This is a Patch T type separator sheet.

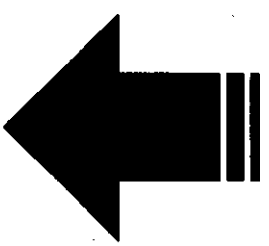
Form Type = "Well file form"
CODE128 type barcode

Portrait Feed

New Form Follows...

This is a Patch T type separator sheet.

Form Type = "Well file form"
CODE128 type barcode



Landscape Feed

New Form Follows...

SITE INFORMATION

Report Type: Closure Report

General Site Information:						
Site:	Sand Tank 32 State Commingle #2 - 6" Water Line					
Company:	COG Operating LLC					
Section, Township and Range	Unit J	Sec. 32	T-17-S	R-30-E		
Lease Number:	API- 30-015-29513					
County:	Eddy County					
GPS:	32.78840° N			103.99165° W		
Surface Owner:	State					
Mineral Owner:						
Directions:	Intersection of 529 and CR-216 travel south on CR-216 2.2 mi to Hagerman Cutoff, continue south 0.3, turn left 1.1 mi on lease road, turn left 0.7 mi to location.					

Release Data:	
Date Released:	5/16/2012
Type Release:	Produced Fluids
Source of Contamination:	6"water line failed
Fluid Released:	100 bbls
Fluids Recovered:	75 bbls

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Official Communication:			
Name:	Pat Ellis		Ike Tavarez
Company:	COG Operating, LLC		Tetra Tech
Address:	550 W. Texas Ave. Ste. 1300		1910 N. Big Spring
P.O. Box			
City:	Midland Texas, 79701		Midland, Texas
Phone number:	(432) 686-3023		(432) 682-4559
Fax:	(432) 684-7137		
Email:	pellis@conchoresources.com		Ike.Tavarez@tetratech.com

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

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

TETRA TECH

October 18, 2012

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

Re: Closure Report for the COG Operating LLC., Sand Tank 32 State Commingle #2 – 6" Water Line Located in Unit J, Section 32, Township 17 South, Range 30 East, Eddy County, New Mexico.

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC. (COG) to assess a spill from the Sand Tank 32 State Commingle #2 – 6" Water Line Located in Unit J, Section 32, Township 17 South, Range 30 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.78840°, W 103.99165°. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico Oil Conservation Division (NMOCD) Form C-141 Initial Report, the leak was discovered on May 16, 2012, and released approximately 100 barrels (bbls) of produced water due to a ruptured 6" water line. COG personnel replaced the defective line. Approximately seventy-five (75) bbls of free fluids were recovered from the spill area.

The spill initiated from the 6" waterline located north-northwest of the tank battery outside the facility firewalls. The impacted area measured approximately 120' x 120'. The spill footprint is shown on Figure 3. The initial Form C-141 is enclosed in Appendix A.

Groundwater

No wells were located in Section 32. According to the NMOCD groundwater map, depth to groundwater in this area is approximately 250' below surface. The groundwater data is shown in Appendix B.

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

Regulatory

A risk-based evaluation was performed for the Site in accordance with the 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

On July 2, 2012, Tetra Tech personnel inspected and sampled the spill area. A total of five (5) auger holes (AH-1 through AH-5) were installed using a stainless steel hand auger to assess the impacted soils to a maximum depth of 10-10.5' below surface. Selected samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. The sampling results are summarized in Table 1. The auger hole locations are shown on Figure 3. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C.

Referring to Table 1, all of the submitted samples were below the RRAL for TPH and BTEX. A shallow chloride impact was detected at the site. Auger holes (AH-1, AH-2 and AH-3) showed a significant chloride declined at 2.0' below surface. Auger hole (AH-3) showed chloride spikes in the subsurface soils of 3,200 mg/kg at 7-7.5' and 2,050 mg/kg at 8-8.5', which declined to <20.0 mg/kg at 9.0' below surface. These spiked chloride concentrations appear to be either a historical impact or residue from the adjacent reserve pit.

Remediation and Conclusion

On September 12, 2012, Tetra Tech personnel supervised the excavation as stated in the approved work plan. The excavated areas and depths are highlighted in Table 1 and shown on Figure 4. In order to remove the elevated chloride concentrations, the excavation depths ranged from 2.0' to 4.0' below surface. The spill foot print and final excavation depths of the soil remediation were met as stated in the approved work plan. Approximately 440 cubic yards were removed and disposed of at R360. The excavated area was then backfilled with clean material to grade.

TETRA TECH

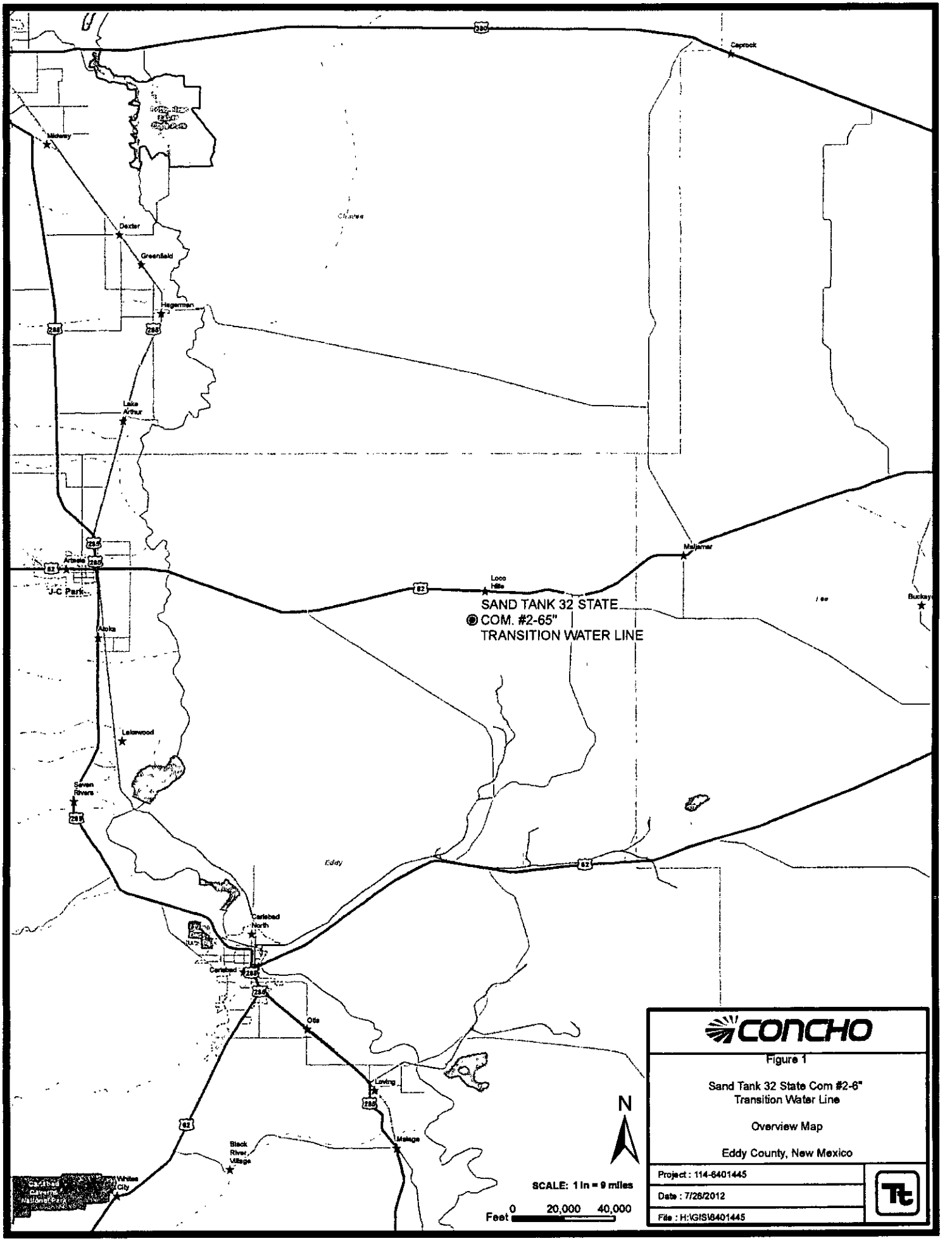
Based on the remediation activities performed at this location, COG requests closure for this site. The C-141 (Final) is included in Appendix A. If you have any questions or comments concerning the assessment or the remediation activities performed at the site, please call me at (432) 682-4559.

Respectfully submitted,
TETRA TECH

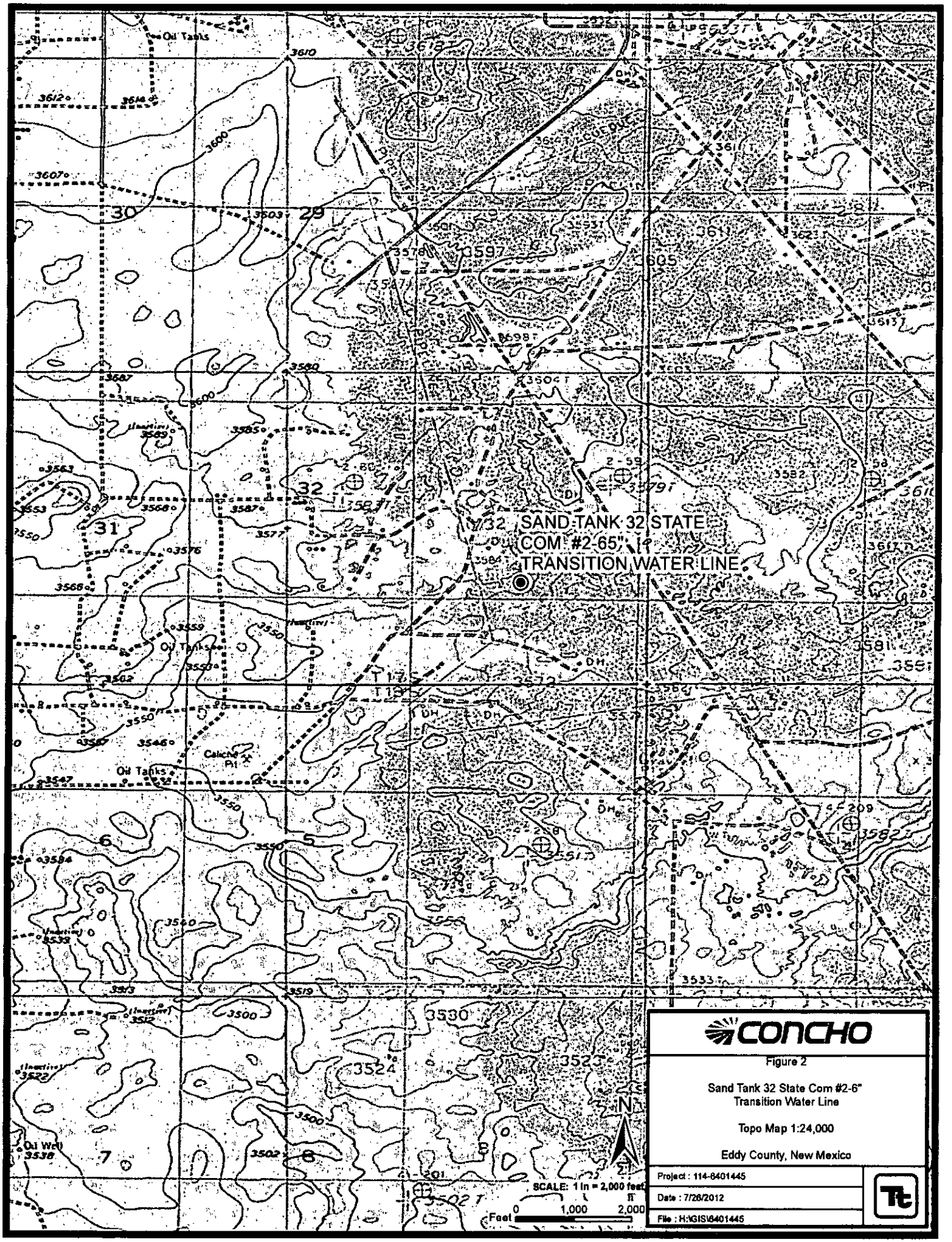
Ike Tavarez
Senior Project Manager

cc: Pat Ellis – COG

Figures



Drawn By: Isabel Maemokjo



CONCHO

Figure 2

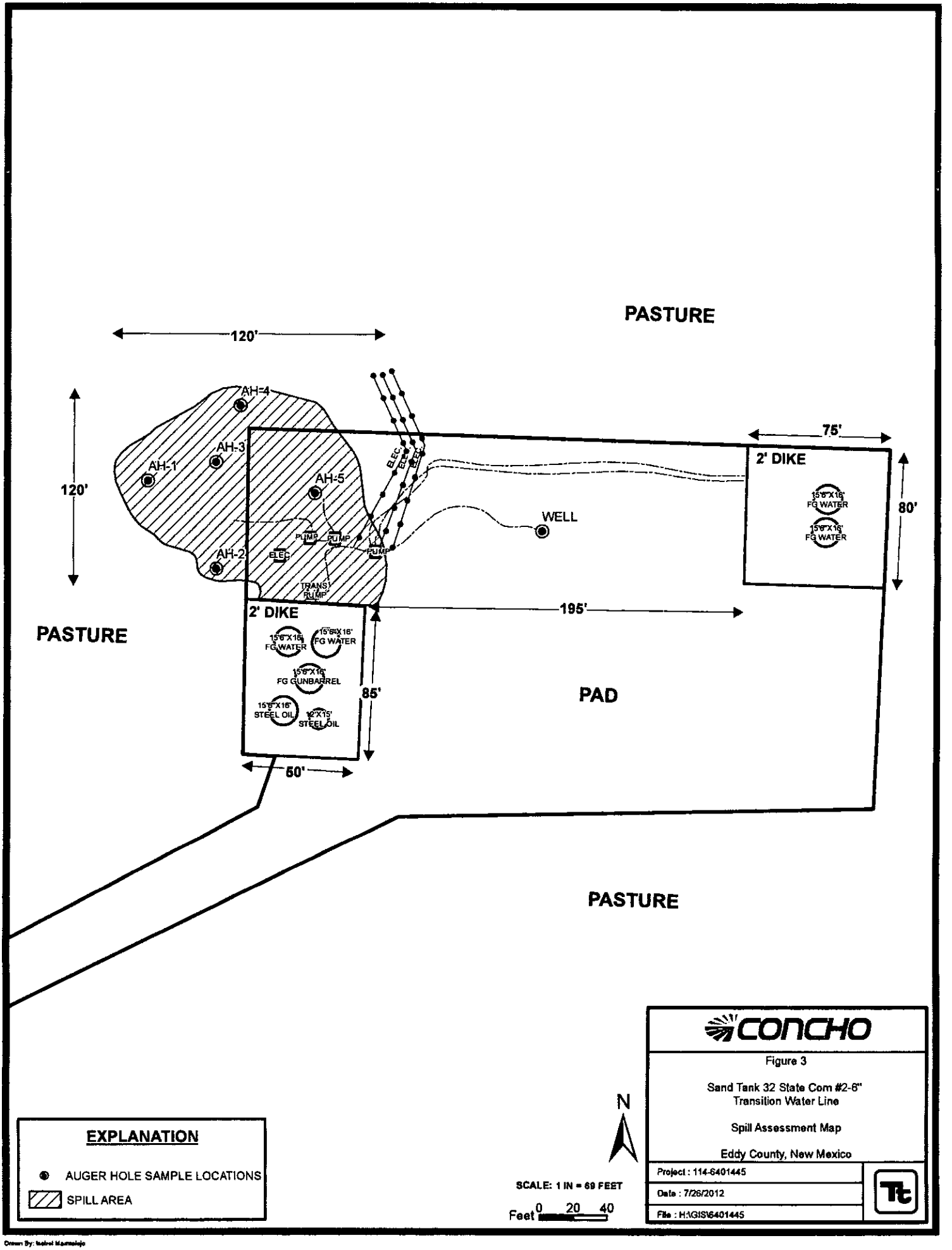
Sand Tank 32 State Com #2-6"
Transition Water Line

Topo Map 1:24,000

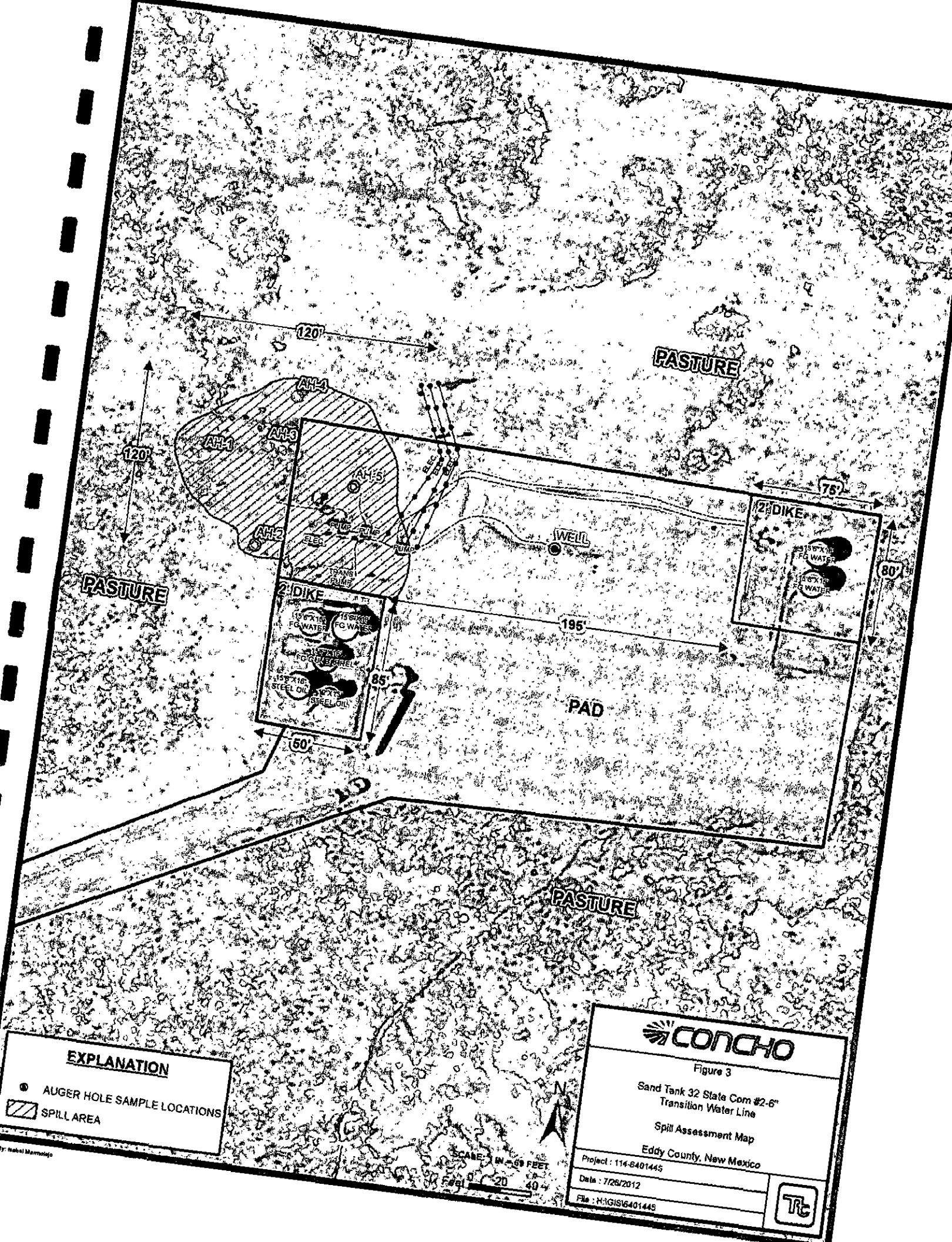
Eddy County, New Mexico

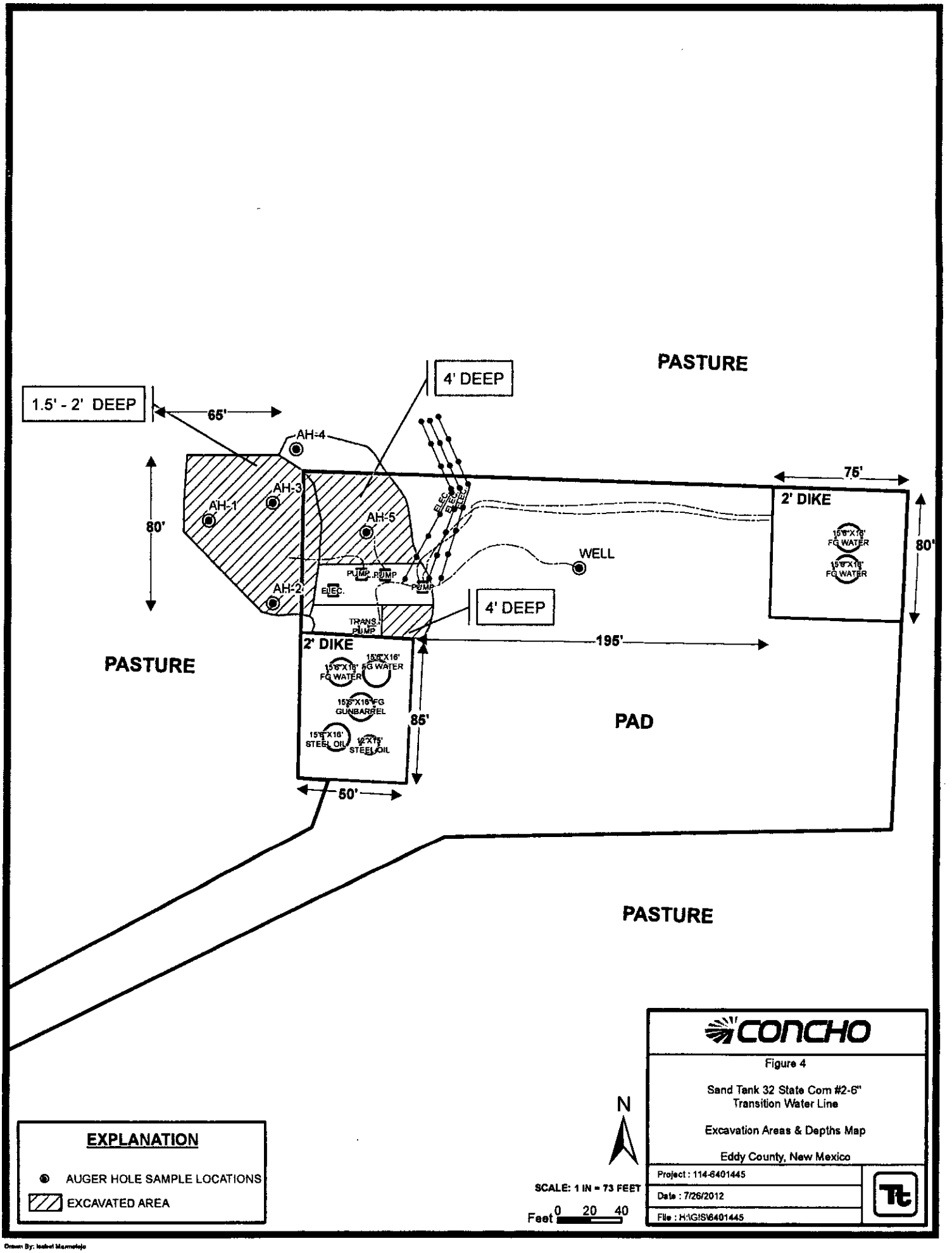
Project : 114-6401445	
Date : 7/26/2012	
File : H:\GIS\6401445	

Drawn By: Isabel Manriquez



Drawn By: Isabel Manriquez


120'
PASTURE
AH-4
AH-1
AH-3
AH-5
AH-2
120'
75'
2' DIKE
WELL
80'
PASTURE
2' DIKE
195'
85'
PAD
60'
PASTURE
EXPLANATION
AUGER HOLE SAMPLE LOCATIONS
SPILL AREA
SCALE: 1" = 40 FEET
0 20 40
CONCHO
Figure 3
Sand Tank 32 State Com #2-6"
Transition Water Line
Spill Assessment Map
Eddy County, New Mexico
Project : 114-6401445
Date : 7/26/2012
File : H:\GIS\6401445



Drawn By: Isabel Marmolejo

Tables

Table 1
COG Operating LLC.
Sand Tank 32 State Commingle #2 - 6" Trans. Water Line
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	BEB 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	7/2/2012	0-1	-		X	<2.00	50.8	50.8	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	1,760
	"	1-1.5	-		X	-	-	-	-	-	-	-	-	2,060
	"	2-2.5	-	X		-	-	-	-	-	-	-	-	539
	"	3-3.5	-	X		-	-	-	-	-	-	-	-	416
	"	4-4.5	-	X		-	-	-	-	-	-	-	-	29.4
AH-2	7/2/2012	0-1	-		X	<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	784
	"	1-1.5	-		X	-	-	-	-	-	-	-	-	3,940
	"	2-2.5	-	X		-	-	-	-	-	-	-	-	588
	"	3-3.5	-	X		-	-	-	-	-	-	-	-	1,340
	"	4-4.5	-	X		-	-	-	-	-	-	-	-	654
	"	5-5.5	-	X		-	-	-	-	-	-	-	-	136
	"	6-6.5	-	X		-	-	-	-	-	-	-	-	<20.0
	"	7-7.5	-	X		-	-	-	-	-	-	-	-	33.9
	"	8-8.5	-	X		-	-	-	-	-	-	-	-	72.6
	"	9-9.5	-	X		-	-	-	-	-	-	-	-	29.1
	"	10-10.5	-	X		-	-	-	-	-	-	-	-	<20.0
AH-3	7/2/2012	0-1	-		X	<2.00	122	122	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	3,690
	"	1-1.5	-		X	-	-	-	-	-	-	-	-	1,680
	"	2-2.5	-	X		-	-	-	-	-	-	-	-	557
	"	3-3.5	-	X		-	-	-	-	-	-	-	-	710
	"	4-4.5	-	X		-	-	-	-	-	-	-	-	485
	"	5-5.5	-	X		-	-	-	-	-	-	-	-	176
	"	6-6.5	-	X		-	-	-	-	-	-	-	-	984
	"	7-7.5	-	X		-	-	-	-	-	-	-	-	3,220
	"	8-8.5	-	X		-	-	-	-	-	-	-	-	2,050
	"	9-9.5	-	X		-	-	-	-	-	-	-	-	<20.0
	"	10-10.5	-	X		-	-	-	-	-	-	-	-	<20.0

Table 1
COG Operating LLC.
Sand Tank 32 State Commingle #2 - 6" Trans. Water Line
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	BEB 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-4	7/2/2012	0-1	-	X		<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	994.0
	"	1-1.5	-	X		-	-	-	-	-	-	-	-	<20.0
	"	2-2.5	-	X		-	-	-	-	-	-	-	-	<20.0
	"	3-3.5	-	X		-	-	-	-	-	-	-	-	<20.0
	"	4-4.5	-	X		-	-	-	-	-	-	-	-	<20.0
	"	5-5.5	-	X		-	-	-	-	-	-	-	-	<20.0
	"	6-6.5	-	X		-	-	-	-	-	-	-	-	<20.0
AH-5	7/2/2012	0-1	-		X	<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	10,300
	"	1-1.5	-		X	-	-	-	-	-	-	-	-	4,750
	"	2-2.5	-		X	-	-	-	-	-	-	-	-	5,790
	"	3-3.5	-		X	-	-	-	-	-	-	-	-	6,620
	"	4-4.5	-		X	-	-	-	-	-	-	-	-	1,840
	"	5-5.5	-	X		-	-	-	-	-	-	-	-	576

(-) Not Analyzed

(BEB) Below Excavation Bottom

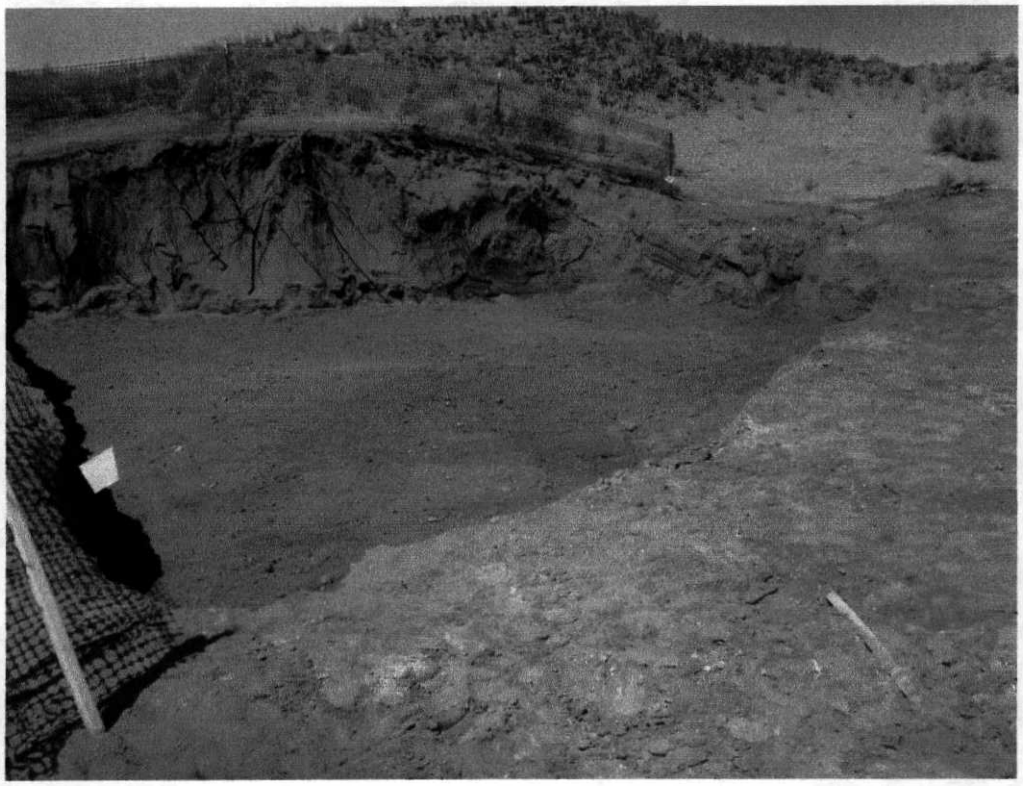
Excavaed Depths

Photos

COG Operating LLC
Sand Tank 32 State Com #2-6" Transition Water Line
Eddy County, New Mexico

TETRA TECH

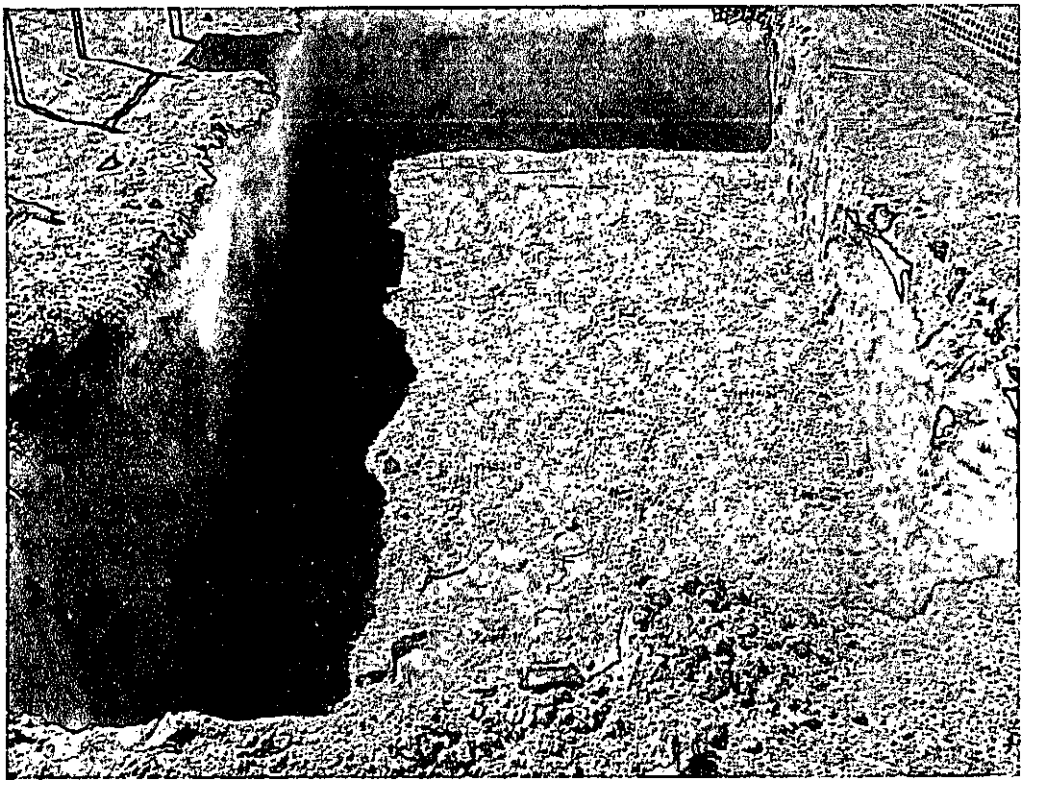
View South – Area of AH-1 and AH-2



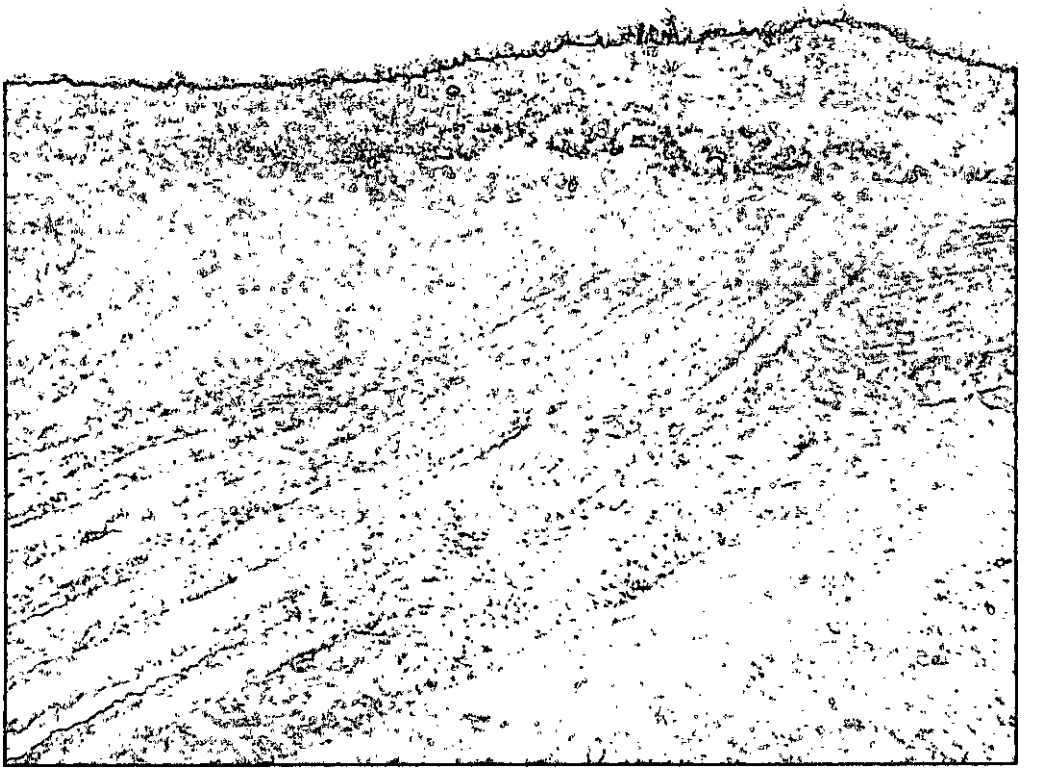
View North – Area of AH-3 and AH-5

COG Operating LLC
Sand Tank 32 State Com #2-6" Transition Water Line
Eddy County, New Mexico

TETRA TECH



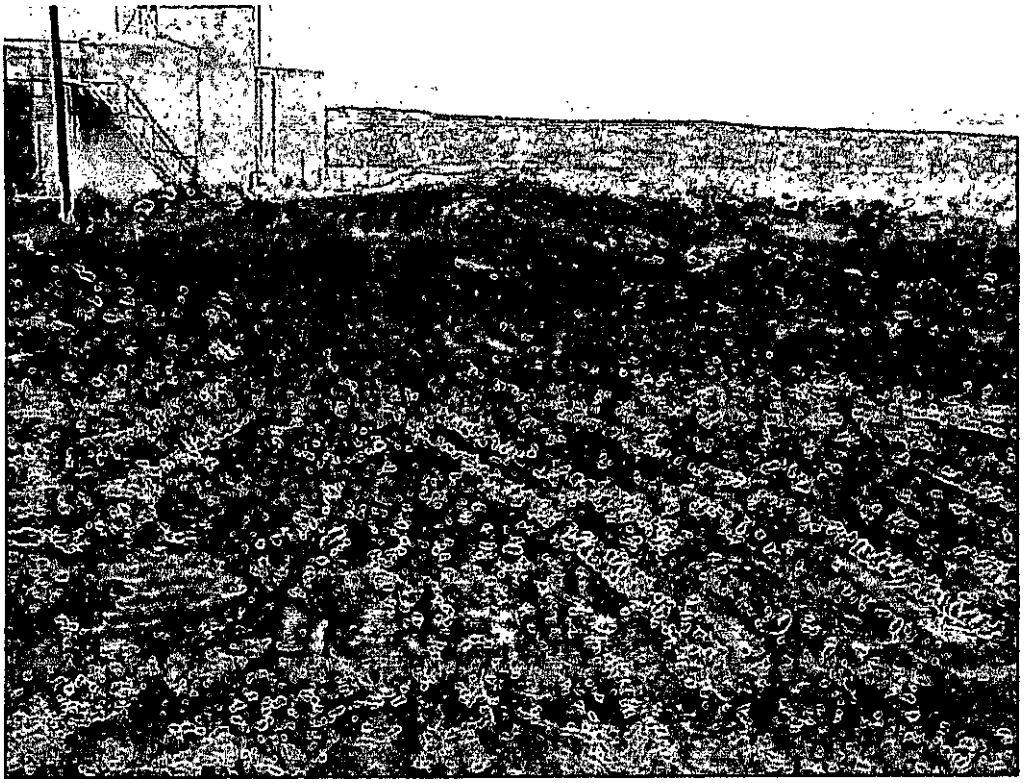
View West – Area of AH-5



Backfill and Rip

COG Operating LLC
Sand Tank 32 State Com #2-6" Transition Water Line
Eddy County, New Mexico

TETRA TECH



Backfill and Rip

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

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NMOCD ARTESIA

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company	COG Operating LLC	Contact	Pat Ellis
Address	550 W. Texas, Suite 1300 Midland, Texas 79701	Telephone No.	(432) 230-0077
Facility Name	6" transition on water line (Sand Tank 32 State Com #2)	Facility Type	Water Line

Surface Owner: State	Mineral Owner	Lease No. (API#) 30-015-29513 Closest well location

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J	32	17S	30E					Eddy

Latitude N 32.78840° **Longitude** W 103.99165°

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release 100 bbls	Volume Recovered 75 bbls
Source of Release: Transition in 6" poly line	Date and Hour of Occurrence 05/16/2012	Date and Hour of Discovery 05/16/2012 7:00 a.m.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher - OCD	
By Whom? Michelle Mullins	Date and Hour 05/16/2012 8:17 p.m.	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

A ruptured transition in the 6" water transfer line caused the release. We have replaced the transition and returned the line into service.

Describe Area Affected and Cleanup Action Taken.*

Tetra Tech personnel inspected the site and collected samples to define the spills extent. Soil that exceeded RRAL was removed and hauled away to R360 for proper disposal. The site was then brought up to surface grade with clean backfill material. Tetra Tech prepared a closure report and submitted it 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: Oct 31, 2012 Phone: (432) 682-4559		

* Attach Additional Sheets If Necessary

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	COG OPERATING LLC	Contact	Pat Ellis
Address	550 W. Texas, Suite 100, Midland, TX 79701	Telephone No.	432-230-0077
Facility Name	6" transition on water line (Sand Tank 32 State Com #2)	Facility Type	Water line

Surface Owner State	Mineral Owner	Lease No. (API#) 30-015-29513 Closest well location

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J	32	17S	30E					Eddy

Latitude 32 47.286 **Longitude** 103 59.463

NATURE OF RELEASE

Type of Release Produced water	Volume of Release 100bbls	Volume Recovered 75bbls
Source of Release Transition in 6" poly line	Date and Hour of Occurrence 05/16/2012	Date and Hour of Discovery 05/16/2012 7:00 a.m.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher-OCD	
By Whom? Michelle Mullins	Date and Hour 05/16/2012 8:17 p.m.	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

A ruptured transition in the 6" water transfer line caused the release. We have replaced the transition and returned the line into service.

Describe Area Affected and Cleanup Action Taken.*

Initially 100bbls were released from the ruptured water line and we were able to recover 75bbls with vacuum trucks. Tetra Tech will sample the spill site area to delineate any possible contamination from the release and we will present a remediation work plan to the NMOCD for approval prior to any significant remediation work.

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

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Josh Russo	Approved by District Supervisor:	
Title: HSE Coordinator	Approval Date:	Expiration Date:
E-mail Address: jrusso@conchoresources.com	Conditions of Approval:	Attached ☐
Date: 06/04/2012 Phone: 432-212-2399		

* Attach Additional Sheets If Necessary

Appendix B

Water Well Data
Average Depth to Groundwater (ft)
COG - Sand Tank 32 State Commingle #2 - 6" Trans. Water Line
Eddy County, New Mexico

---

16 South 29 East

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

16 South 30 East

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

16 South 31 East

6	5	4	3	2	1
7	8	9	10	11	12 **268**
18	17	16	15	14	13 **113**
19	20	21	22	23	24
30	29	28	27	26	25
31 **290**	32	33	34	35	36

17 South 29 East

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

17 South 30 East

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

17 South 31 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34 **271**	35	36

18 South 29 East

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

18 South 30 East

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

18 South 31 East

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

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

Appendix C

Summary Report

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

Report Date: July 20, 2012

Work Order: 12070602

Project Location: Eddy Co., NM
Project Name: Sand Tank 32 State Com #2-6 in. Trans. Water Line
Project Number: 114-6401445

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
302805	AH-1 0-1'	soil	2012-07-02	00:00	2012-07-05
302806	AH-1 1-1.5'	soil	2012-07-02	00:00	2012-07-05
302807	AH-1 2-2.5'	soil	2012-07-02	00:00	2012-07-05
302808	AH-1 3-3.5'	soil	2012-07-02	00:00	2012-07-05
302809	AH-1 4-4.5'	soil	2012-07-02	00:00	2012-07-05
302810	AH-2 0-1'	soil	2012-07-02	00:00	2012-07-05
302811	AH-2 1-1.5'	soil	2012-07-02	00:00	2012-07-05
302812	AH-2 2-2.5'	soil	2012-07-02	00:00	2012-07-05
302813	AH-2 3-3.5'	soil	2012-07-02	00:00	2012-07-05
302814	AH-2 4-4.5'	soil	2012-07-02	00:00	2012-07-05
302815	AH-2 5-5.5'	soil	2012-07-02	00:00	2012-07-05
302816	AH-2 6-6.5'	soil	2012-07-02	00:00	2012-07-05
302817	AH-2 7-7.5'	soil	2012-07-02	00:00	2012-07-05
302818	AH-2 8-8.5'	soil	2012-07-02	00:00	2012-07-05
302819	AH-2 9-9.5'	soil	2012-07-02	00:00	2012-07-05
302820	AH-2 10-10.5'	soil	2012-07-02	00:00	2012-07-05
302821	AH-3 0-1'	soil	2012-07-02	00:00	2012-07-05
302822	AH-3 1-1.5'	soil	2012-07-02	00:00	2012-07-05
302823	AH-3 2-2.5'	soil	2012-07-02	00:00	2012-07-05
302824	AH-3 3-3.5'	soil	2012-07-02	00:00	2012-07-05
302825	AH-3 4-4.5'	soil	2012-07-02	00:00	2012-07-05
302826	AH-3 5-5.5'	soil	2012-07-02	00:00	2012-07-05
302827	AH-3 6-6.5'	soil	2012-07-02	00:00	2012-07-05
302828	AH-3 7-7.5'	soil	2012-07-02	00:00	2012-07-05
302829	AH-3 8-8.5'	soil	2012-07-02	00:00	2012-07-05
302830	AH-3 9-9.5'	soil	2012-07-02	00:00	2012-07-05
302831	AH-3 10-10.5'	soil	2012-07-02	00:00	2012-07-05
302832	AH-4 0-1'	soil	2012-07-02	00:00	2012-07-05
302833	AH-4 1-1.5'	soil	2012-07-02	00:00	2012-07-05
302834	AH-4 2-2.5'	soil	2012-07-02	00:00	2012-07-05

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
302835	AH-4 3-3.5'	soil	2012-07-02	00:00	2012-07-05
302836	AH-4 4-4.5'	soil	2012-07-02	00:00	2012-07-05
302837	AH-4 5-5.5'	soil	2012-07-02	00:00	2012-07-05
302838	AH-4 6-6.5'	soil	2012-07-02	00:00	2012-07-05
302839	AH-5 0-1'	soil	2012-07-02	00:00	2012-07-05
302840	AH-5 1-1.5'	soil	2012-07-02	00:00	2012-07-05
302841	AH-5 2-2.5'	soil	2012-07-02	00:00	2012-07-05
302842	AH-5 3-3.5'	soil	2012-07-02	00:00	2012-07-05
302843	AH-5 4-4.5'	soil	2012-07-02	00:00	2012-07-05
302844	AH-5 5-5.5'	soil	2012-07-02	00:00	2012-07-05

	BTEX				TPH DRO - NEW	TPH GRO
Sample - Field Code	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	DRO (mg/Kg)	GRO (mg/Kg)
302805 - AH-1 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	**50.8**	<2.00
302810 - AH-2 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
302821 - AH-3 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	**122**	<2.00
302832 - AH-4 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
302839 - AH-5 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00

Sample: 302805 - AH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		**1760**	mg/Kg	4

Sample: 302806 - AH-1 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**2060**	mg/Kg	4

Sample: 302807 - AH-1 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**539**	mg/Kg	4

Sample: 302808 - AH-1 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**416**	mg/Kg	4

Sample: 302809 - AH-1 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**29.4**	mg/Kg	4

Sample: 302810 - AH-2 0-1'

Param	Flag	Result	Units	RL
Chloride		**784**	mg/Kg	4

Sample: 302811 - AH-2 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**3940**	mg/Kg	4

Sample: 302812 - AH-2 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**588**	mg/Kg	4

Sample: 302813 - AH-2 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**1340**	mg/Kg	4

Sample: 302814 - AH-2 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**654**	mg/Kg	4

Sample: 302815 - AH-2 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**136**	mg/Kg	4

Sample: 302816 - AH-2 6-6.5'

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

Sample: 302817 - AH-2 7-7.5'

Param	Flag	Result	Units	RL
Chloride		**33.9**	mg/Kg	4

Sample: 302818 - AH-2 8-8.5'

Param	Flag	Result	Units	RL
Chloride		**72.6**	mg/Kg	4

Sample: 302819 - AH-2 9-9.5'

Param	Flag	Result	Units	RL
Chloride		**29.1**	mg/Kg	4

Sample: 302820 - AH-2 10-10.5'

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

Sample: 302821 - AH-3 0-1'

Param	Flag	Result	Units	RL
Chloride		**3690**	mg/Kg	4

Sample: 302822 - AH-3 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**1680**	mg/Kg	4

Sample: 302823 - AH-3 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**557**	mg/Kg	4

Sample: 302824 - AH-3 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**710**	mg/Kg	4

Sample: 302825 - AH-3 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**485**	mg/Kg	4

Sample: 302826 - AH-3 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**176**	mg/Kg	4

Sample: 302827 - AH-3 6-6.5'

Param	Flag	Result	Units	RL
Chloride		**984**	mg/Kg	4

Sample: 302828 - AH-3 7-7.5'

Param	Flag	Result	Units	RL
Chloride		**3220**	mg/Kg	4

Sample: 302829 - AH-3 8-8.5'

Param	Flag	Result	Units	RL
Chloride		**2050**	mg/Kg	4

Sample: 302830 - AH-3 9-9.5'

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

Sample: 302831 - AH-3 10-10.5'

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

Sample: 302832 - AH-4 0-1'

Param	Flag	Result	Units	RL
Chloride		**994**	mg/Kg	4

Sample: 302833 - AH-4 1-1.5'

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

Sample: 302834 - AH-4 2-2.5'

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

Sample: 302835 - AH-4 3-3.5'

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

Sample: 302836 - AH-4 4-4.5'

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

Sample: 302837 - AH-4 5-5.5'

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

Sample: 302838 - AH-4 6-6.5'

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

Sample: 302839 - AH-5 0-1'

Param	Flag	Result	Units	RL
Chloride		**10300**	mg/Kg	4

Sample: 302840 - AH-5 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**4750**	mg/Kg	4

Sample: 302841 - AH-5 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**5790**	mg/Kg	4

Sample: 302842 - AH-5 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**6620**	mg/Kg	4

Sample: 302843 - AH-5 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**1840**	mg/Kg	4

Sample: 302844 - AH-5 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**576**	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

(Corrected Report)

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

Report Date: July 20, 2012

Work Order: 12070602

Project Location: Eddy Co., NM
Project Name: Sand Tank 32 State Com #2-6 in. Trans. Water Line
Project Number: 114-6401445

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
302805	AH-1 0-1'	soil	2012-07-02	00:00	2012-07-05
302806	AH-1 1-1.5'	soil	2012-07-02	00:00	2012-07-05
302807	AH-1 2-2.5'	soil	2012-07-02	00:00	2012-07-05
302808	AH-1 3-3.5'	soil	2012-07-02	00:00	2012-07-05
302809	AH-1 4-4.5'	soil	2012-07-02	00:00	2012-07-05
302810	AH-2 0-1'	soil	2012-07-02	00:00	2012-07-05
302811	AH-2 1-1.5'	soil	2012-07-02	00:00	2012-07-05
302812	AH-2 2-2.5'	soil	2012-07-02	00:00	2012-07-05
302813	AH-2 3-3.5'	soil	2012-07-02	00:00	2012-07-05
302814	AH-2 4-4.5'	soil	2012-07-02	00:00	2012-07-05
302815	AH-2 5-5.5'	soil	2012-07-02	00:00	2012-07-05
302816	AH-2 6-6.5'	soil	2012-07-02	00:00	2012-07-05
302817	AH-2 7-7.5'	soil	2012-07-02	00:00	2012-07-05
302818	AH-2 8-8.5'	soil	2012-07-02	00:00	2012-07-05
302819	AH-2 9-9.5'	soil	2012-07-02	00:00	2012-07-05
302820	AH-2 10-10.5'	soil	2012-07-02	00:00	2012-07-05

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
302821	AH-3 0-1'	soil	2012-07-02	00:00	2012-07-05
302822	AH-3 1-1.5'	soil	2012-07-02	00:00	2012-07-05
302823	AH-3 2-2.5'	soil	2012-07-02	00:00	2012-07-05
302824	AH-3 3-3.5'	soil	2012-07-02	00:00	2012-07-05
302825	AH-3 4-4.5'	soil	2012-07-02	00:00	2012-07-05
302826	AH-3 5-5.5'	soil	2012-07-02	00:00	2012-07-05
302827	AH-3 6-6.5'	soil	2012-07-02	00:00	2012-07-05
302828	AH-3 7-7.5'	soil	2012-07-02	00:00	2012-07-05
302829	AH-3 8-8.5'	soil	2012-07-02	00:00	2012-07-05
302830	AH-3 9-9.5'	soil	2012-07-02	00:00	2012-07-05
302831	AH-3 10-10.5'	soil	2012-07-02	00:00	2012-07-05
302832	AH-4 0-1'	soil	2012-07-02	00:00	2012-07-05
302833	AH-4 1-1.5'	soil	2012-07-02	00:00	2012-07-05
302834	AH-4 2-2.5'	soil	2012-07-02	00:00	2012-07-05
302835	AH-4 3-3.5'	soil	2012-07-02	00:00	2012-07-05
302836	AH-4 4-4.5'	soil	2012-07-02	00:00	2012-07-05
302837	AH-4 5-5.5'	soil	2012-07-02	00:00	2012-07-05
302838	AH-4 6-6.5'	soil	2012-07-02	00:00	2012-07-05
302839	AH-5 0-1'	soil	2012-07-02	00:00	2012-07-05
302840	AH-5 1-1.5'	soil	2012-07-02	00:00	2012-07-05
302841	AH-5 2-2.5'	soil	2012-07-02	00:00	2012-07-05
302842	AH-5 3-3.5'	soil	2012-07-02	00:00	2012-07-05
302843	AH-5 4-4.5'	soil	2012-07-02	00:00	2012-07-05
302844	AH-5 5-5.5'	soil	2012-07-02	00:00	2012-07-05

Report Corrections (Work Order 12070602)

- 7/18/12: Removed 48-hour flag from BTEX.

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.

Michael Abel

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

Report Contents

Case Narrative

Samples for project Sand Tank 32 State Com #2-6 in. Trans. Water Line were received by TraceAnalysis, Inc. on 2012-07-05 and assigned to work order 12070602. Samples for work order 12070602 were received intact at a temperature of 4.0 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	78768	2012-07-10 at 14:25	92885	2012-07-10 at 14:25
Chloride (Titration)	SM 4500-Cl B	78747	2012-07-06 at 09:26	92880	2012-07-09 at 13:43
Chloride (Titration)	SM 4500-Cl B	78747	2012-07-06 at 09:26	92881	2012-07-09 at 13:44
Chloride (Titration)	SM 4500-Cl B	78767	2012-07-10 at 10:39	93072	2012-07-10 at 14:17
Chloride (Titration)	SM 4500-Cl B	78767	2012-07-10 at 10:39	93073	2012-07-10 at 14:18
Chloride (Titration)	SM 4500-Cl B	78767	2012-07-10 at 10:39	93074	2012-07-10 at 14:19
TPH DRO - NEW	S 8015 D	78766	2012-07-09 at 08:30	92877	2012-07-09 at 09:29
TPH GRO	S 8015 D	78768	2012-07-10 at 14:25	92886	2012-07-10 at 14:25

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 12070602 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: 302805 - AH-1 0-1'

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	92885	Date Analyzed:	2012-07-10	Analyzed By:	ZLM
Prep Batch:	78768	Sample Preparation:	2012-07-10	Prepared By:	ZLM

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.90	mg/Kg	1	2.00	95	70 - 130
4-Bromofluorobenzene (4-BFB)			1.84	mg/Kg	1	2.00	92	70 - 130

Sample: 302805 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92880	Date Analyzed:	2012-07-09	Analyzed By:	AR
Prep Batch:	78747	Sample Preparation:	2012-07-06	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**1760**	mg/Kg	10	4.00

Sample: 302805 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	92877	Date Analyzed:	2012-07-09	Analyzed By:	CW
Prep Batch:	78766	Sample Preparation:	2012-07-09	Prepared By:	CW

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
DRO		2	**50.8**	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			124	mg/Kg	1	100	124	49.3 - 157.5

Sample: 302805 - AH-1 0-1'

Laboratory:	Lubbock				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	92886	Date Analyzed:	2012-07-10	Analyzed By:	ZLM
Prep Batch:	78768	Sample Preparation:	2012-07-10	Prepared By:	ZLM

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.56	mg/Kg	1	2.00	78	70 - 130
4-Bromofluorobenzene (4-BFB)			1.82	mg/Kg	1	2.00	91	70 - 130

Sample: 302806 - AH-1 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92880	Date Analyzed:	2012-07-09	Analyzed By:	AR
Prep Batch:	78747	Sample Preparation:	2012-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**2060**	mg/Kg	10	4.00

Sample: 302807 - AH-1 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92880	Date Analyzed:	2012-07-09	Analyzed By:	AR
Prep Batch:	78747	Sample Preparation:	2012-07-06	Prepared By:	AR

continued ...

sample 302807 continued ...

Parameter	Flag	Cert	RL Result	Units	Dilution	RL

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**539**	mg/Kg	5	4.00

Sample: 302808 - AH-1 3-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92880	Date Analyzed:	2012-07-09	Analyzed By:	AR
Prep Batch:	78747	Sample Preparation:	2012-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**416**	mg/Kg	5	4.00

Sample: 302809 - AH-1 4-4.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92880	Date Analyzed:	2012-07-09	Analyzed By:	AR
Prep Batch:	78747	Sample Preparation:	2012-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**29.4**	mg/Kg	5	4.00

Sample: 302810 - AH-2 0-1'

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	92885	Date Analyzed:	2012-07-10	Analyzed By:	ZLM
Prep Batch:	78768	Sample Preparation:	2012-07-10	Prepared By:	ZLM

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.89	mg/Kg	1	2.00	94	70 - 130
4-Bromofluorobenzene (4-BFB)			1.84	mg/Kg	1	2.00	92	70 - 130

Sample: 302810 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92880	Date Analyzed:	2012-07-09	Analyzed By:	AR
Prep Batch:	78747	Sample Preparation:	2012-07-06	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**784**	mg/Kg	5	4.00

Sample: 302810 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	92877	Date Analyzed:	2012-07-09	Analyzed By:	CW
Prep Batch:	78766	Sample Preparation:	2012-07-09	Prepared By:	CW

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
DRO		2	<50.0	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			134	mg/Kg	1	100	134	49.3 - 157.5

Sample: 302810 - AH-2 0-1'

Laboratory:	Lubbock				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	92886	Date Analyzed:	2012-07-10	Analyzed By:	ZLM
Prep Batch:	78768	Sample Preparation:	2012-07-10	Prepared By:	ZLM

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.60	mg/Kg	1	2.00	80	70 - 130
4-Bromofluorobenzene (4-BFB)			1.81	mg/Kg	1	2.00	90	70 - 130

Sample: 302811 - AH-2 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92880	Date Analyzed:	2012-07-09	Analyzed By:	AR
Prep Batch:	78747	Sample Preparation:	2012-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**3940**	mg/Kg	10	4.00

Sample: 302812 - AH-2 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92880	Date Analyzed:	2012-07-09	Analyzed By:	AR
Prep Batch:	78747	Sample Preparation:	2012-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**588**	mg/Kg	5	4.00

Sample: 302813 - AH-2 3-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92880	Date Analyzed:	2012-07-09	Analyzed By:	AR
Prep Batch:	78747	Sample Preparation:	2012-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**1340**	mg/Kg	5	4.00

Sample: 302814 - AH-2 4-4.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92881	Date Analyzed:	2012-07-09	Analyzed By:	AR
Prep Batch:	78747	Sample Preparation:	2012-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**654**	mg/Kg	5	4.00

Sample: 302815 - AH-2 5-5.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92881	Date Analyzed:	2012-07-09	Analyzed By:	AR
Prep Batch:	78747	Sample Preparation:	2012-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**136**	mg/Kg	5	4.00

Sample: 302816 - AH-2 6-6.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92881	Date Analyzed:	2012-07-09	Analyzed By:	AR
Prep Batch:	78747	Sample Preparation:	2012-07-06	Prepared By:	AR

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

Sample: 302817 - AH-2 7-7.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92881	Date Analyzed:	2012-07-09	Analyzed By:	AR
Prep Batch:	78747	Sample Preparation:	2012-07-06	Prepared By:	AR

Parameter	Flag	Cert	Result	RL	Units	Dilution	RL
Chloride			**33.9**		mg/Kg	5	4.00

Sample: 302818 - AH-2 8-8.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92881	Date Analyzed:	2012-07-09	Analyzed By:	AR
Prep Batch:	78747	Sample Preparation:	2012-07-06	Prepared By:	AR

Parameter	Flag	Cert	Result	RL	Units	Dilution	RL
Chloride			**72.6**		mg/Kg	5	4.00

Sample: 302819 - AH-2 9-9.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92881	Date Analyzed:	2012-07-09	Analyzed By:	AR
Prep Batch:	78747	Sample Preparation:	2012-07-06	Prepared By:	AR

Parameter	Flag	Cert	Result	RL	Units	Dilution	RL
Chloride			**29.1**		mg/Kg	5	4.00

Sample: 302820 - AH-2 10-10.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92881	Date Analyzed:	2012-07-09	Analyzed By:	AR
Prep Batch:	78747	Sample Preparation:	2012-07-06	Prepared By:	AR

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

Sample: 302821 - AH-3 0-1'

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	92885	Date Analyzed:	2012-07-10	Analyzed By:	ZLM
Prep Batch:	78768	Sample Preparation:	2012-07-10	Prepared By:	ZLM

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.97	mg/Kg	1	2.00	98	70 - 130
4-Bromofluorobenzene (4-BFB)			1.87	mg/Kg	1	2.00	94	70 - 130

Sample: 302821 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92881	Date Analyzed:	2012-07-09	Analyzed By:	AR
Prep Batch:	78747	Sample Preparation:	2012-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**3690**	mg/Kg	10	4.00

Sample: 302821 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	92877	Date Analyzed:	2012-07-09	Analyzed By:	CW
Prep Batch:	78766	Sample Preparation:	2012-07-09	Prepared By:	CW

Parameter	Flag	Cert	Result	Units	Dilution	RL
DRO		a	122	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			137	mg/Kg	1	100	137	49.3 - 157.5

Sample: 302821 - AH-3 0-1'

Laboratory:	Lubbock				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	92886	Date Analyzed:	2012-07-10	Analyzed By:	ZLM
Prep Batch:	78768	Sample Preparation:	2012-07-10	Prepared By:	ZLM

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

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)			1.84	mg/Kg	1	2.00	92	70 - 130

Sample: 302822 - AH-3 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92881	Date Analyzed:	2012-07-09	Analyzed By:	AR
Prep Batch:	78747	Sample Preparation:	2012-07-06	Prepared By:	AR

Parameter	Flag	Cert	Result	Units	Dilution	RL
Chloride			1680	mg/Kg	10	4.00

Sample: 302823 - AH-3 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	92881	Date Analyzed:	2012-07-09	Analyzed By:	AR
Prep Batch:	78747	Sample Preparation:	2012-07-06	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**557**	mg/Kg	5	4.00

Sample: 302824 - AH-3 3-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	93072	Date Analyzed:	2012-07-10	Analyzed By:	AR
Prep Batch:	78767	Sample Preparation:	2012-07-10	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**710**	mg/Kg	5	4.00

Sample: 302825 - AH-3 4-4.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	93072	Date Analyzed:	2012-07-10	Analyzed By:	AR
Prep Batch:	78767	Sample Preparation:	2012-07-10	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**485**	mg/Kg	5	4.00

Sample: 302826 - AH-3 5-5.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	93072	Date Analyzed:	2012-07-10	Analyzed By:	AR
Prep Batch:	78767	Sample Preparation:	2012-07-10	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**176**	mg/Kg	5	4.00

Sample: 302827 - AH-3 6-6.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	93072	Date Analyzed:	2012-07-10	Analyzed By:	AR
Prep Batch:	78767	Sample Preparation:	2012-07-10	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**984**	mg/Kg	5	4.00

Sample: 302828 - AH-3 7-7.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	93072	Date Analyzed:	2012-07-10	Analyzed By:	AR
Prep Batch:	78767	Sample Preparation:	2012-07-10	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**3220**	mg/Kg	10	4.00

Sample: 302829 - AH-3 8-8.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	93072	Date Analyzed:	2012-07-10	Analyzed By:	AR
Prep Batch:	78767	Sample Preparation:	2012-07-10	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**2050**	mg/Kg	10	4.00

Sample: 302830 - AH-3 9-9.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	93072	Date Analyzed:	2012-07-10	Analyzed By:	AR
Prep Batch:	78767	Sample Preparation:	2012-07-10	Prepared By:	AR

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

Sample: 302831 - AH-3 10-10.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	93072	Date Analyzed:	2012-07-10	Analyzed By:	AR
Prep Batch:	78767	Sample Preparation:	2012-07-10	Prepared By:	AR

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

Sample: 302832 - AH-4 0-1'

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	92885	Date Analyzed:	2012-07-10	Analyzed By:	ZLM
Prep Batch:	78768	Sample Preparation:	2012-07-10	Prepared By:	ZLM

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.96	mg/Kg	1	2.00	98	70 - 130
4-Bromofluorobenzene (4-BFB)			1.90	mg/Kg	1	2.00	95	70 - 130

Sample: 302832 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	93072	Date Analyzed:	2012-07-10	Analyzed By:	AR
Prep Batch:	78767	Sample Preparation:	2012-07-10	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**994**	mg/Kg	5	4.00

Sample: 302832 - AH-4 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	92877	Date Analyzed:	2012-07-09	Analyzed By:	CW
Prep Batch:	78766	Sample Preparation:	2012-07-09	Prepared By:	CW

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
DRO	U	2	<50.0	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			117	mg/Kg	1	100	117	49.3 - 157.5

Sample: 302832 - AH-4 0-1'

Laboratory:	Lubbock				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	92886	Date Analyzed:	2012-07-10	Analyzed By:	ZLM
Prep Batch:	78768	Sample Preparation:	2012-07-10	Prepared By:	ZLM

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.66	mg/Kg	1	2.00	83	70 - 130
4-Bromofluorobenzene (4-BFB)			1.85	mg/Kg	1	2.00	92	70 - 130

Sample: 302833 - AH-4 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	93072	Date Analyzed:	2012-07-10	Analyzed By:	AR
Prep Batch:	78767	Sample Preparation:	2012-07-10	Prepared By:	AR

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

Sample: 302834 - AH-4 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	93073	Date Analyzed:	2012-07-10	Analyzed By:	AR
Prep Batch:	78767	Sample Preparation:	2012-07-10	Prepared By:	AR

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

Sample: 302835 - AH-4 3-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	93073	Date Analyzed:	2012-07-10	Analyzed By:	AR
Prep Batch:	78767	Sample Preparation:	2012-07-10	Prepared By:	AR

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

Sample: 302836 - AH-4 4-4.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	93073	Date Analyzed:	2012-07-10	Analyzed By:	AR
Prep Batch:	78767	Sample Preparation:	2012-07-10	Prepared By:	AR

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

Sample: 302837 - AH-4 5-5.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	93073	Date Analyzed:	2012-07-10	Analyzed By:	AR
Prep Batch:	78767	Sample Preparation:	2012-07-10	Prepared By:	AR

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

Sample: 302838 - AH-4 6-6.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	93073	Date Analyzed:	2012-07-10	Analyzed By:	AR
Prep Batch:	78767	Sample Preparation:	2012-07-10	Prepared By:	AR

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

Sample: 302839 - AH-5 0-1'

Laboratory:	Lubbock				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	92885	Date Analyzed:	2012-07-10	Analyzed By:	ZLM
Prep Batch:	78768	Sample Preparation:	2012-07-10	Prepared By:	ZLM

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			2.13	mg/Kg	1	2.00	106	70 - 130
4-Bromofluorobenzene (4-BFB)			1.97	mg/Kg	1	2.00	98	70 - 130

Sample: 302839 - AH-5 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	93073	Date Analyzed:	2012-07-10	Analyzed By:	AR
Prep Batch:	78767	Sample Preparation:	2012-07-10	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**10300**	mg/Kg	10	4.00

Sample: 302839 - AH-5 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	92877	Date Analyzed:	2012-07-09	Analyzed By:	CW
Prep Batch:	78766	Sample Preparation:	2012-07-09	Prepared By:	CW

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
DRO		2	<50.0	mg/Kg	1	50.0

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			117	mg/Kg	1	100	117	49.3 - 157.5

Sample: 302839 - AH-5 0-1'

Laboratory:	Lubbock				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	92886	Date Analyzed:	2012-07-10	Analyzed By:	ZLM
Prep Batch:	78768	Sample Preparation:	2012-07-10	Prepared By:	ZLM

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

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.82	mg/Kg	1	2.00	91	70 - 130
4-Bromofluorobenzene (4-BFB)			1.93	mg/Kg	1	2.00	96	70 - 130

Sample: 302840 - AH-5 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	93073	Date Analyzed:	2012-07-10	Analyzed By:	AR
Prep Batch:	78767	Sample Preparation:	2012-07-10	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**4750**	mg/Kg	10	4.00

Sample: 302841 - AH-5 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	93073	Date Analyzed:	2012-07-10	Analyzed By:	AR
Prep Batch:	78767	Sample Preparation:	2012-07-10	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**5790**	mg/Kg	10	4.00

Sample: 302842 - AH-5 3-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	93073	Date Analyzed:	2012-07-10	Analyzed By:	AR
Prep Batch:	78767	Sample Preparation:	2012-07-10	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**6620**	mg/Kg	10	4.00

Sample: 302843 - AH-5 4-4.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	93073	Date Analyzed:	2012-07-10	Analyzed By:	AR
Prep Batch:	78767	Sample Preparation:	2012-07-10	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**1840**	mg/Kg	10	4.00

Sample: 302844 - AH-5 5-5.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	93074	Date Analyzed:	2012-07-10	Analyzed By:	AR
Prep Batch:	78767	Sample Preparation:	2012-07-10	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**576**	mg/Kg	5	4.00

Method Blanks

Method Blank (1) QC Batch: 92877

QC Batch:	92877	Date Analyzed:	2012-07-09	Analyzed By:	CW
Prep Batch:	78766	QC Preparation:	2012-07-09	Prepared By:	CW

Parameter	Flag	Cert	MDL Result	Units	RL
DRO		2	132	mg/Kg	50

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane			114	mg/Kg	1	100	114	52 - 160.8

Method Blank (1) QC Batch: 92880

QC Batch:	92880	Date Analyzed:	2012-07-09	Analyzed By:	AR
Prep Batch:	78747	QC Preparation:	2012-07-06	Prepared By:	AR

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

Method Blank (1) QC Batch: 92881

QC Batch:	92881	Date Analyzed:	2012-07-09	Analyzed By:	AR
Prep Batch:	78747	QC Preparation:	2012-07-06	Prepared By:	AR

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

Method Blank (1) QC Batch: 92885

QC Batch: 92885 | Date Analyzed: 2012-07-10 | Analyzed By: ZLM
Prep Batch: 78768 | QC Preparation: 2012-07-10 | Prepared By: ZLM

Parameter	Flag	Cert	MDL Result	Units	RL
Benzene		1	<0.00365	mg/Kg	0.02
Toluene		1	<0.00816	mg/Kg	0.02
Ethylbenzene		1	<0.00560	mg/Kg	0.02
Xylene		1	0.0133	mg/Kg	0.02

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.96	mg/Kg	1	2.00	98	70 - 130
4-Bromofluorobenzene (4-BFB)			1.88	mg/Kg	1	2.00	94	70 - 130

Method Blank (1) QC Batch: 92886

QC Batch: 92886 | Date Analyzed: 2012-07-10 | Analyzed By: ZLM
Prep Batch: 78768 | QC Preparation: 2012-07-10 | Prepared By: ZLM

Parameter	Flag	Cert	MDL Result	Units	RL
GRO		1	0.650	mg/Kg	2

Surrogate	Flag	Cert	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)			1.67	mg/Kg	1	2.00	84	70 - 130
4-Bromofluorobenzene (4-BFB)			1.87	mg/Kg	1	2.00	94	70 - 130

Method Blank (1) QC Batch: 93072

QC Batch: 93072 | Date Analyzed: 2012-07-10 | Analyzed By: AR
Prep Batch: 78767 | QC Preparation: 2012-07-10 | Prepared By: AR

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

Method Blank (1) QC Batch: 93073

QC Batch:	93073	Date Analyzed:	2012-07-10	Analyzed By:	AR
Prep Batch:	78767	QC Preparation:	2012-07-10	Prepared By:	AR

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

Method Blank (1) QC Batch: 93074

QC Batch:	93074	Date Analyzed:	2012-07-10	Analyzed By:	AR
Prep Batch:	78767	QC Preparation:	2012-07-10	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: 92877 | Date Analyzed: 2012-07-09 | Analyzed By: CW
Prep Batch: 78766 | QC Preparation: 2012-07-09 | Prepared By: CW

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		a	246	mg/Kg	1	250	<14.5	98	62 - 128.3

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		a	238	mg/Kg	1	250	<14.5	95	62 - 128.3	3	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Tricosane	121	122	mg/Kg	1	100	121	122	58.6 - 149.6

Laboratory Control Spike (LCS-1)

QC Batch: 92880 | Date Analyzed: 2012-07-09 | Analyzed By: AR
Prep Batch: 78747 | QC Preparation: 2012-07-06 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2610	mg/Kg	1	2500	<3.85	104	85 - 115

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			2740	mg/Kg	1	2500	<3.85	110	85 - 115	5	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: 92881 | Date Analyzed: 2012-07-09 | Analyzed By: AR
Prep Batch: 78747 | QC Preparation: 2012-07-06 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2610	mg/Kg	1	2500	<3.85	104	85 - 115

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			2720	mg/Kg	1	2500	<3.85	109	85 - 115	4	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 92885 | Date Analyzed: 2012-07-10 | Analyzed By: ZLM
Prep Batch: 78768 | QC Preparation: 2012-07-10 | Prepared By: ZLM

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.94	mg/Kg	1	2.00	<0.00365	97	75.4 - 120
Toluene		1	1.88	mg/Kg	1	2.00	<0.00816	94	74.9 - 120
Ethylbenzene		1	1.91	mg/Kg	1	2.00	<0.00560	96	78.1 - 120
Xylene		1	5.73	mg/Kg	1	6.00	0.0133	96	77.3 - 120

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	1.96	mg/Kg	1	2.00	<0.00365	98	75.4 - 120	1	20
Toluene		1	1.96	mg/Kg	1	2.00	<0.00816	98	74.9 - 120	4	20
Ethylbenzene		1	2.00	mg/Kg	1	2.00	<0.00560	100	78.1 - 120	5	20
Xylene		1	5.98	mg/Kg	1	6.00	0.0133	100	77.3 - 120	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)	1.84	1.98	mg/Kg	1	2.00	92	99	70 - 130
4-Bromofluorobenzene (4-BFB)	1.87	1.98	mg/Kg	1	2.00	94	99	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 92886 | Date Analyzed: 2012-07-10 | Analyzed By: ZLM
Prep Batch: 78768 | QC Preparation: 2012-07-10 | Prepared By: ZLM

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	17.8	mg/Kg	1	20.0	0.65	89	68.9 - 120

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	17.9	mg/Kg	1	20.0	0.65	90	68.9 - 120	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)	1.84	1.81	mg/Kg	1	2.00	92	90	70 - 130
4-Bromofluorobenzene (4-BFB)	1.98	1.92	mg/Kg	1	2.00	99	96	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 93072 | Date Analyzed: 2012-07-10 | Analyzed By: AR
Prep Batch: 78767 | QC Preparation: 2012-07-10 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2550	mg/Kg	1	2500	<3.85	102	85 - 115

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			2680	mg/Kg	1	2500	<3.85	107	85 - 115	5	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: 93073 | Date Analyzed: 2012-07-10 | Analyzed By: AR
Prep Batch: 78767 | QC Preparation: 2012-07-10 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2500	mg/Kg	1	2500	<3.85	100	85 - 115

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			2640	mg/Kg	1	2500	<3.85	106	85 - 115	5	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: 93074 | Date Analyzed: 2012-07-10 | Analyzed By: AR
Prep Batch: 78767 | QC Preparation: 2012-07-10 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2580	mg/Kg	1	2500	<3.85	103	85 - 115

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

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			2690	mg/Kg	1	2500	<3.85	108	85 - 115	4	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: 302805

QC Batch: 92877 | Date Analyzed: 2012-07-09 | Analyzed By: CW
Prep Batch: 78766 | QC Preparation: 2012-07-09 | Prepared By: CW

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO		2	275	mg/Kg	1	250	50.8	90	45.5 - 127

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		2	264	mg/Kg	1	250	50.8	85	45.5 - 127	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	114	114	mg/Kg	1	100	114	114	45.4 - 145.8

Matrix Spike (MS-1) Spiked Sample: 302813

QC Batch: 92880 | Date Analyzed: 2012-07-09 | Analyzed By: AR
Prep Batch: 78747 | QC Preparation: 2012-07-06 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			3400	mg/Kg	5	2500	1340	82	79.4 - 120.6

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			3520	mg/Kg	5	2500	1340	87	79.4 - 120.6	4	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: 302823

QC Batch: 92881 | Date Analyzed: 2012-07-09 | Analyzed By: AR
Prep Batch: 78747 | QC Preparation: 2012-07-06 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			3400	mg/Kg	5	2500	557	114	79.4 - 120.6

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			3510	mg/Kg	5	2500	557	118	79.4 - 120.6	3	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: 303095

QC Batch: 92885 | Date Analyzed: 2012-07-10 | Analyzed By: ZLM
Prep Batch: 78768 | QC Preparation: 2012-07-10 | Prepared By: ZLM

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene		1	1.89	mg/Kg	1	2.00	<0.00365	94	37.6 - 142
Toluene		1	1.97	mg/Kg	1	2.00	<0.00816	98	38.6 - 153
Ethylbenzene		1	2.10	mg/Kg	1	2.00	<0.00560	105	36.7 - 172
Xylene		1	6.33	mg/Kg	1	6.00	0.0106	105	36.7 - 173

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	1.86	mg/Kg	1	2.00	<0.00365	93	37.6 - 142	2	20
Toluene		1	1.93	mg/Kg	1	2.00	<0.00816	96	38.6 - 153	2	20
Ethylbenzene		1	2.06	mg/Kg	1	2.00	<0.00560	103	36.7 - 172	2	20
Xylene		1	6.18	mg/Kg	1	6.00	0.0106	103	36.7 - 173	2	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)	2.18	2.08	mg/Kg	1	2	109	104	70 - 130
4-Bromofluorobenzene (4-BFB)	2.03	1.96	mg/Kg	1	2	102	98	70 - 130

Matrix Spike (MS-1) Spiked Sample: 303095

QC Batch: 92886 | Date Analyzed: 2012-07-10 | Analyzed By: ZLM
Prep Batch: 78768 | *QC Preparation:* 2012-07-10 | *Prepared By:* ZLM

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO		1	12.6	mg/Kg	1	20.0	<0.359	63	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	15.1	mg/Kg	1	20.0	<0.359	76	70 - 130	18	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)	1.35	1.61	mg/Kg	1	2	68	80	70 - 130
4-Bromofluorobenzene (4-BFB)	1.73	2.05	mg/Kg	1	2	86	102	70 - 130

Matrix Spike (MS-1) Spiked Sample: 302833

QC Batch: 93072 | Date Analyzed: 2012-07-10 | Analyzed By: AR
Prep Batch: 78767 | QC Preparation: 2012-07-10 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2340	mg/Kg	5	2500	<19.2	94	79.4 - 120.6

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			2450	mg/Kg	5	2500	<19.2	98	79.4 - 120.6	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: 302843

QC Batch: 93073 | Date Analyzed: 2012-07-10 | Analyzed By: AR
Prep Batch: 78767 | QC Preparation: 2012-07-10 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			4380	mg/Kg	10	2500	1840	102	79.4 - 120.6

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			4740	mg/Kg	10	2500	1840	116	79.4 - 120.6	8	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: 302855

QC Batch: 93074 | Date Analyzed: 2012-07-10 | Analyzed By: AR
Prep Batch: 78767 | QC Preparation: 2012-07-10 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			13700	mg/Kg	10	2500	11000	108	79.4 - 120.6

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

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			13200	mg/Kg	10	2500	11000	88	79.4 - 120.6	4	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: 92877 | Date Analyzed: 2012-07-09 | Analyzed By: CW

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		2	mg/Kg	250	256	102	80 - 120	2012-07-09

Standard (CCV-2)

QC Batch: 92877 | Date Analyzed: 2012-07-09 | Analyzed By: CW

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		2	mg/Kg	250	238	95	80 - 120	2012-07-09

Standard (CCV-3)

QC Batch: 92877 | Date Analyzed: 2012-07-09 | Analyzed By: CW

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		2	mg/Kg	250	230	92	80 - 120	2012-07-09

Standard (CCV-1)

QC Batch: 92880 | Date Analyzed: 2012-07-09 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2012-07-09

Standard (CCV-2)

QC Batch: 92880 | Date Analyzed: 2012-07-09 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.8	100	85 - 115	2012-07-09

Standard (CCV-1)

QC Batch: 92881 | Date Analyzed: 2012-07-09 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	98.6	99	85 - 115	2012-07-09

Standard (CCV-2)

QC Batch: 92881 | Date Analyzed: 2012-07-09 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	101	101	85 - 115	2012-07-09

Standard (CCV-1)

QC Batch: 92885 | Date Analyzed: 2012-07-10 | Analyzed By: ZLM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0984	98	80 - 120	2012-07-10
Toluene		1	mg/kg	0.100	0.0967	97	80 - 120	2012-07-10
Ethylbenzene		1	mg/kg	0.100	0.0969	97	80 - 120	2012-07-10
Xylene		1	mg/kg	0.300	0.292	97	80 - 120	2012-07-10

Standard (CCV-2)

QC Batch: 92885 Date Analyzed: 2012-07-10 Analyzed By: ZLM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.0945	94	80 - 120	2012-07-10
Toluene		1	mg/kg	0.100	0.0945	94	80 - 120	2012-07-10
Ethylbenzene		1	mg/kg	0.100	0.0951	95	80 - 120	2012-07-10
Xylene		1	mg/kg	0.300	0.284	95	80 - 120	2012-07-10

Standard (CCV-3)

QC Batch: 92885 Date Analyzed: 2012-07-10 Analyzed By: ZLM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		1	mg/kg	0.100	0.103	103	80 - 120	2012-07-10
Toluene		1	mg/kg	0.100	0.101	101	80 - 120	2012-07-10
Ethylbenzene		1	mg/kg	0.100	0.103	103	80 - 120	2012-07-10
Xylene		1	mg/kg	0.300	0.310	103	80 - 120	2012-07-10

Standard (CCV-1)

QC Batch: 92886 Date Analyzed: 2012-07-10 Analyzed By: ZLM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.888	89	80 - 120	2012-07-10

Standard (CCV-2)

QC Batch: 92886 Date Analyzed: 2012-07-10 Analyzed By: ZLM

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		1	mg/Kg	1.00	0.824	82	80 - 120	2012-07-10

Standard (CCV-3)

QC Batch: 92886 | Date Analyzed: 2012-07-10 | Analyzed By: ZLM

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	2012-07-10

Standard (CCV-1)

QC Batch: 93072 | Date Analyzed: 2012-07-10 | 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	99.9	100	85 - 115	2012-07-10

Standard (CCV-2)

QC Batch: 93072 | Date Analyzed: 2012-07-10 | 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	2012-07-10

Standard (CCV-1)

QC Batch: 93073 | Date Analyzed: 2012-07-10 | 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	2012-07-10

Standard (CCV-2)

QC Batch: 93073 | Date Analyzed: 2012-07-10 | 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	2012-07-10

Standard (CCV-1)

QC Batch: 93074 Date Analyzed: 2012-07-10 Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	101	101	85 - 115	2012-07-10

Standard (CCV-2)

QC Batch: 93074 Date Analyzed: 2012-07-10 Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	98.9	99	85 - 115	2012-07-10

12070602

Analysis Request of Chain of Custody Record

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

PAGE: 1 OF: 5

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-640145

PROJECT NAME: Sand Tank 32 State Com #2 - 6" transition water Line Eddy Co NM

LAB I.D. NUMBER	DATE 2012	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH TX1005 (Ext. to C35) / 8015 MOD.	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
302805	7-2		S	X		AH-1 (0-1')	1	N			X		X	X											X				
806					X	AH-1 (1'-1.5')																							
807					X	AH-1 (2'-2.5')																							
808					X	AH-1 (3'-3.5')																							
809					X	AH-1 (4'-4.5')																							
					X	AH-1 (5'-5.5') ~ NO sample taken ~ missing																							
810				X		AH-2 (0'-1')							X	X															
811					X	AH-2 (1'-1.5')																							
812					X	AH-2 (2'-2.5')																							
813	7-2		S		X	AH-2 (3'-3.5')	1	N			X														X				

ANALYSIS REQUEST (Circle or Specify Method No.)

RELINQUISHED BY: (Signature)	Date:	Time:	RECEIVED BY: (Signature)	Date:	Time:
			Jeanne Fitch	7-5-12	1115
RELINQUISHED BY: (Signature) Jeanne Fitch	7-5-12	1310	RECEIVED BY: (Signature)	7-5-12	1310
RELINQUISHED BY: (Signature)	7-6-12	800	RECEIVED BY: (Signature)		
RECEIVING LABORATORY:			RECEIVED BY: (Signature)		
ADDRESS:					
CITY: STATE: ZIP:			DATE: 07/09/12	TIME: 0800	
CONTACT: PHONE:					

SAMPLED BY: (Print & Initial) MK JFK — Date: 7-2 — Time:

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

TETRA TECH CONTACT PERSON: Ike Tavarez (mz)

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 4°C

REMARKS: If TPH > 5,000 Run deeper samples, If Benzene > 10 mg/kg Run deeper Samples, If total BTEX > 50 Run deeper samples

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

Midland - DRO/GRO

1207662

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.: 114-640-1445

PROJECT NAME: Sand Tank 32 State Com #2 - 6" Transition Water Line Eddy Co NM

LAB I.D. NUMBER	DATE 2012	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
824	7-2		S		X	AH-3 (3-3.5')	1	N			X													X				
825	"		"		X	AH-3 (4-4.5')	"	"			"													"				
826	"		"		X	AH-3 (5-5.5')	"	"			"													"				
827	"		"		X	AH-3 (6-6.5')	"	"			"													"				
828	"		"		X	AH-3 (7-7.5')	"	"			"													"				
829	"		"		X	AH-3 (8-8.5')	"	"			"													"				
830	"		"		X	AH-3 (9-9.5')	"	"			"													"				
831	"		"		X	AH-3 (10-10.5')	"	"			"													"				
832	"		"	N		AH-4 (0'-1')	"	"			"		X	X										"				
833	7-2		S		X	AH-4 (1'-1.5')	1	N			X													X				

RELINQUISHED BY: (Signature) — Date: — Time:
RECEIVED BY: (Signature) Kianne Fitch — Date: 7-5-12 — Time: 1115
SAMPLED BY: (Print & Initial) MK/JFK — Date: 7-2-12 — Time:

RELINQUISHED BY: (Signature) Kianne Fitch — Date: 7-5-12 — Time: 1310
RECEIVED BY: (Signature) — Date: 7-5-12 — Time: 1310
SAMPLE SHIPPED BY: (Circle) FEDEX BUS HAND DELIVERED UPS — AIRBILL #: — OTHER:

RELINQUISHED BY: (Signature) — Date: 7.6.12 — Time: 0900
RECEIVED BY: (Signature) — Date: — Time:
TETRA TECH CONTACT PERSON: Ike Tavarez — Results by:

RECEIVING LABORATORY:
ADDRESS:
CITY: STATE: ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature)
DATE: 07/06/12 TIME: 0800
RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: AC

REMARKS: See Remarks on COC #1

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

1207602

Analysis Request of Chain of Custody Record

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

PAGE: 4 OF: 5

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-640 1445

PROJECT NAME: Sand Tank 32 State Com #2 - 6" transition water Line Eddy Co NM

LAB I.D. NUMBER	DATE 2012	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE
834	7-2		S		X	AH-4 (2'-2.5')	1	N			X	
835	"		"		X	AH-4 (3'-3.5')	"	"			"	
836	"		"		X	AH-4 (4'-4.5')	"	"			"	
837	"		"		X	AH-4 (5'-5.5')	"	"			"	
838	"		"		X	AH-4 (6'-6.5')	"	"			"	
839	"		"	X		AH-5 (0'-1')	"	"			"	
840	"		"		X	AH-5 (1'-1.5')	"	"			"	
841	"		"		X	AH-5 (2'-2.5')	"	"			"	
842	"		"		X	AH-5 (3'-3.5')	"	"			"	
843	7-2		S		X	AH-5 (4'-4.5')	1	N			X	

ANALYSIS REQUEST (Circle or Specify Method No.)

BTEX 8021B	TPH 8015 MOD. (Ext. to C35)	TX1005	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
X	X												X				

RELINQUISHED BY: (Signature) — Date: — Time:

RECEIVED BY: (Signature) Jaime Fitch — Date: 7-5-12 — Time: 1115

SAMPLED BY: (Print & Initial) MK/JFIL — Date: 7-2-12 — Time:

RELINQUISHED BY: (Signature) Jaime Fitch — Date: 7-5-12 — Time: 1310

RECEIVED BY: (Signature) — Date: 7.5.12 — Time: 1310

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

RELINQUISHED BY: (Signature) — Date: 7.6.12 — Time: 900

RECEIVED BY: (Signature) — Date: — Time:

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RECEIVING LABORATORY:
ADDRESS:
CITY: STATE: ZIP:
CONTACT: PHONE:

RECEIVED BY: (Signature)
DATE: 07/09/12 TIME: 0800

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 4°C

REMARKS: See Remarks on COC #1

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

1207602

Analysis Request of Chain of Custody Record

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

PAGE: 5 OF: 5

CLIENT NAME: COG

SITE MANAGER: IKE Tavarez

PROJECT NO.: 114-6401445

PROJECT NAME: Sand Tank 32 State Com #2 - water line 6" Transition Eddy Co NM

LAB I.D. NUMBER	DATE 2012	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
844	7-2		S		X	AH-5 (5'-5.5')	1	N			X														X				

ANALYSIS REQUEST (Circle or Specify Method No.)

RELINQUISHED BY: (Signature)	Date: / Time:	RECEIVED BY: (Signature) Jeanne Fitch	Date: 7-5-12 Time: 115
RELINQUISHED BY: (Signature) Jeanne Fitch	Date: 7-5-12 Time: 1310	RECEIVED BY: (Signature)	Date: 7-5-12 Time: 1310
RELINQUISHED BY: (Signature)	Date: 7-6-12 Time: 800	RECEIVED BY: (Signature)	Date: / Time:

SAMPLED BY: (Print & Initial) MK JFK — Date: 7-2-12 Time:

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

TETRA TECH CONTACT PERSON: IKE Tavarez (mt)

Results by:

RUSH Charges Authorized: Yes No

RECEIVING LABORATORY:
ADDRESS:
CITY: STATE: ZIP:
CONTACT: PHONE:

RECEIVED BY: (Signature) DATE: 07/06/12 TIME: 0800

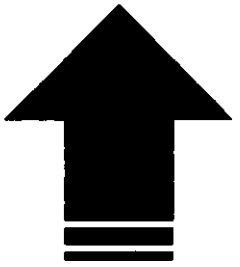
SAMPLE CONDITION WHEN RECEIVED: 4°C

REMARKS: See Remarks on COC #1

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

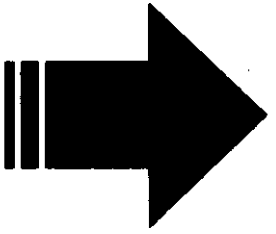
This is a Patch T type separator sheet.

Form Type = "Well file form"
CODE128 type barcode



Landscape Feed

New Form Follows...



Portrait Feed

New Form Follows...

This is a Patch T type separator sheet.

Form Type = "Well file form"
CODE128 type barcode

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

State of New Mexico
Energy Minerals and Natural Resources

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

RECEIVED
NOV 01 2012
NMOCD ARTESIA

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company	COG Operating LLC	Contact	Pat Ellis
Address	550 W. Texas, Suite 1300 Midland, Texas 79701	Telephone No.	(432) 230-0077
Facility Name	6" transition on water line (Sand Tank 32 State Com #2)	Facility Type	Water Line

Surface Owner: State	Mineral Owner	Lease No. (API#) 30-015-29513 Closest well location

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J	32	17S	30E					Eddy

Latitude N 32.78840° **Longitude** W 103.99165°

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release 100 bbls	Volume Recovered 75 bbls
Source of Release: Transition in 6" poly line	Date and Hour of Occurrence 05/16/2012	Date and Hour of Discovery 05/16/2012 7:00 a.m.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher - OCD	
By Whom? Michelle Mullins	Date and Hour 05/16/2012 8:17 p.m.	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

A ruptured transition in the 6" water transfer line caused the release. We have replaced the transition and returned the line into service.

Describe Area Affected and Cleanup Action Taken.*

Tetra Tech personnel inspected the site and collected samples to define the spills extent. Soil that exceeded RRAL was removed and hauled away to R360 for proper disposal. The site was then brought up to surface grade with clean backfill material. Tetra Tech prepared a closure report and submitted it 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: 11/3/15	Expiration Date: N/A
E-mail Address: Ike.Tavarez@TetraTech.com	Conditions of Approval: Final	Attached ☐
Date: Oct 17, 2012 Phone: (432) 682-4559		

* Attach Additional Sheets If Necessary

2RP-1164