-3 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	107983	Date Analyzed:	2014-01-03	Analyzed By:	AR
Prep Batch:	91351	Sample Preparation:	2013-12-31	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**1730**	mg/Kg	10	4.00

Sample: 349287 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	107765	Date Analyzed:	2013-12-20	Analyzed By:	AK
Prep Batch:	91171	Sample Preparation:	2013-12-19	Prepared By:	AK

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	Qsr	1	<0.100	mg/Kg	5	0.0200
Toluene	Qsr	1	**6.64**	mg/Kg	5	0.0200
Ethylbenzene	Qsr	1	**4.62**	mg/Kg	5	0.0200
Xylene	Qsr	1	**45.2**	mg/Kg	5	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.41	mg/Kg	5	2.00	70	70 - 130
4-Bromofluorobenzene (4-BFB)			12.0	mg/Kg	5	2.00	600	70 - 130

Sample: 349287 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	107983	Date Analyzed:	2014-01-03	Analyzed By:	AR
Prep Batch:	91351	Sample Preparation:	2013-12-31	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**1450**	mg/Kg	10	4.00

Sample: 349287 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	107761	Date Analyzed:	2013-12-20	Analyzed By:	KC
Prep Batch:	91215	Sample Preparation:	2013-12-19	Prepared By:	KC

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1	**1730**	mg/Kg	1	50.0

Surrogate		Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qsr	Qsr		191	mg/Kg	1	100	191	70 - 130

Sample: 349287 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	107889	Date Analyzed:	2013-12-30	Analyzed By:	AK
Prep Batch:	91286	Sample Preparation:	2013-12-24	Prepared By:	AK

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	**885**	mg/Kg	50	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.24	mg/Kg	50	2.00	112	70 - 130
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr	19.4	mg/Kg	50	2.00	970	70 - 130

Sample: 349288 - AH-4 1-1.5'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	107855	Date Analyzed:	2013-12-24	Analyzed By:	AK
Prep Batch:	91258	Sample Preparation:	2013-12-23	Prepared By:	AK

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene		1	<0.100	mg/Kg	5	0.0200
Toluene		1	**0.912**	mg/Kg	5	0.0200
Ethylbenzene		1	**0.955**	mg/Kg	5	0.0200
Xylene		1	**7.87**	mg/Kg	5	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			9.47	mg/Kg	5	10.0	95	70 - 130
4-Bromofluorobenzene (4-BFB)			10.6	mg/Kg	5	10.0	106	70 - 130

Sample: 349288 - AH-4 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	107983	Date Analyzed:	2014-01-03	Analyzed By:	AR
Prep Batch:	91351	Sample Preparation:	2013-12-31	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**689**	mg/Kg	5	4.00

Sample: 349289 - AH-5 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	107765	Date Analyzed:	2013-12-20	Analyzed By:	AK
Prep Batch:	91171	Sample Preparation:	2013-12-19	Prepared By:	AK

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	Q3	1	**0.699**	mg/Kg	10	0.0200
Toluene	Q3	1	**29.4**	mg/Kg	10	0.0200
Ethylbenzene	Q3	1	**12.9**	mg/Kg	10	0.0200
Xylene	Q3	1	**123**	mg/Kg	10	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.26	mg/Kg	10	2.00	63	70 - 130
4-Bromofluorobenzene (4-BFB)			22.1	mg/Kg	10	2.00	1105	70 - 130

Sample: 349289 - AH-5 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	107983	Date Analyzed:	2014-01-03	Analyzed By:	AR
Prep Batch:	91351	Sample Preparation:	2013-12-31	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**923**	mg/Kg	5	4.00

Sample: 349289 - AH-5 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	107761	Date Analyzed:	2013-12-20	Analyzed By:	KC
Prep Batch:	91215	Sample Preparation:	2013-12-19	Prepared By:	KC

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
DRO		1	**3300**	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qsr	Qsr	213	mg/Kg	1	100	213	70 - 130

Sample: 349289 - AH-5 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	107889	Date Analyzed:	2013-12-30	Analyzed By:	AK
Prep Batch:	91286	Sample Preparation:	2013-12-24	Prepared By:	AK

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
GRO		1	**3200**	mg/Kg	100	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.85	mg/Kg	100	2.00	92	70 - 130
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr	63.8	mg/Kg	100	2.00	3190	70 - 130

Sample: 349290 - AH-6 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	107765	Date Analyzed:	2013-12-20	Analyzed By:	AK
Prep Batch:	91171	Sample Preparation:	2013-12-19	Prepared By:	AK

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene	Qsi	1	**2.33**	mg/Kg	40	0.0200
Toluene	Qsi	1	**95.9**	mg/Kg	40	0.0200
Ethylbenzene	Qsi	1	**32.0**	mg/Kg	40	0.0200
Xylene	Qsi	1	**278**	mg/Kg	40	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.55	mg/Kg	40	2.00	78	70 - 130
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr	44.8	mg/Kg	40	2.00	2240	70 - 130

Sample: 349290 - AH-6 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	107983	Date Analyzed:	2014-01-03	Analyzed By:	AR
Prep Batch:	91351	Sample Preparation:	2013-12-31	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**244**	mg/Kg	5	4.00

Sample: 349290 - AH-6 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	107761	Date Analyzed:	2013-12-20	Analyzed By:	KC
Prep Batch:	91215	Sample Preparation:	2013-12-19	Prepared By:	KC

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
DRO		1	**4340**	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qsr	Qsr	276	mg/Kg	1	100	276	70 - 130

Sample: 349290 - AH-6 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	107811	Date Analyzed:	2013-12-23	Analyzed By:	AK
Prep Batch:	91224	Sample Preparation:	2013-12-20	Prepared By:	AK

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	**7810**	mg/Kg	100	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.09	mg/Kg	100	2.00	104	70 - 130
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr	158	mg/Kg	100	2.00	7900	70 - 130

Sample: 349291 - AH-6 1-1.5'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	107810	Date Analyzed:	2013-12-23	Analyzed By:	AK
Prep Batch:	91224	Sample Preparation:	2013-12-20	Prepared By:	AK

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Benzene	U	1	<0.0200	mg/Kg	1	0.0200
Toluene	U	1	<0.0200	mg/Kg	1	0.0200
Ethylbenzene		1	**0.0699**	mg/Kg	1	0.0200
Xylene		1	**0.271**	mg/Kg	1	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.43	mg/Kg	1	2.00	72	70 - 130
4-Bromofluorobenzene (4-BFB)			2.11	mg/Kg	1	2.00	106	70 - 130

Sample: 349291 - AH-6 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	107984	Date Analyzed:	2014-01-03	Analyzed By:	AR
Prep Batch:	91351	Sample Preparation:	2013-12-31	Prepared By:	AR

continued ...

sample 349291 continued ...

Parameter	Flag	Cert	RL Result	Units	Dilution	RL

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**516**	mg/Kg	5	4.00

Sample: 349291 - AH-6 1-1.5'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	107808	Date Analyzed:	2013-12-23	Analyzed By:	KC
Prep Batch:	91251	Sample Preparation:		Prepared By:	KC

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			114	mg/Kg	1	100	114	70 - 130

Sample: 349291 - AH-6 1-1.5'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	107811	Date Analyzed:	2013-12-23	Analyzed By:	AK
Prep Batch:	91224	Sample Preparation:	2013-12-20	Prepared By:	AK

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	**49.4**	mg/Kg	1	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.86	mg/Kg	1	2.00	93	70 - 130
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr	3.64	mg/Kg	1	2.00	182	70 - 130

Sample: 349292 - AH-7 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	107765	Date Analyzed:	2013-12-20	Analyzed By:	AK
Prep Batch:	91171	Sample Preparation:	2013-12-19	Prepared By:	AK

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene	Qs	1	<0.100	mg/Kg	5	0.0200
Toluene	Qs	1	**2.33**	mg/Kg	5	0.0200
Ethylbenzene	Qs	1	**1.37**	mg/Kg	5	0.0200
Xylene	Qs	1	**16.8**	mg/Kg	5	0.0200

Surrogate		Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	1 Qsr	Qsr		1.32	mg/Kg	5	2.00	66	70 - 130
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr		5.99	mg/Kg	5	2.00	300	70 - 130

Sample: 349292 - AH-7 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	107984	Date Analyzed:	2014-01-03	Analyzed By:	AR
Prep Batch:	91351	Sample Preparation:	2013-12-31	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**3840**	mg/Kg	10	4.00

Sample: 349292 - AH-7 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	107761	Date Analyzed:	2013-12-20	Analyzed By:	KC
Prep Batch:	91215	Sample Preparation:	2013-12-19	Prepared By:	KC

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
DRO		1	**385**	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane Qsr	Qsr		131	mg/Kg	1	100	131	70 - 130

Sample: 349292 - AH-7 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	107771	Date Analyzed:	2013-12-20	Analyzed By:	AK
Prep Batch:	91171	Sample Preparation:	2013-12-19	Prepared By:	AK

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
GRO		1	**580**	mg/Kg	5	4.00

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.94	mg/Kg	5	2.00	97	70 - 130
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr	15.0	mg/Kg	5	2.00	750	70 - 130

Sample: 349293 - AH-8 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	107765	Date Analyzed:	2013-12-20	Analyzed By:	AK
Prep Batch:	91171	Sample Preparation:	2013-12-19	Prepared By:	AK

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Benzene	Qs	1	**0.393**	mg/Kg	5	0.0200
Toluene	Qs	1	**27.3**	mg/Kg	5	0.0200
Ethylbenzene	Qs	1	**17.0**	mg/Kg	5	0.0200
Xylene	Qs	1	**151**	mg/Kg	5	0.0200

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)	2 Qsr	Qsr	1.27	mg/Kg	5	2.00	64	70 - 130
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr	31.1	mg/Kg	5	2.00	1555	70 - 130

Sample: 349293 - AH-8 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	107984	Date Analyzed:	2014-01-03	Analyzed By:	AR
Prep Batch:	91351	Sample Preparation:	2013-12-31	Prepared By:	AR

continued ...

sample 349293 continued ...

Parameter	Flag	Cert	RL Result	Units	Dilution	RL

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**66.9**	mg/Kg	5	4.00

Sample: 349293 - AH-8 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	107808	Date Analyzed:	2013-12-23	Analyzed By:	KC
Prep Batch:	91251	Sample Preparation:		Prepared By:	KC

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO		1	**15500**	mg/Kg	5	50.0

Surrogate		Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	Qsr	Qsr		995	mg/Kg	5	100	995	70 - 130

Sample: 349293 - AH-8 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	107889	Date Analyzed:	2013-12-30	Analyzed By:	AK
Prep Batch:	91286	Sample Preparation:	2013-12-24	Prepared By:	AK

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
GRO		1	**2680**	mg/Kg	100	4.00

Surrogate		Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)				1.79	mg/Kg	100	2.00	90	70 - 130
4-Bromofluorobenzene (4-BFB)	Qsr	Qsr		45.8	mg/Kg	100	2.00	2290	70 - 130

Method Blanks

Method Blank (1) QC Batch: 107761

QC Batch: 107761 | Date Analyzed: 2013-12-20 | Analyzed By: KC
Prep Batch: 91215 | QC Preparation: 2013-12-19 | Prepared By: KC

Parameter	Flag	Cert	MDL Result	Units	RL
DRO		1	<6.88	mg/Kg	50

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			114	mg/Kg	1	100	114	88.3 - 126.1

Method Blank (1) QC Batch: 107765

QC Batch: 107765 | Date Analyzed: 2013-12-20 | Analyzed By: AK
Prep Batch: 91171 | QC Preparation: 2013-12-19 | Prepared By: AK

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.00533	mg/Kg	0.02
Toluene		1	<0.00645	mg/Kg	0.02
Ethylbenzene		1	<0.0116	mg/Kg	0.02
Xylene		1	<0.00874	mg/Kg	0.02

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.68	mg/Kg	1	2.00	84	70 - 130
4-Bromofluorobenzene (4-BFB)			1.54	mg/Kg	1	2.00	77	70 - 130

Method Blank (1) QC Batch: 107771

QC Batch: 107771 | Date Analyzed: 2013-12-20 | Analyzed By: AK
Prep Batch: 91171 | QC Preparation: 2013-12-19 | Prepared By: AK

Parameter	Flag	Cert	MDL Result	Units	RL
GRO		1	<2.32	mg/Kg	4

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.34	mg/Kg	1	2.00	117	70 - 130
4-Bromofluorobenzene (4-BFB)			2.13	mg/Kg	1	2.00	106	70 - 130

Method Blank (1) QC Batch: 107808

QC Batch: 107808 Date Analyzed: 2013-12-23 Analyzed By: KC
Prep Batch: 91251 QC Preparation: 2013-12-23 Prepared By: KC

Parameter	Flag	Cert	MDL Result	Units	RL
DRO		1	<6.88	mg/Kg	50

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			109	mg/Kg	1	100	109	88.3 - 126.1

Method Blank (1) QC Batch: 107810

QC Batch: 107810 Date Analyzed: 2013-12-23 Analyzed By: AK
Prep Batch: 91224 QC Preparation: 2013-12-20 Prepared By: AK

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.00533	mg/Kg	0.02
Toluene		1	<0.00645	mg/Kg	0.02
Ethylbenzene		1	<0.0116	mg/Kg	0.02
Xylene		1	<0.00874	mg/Kg	0.02

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.45	mg/Kg	1	2.00	72	70 - 130
4-Bromofluorobenzene (4-BFB)			1.47	mg/Kg	1	2.00	74	70 - 130

Method Blank (1) QC Batch: 107811

QC Batch: 107811 | Date Analyzed: 2013-12-23 | Analyzed By: AK
Prep Batch: 91224 | QC Preparation: 2013-12-20 | Prepared By: AK

Parameter	Flag	Cert	MDL Result	Units	RL
GRO		1	<2.32	mg/Kg	4

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.13	mg/Kg	1	2.00	106	70 - 130
4-Bromofluorobenzene (4-BFB)			2.20	mg/Kg	1	2.00	110	70 - 130

Method Blank (1) QC Batch: 107855

QC Batch: 107855 | Date Analyzed: 2013-12-24 | Analyzed By: AK
Prep Batch: 91258 | QC Preparation: 2013-12-23 | Prepared By: AK

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.00354	mg/Kg	0.02
Toluene		1	<0.00966	mg/Kg	0.02
Ethylbenzene		1	<0.00790	mg/Kg	0.02
Xylene		1	<0.00667	mg/Kg	0.02

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.94	mg/Kg	1	2.00	97	70 - 130
4-Bromofluorobenzene (4-BFB)			2.03	mg/Kg	1	2.00	102	70 - 130

Method Blank (1) QC Batch: 107889

QC Batch: 107889 | Date Analyzed: 2013-12-30 | Analyzed By: AK
Prep Batch: 91286 | QC Preparation: 2013-12-24 | Prepared By: AK

Parameter	Flag	Cert	MDL Result	Units	RL
GRO		1	<2.32	mg/Kg	4

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.92	mg/Kg	1	2.00	96	70 - 130
4-Bromofluorobenzene (4-BFB)			1.89	mg/Kg	1	2.00	94	70 - 130

Method Blank (1) QC Batch: 107983

QC Batch:	107983	Date Analyzed:	2014-01-03	Analyzed By:	AR
Prep Batch:	91351	QC Preparation:	2013-12-31	Prepared By:	AR

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

Method Blank (1) QC Batch: 107984

QC Batch:	107984	Date Analyzed:	2014-01-03	Analyzed By:	AR
Prep Batch:	91351	QC Preparation:	2013-12-31	Prepared By:	AR

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

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 107761 | Date Analyzed: 2013-12-20 | Analyzed By: KC
Prep Batch: 91215 | QC Preparation: 2013-12-19 | Prepared By: KC

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	261	mg/Kg	1	250	<6.88	104	79.4 - 120.1

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	257	mg/Kg	1	250	<6.88	103	79.4 - 120.1	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
n-Tricosane	115	115	mg/Kg	1	100	115	115	92.9 - 137.7

Laboratory Control Spike (LCS-1)

QC Batch: 107765 | Date Analyzed: 2013-12-20 | Analyzed By: AK
Prep Batch: 91171 | QC Preparation: 2013-12-19 | Prepared By: AK

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.57	mg/Kg	1	2.00	<0.00533	78	70 - 130
Toluene		1	1.58	mg/Kg	1	2.00	<0.00645	79	70 - 130
Ethylbenzene		1	1.62	mg/Kg	1	2.00	<0.0116	81	70 - 130
Xylene		1	4.91	mg/Kg	1	6.00	<0.00874	82	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	1.56	mg/Kg	1	2.00	<0.00533	78	70 - 130	1	20
Toluene		1	1.56	mg/Kg	1	2.00	<0.00645	78	70 - 130	1	20
Ethylbenzene		1	1.60	mg/Kg	1	2.00	<0.0116	80	70 - 130	1	20
Xylene		1	4.89	mg/Kg	1	6.00	<0.00874	82	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)	1.51	1.46	mg/Kg	1	2.00	76	73	70 - 130
4-Bromofluorobenzene (4-BFB)	1.59	1.51	mg/Kg	1	2.00	80	76	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 107771 | Date Analyzed: 2013-12-20 | Analyzed By: AK
Prep Batch: 91171 | QC Preparation: 2013-12-19 | Prepared By: AK

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	14.8	mg/Kg	1	20.0	<2.32	74	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	14.4	mg/Kg	1	20.0	<2.32	72	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)	1.99	1.96	mg/Kg	1	2.00	100	98	70 - 130
4-Bromofluorobenzene (4-BFB)	2.18	2.19	mg/Kg	1	2.00	109	110	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 107808 | Date Analyzed: 2013-12-23 | Analyzed By: KC
Prep Batch: 91251 | QC Preparation: 2013-12-23 | Prepared By: KC

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	292	mg/Kg	1	250	<6.88	117	79.4 - 120.1

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	291	mg/Kg	1	250	<6.88	116	79.4 - 120.1	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
n-Tricosane	112	112	mg/Kg	1	100	112	112	92.9 - 137.7

Laboratory Control Spike (LCS-1)

QC Batch: 107810 | Date Analyzed: 2013-12-23 | Analyzed By: AK
Prep Batch: 91224 | QC Preparation: 2013-12-20 | Prepared By: AK

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.56	mg/Kg	1	2.00	<0.00533	78	70 - 130
Toluene		1	1.74	mg/Kg	1	2.00	<0.00645	87	70 - 130
Ethylbenzene		1	1.66	mg/Kg	1	2.00	<0.0116	83	70 - 130
Xylene		1	5.14	mg/Kg	1	6.00	<0.00874	86	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	1.60	mg/Kg	1	2.00	<0.00533	80	70 - 130	3	20
Toluene		1	1.60	mg/Kg	1	2.00	<0.00645	80	70 - 130	8	20
Ethylbenzene		1	1.64	mg/Kg	1	2.00	<0.0116	82	70 - 130	1	20
Xylene		1	4.98	mg/Kg	1	6.00	<0.00874	83	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)	1.83	1.46	mg/Kg	1	2.00	92	73	70 - 130
4-Bromofluorobenzene (4-BFB)	1.94	1.59	mg/Kg	1	2.00	97	80	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 107811 | Date Analyzed: 2013-12-23 | Analyzed By: AK
Prep Batch: 91224 | QC Preparation: 2013-12-20 | Prepared By: AK

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	15.2	mg/Kg	1	20.0	<2.32	76	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	16.9	mg/Kg	1	20.0	<2.32	84	70 - 130	11	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.94	2.12	mg/Kg	1	2.00	97	106	70 - 130
4-Bromofluorobenzene (4-BFB)	2.42	2.46	mg/Kg	1	2.00	121	123	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 107855 | Date Analyzed: 2013-12-24 | Analyzed By: AK
Prep Batch: 91258 | QC Preparation: 2013-12-23 | Prepared By: AK

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.83	mg/Kg	1	2.00	<0.00354	92	70 - 130
Toluene		1	1.84	mg/Kg	1	2.00	<0.00966	92	70 - 130
Ethylbenzene		1	2.09	mg/Kg	1	2.00	<0.00790	104	70 - 130
Xylene		1	6.35	mg/Kg	1	6.00	<0.00667	106	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	1.75	mg/Kg	1	2.00	<0.00354	88	70 - 130	5	20
Toluene		1	1.77	mg/Kg	1	2.00	<0.00966	88	70 - 130	4	20
Ethylbenzene		1	2.02	mg/Kg	1	2.00	<0.00790	101	70 - 130	4	20
Xylene		1	6.11	mg/Kg	1	6.00	<0.00667	102	70 - 130	4	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)	1.93	1.92	mg/Kg	1	2.00	96	96	70 - 130
4-Bromofluorobenzene (4-BFB)	2.10	2.11	mg/Kg	1	2.00	105	106	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 107889 | Date Analyzed: 2013-12-30 | Analyzed By: AK
Prep Batch: 91286 | QC Preparation: 2013-12-24 | Prepared By: AK

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	17.9	mg/Kg	1	20.0	<2.32	90	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	17.8	mg/Kg	1	20.0	<2.32	89	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)	1.94	1.81	mg/Kg	1	2.00	97	90	70 - 130
4-Bromofluorobenzene (4-BFB)	2.13	2.08	mg/Kg	1	2.00	106	104	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 107983 | Date Analyzed: 2014-01-03 | Analyzed By: AR
Prep Batch: 91351 | QC Preparation: 2013-12-31 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2660	mg/Kg	1	2500	<3.85	106	89.7 - 115.9

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
Chloride			2590	mg/Kg	1	2500	<3.85	104	89.7 - 115.9	3	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: 107984 | Date Analyzed: 2014-01-03 | Analyzed By: AR
Prep Batch: 91351 | QC Preparation: 2013-12-31 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2370	mg/Kg	1	2500	<3.85	95	89.7 - 115.9

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
Chloride			2490	mg/Kg	1	2500	<3.85	100	89.7 - 115.9	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: 349281

QC Batch: 107761 | Date Analyzed: 2013-12-20 | Analyzed By: KC
Prep Batch: 91215 | QC Preparation: 2013-12-19 | Prepared By: KC

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	385	mg/Kg	1	250	159	90	64.8 - 149.9

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	369	mg/Kg	1	250	159	84	64.8 - 149.9	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
n-Tricosane	133	134	mg/Kg	1	100	133	134	85.4 - 147.7

Matrix Spike (MS-1) Spiked Sample: 349283

QC Batch: 107765 | Date Analyzed: 2013-12-20 | Analyzed By: AK
Prep Batch: 91171 | QC Preparation: 2013-12-19 | Prepared By: AK

Param		F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	3 Qs	Qs	1	<0.0107	mg/Kg	2	2.00	<0.0107	0	70 - 130
Toluene	Qs	Qs	1	<0.0129	mg/Kg	2	2.00	<0.0129	0	70 - 130
Ethylbenzene	Qs	Qs	1	<0.0232	mg/Kg	2	2.00	<0.0232	0	70 - 130
Xylene	Qs	Qs	1	<0.0175	mg/Kg	2	6.00	<0.0175	0	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	4 Qs	Qs	1	<0.0107	mg/Kg	2	2.00	<0.0107	0	70 - 130	0	20
Toluene	Qs	Qs	1	<0.0129	mg/Kg	2	2.00	<0.0129	0	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
Ethylbenzene	Qs	Qs	1 <0.0232	mg/Kg	2	2.00	<0.0232	0	70 - 130	0	20
Xylene	Qs	Qs	1 <0.0175	mg/Kg	2	6.00	<0.0175	0	70 - 130	0	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)	1.58	1.59	mg/Kg	2	2	79	80	70 - 130
4-Bromofluorobenzene (4-BFB)	1.62	1.61	mg/Kg	2	2	81	80	70 - 130

Matrix Spike (MS-1) Spiked Sample: 349283

QC Batch: 107771 | Date Analyzed: 2013-12-20 | Analyzed By: AK
Prep Batch: 91171 | QC Preparation: 2013-12-19 | Prepared By: AK

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	6.76	mg/Kg	2	8.00	<4.64	84	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	6.02	mg/Kg	2	8.00	<4.64	75	70 - 130	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
Trifluorotoluene (TFT)	2.02	2.04	mg/Kg	2	2	101	102	70 - 130
4-Bromofluorobenzene (4-BFB)	2.14	2.08	mg/Kg	2	2	107	104	70 - 130

Matrix Spike (MS-1) Spiked Sample: 349344

QC Batch: 107808 | Date Analyzed: 2013-12-23 | Analyzed By: KC
Prep Batch: 91251 | QC Preparation: 2013-12-23 | Prepared By: KC

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		1	273	mg/Kg	1	250	<6.88	109	64.8 - 149.9

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	265	mg/Kg	1	250	<6.88	106	64.8 - 149.9	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
n-Tricosane	108	104	mg/Kg	1	100	108	104	85.4 - 147.7

Matrix Spike (MS-1) Spiked Sample: 349344

QC Batch: 107810 | Date Analyzed: 2013-12-23 | Analyzed By: AK
Prep Batch: 91224 | QC Preparation: 2013-12-20 | Prepared By: AK

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.52	mg/Kg	1	2.00	<0.00533	76	70 - 130
Toluene		1	1.54	mg/Kg	1	2.00	<0.00645	77	70 - 130
Ethylbenzene		1	1.57	mg/Kg	1	2.00	<0.0116	78	70 - 130
Xylene		1	4.72	mg/Kg	1	6.00	<0.00874	79	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	1.47	mg/Kg	1	2.00	<0.00533	74	70 - 130	3	20
Toluene		1	1.50	mg/Kg	1	2.00	<0.00645	75	70 - 130	3	20
Ethylbenzene		1	1.50	mg/Kg	1	2.00	<0.0116	75	70 - 130	5	20
Xylene		1	4.57	mg/Kg	1	6.00	<0.00874	76	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)	Qsr	Qsr	1.33	1.28	mg/Kg	1	2	66	64	70 - 130
4-Bromofluorobenzene (4-BFB)			1.55	1.49	mg/Kg	1	2	78	74	70 - 130

Matrix Spike (MS-1) Spiked Sample: 349344

QC Batch: 107811 | Date Analyzed: 2013-12-23 | Analyzed By: AK
Prep Batch: 91224 | QC Preparation: 2013-12-20 | Prepared By: AK

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	15.4	mg/Kg	1	20.0	<2.32	77	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	15.2	mg/Kg	1	20.0	<2.32	76	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)	1.95	1.91	mg/Kg	1	2	98	96	70 - 130
4-Bromofluorobenzene (4-BFB)	2.38	2.41	mg/Kg	1	2	119	120	70 - 130

Matrix Spike (MS-1) Spiked Sample: 349304

QC Batch: 107855 | Date Analyzed: 2013-12-24 | Analyzed By: AK
Prep Batch: 91258 | QC Preparation: 2013-12-23 | Prepared By: AK

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.71	mg/Kg	1	2.00	<0.00354	86	70 - 130
Toluene		1	1.75	mg/Kg	1	2.00	<0.00966	88	70 - 130
Ethylbenzene		1	2.00	mg/Kg	1	2.00	<0.00790	100	70 - 130
Xylene		1	6.05	mg/Kg	1	6.00	<0.00667	101	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	1.66	mg/Kg	1	2.00	<0.00354	83	70 - 130	3	20
Toluene		1	1.68	mg/Kg	1	2.00	<0.00966	84	70 - 130	4	20
Ethylbenzene		1	1.91	mg/Kg	1	2.00	<0.00790	96	70 - 130	5	20
Xylene		1	5.73	mg/Kg	1	6.00	<0.00667	96	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)	1.92	1.92	mg/Kg	1	2	96	96	70 - 130
4-Bromofluorobenzene (4-BFB)	2.10	2.11	mg/Kg	1	2	105	106	70 - 130

Matrix Spike (MS-1) Spiked Sample: 349560

QC Batch: 107889 | Date Analyzed: 2013-12-30 | Analyzed By: AK
Prep Batch: 91286 | QC Preparation: 2013-12-24 | Prepared By: AK

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	17.2	mg/Kg	1	20.0	2.84	72	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	17.8	mg/Kg	1	20.0	2.84	75	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)	2.20	1.76	mg/Kg	1	2	110	88	70 - 130
4-Bromofluorobenzene (4-BFB)	2.48	1.99	mg/Kg	1	2	124	100	70 - 130

Matrix Spike (MS-1) Spiked Sample: 349290

QC Batch: 107983 | Date Analyzed: 2014-01-03 | Analyzed By: AR
Prep Batch: 91351 | QC Preparation: 2013-12-31 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			3050	mg/Kg	5	2500	244	112	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			2890	mg/Kg	5	2500	244	106	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: 349293

QC Batch: 107984 | Date Analyzed: 2014-01-03 | Analyzed By: AR
Prep Batch: 91351 | QC Preparation: 2013-12-31 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2400	mg/Kg	5	2500	66.9	93	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			2460	mg/Kg	5	2500	66.9	96	78.9 - 121	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: 107761 Date Analyzed: 2013-12-20 Analyzed By: KC

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	265	106	80 - 120	2013-12-20

Standard (CCV-2)

QC Batch: 107761 Date Analyzed: 2013-12-20 Analyzed By: KC

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	267	107	80 - 120	2013-12-20

Standard (CCV-3)

QC Batch: 107761 Date Analyzed: 2013-12-20 Analyzed By: KC

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	271	108	80 - 120	2013-12-20

Standard (CCV-1)

QC Batch: 107765 Date Analyzed: 2013-12-20 Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0879	88	80 - 120	2013-12-20
Toluene		1	mg/kg	0.100	0.0864	86	80 - 120	2013-12-20

continued ...

standard continued ...

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Ethylbenzene		1	mg/kg	0.100	0.0844	84	80 - 120	2013-12-20
Xylene		1	mg/kg	0.300	0.253	84	80 - 120	2013-12-20

Standard (CCV-2)

QC Batch: 107765 Date Analyzed: 2013-12-20 Analyzed By: AK

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	2013-12-20
Toluene		1	mg/kg	0.100	0.0897	90	80 - 120	2013-12-20
Ethylbenzene		1	mg/kg	0.100	0.0855	86	80 - 120	2013-12-20
Xylene		1	mg/kg	0.300	0.257	86	80 - 120	2013-12-20

Standard (CCV-3)

QC Batch: 107765 Date Analyzed: 2013-12-20 Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0801	80	80 - 120	2013-12-20
Toluene		1	mg/kg	0.100	0.0844	84	80 - 120	2013-12-20
Ethylbenzene		1	mg/kg	0.100	0.0808	81	80 - 120	2013-12-20
Xylene		1	mg/kg	0.300	0.244	81	80 - 120	2013-12-20

Standard (CCV-1)

QC Batch: 107771 Date Analyzed: 2013-12-20 Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.946	95	80 - 120	2013-12-20

Standard (CCV-2)

QC Batch: 107771 Date Analyzed: 2013-12-20 Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.926	93	80 - 120	2013-12-20

Standard (CCV-3)

QC Batch: 107771 Date Analyzed: 2013-12-20 Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.852	85	80 - 120	2013-12-20

Standard (CCV-1)

QC Batch: 107808 Date Analyzed: 2013-12-23 Analyzed By: KC

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	254	102	80 - 120	2013-12-23

Standard (CCV-2)

QC Batch: 107808 Date Analyzed: 2013-12-23 Analyzed By: KC

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	2013-12-23

Standard (CCV-3)

QC Batch: 107808 Date Analyzed: 2013-12-23 Analyzed By: KC

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		1	mg/Kg	250	273	109	80 - 120	2013-12-23

Standard (CCV-1)

QC Batch: 107810 Date Analyzed: 2013-12-23 Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0860	86	80 - 120	2013-12-23
Toluene		1	mg/kg	0.100	0.0847	85	80 - 120	2013-12-23
Ethylbenzene		1	mg/kg	0.100	0.0814	81	80 - 120	2013-12-23
Xylene		1	mg/kg	0.300	0.246	82	80 - 120	2013-12-23

Standard (CCV-2)

QC Batch: 107810 Date Analyzed: 2013-12-23 Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0852	85	80 - 120	2013-12-23
Toluene		1	mg/kg	0.100	0.0832	83	80 - 120	2013-12-23
Ethylbenzene		1	mg/kg	0.100	0.0797	80	80 - 120	2013-12-23
Xylene		1	mg/kg	0.300	0.240	80	80 - 120	2013-12-23

Standard (CCV-3)

QC Batch: 107810 Date Analyzed: 2013-12-23 Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0864	86	80 - 120	2013-12-23
Toluene		1	mg/kg	0.100	0.0842	84	80 - 120	2013-12-23
Ethylbenzene		1	mg/kg	0.100	0.0796	80	80 - 120	2013-12-23
Xylene		1	mg/kg	0.300	0.240	80	80 - 120	2013-12-23

Standard (CCV-1)

QC Batch: 107811 Date Analyzed: 2013-12-23 Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.906	91	80 - 120	2013-12-23

Standard (CCV-2)

QC Batch: 107811 Date Analyzed: 2013-12-23 Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.812	81	80 - 120	2013-12-23

Standard (CCV-3)

QC Batch: 107811 Date Analyzed: 2013-12-23 Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.837	84	80 - 120	2013-12-23

Standard (CCV-1)

QC Batch: 107855 Date Analyzed: 2013-12-24 Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0955	96	80 - 120	2013-12-24
Toluene		1	mg/kg	0.100	0.0931	93	80 - 120	2013-12-24
Ethylbenzene		1	mg/kg	0.100	0.100	100	80 - 120	2013-12-24
Xylene		1	mg/kg	0.300	0.304	101	80 - 120	2013-12-24

Standard (CCV-2)

QC Batch: 107855 | Date Analyzed: 2013-12-24 | Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0909	91	80 - 120	2013-12-24
Toluene		1	mg/kg	0.100	0.0891	89	80 - 120	2013-12-24
Ethylbenzene		1	mg/kg	0.100	0.0962	96	80 - 120	2013-12-24
Xylene		1	mg/kg	0.300	0.291	97	80 - 120	2013-12-24

Standard (CCV-3)

QC Batch: 107855 | Date Analyzed: 2013-12-24 | Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0942	94	80 - 120	2013-12-24
Toluene		1	mg/kg	0.100	0.0918	92	80 - 120	2013-12-24
Ethylbenzene		1	mg/kg	0.100	0.0975	98	80 - 120	2013-12-24
Xylene		1	mg/kg	0.300	0.295	98	80 - 120	2013-12-24

Standard (CCV-1)

QC Batch: 107889 | Date Analyzed: 2013-12-30 | Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	1.13	113	80 - 120	2013-12-30

Standard (CCV-2)

QC Batch: 107889 | Date Analyzed: 2013-12-30 | Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.812	81	80 - 120	2013-12-30

Standard (CCV-3)

QC Batch: 107889 Date Analyzed: 2013-12-30 Analyzed By: AK

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	1.02	102	80 - 120	2013-12-30

Standard (CCV-1)

QC Batch: 107983 Date Analyzed: 2014-01-03 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	99.7	100	85 - 115	2014-01-03

Standard (CCV-2)

QC Batch: 107983 Date Analyzed: 2014-01-03 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	100	100	85 - 115	2014-01-03

Standard (CCV-1)

QC Batch: 107984 Date Analyzed: 2014-01-03 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	100	100	85 - 115	2014-01-03

Standard (CCV-2)

QC Batch: 107984 Date Analyzed: 2014-01-03 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	99.8	100	85 - 115	2014-01-03

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	T104704392-13-7	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

Result Comments

1 Surrogate low due to possible dilution out of sample.
2 Surrogate low due to possible dilution out of sample.
3 MS & MSD were not spiked due to prep error. LCS/LCSD show recovery for the batch.
4 MS & MSD were not spiked due to prep error. LCS/LCSD show recovery for the batch.

Attachments

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

Analysis Request of Chain of Custody Record

PAGE: 1 OF: 2

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

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.:

PROJECT NAME: COG - Save D A 21 Fed #001 Eddy, Co. TX

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
349281	12/17		S		X	AH 1 (0-1)	1	N			X		X	X											X				
282						(1-1.5)																							
283						AH 2 (0-1)							X	X															
284						(1-1.5)																							
285						AH 3 (0-1)							X	X															
286						(1-1.5)																							
287						AH 4 (0-1)							X	X															
288						(1-1.5)																							
289						AH 5 (0-1)							X	X															
290						AH 6 (0-1)							X	X															

ANALYSIS REQUEST (Circle or Specify Method No.)

RELINQUISHED BY: (Signature)	Date:	Time:	RECEIVED BY: (Signature)	Date:	Time:
Adrian Baca	12/18/13	08:30		12.18.13	8:30
RELINQUISHED BY: (Signature)	Date:	Time:	RECEIVED BY: (Signature)	Date:	Time:
RELINQUISHED BY: (Signature)	Date:	Time:	RECEIVED BY: (Signature)	Date:	Time:

SAMPLED BY: (Print & Initial) AG/RR Date: 12/17/13 Time:

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

AIRBILL #:

OTHER:

RECEIVING LABORATORY: Trace

ADDRESS:

CITY: Midlan STATE: ZIP:

CONTACT: PHONE: DATE: TIME:

RECEIVED BY: (Signature)

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 390

REMARKS: Run deeper samples if TPH exceeds 5000 BTEX exceeds 50 or Chlorides exceeds 10. Midland lab

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

Analysis Request of Chain of Custody Record

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 Tavarez
PROJECT NO.:
PROJECT NAME: COG - Save D A 21 Fed 001

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
291	12/17		S		X	AH 6 (1-1.5)	1	N			X														X				
292	↓		↓		↓	AH 7 (0-1)	↓	↓			↓		X	X											X				
293	↓		↓		↓	AH 8 (0-1)	↓	↓			↓		X	X											X				

RELINQUISHED BY: (Signature) Susan Davis — Date: 12/18/13 Time: 0830
RECEIVED BY: (Signature) — Date: 12/18/13 Time: 8:30
SAMPLED BY: (Print & Initial) AG / RR — Date: 12/17/13 Time:

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

SAMPLE CONDITION WHEN RECEIVED: Cool
REMARKS:

Please fill out all copies - Laboratory retains Yellow copy - Return Orginal 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

May 06, 2014

IKE TAVAREZ

TETRA TECH

1910 N. BIG SPRING STREET

MIDLAND, TX 79705

RE: SAVE D A #21 FED #1

Enclosed are the results of analyses for samples received by the laboratory on 04/30/14 9:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. 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:	04/30/2014	Sampling Date:	04/11/2014
Reported:	05/06/2014	Sampling Type:	Soil
Project Name:	SAVE D A #21 FED #1	Sampling Condition:	** (See Notes)
Project Number:	112MC06170	Sample Received By:	Jodi Henson
Project Location:	COG		

Sample ID: AH-1 NSW (H401295-01)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**912**	16.0	05/05/2014	ND	400	100	400	3.92	

Sample ID: AH-1 SSW (H401295-02)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1360**	16.0	05/05/2014	ND	400	100	400	3.92	

Sample ID: AH-1 ESW (H401295-03)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**736**	16.0	05/05/2014	ND	400	100	400	3.92	

Sample ID: AH-2 ESW (H401295-04)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1420**	16.0	05/05/2014	ND	400	100	400	3.92	

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

Received:	04/30/2014	Sampling Date:	04/11/2014
Reported:	05/06/2014	Sampling Type:	Soil
Project Name:	SAVE D A #21 FED #1	Sampling Condition:	** (See Notes)
Project Number:	112MC06170	Sample Received By:	Jodi Henson
Project Location:	COG		

Sample ID: AH-2 WSW (H401295-05)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**720**	16.0	05/05/2014	ND	400	100	400	3.92	

Sample ID: AH-3 ESW (H401295-06)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**832**	16.0	05/05/2014	ND	400	100	400	3.92	

Sample ID: AH-3 WSW (H401295-07)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1140**	16.0	05/02/2014	ND	400	100	400	0.00	

Sample ID: AH-4 ESW (H401295-08)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**784**	16.0	05/02/2014	ND	400	100	400	0.00	

Sample ID: AH-4 WSW (H401295-09)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**400**	16.0	05/02/2014	ND	400	100	400	0.00	

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Analytical Results For:

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

Received:	04/30/2014	Sampling Date:	04/11/2014
Reported:	05/06/2014	Sampling Type:	Soil
Project Name:	SAVE D A #21 FED #1	Sampling Condition:	** (See Notes)
Project Number:	112MC06170	Sample Received By:	Jodi Henson
Project Location:	COG		

Sample ID: AH-5 SSW (H401295-10)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**368**	16.0	05/02/2014	ND	400	100	400	0.00	

Sample ID: AH-5 ESW (H401295-11)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1570**	16.0	05/02/2014	ND	400	100	400	0.00	

Sample ID: AH-5 WSW (H401295-12)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**416**	16.0	05/02/2014	ND	400	100	400	0.00	

Sample ID: AH-6 ESW (H401295-13)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2040**	16.0	05/02/2014	ND	400	100	400	0.00	

Sample ID: AH-6 WSW (H401295-14)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**656**	16.0	05/02/2014	ND	400	100	400	0.00	

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Analytical Results For:

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

Received:	04/30/2014	Sampling Date:	04/11/2014
Reported:	05/06/2014	Sampling Type:	Soil
Project Name:	SAVE D A #21 FED #1	Sampling Condition:	** (See Notes)
Project Number:	112MC06170	Sample Received By:	Jodi Henson
Project Location:	COG		

Sample ID: AH-7 ESW (H401295-15)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**656**	16.0	05/02/2014	ND	400	100	400	0.00	

Sample ID: AH-7 WSW (H401295-16)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**736**	16.0	05/02/2014	ND	400	100	400	0.00	

Sample ID: AH-8 ESW (H401295-17)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1040**	16.0	05/02/2014	ND	400	100	400	0.00	

Sample ID: AH-8 WSW (H401295-18)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2160**	16.0	05/02/2014	ND	400	100	400	0.00	

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

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

Analysis Request of Chain of Custody Record

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

H401295

PAGE:

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 112MC06170

PROJECT NAME: Save D A #21 Fed #1

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB I.D. NUMBER	DATE	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	4-30-14					AH-1 NSW																						
2	"					AH-1 SSW																						
3						AH-1 ESW																						
4						AH-2 ESW																						
5						AH-2 WSW																						
6						AH-3 ESW																						
7						AH-3 WSW																						
8						AH-4 ESW																						
9						AH-4 WSW																						
10						AH-5 SSW																						

RELINQUISHED BY: (Signature)	Date: 4-30-14 Time: 5:00 pm	RECEIVED BY: (Signature) Jodi Henson	Date: 4/30/14 Time: 5:40
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:
RECEIVING LABORATORY: ADDRESS: CITY: STATE: ZIP: CONTACT: PHONE:		RECEIVED BY: (Signature) DATE: TIME:	

SAMPLED BY: (Print & Initial) Date: Time:

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

TETRA TECH CONTACT PERSON: Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 17°C #54

REMARKS:

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

Analysis Request of Chain of Custody Record

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.: 112MC06170

PROJECT NAME: Sauc D A #21 Fed #1

LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	ANALYSIS REQUEST: 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
11	4-30-14					AH-5 ESW																		✓				
12						AH-5 WSW																		✓				
13						AH-6 ESW																		✓				
14						AH-6 WSW																		✓				
15						AH-7 ESW																		✓				
16						AH-7 WSW																		✓				
17						AH-8 ESW																		✓				
18						AH-8 WSW																		✓				

RELINQUISHED BY: (Signature) — Date: 4-30-14 Time: 5:30 PM — RECEIVED BY: (Signature) Goldie Henson — Date: 4/30/14 Time: 9:40

SAMPLED BY: (Print & Initial) — Date: Time:

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: — Results by:

RECEIVING LABORATORY:

ADDRESS:

CITY: STATE: ZIP:

CONTACT: PHONE:

RECEIVED BY: (Signature)

DATE: TIME:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 17°C #54

REMARKS:

Please fill out all copies - Laboratory retains Yellow copy - Return Orginal 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

April 10, 2014

IKE TAVAREZ

TETRA TECH

1910 N. BIG SPRING STREET

MIDLAND, TX 79705

RE: SAVE D A #21 FED #1

Enclosed are the results of analyses for samples received by the laboratory on 04/09/14 9:50.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. 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

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Analytical Results For:

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

Received:	04/09/2014	Sampling Date:	04/08/2014
Reported:	04/10/2014	Sampling Type:	Soil
Project Name:	SAVE D A #21 FED #1	Sampling Condition:	Cool & Intact
Project Number:	112MC06170	Sample Received By:	Jodi Henson
Project Location:	COG		

Sample ID: T-1 (AH-2) 0' (H401068-01)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**2800**	16.0	04/09/2014	ND	400	100	400	3.92	

Sample ID: T-1 (AH-2) 2' REFUSAL (H401068-02)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3760**	16.0	04/09/2014	ND	400	100	400	3.92	

Sample ID: T-2 (AH-3) 0' (H401068-03)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1520**	16.0	04/09/2014	ND	400	100	400	3.92	

Sample ID: T-2 (AH-3) 2' REFUSAL (H401068-04)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**512**	16.0	04/09/2014	ND	400	100	400	3.92	

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Analytical Results For:

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

Received:	04/09/2014	Sampling Date:	04/08/2014
Reported:	04/10/2014	Sampling Type:	Soil
Project Name:	SAVE D A #21 FED #1	Sampling Condition:	Cool & Intact
Project Number:	112MC06170	Sample Received By:	Jodi Henson
Project Location:	COG		

Sample ID: T-3 (AH-5) 0' (H401068-05)

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	04/09/2014	ND	2.12	106	2.00	26.1	
Toluene*	<0.050	0.050	04/09/2014	ND	1.97	98.6	2.00	26.2	
Ethylbenzene*	<0.050	0.050	04/09/2014	ND	1.88	94.2	2.00	26.6	
Total Xylenes*	<0.150	0.150	04/09/2014	ND	5.46	91.1	6.00	25.2	
Total BTEX	<0.300	0.300	04/09/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIL *107 %* *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	04/09/2014	ND	196	98.2	200	0.606	
DRO >C10-C28	<10.0	10.0	04/09/2014	ND	214	107	200	10.8	
EXT DRO >C28-C35	<10.0	10.0	04/09/2014	ND					

Surrogate: 1-Chlorooctane *113 %* *65.2-140*

Surrogate: 1-Chlorooctadecane *108 %* *63.6-154*

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Analytical Results For:

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

Received:	04/09/2014	Sampling Date:	04/08/2014
Reported:	04/10/2014	Sampling Type:	Soil
Project Name:	SAVE D A #21 FED #1	Sampling Condition:	Cool & Intact
Project Number:	112MC06170	Sample Received By:	Jodi Henson
Project Location:	COG		

Sample ID: T-3 (AH-5) 2' (H401068-06)

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	04/09/2014	ND	2.12	106	2.00	26.1	
Toluene*	<0.050	0.050	04/09/2014	ND	1.97	98.6	2.00	26.2	
Ethylbenzene*	<0.050	0.050	04/09/2014	ND	1.88	94.2	2.00	26.6	
Total Xylenes*	<0.150	0.150	04/09/2014	ND	5.46	91.1	6.00	25.2	
Total BTEX	<0.300	0.300	04/09/2014	ND					

Surrogate: 4-Bromofluorobenzene (PID *107 %* *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	04/09/2014	ND	196	98.2	200	0.606	
DRO >C10-C28	**30.6**	10.0	04/09/2014	ND	214	107	200	10.8	
EXT DRO >C28-C35	<10.0	10.0	04/09/2014	ND					

Surrogate: 1-Chlorooctane *125 %* *65.2-140*

Surrogate: 1-Chlorooctadecane *113 %* *63.6-154*

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

Received:	04/09/2014	Sampling Date:	04/08/2014
Reported:	04/10/2014	Sampling Type:	Soil
Project Name:	SAVE D A #21 FED #1	Sampling Condition:	Cool & Intact
Project Number:	112MC06170	Sample Received By:	Jodi Henson
Project Location:	COG		

Sample ID: T-3 (AH-5) 4' REFUSAL (H401068-07)

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	04/09/2014	ND	2.12	106	2.00	26.1	
Toluene*	<0.050	0.050	04/09/2014	ND	1.97	98.6	2.00	26.2	
Ethylbenzene*	<0.050	0.050	04/09/2014	ND	1.88	94.2	2.00	26.6	
Total Xylenes*	<0.150	0.150	04/09/2014	ND	5.46	91.1	6.00	25.2	
Total BTEX	<0.300	0.300	04/09/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIL *107 %* *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	04/09/2014	ND	196	98.2	200	0.606	
DRO >C10-C28	<10.0	10.0	04/09/2014	ND	214	107	200	10.8	
EXT DRO >C28-C35	<10.0	10.0	04/09/2014	ND					

Surrogate: 1-Chlorooctane *126 %* *65.2-140*

Surrogate: 1-Chlorooctadecane *114 %* *63.6-154*

Sample ID: T-4 (AH-7) 0' (H401068-08)

Chloride, SM4500Cl-B mg/kg Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**320**	16.0	04/09/2014	ND	400	100	400	3.92	

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CARDINAL Laboratories

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Analytical Results For:

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

Received:	04/09/2014	Sampling Date:	04/08/2014
Reported:	04/10/2014	Sampling Type:	Soil
Project Name:	SAVE D A #21 FED #1	Sampling Condition:	Cool & Intact
Project Number:	112MC06170	Sample Received By:	Jodi Henson
Project Location:	COG		

Sample ID: T-4 (AH-7) 1' REFUSAL (H401068-09)

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**352**	16.0	04/09/2014	ND	400	100	400	3.92	

Sample ID: T-5 (AH-8) 0' (H401068-10)

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	04/09/2014	ND	2.12	106	2.00	26.1	
Toluene*	<0.050	0.050	04/09/2014	ND	1.97	98.6	2.00	26.2	
Ethylbenzene*	**0.696**	0.050	04/09/2014	ND	1.88	94.2	2.00	26.6	
Total Xylenes*	**3.57**	0.150	04/09/2014	ND	5.46	91.1	6.00	25.2	
Total BTEX	**4.27**	0.300	04/09/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIL *109 %* *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	**137**	10.0	04/10/2014	ND	196	98.2	200	0.606	
DRO >C10-C28	**2310**	10.0	04/10/2014	ND	214	107	200	10.8	
EXT DRO >C28-C35	**345**	10.0	04/10/2014	ND					

Surrogate: 1-Chlorooctane *136 %* *65.2-140*

Surrogate: 1-Chlorooctadecane *130 %* *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:	04/09/2014	Sampling Date:	04/08/2014
Reported:	04/10/2014	Sampling Type:	Soil
Project Name:	SAVE D A #21 FED #1	Sampling Condition:	Cool & Intact
Project Number:	112MC06170	Sample Received By:	Jodi Henson
Project Location:	COG		

Sample ID: T-5 (AH-8) 2' (H401068-11)

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	04/10/2014	ND	2.12	106	2.00	26.1	
Toluene*	<0.050	0.050	04/10/2014	ND	1.97	98.6	2.00	26.2	
Ethylbenzene*	<0.050	0.050	04/10/2014	ND	1.88	94.2	2.00	26.6	
Total Xylenes*	<0.150	0.150	04/10/2014	ND	5.46	91.1	6.00	25.2	
Total BTEX	<0.300	0.300	04/10/2014	ND					

Surrogate: 4-Bromofluorobenzene (PIL *113 %* *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	04/09/2014	ND	196	98.2	200	0.606	
DRO >C10-C28	<10.0	10.0	04/09/2014	ND	214	107	200	10.8	
EXT DRO >C28-C35	**12.5**	10.0	04/09/2014	ND					

Surrogate: 1-Chlorooctane *123 %* *65.2-140*

Surrogate: 1-Chlorooctadecane *110 %* *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

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

H4D10168

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 112MC86170

PROJECT NAME: Save DA #21 Fed #1

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB I.D. NUMBER	DATE	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						T-1 (AH-2) 0'																		✓				
2						T-1 (AH-2) 2' Refusal																		✓				
3						T-2 (AH-3) 0'																		✓				
4						T-2 (AH-3) 2' Refusal																		✓				
5						T-3 (AH-5) 0'							✓	✓															
6						T-3 (AH-5) 2'							✓	✓															
7						T-3 (AH-5) 4' refusal							✓	✓															
8						T-4 (AH-7) 0'																		✓				
9						T-4 (AH-7) 1' refusal																		✓				
10						T-5 (AH-8) 0'							✓	✓															

RELINQUISHED BY: (Signature) — Date: 4-9-14 Time:

RECEIVED BY: (Signature) Jodi Henson — Date: 4/9/14 Time: 9:50

SAMPLED BY: (Print & Initial) — Date: Time:

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:

Results by:

RECEIVING LABORATORY:

ADDRESS:

CITY: STATE: ZIP:

CONTACT: PHONE: DATE: TIME:

RECEIVED BY: (Signature)

RUSH Charges Authorized: (Yes) No

SAMPLE CONDITION WHEN RECEIVED: 1.4°C #54

REMARKS:

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

Analysis Request of Chain of Custody Record

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

H4D10168

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 112MC06170

PROJECT NAME: Save D.A #21 Fed #1

LAB I.D. NUMBER	DATE	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
11						T-5 (AH-8) 2'							1	1														

ANALYSIS REQUEST (Circle or Specify Method No.)

RELINQUISHED BY: (Signature)	Date: 4-9-14 Time:	RECEIVED BY: (Signature) Terri Henson	Date: 4/9/14 Time: 4:50
SAMPLED BY: (Print & Initial)	Date: Time:		
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:	Results by:		
RECEIVING LABORATORY: ADDRESS: CITY: STATE: ZIP: CONTACT: PHONE:	RECEIVED BY: (Signature) DATE: TIME:		RUSH Charges Authorized: Yes No
SAMPLE CONDITION WHEN RECEIVED: 1.4°C #54	REMARKS:		

Please fill out all copies - Laboratory retains Yellow copy - Return Orginal 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

April 14, 2014

IKE TAVAREZ

TETRA TECH

1910 N. BIG SPRING STREET

MIDLAND, TX 79705

RE: SAVE D A #21 FED #1

Enclosed are the results of analyses for samples received by the laboratory on 04/14/14 10:35.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. 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:	04/14/2014	Sampling Date:	04/11/2014
Reported:	04/14/2014	Sampling Type:	Soil
Project Name:	SAVE D A #21 FED #1	Sampling Condition:	** (See Notes)
Project Number:	112MCD6170	Sample Received By:	Jodi Henson
Project Location:	COG		

Sample ID: AH-2 BOTTOM HOLE @ 2' (H401118-01)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**240**	16.0	04/14/2014	ND	400	100	400	0.00	

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

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

H4D1118

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.:

PROJECT NAME: Sand DA #2 / Fed #1

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB I.D. NUMBER	DATE	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						Alt-2 Bottom hole @ 2'																		1				

RELINQUISHED BY: (Signature) Date: 9-14-14 Time: 10:20AM

RECEIVED BY: (Signature) Date: 9/14/14 Time: 10:35

SAMPLED BY: (Print & Initial) Date: Time:

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:

Results by:

RECEIVING LABORATORY:

ADDRESS:

CITY: STATE: ZIP:

CONTACT: PHONE:

RECEIVED BY: (Signature)

DATE: TIME:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 21.2°C

REMARKS:

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