SITE INFORMATION

Report Type: Closure Report

General Site Information:						
Site:	**Willow State #001 Tank Battery**					
Company:	**COG Operating LLC**					
Section, Township and Range	**Unit O**	**Sec 16**	**T17S**	**R31E**		
Lease Number:	**API-30-015-28591**					
County:	**Eddy County**					
GPS:	**32.82822° N**			**103.87359° W**		
Surface Owner:	**State**					
Mineral Owner:						
Directions:	From intersection of HWY 529 and HWY 82, go EAST on 82 for .4 miles, turn north onto CR 223, continue north for approximately 1 mile, turn east onto location.					

Release Data:	
Date Released:	6/8/2013
Type Release:	Produced Water
Source of Contamination:	Transition
Fluid Released:	400 bbls
Fluids Recovered:	390 bbls

Official Communication:			
Name:	Robert McNeil		Ike Tavarez
Company:	COG Operating, LLC		Tetra Tech
Address:	One Concho Center		4000 N. Big Spring, Suite 401
	600 W. Illinois Ave.		
City:	Midland Texas, 79701		Midland, Texas
Phone number:	(432) 686-3023		432-682-4559
Fax:	(432) 684-7137		432-628-3946
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

TETRA TECH

July 31, 2014

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

Re: Closure Report for the COG Operating LLC., Willow State #1 Tank Battery, Unit O, Section 16, Township 17 South, Range 31 East, Eddy County, New Mexico.

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC. (COG) to assess a spill from the Willow State #1 Tank Battery located in Unit 0, Section 16, Township 17 South, Range 31 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.82822°, W 103.87359°. 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 June 8, 2013, and released approximately four hundred (400) barrels of produced fluid from a transition. To alleviate the problem, COG personnel replaced the transition. Three hundred and ninety (390) barrels of standing fluids were recovered. The spill initiated west of the pad affecting an area 30' X 90'in the pasture and inside the facility firewalls. The initial C-141 form is enclosed in Appendix A.

Groundwater

No water wells were listed within Section 16. According to the NMOCD groundwater map, the average depth to groundwater in this area is greater than 300' below surface. The groundwater data is shown in Appendix B.

Regulatory

A risk-based evaluation was performed for the Site in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases, dated August 13, 1993. The guidelines require a risk-

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4000 North Big Spring, Ste 401 Midland, TX 79705
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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

Auger holes

On July 11, 2013, Tetra Tech personnel inspected and sampled the spill area. Fourteen (14) auger holes (AH-1 through AH-14) were installed using a stainless steel hand auger to assess the impacted soils. A total of twelve (12) auger holes were installed inside the facility firewall and two (2) auger holes off the facility pad.

Selected samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The sampling results are summarized in Table 1. The auger hole locations are shown on Figure 3.

Referring to Table 1, none of the areas exceeded the TPH and BTEX RRAL's. Inside the facility firewall, elevated chloride concentrations were in majority of the auger holes. A shallow impact was detected in the areas of AH-1, AH-2 AH-3, AH-5 and AH-9, with chloride declining from 1.0' to 4.0' below surface. A deeper impact soils were detected in the area of AH-4, AH-6, AH-10 and AH-12, but declined at approximately 7.0' below surface. The areas of AH-7, AH-8 and AH-11 were not vertically defined, with bottom auger hole samples of 17,000 at 2.0', 1,460 mg/kg at 9.0' and 4,700 mg/kg at 9.0', respectively.

In the pasture, the areas of AH-13 and AH-14 showed elevated chloride concentrations in the subsurface soils. Auger hole (AH-13) was not vertically defined and AH-14 significantly declined at 6.0' to 613 mg/kg. However, the chloride spiked at 9.0' of 1,220 mg/kg. Based on the results, the spike appears to be cross-contaminated from the upper soils.

Borehole Installation

On July 11, 2013, Tetra Tech personnel were onsite on November 7, 2013, to drill boreholes (BH-1 and BH-2) in order to vertically define the chloride impact using a drilling rig. At the tank battery, the areas of AH-7 and AH-11 were not accessible with the drilling rig and these areas will be deferred until the abandonment of the facility.

TETRA TECH

Boreholes were installed in the areas of AH-8 (BH-1) and AH-13 (BH-2) to define extents. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The drilling results are summarized in Table 1. The borehole locations are shown on Figure 3. Referring to Table 1, BH-1 and BH-2 did show chloride concentrations declining with depth and vertically defined at 29-30' and 24-25', respectively.

Remedial Activities

On February 6, 2014, Tetra Tech supervised the removal of impacted material as highlighted (green) and shown on Figure 4. Due to facility equipment and safety concerns, the impacted areas inside the tank battery were excavated to a depth of 1.0' to 3.0' below surface. In addition, the areas of AH-1 through AH-9, AH-11, and AH-12 were capped with clay to prevent further migration of impact at the facility.

In the pasture, the areas of AH-13 and AH-14 were excavated to depths of approximately 3.0 and 5.0', respectively. Due to sidewall cave-ins and lines in the area, deeper excavation could not be performed. Once excavated to the appropriate depth, clay material was installed in the area of AH-13 to cap the remaining impact.

Once the areas were excavated to the appropriate depths, the excavation was backfilled with clean soil. Approximately 856 yards of excavated material was hauled to R360 for proper disposal.

Conclusion

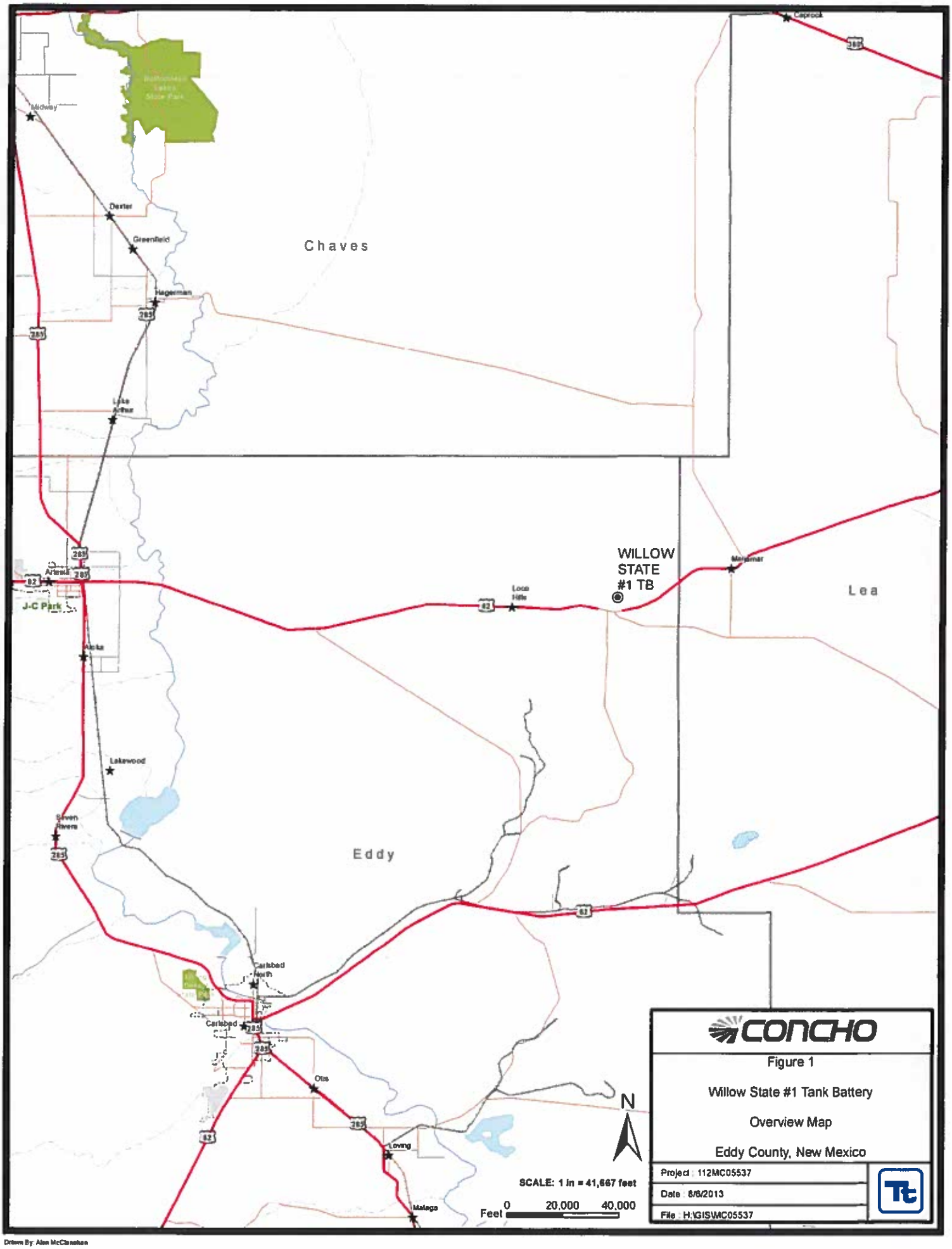
Based on the assessment and work performed, COG requests closure of this site. A Final C-141 is included in Appendix A. If you have any questions or comments concerning the assessment or the remediation activities for this site, please call me at (432) 682-4559.

Respectfully submitted,
TETRA TECH

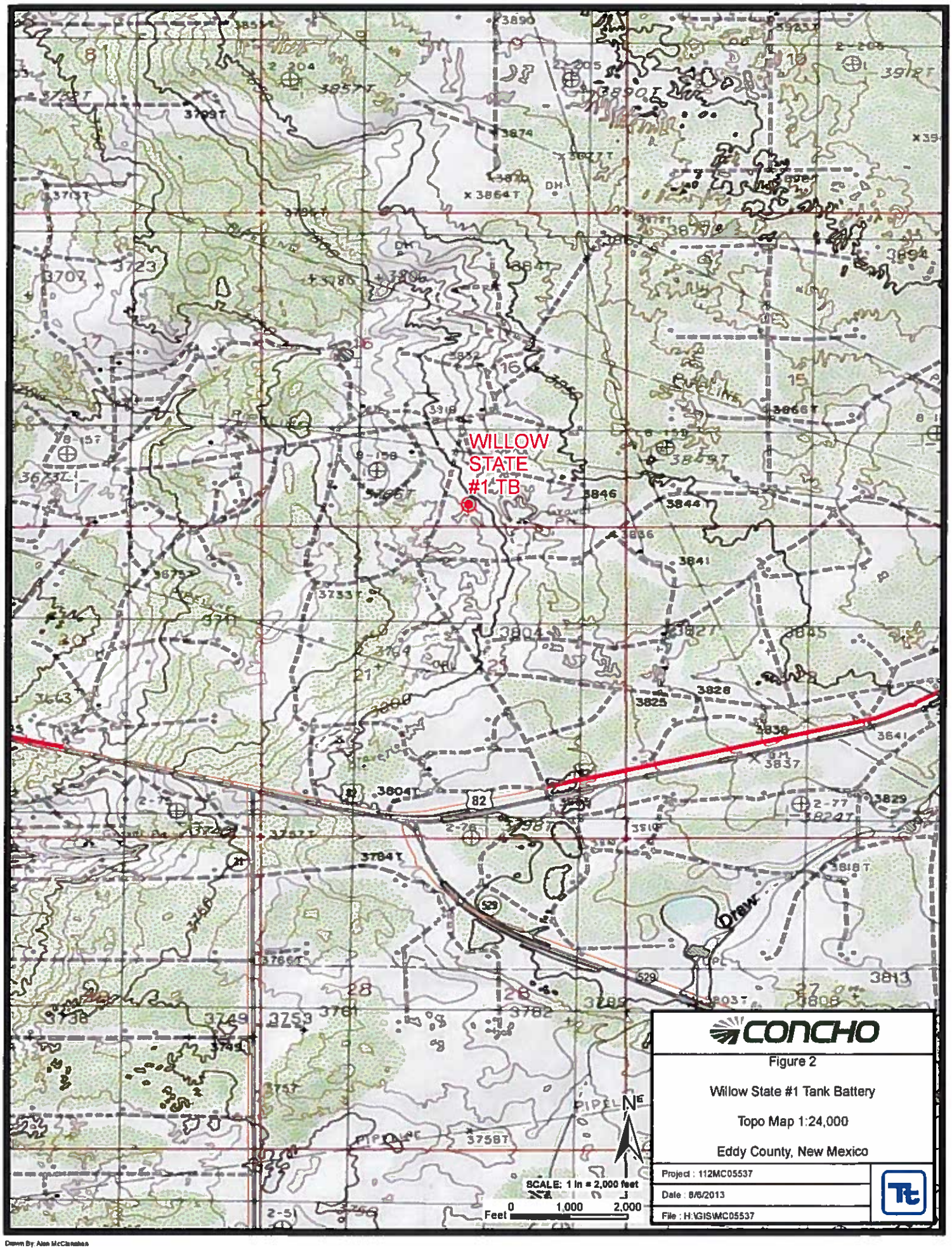
Ike Tavarez, PG
Senior Project Manager

cc: Robert McNeil – COG

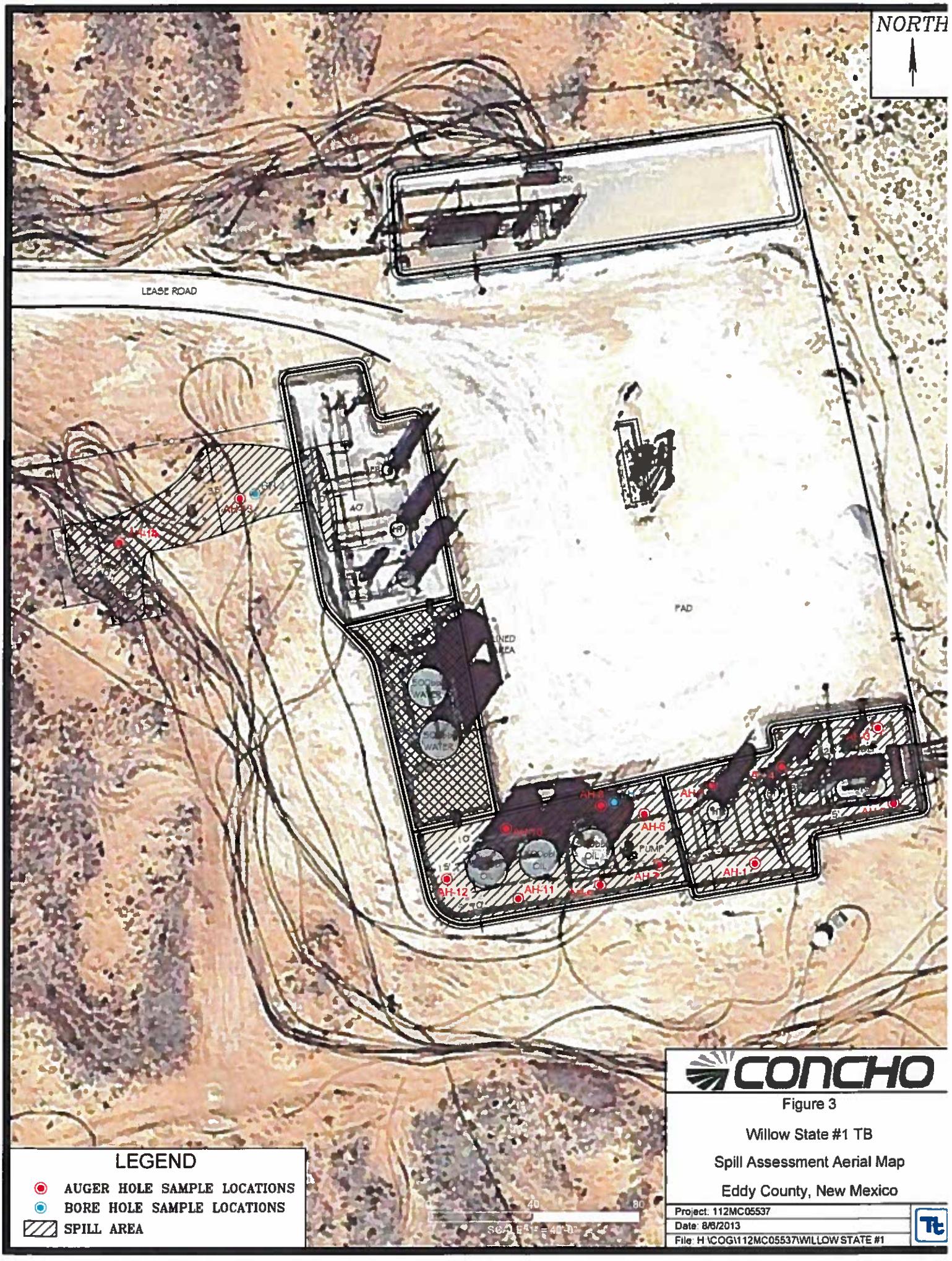
Figures



Drawn By: Alex McClanahan



Drawn By: Alex McClanahan



CONCHO

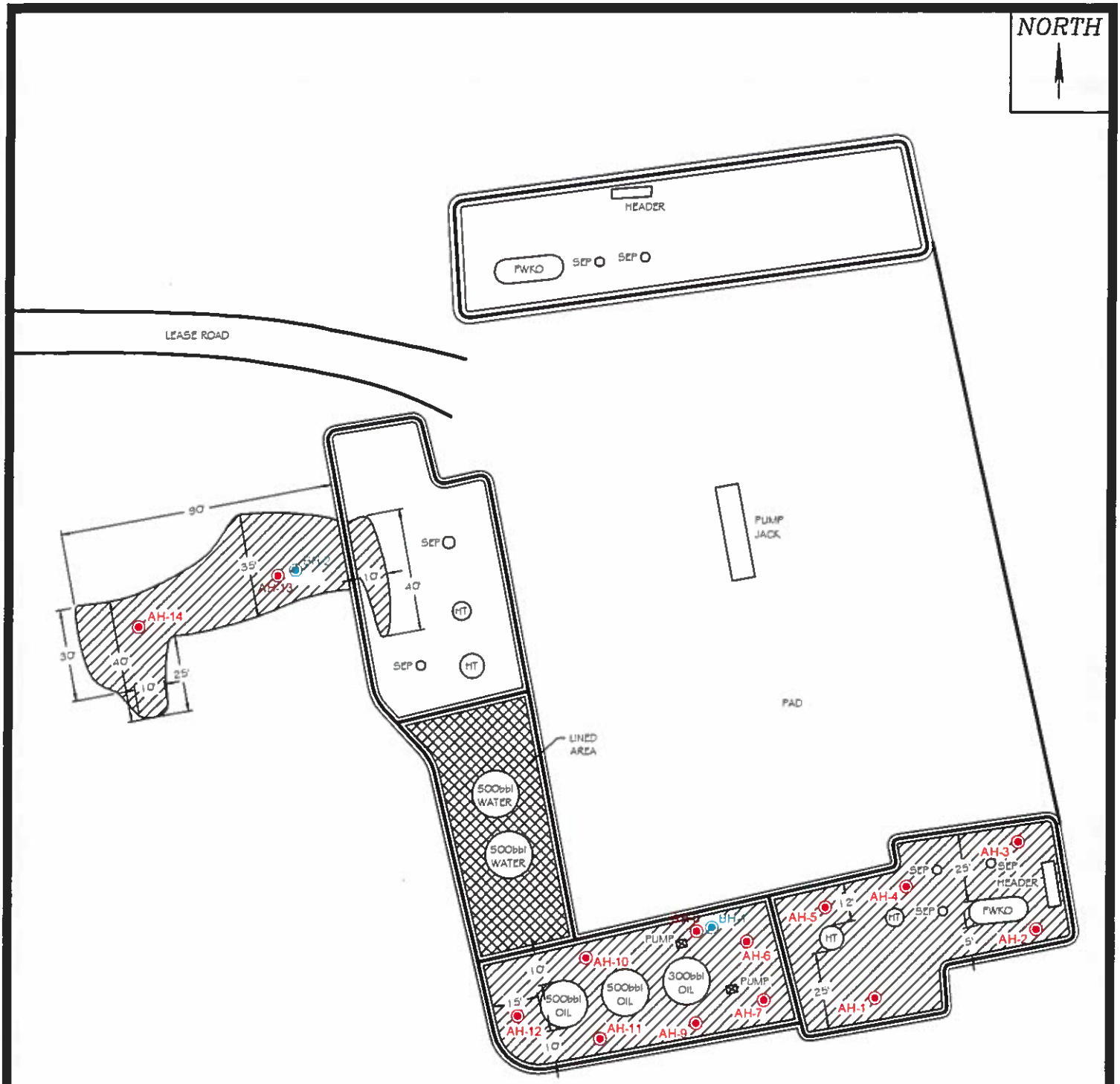
Figure 3

Willow State #1 TB

Spill Assessment Aerial Map

Eddy County, New Mexico

Project:	112MC05537
Date:	8/6/2013
File:	H:\COG\112MC05537\WILLOW STATE #1



LEGEND

- AUGER HOLE SAMPLE LOCATIONS
- BORE HOLE SAMPLE LOCATIONS
- SPILL AREA

0 40 80

SCALE: 1" = 40'-0"

CONCHO

Figure 3

Willow State #1 TB

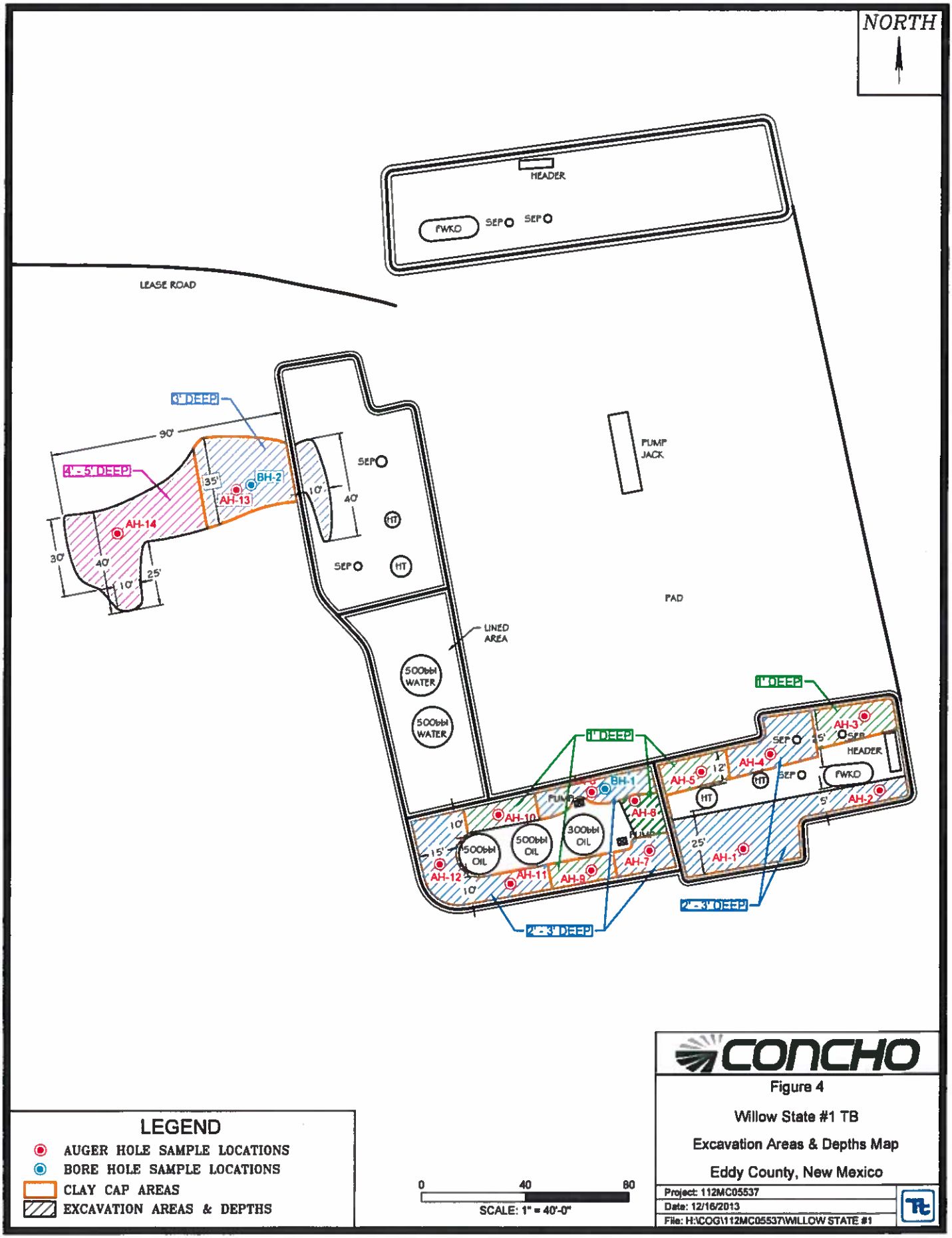
Spill Assessment Map

Eddy County, New Mexico

Project: 112MC05537

Date: 11/27/2013

File: H:\COG\112MC05537\WILLOW STATE #1


NORTH
HEADER
FWKO
SEP
SEP
LEASE ROAD
3' DEEP
90'
4' - 5' DEEP
35'
BH-2
AH-13
AH-14
30'
40'
10'
25'
10'
40'
SEP
HT
SEP
HT
PUMP JACK
PAD
LINED AREA
500bbl WATER
500bbl WATER
1' DEEP
1' DEEP
AH-3
SEP
25'
HEADER
AH-4
12'
AH-5
HT
SEP
HT
FWKO
5'
AH-2
BH-1
PUMP
AH-6
10'
AH-10
500bbl OIL
500bbl OIL
300bbl OIL
PUMP
15'
AH-12
AH-11
AH-9
AH-7
10'
25'
AH-1
2' - 3' DEEP
2' - 3' DEEP
LEGEND
AUGER HOLE SAMPLE LOCATIONS
BORE HOLE SAMPLE LOCATIONS
CLAY CAP AREAS
EXCAVATION AREAS & DEPTHS
0
40
80
SCALE: 1" = 40'-0"
CONCHO
Figure 4
Willow State #1 TB
Excavation Areas & Depths Map
Eddy County, New Mexico
Project: 112MC05537
Date: 12/16/2013
File: H:\COG\112MC05537\WILLOW STATE #1

Tables

Table 1
COG Operating LLC.
Willow State #1 Tank Battery
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	Tank Battery													
	7/11/2013	0-1	-	X		<4.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	5,010
	"	1-1.5	-	X		-	-	-	-	-	-	-	-	2,930
	"	2-2.5	-	X		-	-	-	-	-	-	-	-	3,220
	"	3-3.5	-	X		-	-	-	-	-	-	-	-	1,790
	"	4-4.5	-	X		-	-	-	-	-	-	-	-	289
	"	5-5.5	-	X		-	-	-	-	-	-	-	-	<20.0
	"	6-6.5	-	X		-	-	-	-	-	-	-	-	<20.0
	"	7-7.5	-	X		-	-	-	-	-	-	-	-	<20.0
	"	8-8.5	-	X		-	-	-	-	-	-	-	-	<20.0
	"	9-9.5	-	X		-	-	-	-	-	-	-	-	<20.0
AH-2	7/11/2013	0-1	-	X		<4.00	<50.0	<50.0	-	-	-	-	-	7,750
	"	1-1.5	-	X		-	-	-	-	-	-	-	-	8,590
	"	2-2.5	-	X		-	-	-	-	-	-	-	-	1,930
	"	3-3.5	-	X		-	-	-	-	-	-	-	-	1,020
	"	4-4.5	-	X		-	-	-	-	-	-	-	-	617
	"	5-5.5	-	X		-	-	-	-	-	-	-	-	938
	"	6-6.5	-	X		-	-	-	-	-	-	-	-	153
	"	7-7.5	-	X		-	-	-	-	-	-	-	-	<20.0
	"	8-8.5	-	X		-	-	-	-	-	-	-	-	112
	"	9-9.5	-	X		-	-	-	-	-	-	-	-	25.5
AH-3	7/11/2013	0-1	-	X		<4.00	<50.0	<50.0	-	-	-	-	-	3,300
	"	1-1.5	-	X		-	-	-	-	-	-	-	-	529
	"	2-2.5	-	X		-	-	-	-	-	-	-	-	210
	"	3-3.5	-	X		-	-	-	-	-	-	-	-	375
	"	4-4.5	-	X		-	-	-	-	-	-	-	-	406
	"	5-5.5	-	X		-	-	-	-	-	-	-	-	544
	"	6-6.5	-	X		-	-	-	-	-	-	-	-	678

Table 1
COG Operating LLC.
Willow State #1 Tank Battery
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)	Ethiylbenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total						
AH-4	7/11/2013	0-1	-	X		<4.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	**9,270**
	"	1-1.5	-	X		-	-	-	-	-	-	-	-	**3,250**
	"	2-2.5	-	X		-	-	-	-	-	-	-	-	**3,420**
	"	3-3.5	-	X		-	-	-	-	-	-	-	-	**3,330**
	"	4-4.5	-	X		-	-	-	-	-	-	-	-	**2,620**
	"	5-5.5	-	X		-	-	-	-	-	-	-	-	**2,170**
	"	6-6.5	-	X		-	-	-	-	-	-	-	-	**1,660**
	"	7-7.5	-	X		-	-	-	-	-	-	-	-	967
	"	8-8.5	-	X		-	-	-	-	-	-	-	-	754
	"	9-9.5	-	X		-	-	-	-	-	-	-	-	514
AH-5	7/11/2013	0-1	-	X		<4.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	**4,870**
	"	1-1.5	-	X		-	-	-	-	-	-	-	-	300
	"	2-2.5	-	X		-	-	-	-	-	-	-	-	102
	"	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-6	7/11/2013	0-1	-	X		4	<50.0	<50.0	-	-	-	-	-	**3,680**
	"	1-1.5	-	X		-	-	-	-	-	-	-	-	**1,660**
	"	2-2.5	-	X		-	-	-	-	-	-	-	-	441
	"	3-3.5	-	X		-	-	-	-	-	-	-	-	**1,770**
	"	4-4.5	-	X		-	-	-	-	-	-	-	-	**1,020**
	"	5-5.5	-	X		-	-	-	-	-	-	-	-	**1,250**
	"	6-6.5	-	X		-	-	-	-	-	-	-	-	**1,950**
	"	7-7.5	-	X		-	-	-	-	-	-	-	-	545
	"	8-8.5	-	X		-	-	-	-	-	-	-	-	442
	"	9-9.5	-	X		-	-	-	-	-	-	-	-	555

Table 1
COG Operating LLC.
Willow State #1 Tank Battery
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	7/11/2013	0-1	-	X		<4.00	<50.0	<50.0	-	-	-	-	-	15,800
	"	1-1.5	-	X		-	-	-	-	-	-	-	-	16,800
	"	2-2.5	-	X		-	-	-	-	-	-	-	-	17,000
AH-8	7/11/2013	0-1	-	X		<4.00	<50.0	<50.0	-	-	-	-	-	6,970
	"	1-1.5	-	X		-	-	-	-	-	-	-	-	13,400
	"	2-2.5	-	X		-	-	-	-	-	-	-	-	5,420
	"	3-3.5	-	X		-	-	-	-	-	-	-	-	5,700
	"	4-4.5	-	X		-	-	-	-	-	-	-	-	4,920
	"	5-5.5	-	X		-	-	-	-	-	-	-	-	4,770
	"	6-6.5	-	X		-	-	-	-	-	-	-	-	3,830
	"	7-7.5	-	X		-	-	-	-	-	-	-	-	4,350
	"	8-8.5	-	X		-	-	-	-	-	-	-	-	2,960
	"	9-9.5	-	X		-	-	-	-	-	-	-	-	1,460
BH-1	11/7/2013	0-1	-	X		-	-	-	-	-	-	-	-	11,200
	"	2-3	-	X		-	-	-	-	-	-	-	-	14,600
	"	4-5	-	X		-	-	-	-	-	-	-	-	3,650
	"	6-7	-	X		-	-	-	-	-	-	-	-	6,070
	"	9-10	-	X		-	-	-	-	-	-	-	-	5,340
	"	14-15	-	X		-	-	-	-	-	-	-	-	6,890
	"	19-20	-	X		-	-	-	-	-	-	-	-	1,460
	"	24-25	-	X		-	-	-	-	-	-	-	-	1,520
	"	29-30	-	X		-	-	-	-	-	-	-	-	35.2
	"	39-40	-	X		-	-	-	-	-	-	-	-	<20.0
AH-9	7/11/2013	0-1	-	X		<4.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	12,700
	"	1-1.5	-	X		-	-	-	-	-	-	-	-	1,930
	"	2-2.5	-	X		-	-	-	-	-	-	-	-	155
	"	3-3.5	-	X		-	-	-	-	-	-	-	-	566
	"	4-4.5	-	X		-	-	-	-	-	-	-	-	286

Table 1
COG Operating LLC.
Willow State #1 Tank Battery
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-10	7/12/2013	0-1	-	X		<4.00	56.1	56.1	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	17,200
	"	1-1.5	-	X		-	-	-	-	-	-	-	-	3,210
	"	2-2.5	-	X		-	-	-	-	-	-	-	-	722
	"	3-3.5	-	X		-	-	-	-	-	-	-	-	5,900
	"	4-4.5	-	X		-	-	-	-	-	-	-	-	955
	"	5-5.5	-	X		-	-	-	-	-	-	-	-	914
	"	6-6.5	-	X		-	-	-	-	-	-	-	-	177
	"	7-7.5	-	X		-	-	-	-	-	-	-	-	<20.0
AH-11	7/12/2013	0-1	-	X		4.02	70.40	74.42	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	988
	"	1-1.5	-	X		-	-	-	-	-	-	-	-	1,080
	"	2-2.5	-	X		-	-	-	-	-	-	-	-	3,730
	"	3-3.5	-	X		-	-	-	-	-	-	-	-	4,530
	"	4-4.5	-	X		-	-	-	-	-	-	-	-	3,460
	"	5-5.5	-	X		-	-	-	-	-	-	-	-	3,330
	"	6-6.5	-	X		-	-	-	-	-	-	-	-	3,200
	"	7-7.5	-	X		-	-	-	-	-	-	-	-	3,810
	"	8-8.5	-	X		-	-	-	-	-	-	-	-	4,900
	"	9-9.5	-	X		-	-	-	-	-	-	-	-	4,700
AH-12	7/12/2013	0-1	-	X		<4.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	7,290
	"	1-1.5	-	X		-	-	-	-	-	-	-	-	3,840
	"	2-2.5	-	X		-	-	-	-	-	-	-	-	2,890
	"	3-3.5	-	X		-	-	-	-	-	-	-	-	3,620
	"	4-4.5	-	X		-	-	-	-	-	-	-	-	4,730
	"	5-5.5	-	X		-	-	-	-	-	-	-	-	2,370
	"	6-6.5	-	X		-	-	-	-	-	-	-	-	1,700
	"	7-7.5	-	X		-	-	-	-	-	-	-	-	288
	"	8-8.5	-	X		-	-	-	-	-	-	-	-	391
	"	9-9.5	-	X		-	-	-	-	-	-	-	-	344

Table 1
COG Operating LLC.
Willow State #1 Tank Battery
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-13	Pasture Area													
	7/12/2013	0-1	-	X		<4.00	132	132	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	5,730
	"	1-1.5	-	X		-	-	-	-	-	-	-	-	13,400
	"	2-2.5	-	X		-	-	-	-	-	-	-	-	4,850
	"	3-3.5	-	X		-	-	-	-	-	-	-	-	5,670
	"	4-4.5	-	X		-	-	-	-	-	-	-	-	5,750
	"	5-5.5	-	X		-	-	-	-	-	-	-	-	8,990
	"	6-6.5	-	X		-	-	-	-	-	-	-	-	7,000
	"	7-7.5	-	X		-	-	-	-	-	-	-	-	7,580
	"	8-8.5	-	X		-	-	-	-	-	-	-	-	5,900
	"	9-9.5	-	X		-	-	-	-	-	-	-	-	4,160
BH-2	11/7/2013	0-1	-	X		-	-	<50.0	-	-	-	-	-	473
	"	2-3	-	X		-	-	-	-	-	-	-	-	40.2
	"	4-5	-	X		-	-	-	-	-	-	-	-	2,910
	"	6-7	-	X		-	-	-	-	-	-	-	-	6,180
	"	9-10	-	X		-	-	-	-	-	-	-	-	1,110
	"	14-15	-	X		-	-	-	-	-	-	-	-	<20.0
	"	19-20	-	X		-	-	-	-	-	-	-	-	7,130
	"	24-25	-	X		-	-	-	-	-	-	-	-	201
	"	29-30	-	X		-	-	-	-	-	-	-	-	24.5
AH-14	7/12/2013	0-1	-	X		<4.00	<50.0	<50.0	-	-	-	-	-	7,320
	"	1-1.5	-	X		-	-	-	-	-	-	-	-	14,300
	"	2-2.5	-	X		-	-	-	-	-	-	-	-	2,810
	"	3-3.5	-	X		-	-	-	-	-	-	-	-	3,780
	"	4-4.5	-	X		-	-	-	-	-	-	-	-	6,300
	"	5-5.5	-	X		-	-	-	-	-	-	-	-	7,910
	"	6-6.5	-	X		-	-	-	-	-	-	-	-	613
	"	7-7.5	-	X		-	-	-	-	-	-	-	-	845
	"	8-8.5	-	X		-	-	-	-	-	-	-	-	670
	"	9-9.5	-	X		-	-	-	-	-	-	-	-	1,220

(-) Not Analyzed

(BEB) Below Excavation Bottom

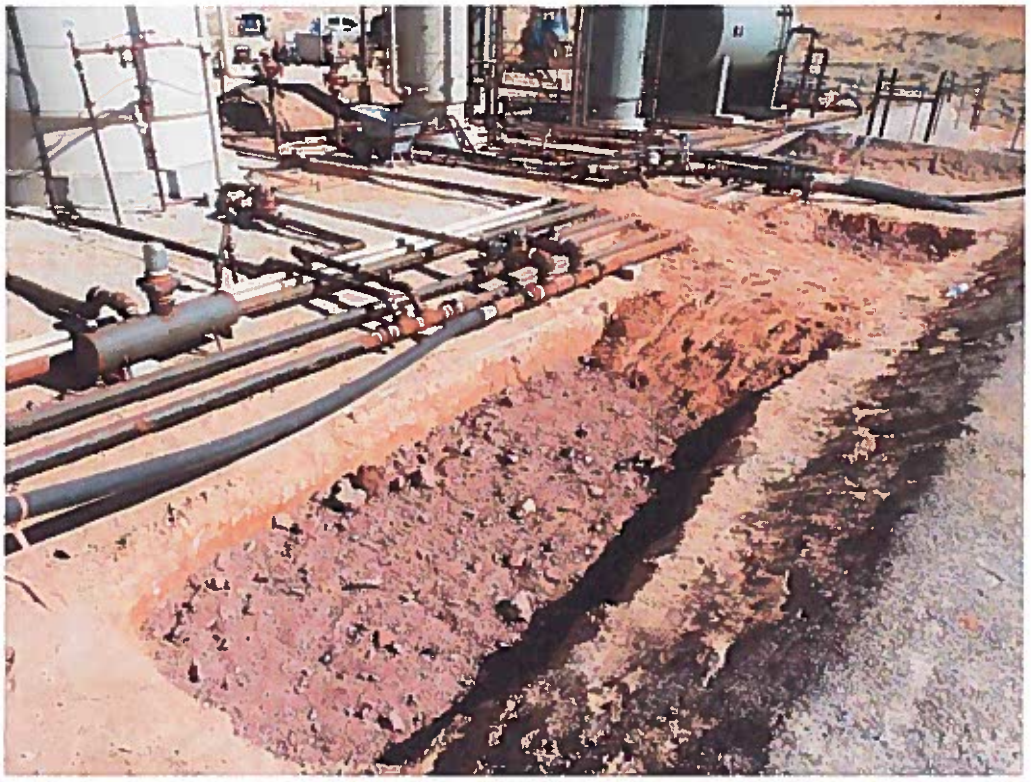
Excavation Depths

Clay Installed

Photos

COG Operating LLC
Willow St. #1 Tank Battery
Eddy County, New Mexico

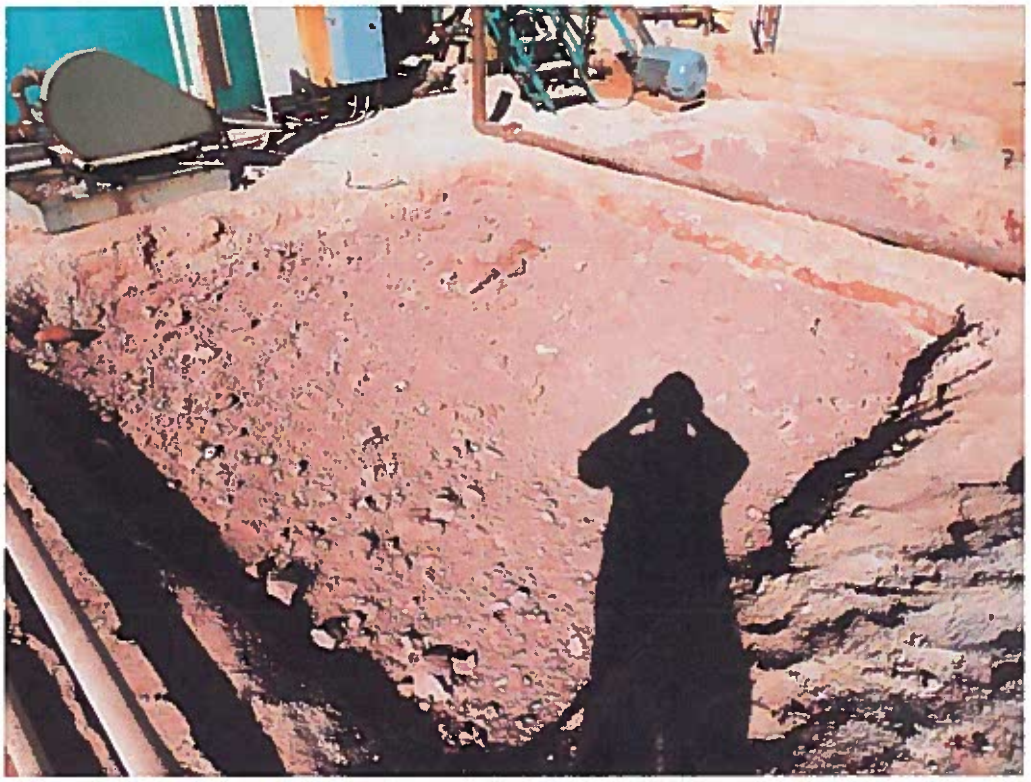
TETRA TECH



View East – AH-1 area at 2.0' with clay

View East – AH-3 and AH-4 excavated with clay

COG Operating LLC
Willow St. #1 Tank Battery
Eddy County, New Mexico



View North – AH-6 and AH-7 excavated with clay

View East – AH-7, AH-9, and AH-11 excavated with clay

COG Operating LLC
Willow St. #1 Tank Battery
Eddy County, New Mexico

TETRA TECH

View South – Area of AH-12 excavated with clay

View South – Area of AH-13 excavated with clay

COG Operating LLC
Willow St. #1 Tank Battery
Eddy County, New Mexico

View South – Area of AH-14 at 5.0'

View East – AH-1 and AH-2 backfilled

COG Operating LLC
Willow St. #1 Tank Battery
Eddy County, New Mexico

TETRA TECH

View East – Areas of AH-8 and AH-10 backfilled

View East – AH-13 and AH-14 backfilled

Appendix A

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	COG OPERATING LLC	Contact	Pat Ellis
Address	600 West Illinois Avenue, Midland, TX 79701	Telephone No.	432-230-0077
Facility Name	WILLOW STATE #001	Facility Type	TANK BATTERY

Surface Owner STATE	Mineral Owner	Lease No. (API#) 30-015-28880

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
O	16	17S	31E					EDDY

Latitude 32.82822 Longitude 103.87359

NATURE OF RELEASE

Type of Release Produced water	Volume of Release 400bbls	Volume Recovered 390bbls
Source of Release Threads on transition failed.	Date and Hour of Occurrence 06-08-2013	Date and Hour of Discovery 06-08-2013 8:52pm
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher - NMOCD	
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.*

The threads on a 4" to 8" transition failed. Replaced with a new transition.

Describe Area Affected and Cleanup Action Taken.*

Initially 400bbls of produced fluid were released. We were able to recover 390bbls of fluid with vacuum trucks. All free fluid has been recovered. Tetra Tech will sample the spill site area to delineate any possible contamination from the release and we will present a 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: 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: 06-21-2013 Phone: 432-661-6601		

* Attach Additional Sheets If Necessary

District I
1625 N. French Dr., Hobbs, NM 88240
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1301 W. Grand Avenue, Artesia, NM 88210
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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.
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 Repo

Name of Company **COG Operating LLC**	Contact **Robert McNeill**
Address **600 W. Illinois Ave, Midland, Texas 79701**	Telephone No. **(432) 685-4332**
Facility Name Willow St. #1	Facility Type **Tank Battery**

Surface Owner: State	Mineral Owner	Lease No. (API#) 30-015-28880

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
O	16	17S	31E					

Latitude 32.82822° N **Longitude** 103.87359° W

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release 400 bbls	Volume Recovered 390 bbls
Source of Release: Threads on transition failed.	Date and Hour of Occurrence 6/08/2013	Date and Hour of Discovery 6/08/2013 8:52pm
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? **Mike Bratcher - NMOCD**	
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

Describe Cause of Problem and Remedial Action Taken.*

The threads on a 4" to 8" transition failed. Replaced with a new transition.

Describe Area Affected and Cleanup Action Taken.*

Initially 400bbls of produced fluid were released. COG was able to recover 390bbls of fluid with vacuum trucks. All free 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: (Robert Su COG)	OIL CONSERVATION DIVISION
Printed Name: Ike Tavarez	Approved by District Supervisor:
Title: Project Manager	Approval Date: / Expiration Date:
E-mail Address: Ike.Tavarez@TetraTech.com	Conditions of Approval: / Attached ☐
Date: 7/31/2014 Phone: (432) 682-4559	

* Attach Additional Sheets If Necessary

Appendix B

Water Well Data
Average Depth to Groundwater (ft)
Willow State #1
Eddy County, New Mexico

16 South 30 East

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

16 South 31 East

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

16 South 32 East

6	5	4	3	2	1
7	8	9	10	11	12 215
18	17	16 221	15	14	13 215
19 220	20	21 210	22	23 210	24
30	29	28	27	26 243	25
31	32	33	34	35	36 260

17 South 30 East

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

17 South 31 East

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

17 South 32 East

6	5	4 82 Maljamar	3 75	2 60	1 225
7	8	9	10	11 70 88	12 120
18	17	16	15	14	13
19	20	21	22	23	24
30 180 dry	29	28	27	26	25
31 Brown	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

18 South 32 East

6	5	4 65	3	2	1
7 460 82	8	9	10	11	12
18	17	16 84	15	14	13
19	20 164	21	22 429	23	24
30	29	28	27	26	25
31	32	33	34 117	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: July 26, 2013

Work Order: 13071702

Project Location: Eddy Co., NM
Project Name: COG/Willow State #1 TB
Project Number: 112MC05537

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
335256	AH-1 0-1'	soil	2013-07-11	00:00	2013-07-16
335257	AH-1 1-1.5'	soil	2013-07-11	00:00	2013-07-16
335258	AH-1 2-2.5'	soil	2013-07-11	00:00	2013-07-16
335259	AH-1 3-3.5'	soil	2013-07-11	00:00	2013-07-16
335260	AH-1 4-4.5'	soil	2013-07-11	00:00	2013-07-16
335261	AH-1 5-5.5'	soil	2013-07-11	00:00	2013-07-16
335262	AH-1 6-6.5'	soil	2013-07-11	00:00	2013-07-16
335263	AH-1 7-7.5'	soil	2013-07-11	00:00	2013-07-16
335264	AH-1 8-8.5'	soil	2013-07-11	00:00	2013-07-16
335265	AH-1 9-9.5'	soil	2013-07-11	00:00	2013-07-16
335266	AH-2 0-1'	soil	2013-07-11	00:00	2013-07-16
335267	AH-2 1-1.5'	soil	2013-07-11	00:00	2013-07-16
335268	AH-2 2-2.5'	soil	2013-07-11	00:00	2013-07-16
335269	AH-2 3-3.5'	soil	2013-07-11	00:00	2013-07-16
335270	AH-2 4-4.5'	soil	2013-07-11	00:00	2013-07-16
335271	AH-2 5-5.5'	soil	2013-07-11	00:00	2013-07-16
335272	AH-2 6-6.5'	soil	2013-07-11	00:00	2013-07-16
335273	AH-2 7-7.5'	soil	2013-07-11	00:00	2013-07-16
335274	AH-2 8-8.5'	soil	2013-07-11	00:00	2013-07-16
335275	AH-2 9-9.5'	soil	2013-07-11	00:00	2013-07-16
335276	AH-3 0-1'	soil	2013-07-11	00:00	2013-07-16
335277	AH-3 1-1.5'	soil	2013-07-11	00:00	2013-07-16
335278	AH-3 2-2.5'	soil	2013-07-11	00:00	2013-07-16
335279	AH-3 3-3.5'	soil	2013-07-11	00:00	2013-07-16
335280	AH-3 4-4.5'	soil	2013-07-11	00:00	2013-07-16
335281	AH-3 5-5.5'	soil	2013-07-11	00:00	2013-07-16
335282	AH-3 6-6.5'	soil	2013-07-11	00:00	2013-07-16
335283	AH-4 0-1'	soil	2013-07-11	00:00	2013-07-16
335284	AH-4 1-1.5'	soil	2013-07-11	00:00	2013-07-16
335285	AH-4 2-2.5'	soil	2013-07-11	00:00	2013-07-16

This is only a summary. Please, refer to the complete report package for quality control data.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
335286	AH-4 3-3.5'	soil	2013-07-11	00:00	2013-07-16
335287	AH-1 4-4.5'	soil	2013-07-11	00:00	2013-07-16
335288	AH-4 5-5.5'	soil	2013-07-11	00:00	2013-07-16
335289	AH-4 6-6.5'	soil	2013-07-11	00:00	2013-07-16
335290	AH-4 7-7.5'	soil	2013-07-11	00:00	2013-07-16
335291	AH-4 8-8.5'	soil	2013-07-11	00:00	2013-07-16
335292	AH-4 9-9.5'	soil	2013-07-11	00:00	2013-07-16
335293	AH-5 0-1'	soil	2013-07-11	00:00	2013-07-16
335294	AH-5 1-1.5'	soil	2013-07-11	00:00	2013-07-16
335295	AH-5 2-2.5'	soil	2013-07-11	00:00	2013-07-16
335296	AH-5 3-3.5'	soil	2013-07-11	00:00	2013-07-16
335297	AH-5 4-4.5'	soil	2013-07-11	00:00	2013-07-16
335298	AH-5 5-5.5'	soil	2013-07-11	00:00	2013-07-16
335299	AH-5 6-6.5'	soil	2013-07-11	00:00	2013-07-16
335300	AH-6 0-1'	soil	2013-07-11	00:00	2013-07-16
335301	AH-6 1-1.5'	soil	2013-07-11	00:00	2013-07-16
335302	AH-6 2-2.5'	soil	2013-07-11	00:00	2013-07-16
335303	AH-6 3-3.5'	soil	2013-07-11	00:00	2013-07-16
335304	AH-6 4-4.5'	soil	2013-07-11	00:00	2013-07-16
335305	AH-6 5-5.5'	soil	2013-07-11	00:00	2013-07-16
335306	AH-6 6-6.5'	soil	2013-07-11	00:00	2013-07-16
335307	AH-6 7-7.5'	soil	2013-07-11	00:00	2013-07-16
335308	AH-6 8-8.5'	soil	2013-07-11	00:00	2013-07-16
335309	AH-6 9-9.5'	soil	2013-07-11	00:00	2013-07-16
335310	AH-7 0-1'	soil	2013-07-11	00:00	2013-07-16
335311	AH-7 1-1.5'	soil	2013-07-11	00:00	2013-07-16
335312	AH-7 2-2.5'	soil	2013-07-11	00:00	2013-07-16
335313	AH-8 0-1'	soil	2013-07-11	00:00	2013-07-16
335314	AH-8 1-1.5'	soil	2013-07-11	00:00	2013-07-16
335315	AH-8 2-2.5'	soil	2013-07-11	00:00	2013-07-16
335316	AH-8 3-3.5'	soil	2013-07-11	00:00	2013-07-16
335317	AH-8 4-4.5'	soil	2013-07-11	00:00	2013-07-16
335318	AH-8 5-5.5'	soil	2013-07-11	00:00	2013-07-16
335319	AH-8 6-6.5'	soil	2013-07-11	00:00	2013-07-16
335320	AH-8 7-7.5'	soil	2013-07-11	00:00	2013-07-16
335321	AH-8 8-8.5'	soil	2013-07-11	00:00	2013-07-16
335322	AH-8 9-9.5'	soil	2013-07-11	00:00	2013-07-16
335323	AH-9 0-1'	soil	2013-07-11	00:00	2013-07-16
335324	AH-9 1-1.5'	soil	2013-07-11	00:00	2013-07-16
335325	AH-9 2-2.5'	soil	2013-07-11	00:00	2013-07-16
335326	AH-9 3-3.5'	soil	2013-07-11	00:00	2013-07-16
335327	AH-9 4-4.5'	soil	2013-07-11	00:00	2013-07-16
335328	AH-10 0-1'	soil	2013-07-11	00:00	2013-07-16
335329	AH-10 1-1.5'	soil	2013-07-11	00:00	2013-07-16
335330	AH-10 2-2.5'	soil	2013-07-11	00:00	2013-07-16
335331	AH-10 3-3.5'	soil	2013-07-11	00:00	2013-07-16
335332	AH-10 4-4.5'	soil	2013-07-11	00:00	2013-07-16
335333	AH-10 5-5.5'	soil	2013-07-11	00:00	2013-07-16
335334	AH-10 6-6.5'	soil	2013-07-11	00:00	2013-07-16

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
335335	AH-10 7-7.5'	soil	2013-07-11	00:00	2013-07-16
335336	AH-11 0-1'	soil	2013-07-12	00:00	2013-07-16
335337	AH-11 1-1.5'	soil	2013-07-12	00:00	2013-07-16
335338	AH-11 2-2.5'	soil	2013-07-12	00:00	2013-07-16
335339	AH-11 3-3.5'	soil	2013-07-12	00:00	2013-07-16
335340	AH-11 4-4.5'	soil	2013-07-12	00:00	2013-07-16
335341	AH-11 5-5.5'	soil	2013-07-12	00:00	2013-07-16
335342	AH-11 6-6.5'	soil	2013-07-12	00:00	2013-07-16
335343	AH-11 7-7.5'	soil	2013-07-12	00:00	2013-07-16
335344	AH-11 8-8.5'	soil	2013-07-12	00:00	2013-07-16
335345	AH-11 9-9.5'	soil	2013-07-12	00:00	2013-07-16
335346	AH-12 0-1'	soil	2013-07-12	00:00	2013-07-16
335347	AH-12 1-1.5'	soil	2013-07-12	00:00	2013-07-16
335348	AH-12 2-2.5'	soil	2013-07-12	00:00	2013-07-16
335349	AH-12 3-3.5'	soil	2013-07-12	00:00	2013-07-16
335350	AH-12 4-4.5'	soil	2013-07-12	00:00	2013-07-16
335351	AH-12 5-5.5'	soil	2013-07-12	00:00	2013-07-16
335352	AH-12 6-6.5'	soil	2013-07-12	00:00	2013-07-16
335353	AH-12 7-7.5'	soil	2013-07-12	00:00	2013-07-16
335354	AH-12 8-8.5'	soil	2013-07-12	00:00	2013-07-16
335355	AH-12 9-9.5'	soil	2013-07-12	00:00	2013-07-16
335356	AH-13 0-1'	soil	2013-07-12	00:00	2013-07-16
335357	AH-13 1-1.5'	soil	2013-07-12	00:00	2013-07-16
335358	AH-13 2-2.5'	soil	2013-07-12	00:00	2013-07-16
335359	AH-13 3-3.5'	soil	2013-07-12	00:00	2013-07-16
335360	AH-13 4-4.5'	soil	2013-07-12	00:00	2013-07-16
335361	AH-13 5-5.5'	soil	2013-07-12	00:00	2013-07-16
335362	AH-13 6-6.5'	soil	2013-07-12	00:00	2013-07-16
335363	AH-13 7-7.5'	soil	2013-07-12	00:00	2013-07-16
335364	AH-13 8-8.5'	soil	2013-07-12	00:00	2013-07-16
335365	AH-13 9-9.5'	soil	2013-07-12	00:00	2013-07-16
335366	AH-14 0-1'	soil	2013-07-12	00:00	2013-07-16
335367	AH-14 1-1.5'	soil	2013-07-12	00:00	2013-07-16
335368	AH-14 2-2.5'	soil	2013-07-12	00:00	2013-07-16
335369	AH-14 3-3.5'	soil	2013-07-12	00:00	2013-07-16
335370	AH-14 4-4.5'	soil	2013-07-12	00:00	2013-07-16
335371	AH-14 5-5.5'	soil	2013-07-12	00:00	2013-07-16
335372	AH-14 6-6.5'	soil	2013-07-12	00:00	2013-07-16
335373	AH-14 7-7.5'	soil	2013-07-12	00:00	2013-07-16
335374	AH-14 8-8.5'	soil	2013-07-12	00:00	2013-07-16
335375	AH-14 9-9.5'	soil	2013-07-12	00:00	2013-07-16

	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)
335256 - AH-1 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0 Qs	<4.00
335266 - AH-2 0-1'					<50.0 Qs	<4.00
335276 - AH-3 0-1'					<50.0 Qs	<4.00

continued ...

... continued

Sample - Field Code	BTEX Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	TPH DRO - NEW DRO (mg/Kg)	TPH GRO GRO (mg/Kg)
335283 - AH-4 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0 Qs	<4.00
335293 - AH-5 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0 Qs	<4.00
335300 - AH-6 0-1'					<50.0 Qs	**4.02**
335310 - AH-7 0-1'					<50.0 Qs	<4.00
335313 - AH-8 0-1'					<50.0 Qs	<4.00
335323 - AH-9 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0 Qs	<4.00
335328 - AH-10 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	**56.1** Qs	<4.00
335336 - AH-11 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	**70.4** Qs	**4.02**
335346 - AH-12 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0 Qs	<4.00
335356 - AH-13 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	**132** Qs	<4.00
335366 - AH-14 0-1'					<50.0 Qs	<4.00

Sample: 335256 - AH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		**5010**	mg/Kg	4

Sample: 335257 - AH-1 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**2930**	mg/Kg	4

Sample: 335258 - AH-1 2-2.5'

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

Sample: 335259 - AH-1 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**1790**	mg/Kg	4

Sample: 335260 - AH-1 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**289**	mg/Kg	4

Sample: 335261 - AH-1 5-5.5'

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

Sample: 335262 - AH-1 6-6.5'

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

Sample: 335263 - AH-1 7-7.5'

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

Sample: 335264 - AH-1 8-8.5'

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

Sample: 335265 - AH-1 9-9.5'

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

Sample: 335266 - AH-2 0-1'

Param	Flag	Result	Units	RL
Chloride		**7750**	mg/Kg	4

Sample: 335267 - AH-2 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**8590**	mg/Kg	4

Sample: 335268 - AH-2 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**1930**	mg/Kg	4

Sample: 335269 - AH-2 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**1020**	mg/Kg	4

Sample: 335270 - AH-2 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**617**	mg/Kg	4

Sample: 335271 - AH-2 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**938**	mg/Kg	4

Sample: 335272 - AH-2 6-6.5'

Param	Flag	Result	Units	RL
Chloride		**153**	mg/Kg	4

Sample: 335273 - AH-2 7-7.5'

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

Sample: 335274 - AH-2 8-8.5'

Param	Flag	Result	Units	RL
Chloride		**112**	mg/Kg	4

Sample: 335275 - AH-2 9-9.5'

Param	Flag	Result	Units	RL
Chloride		**25.5**	mg/Kg	4

Sample: 335276 - AH-3 0-1'

Param	Flag	Result	Units	RL
Chloride		**3300**	mg/Kg	4

Sample: 335277 - AH-3 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**529**	mg/Kg	4

Sample: 335278 - AH-3 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**210**	mg/Kg	4

Sample: 335279 - AH-3 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**375**	mg/Kg	4

Sample: 335280 - AH-3 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**406**	mg/Kg	4

Sample: 335281 - AH-3 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**544**	mg/Kg	4

Sample: 335282 - AH-3 6-6.5'

Param	Flag	Result	Units	RL
Chloride		**678**	mg/Kg	4

Sample: 335283 - AH-4 0-1'

Param	Flag	Result	Units	RL
Chloride		**9270**	mg/Kg	4

Sample: 335284 - AH-4 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**3250**	mg/Kg	4

Sample: 335285 - AH-4 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**3420**	mg/Kg	4

Sample: 335286 - AH-4 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**3330**	mg/Kg	4

Sample: 335287 - AH-1 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**2620**	mg/Kg	4

Sample: 335288 - AH-4 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**2170**	mg/Kg	4

Sample: 335289 - AH-4 6-6.5'

Param	Flag	Result	Units	RL
Chloride		**1660**	mg/Kg	4

Sample: 335290 - AH-4 7-7.5'

Param	Flag	Result	Units	RL
Chloride		**967**	mg/Kg	4

Sample: 335291 - AH-4 8-8.5'

Param	Flag	Result	Units	RL
Chloride		**754**	mg/Kg	4

Sample: 335292 - AH-4 9-9.5'

Param	Flag	Result	Units	RL
Chloride		**514**	mg/Kg	4

Sample: 335293 - AH-5 0-1'

Param	Flag	Result	Units	RL
Chloride		**4870**	mg/Kg	4

Sample: 335294 - AH-5 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**300**	mg/Kg	4

Sample: 335295 - AH-5 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**102**	mg/Kg	4

Sample: 335296 - AH-5 3-3.5'

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

Sample: 335297 - AH-5 4-4.5'

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

Sample: 335298 - AH-5 5-5.5'

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

Sample: 335299 - AH-5 6-6.5'

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

Sample: 335300 - AH-6 0-1'

Param	Flag	Result	Units	RL
Chloride		**3680**	mg/Kg	4

Sample: 335301 - AH-6 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**1660**	mg/Kg	4

Sample: 335302 - AH-6 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**441**	mg/Kg	4

Sample: 335303 - AH-6 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**1770**	mg/Kg	4

Sample: 335304 - AH-6 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**1020**	mg/Kg	4

Sample: 335305 - AH-6 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**1250**	mg/Kg	4

Sample: 335306 - AH-6 6-6.5'

Param	Flag	Result	Units	RL
Chloride		**1950**	mg/Kg	4

Sample: 335307 - AH-6 7-7.5'

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

Sample: 335308 - AH-6 8-8.5'

Param	Flag	Result	Units	RL
Chloride		**442**	mg/Kg	4

Sample: 335309 - AH-6 9-9.5'

Param	Flag	Result	Units	RL
Chloride		**555**	mg/Kg	4

Sample: 335310 - AH-7 0-1'

Param	Flag	Result	Units	RL
Chloride		**15800**	mg/Kg	4

Sample: 335311 - AH-7 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**16800**	mg/Kg	4

Sample: 335312 - AH-7 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**17000**	mg/Kg	4

Sample: 335313 - AH-8 0-1'

Param	Flag	Result	Units	RL
Chloride		**6970**	mg/Kg	4

Sample: 335314 - AH-8 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**13400**	mg/Kg	4

Sample: 335315 - AH-8 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**5420**	mg/Kg	4

Sample: 335316 - AH-8 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**5700**	mg/Kg	4

Sample: 335317 - AH-8 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**4920**	mg/Kg	4

Sample: 335318 - AH-8 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**4770**	mg/Kg	4

Sample: 335319 - AH-8 6-6.5'

Param	Flag	Result	Units	RL
Chloride		**3830**	mg/Kg	4

Sample: 335320 - AH-8 7-7.5'

Param	Flag	Result	Units	RL
Chloride		**4350**	mg/Kg	4

Sample: 335321 - AH-8 8-8.5'

Param	Flag	Result	Units	RL
Chloride		**2960**	mg/Kg	4

Sample: 335322 - AH-8 9-9.5'

Param	Flag	Result	Units	RL
Chloride		**1460**	mg/Kg	4

Sample: 335323 - AH-9 0-1'

Param	Flag	Result	Units	RL
Chloride		**12700**	mg/Kg	4

Sample: 335324 - AH-9 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**1930**	mg/Kg	4

Sample: 335325 - AH-9 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**155**	mg/Kg	4

Sample: 335326 - AH-9 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**566**	mg/Kg	4

Sample: 335327 - AH-9 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**286**	mg/Kg	4

Sample: 335328 - AH-10 0-1'

Param	Flag	Result	Units	RL
Chloride		**17200**	mg/Kg	4

Sample: 335329 - AH-10 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**3210**	mg/Kg	4

Sample: 335330 - AH-10 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**722**	mg/Kg	4

Sample: 335331 - AH-10 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**5900**	mg/Kg	4

Sample: 335332 - AH-10 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**955**	mg/Kg	4

Sample: 335333 - AH-10 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**914**	mg/Kg	4

Sample: 335334 - AH-10 6-6.5'

Param	Flag	Result	Units	RL
Chloride		**177**	mg/Kg	4

Sample: 335335 - AH-10 7-7.5'

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

Sample: 335336 - AH-11 0-1'

Param	Flag	Result	Units	RL
Chloride		**988**	mg/Kg	4

Sample: 335337 - AH-11 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**1080**	mg/Kg	4

Sample: 335338 - AH-11 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**3730**	mg/Kg	4

Sample: 335339 - AH-11 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**4530**	mg/Kg	4

Sample: 335340 - AH-11 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**3460**	mg/Kg	4

Sample: 335341 - AH-11 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**3330**	mg/Kg	4

Sample: 335342 - AH-11 6-6.5'

Param	Flag	Result	Units	RL
Chloride		**3200**	mg/Kg	4

Sample: 335343 - AH-11 7-7.5'

Param	Flag	Result	Units	RL
Chloride		**3810**	mg/Kg	4

Sample: 335344 - AH-11 8-8.5'

Param	Flag	Result	Units	RL
Chloride		**4900**	mg/Kg	4

Sample: 335345 - AH-11 9-9.5'

Param	Flag	Result	Units	RL
Chloride		**4700**	mg/Kg	4

Sample: 335346 - AH-12 0-1'

Param	Flag	Result	Units	RL
Chloride		**7290**	mg/Kg	4

Sample: 335347 - AH-12 1-1.5'

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

Sample: 335348 - AH-12 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**2890**	mg/Kg	4

Sample: 335349 - AH-12 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**3620**	mg/Kg	4

Sample: 335350 - AH-12 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**4730**	mg/Kg	4

Sample: 335351 - AH-12 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**2370**	mg/Kg	4

Sample: 335352 - AH-12 6-6.5'

Param	Flag	Result	Units	RL
Chloride		**1700**	mg/Kg	4

Sample: 335353 - AH-12 7-7.5'

Param	Flag	Result	Units	RL
Chloride		**288**	mg/Kg	4

Sample: 335354 - AH-12 8-8.5'

Param	Flag	Result	Units	RL
Chloride		**391**	mg/Kg	4

Sample: 335355 - AH-12 9-9.5'

Param	Flag	Result	Units	RL
Chloride		**344**	mg/Kg	4

Sample: 335356 - AH-13 0-1'

Param	Flag	Result	Units	RL
Chloride		**5730**	mg/Kg	4

Sample: 335357 - AH-13 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**13400**	mg/Kg	4

Sample: 335358 - AH-13 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**4850**	mg/Kg	4

Sample: 335359 - AH-13 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**5670**	mg/Kg	4

Sample: 335360 - AH-13 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**5750**	mg/Kg	4

Sample: 335361 - AH-13 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**8980**	mg/Kg	4

Sample: 335362 - AH-13 6-6.5'

Param	Flag	Result	Units	RL
Chloride		**7000**	mg/Kg	4

Sample: 335363 - AH-13 7-7.5'

Param	Flag	Result	Units	RL
Chloride		**7580**	mg/Kg	4

Sample: 335364 - AH-13 8-8.5'

Param	Flag	Result	Units	RL
Chloride		**5900**	mg/Kg	4

Sample: 335365 - AH-13 9-9.5'

Param	Flag	Result	Units	RL
Chloride		**4160**	mg/Kg	4

Sample: 335366 - AH-14 0-1'

Param	Flag	Result	Units	RL
Chloride		**7320**	mg/Kg	4

Sample: 335367 - AH-14 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**14300**	mg/Kg	4

Sample: 335368 - AH-14 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**2810**	mg/Kg	4

Sample: 335369 - AH-14 3-3.5'

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

Sample: 335370 - AH-14 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**6300**	mg/Kg	4

Sample: 335371 - AH-14 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**7910**	mg/Kg	4

Sample: 335372 - AH-14 6-6.5'

Param	Flag	Result	Units	RL
Chloride		**613**	mg/Kg	4

Sample: 335373 - AH-14 7-7.5'

Param	Flag	Result	Units	RL
Chloride		**845**	mg/Kg	4

Sample: 335374 - AH-14 8-8.5'

Param	Flag	Result	Units	RL
Chloride		**670**	mg/Kg	4

Sample: 335375 - AH-14 9-9.5'

Param	Flag	Result	Units	RL
Chloride		**1220**	mg/Kg	4

Summary Report

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

Report Date: November 15, 2013

Work Order: 13110803

Project Location: Eddy Co., NM
Project Name: COG/Willow State #1 TB
Project Number: 112MC05537

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
346064	BH-1 0-1'	soil	2013-11-07	00:00	2013-11-08
346065	BH-1 2-3'	soil	2013-11-07	00:00	2013-11-08
346066	BH-1 4-5'	soil	2013-11-07	00:00	2013-11-08
346067	BH-1 6-7'	soil	2013-11-07	00:00	2013-11-08
346068	BH-1 9-10'	soil	2013-11-07	00:00	2013-11-08
346069	BH-1 14-15'	soil	2013-11-07	00:00	2013-11-08
346070	BH-1 19-20'	soil	2013-11-07	00:00	2013-11-08
346071	BH-1 24-25'	soil	2013-11-07	00:00	2013-11-08
346072	BH-1 29-30'	soil	2013-11-07	00:00	2013-11-08
346073	BH-1 39-40'	soil	2013-11-07	00:00	2013-11-08
346074	BH-2 0-1'	soil	2013-11-07	00:00	2013-11-08
346075	BH-2 2-3'	soil	2013-11-07	00:00	2013-11-08
346076	BH-2 4-5'	soil	2013-11-07	00:00	2013-11-08
346077	BH-2 6-7'	soil	2013-11-07	00:00	2013-11-08
346078	BH-2 9-10'	soil	2013-11-07	00:00	2013-11-08
346079	BH-2 14-15'	soil	2013-11-07	00:00	2013-11-08
346080	BH-2 19-20'	soil	2013-11-07	00:00	2013-11-08
346081	BH-2 24-25'	soil	2013-11-07	00:00	2013-11-08
346082	BH-2 29-30'	soil	2013-11-07	00:00	2013-11-08

Sample: 346064 - BH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		**11200**	mg/Kg	4

Sample: 346065 - BH-1 2-3'

Param	Flag	Result	Units	RL
Chloride		**14600**	mg/Kg	4

Sample: 346066 - BH-1 4-5'

Param	Flag	Result	Units	RL
Chloride		**3650**	mg/Kg	4

Sample: 346067 - BH-1 6-7'

Param	Flag	Result	Units	RL
Chloride		**6070**	mg/Kg	4

Sample: 346068 - BH-1 9-10'

Param	Flag	Result	Units	RL
Chloride		**5340**	mg/Kg	4

Sample: 346069 - BH-1 14-15'

Param	Flag	Result	Units	RL
Chloride		**5890**	mg/Kg	4

Sample: 346070 - BH-1 19-20'

Param	Flag	Result	Units	RL
Chloride		**1460**	mg/Kg	4

Sample: 346071 - BH-1 24-25'

Param	Flag	Result	Units	RL
Chloride		**1520**	mg/Kg	4

Sample: 346072 - BH-1 29-30'

Param	Flag	Result	Units	RL
Chloride		**35.2**	mg/Kg	4

Sample: 346073 - BH-1 39-40'

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

Sample: 346074 - BH-2 0-1'

Param	Flag	Result	Units	RL
Chloride		**473**	mg/Kg	4

Sample: 346075 - BH-2 2-3'

Param	Flag	Result	Units	RL
Chloride		**40.2**	mg/Kg	4

Sample: 346076 - BH-2 4-5'

Param	Flag	Result	Units	RL
Chloride		**2910**	mg/Kg	4

Sample: 346077 - BH-2 6-7'

Param	Flag	Result	Units	RL
Chloride		**6180**	mg/Kg	4

Sample: 346078 - BH-2 9-10'

Param	Flag	Result	Units	RL
Chloride		**1110**	mg/Kg	4

Sample: 346079 - BH-2 14-15'

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

Sample: 346080 - BH-2 19-20'

Param	Flag	Result	Units	RL
Chloride		**7130**	mg/Kg	4

Sample: 346081 - BH-2 24-25'

Param	Flag	Result	Units	RL
Chloride		**201**	mg/Kg	4

Sample: 346082 - BH-2 29-30'

Param	Flag	Result	Units	RL
Chloride		**24.5**	mg/Kg	4

Summary Report

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

Report Date: November 15, 2013

Work Order: 13110803

Project Location: Eddy Co., NM
Project Name: COG/Willow State #1 TB
Project Number: 112MC05537

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
346064	BH-1 0-1'	soil	2013-11-07	00:00	2013-11-08
346065	BH-1 2-3'	soil	2013-11-07	00:00	2013-11-08
346066	BH-1 4-5'	soil	2013-11-07	00:00	2013-11-08
346067	BH-1 6-7'	soil	2013-11-07	00:00	2013-11-08
346068	BH-1 9-10'	soil	2013-11-07	00:00	2013-11-08
346069	BH-1 14-15'	soil	2013-11-07	00:00	2013-11-08
346070	BH-1 19-20'	soil	2013-11-07	00:00	2013-11-08
346071	BH-1 24-25'	soil	2013-11-07	00:00	2013-11-08
346072	BH-1 29-30'	soil	2013-11-07	00:00	2013-11-08
346073	BH-1 39-40'	soil	2013-11-07	00:00	2013-11-08
346074	BH-2 0-1'	soil	2013-11-07	00:00	2013-11-08
346075	BH-2 2-3'	soil	2013-11-07	00:00	2013-11-08
346076	BH-2 4-5'	soil	2013-11-07	00:00	2013-11-08
346077	BH-2 6-7'	soil	2013-11-07	00:00	2013-11-08
346078	BH-2 9-10'	soil	2013-11-07	00:00	2013-11-08
346079	BH-2 14-15'	soil	2013-11-07	00:00	2013-11-08
346080	BH-2 19-20'	soil	2013-11-07	00:00	2013-11-08
346081	BH-2 24-25'	soil	2013-11-07	00:00	2013-11-08
346082	BH-2 29-30'	soil	2013-11-07	00:00	2013-11-08

Sample: 346064 - BH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		**11200**	mg/Kg	4

Sample: 346065 - BH-1 2-3'

Param	Flag	Result	Units	RL
Chloride		**14600**	mg/Kg	4

Sample: 346066 - BH-1 4-5'

Param	Flag	Result	Units	RL
Chloride		**3650**	mg/Kg	4

Sample: 346067 - BH-1 6-7'

Param	Flag	Result	Units	RL
Chloride		**6070**	mg/Kg	4

Sample: 346068 - BH-1 9-10'

Param	Flag	Result	Units	RL
Chloride		**5340**	mg/Kg	4

Sample: 346069 - BH-1 14-15'

Param	Flag	Result	Units	RL
Chloride		**5890**	mg/Kg	4

Sample: 346070 - BH-1 19-20'

Param	Flag	Result	Units	RL
Chloride		**1460**	mg/Kg	4

Sample: 346071 - BH-1 24-25'

Param	Flag	Result	Units	RL
Chloride		**1520**	mg/Kg	4

Sample: 346072 - BH-1 29-30'

Param	Flag	Result	Units	RL
Chloride		**35.2**	mg/Kg	4

Sample: 346073 - BH-1 39-40'

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

Sample: 346074 - BH-2 0-1'

Param	Flag	Result	Units	RL
Chloride		**473**	mg/Kg	4

Sample: 346075 - BH-2 2-3'

Param	Flag	Result	Units	RL
Chloride		**40.2**	mg/Kg	4

Sample: 346076 - BH-2 4-5'

Param	Flag	Result	Units	RL
Chloride		**2910**	mg/Kg	4

Sample: 346077 - BH-2 6-7'

Param	Flag	Result	Units	RL
Chloride		**6180**	mg/Kg	4

Sample: 346078 - BH-2 9-10'

Param	Flag	Result	Units	RL
Chloride		**1110**	mg/Kg	4

Sample: 346079 - BH-2 14-15'

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

Sample: 346080 - BH-2 19-20'

Param	Flag	Result	Units	RL
Chloride		**7130**	mg/Kg	4

Sample: 346081 - BH-2 24-25'

Param	Flag	Result	Units	RL
Chloride		**201**	mg/Kg	4

Sample: 346082 - BH-2 29-30'

Param	Flag	Result	Units	RL
Chloride		**24.5**	mg/Kg	4

TRACEANALYSIS, INC.

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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: November 15, 2013

Work Order: 13110803

Project Location: Eddy Co., NM
Project Name: COG/Willow State #1 TB
Project Number: 112MC05537

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
346064	BH-1 0-1'	soil	2013-11-07	00:00	2013-11-08
346065	BH-1 2-3'	soil	2013-11-07	00:00	2013-11-08
346066	BH-1 4-5'	soil	2013-11-07	00:00	2013-11-08
346067	BH-1 6-7'	soil	2013-11-07	00:00	2013-11-08
346068	BH-1 9-10'	soil	2013-11-07	00:00	2013-11-08
346069	BH-1 14-15'	soil	2013-11-07	00:00	2013-11-08
346070	BH-1 19-20'	soil	2013-11-07	00:00	2013-11-08
346071	BH-1 24-25'	soil	2013-11-07	00:00	2013-11-08
346072	BH-1 29-30'	soil	2013-11-07	00:00	2013-11-08
346073	BH-1 39-40'	soil	2013-11-07	00:00	2013-11-08
346074	BH-2 0-1'	soil	2013-11-07	00:00	2013-11-08
346075	BH-2 2-3'	soil	2013-11-07	00:00	2013-11-08
346076	BH-2 4-5'	soil	2013-11-07	00:00	2013-11-08
346077	BH-2 6-7'	soil	2013-11-07	00:00	2013-11-08
346078	BH-2 9-10'	soil	2013-11-07	00:00	2013-11-08
346079	BH-2 14-15'	soil	2013-11-07	00:00	2013-11-08
346080	BH-2 19-20'	soil	2013-11-07	00:00	2013-11-08
346081	BH-2 24-25'	soil	2013-11-07	00:00	2013-11-08

Report Contents

Case Narrative

Samples for project COG/Willow State #1 TB were received by TraceAnalysis, Inc. on 2013-11-08 and assigned to work order 13110803. Samples for work order 13110803 were received intact at a temperature of 9.9 C. Samples not on ice.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
Chloride (Titration)	SM 4500-Cl B	90362	2013-11-12 at 08:25	106715	2013-11-12 at 15:13
Chloride (Titration)	SM 4500-Cl B	90362	2013-11-12 at 08:25	106788	2013-11-14 at 14:38
Chloride (Titration)	SM 4500-Cl B	90362	2013-11-12 at 08:25	106789	2013-11-14 at 14:47

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 13110803 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: 346064 - BH-1 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106715	Date Analyzed:	2013-11-12	Analyzed By:	AR
Prep Batch:	90362	Sample Preparation:	2013-11-12	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**11200**	mg/Kg	10	4.00

Sample: 346065 - BH-1 2-3'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106715	Date Analyzed:	2013-11-12	Analyzed By:	AR
Prep Batch:	90362	Sample Preparation:	2013-11-12	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**14600**	mg/Kg	10	4.00

Sample: 346066 - BH-1 4-5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106715	Date Analyzed:	2013-11-12	Analyzed By:	AR
Prep Batch:	90362	Sample Preparation:	2013-11-12	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**3650**	mg/Kg	10	4.00

Sample: 346067 - BH-1 6-7'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106715	Date Analyzed:	2013-11-12	Analyzed By:	AR
Prep Batch:	90362	Sample Preparation:	2013-11-12	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**6070**	mg/Kg	10	4.00

Sample: 346068 - BH-1 9-10'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106715	Date Analyzed:	2013-11-12	Analyzed By:	AR
Prep Batch:	90362	Sample Preparation:	2013-11-12	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**5340**	mg/Kg	10	4.00

Sample: 346069 - BH-1 14-15'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106715	Date Analyzed:	2013-11-12	Analyzed By:	AR
Prep Batch:	90362	Sample Preparation:	2013-11-12	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**5890**	mg/Kg	10	4.00

Sample: 346070 - BH-1 19-20'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106788	Date Analyzed:	2013-11-14	Analyzed By:	AR
Prep Batch:	90362	Sample Preparation:	2013-11-12	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**1460**	mg/Kg	10	4.00

Sample: 346071 - BH-1 24-25'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106788	Date Analyzed:	2013-11-14	Analyzed By:	AR
Prep Batch:	90362	Sample Preparation:	2013-11-12	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**1520**	mg/Kg	10	4.00

Sample: 346072 - BH-1 29-30'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106788	Date Analyzed:	2013-11-14	Analyzed By:	AR
Prep Batch:	90362	Sample Preparation:	2013-11-12	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**35.2**	mg/Kg	5	4.00

Sample: 346073 - BH-1 39-40'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106788	Date Analyzed:	2013-11-14	Analyzed By:	AR
Prep Batch:	90362	Sample Preparation:	2013-11-12	Prepared By:	AR

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

Sample: 346074 - BH-2 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106788	Date Analyzed:	2013-11-14	Analyzed By:	AR
Prep Batch:	90362	Sample Preparation:	2013-11-12	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**473**	mg/Kg	5	4.00

Sample: 346075 - BH-2 2-3'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106788	Date Analyzed:	2013-11-14	Analyzed By:	AR
Prep Batch:	90362	Sample Preparation:	2013-11-12	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**40.2**	mg/Kg	5	4.00

Sample: 346076 - BH-2 4-5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106788	Date Analyzed:	2013-11-14	Analyzed By:	AR
Prep Batch:	90362	Sample Preparation:	2013-11-12	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**2910**	mg/Kg	10	4.00

Sample: 346077 - BH-2 6-7'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106788	Date Analyzed:	2013-11-14	Analyzed By:	AR
Prep Batch:	90362	Sample Preparation:	2013-11-12	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**6180**	mg/Kg	10	4.00

Sample: 346078 - BH-2 9-10'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106788	Date Analyzed:	2013-11-14	Analyzed By:	AR
Prep Batch:	90362	Sample Preparation:	2013-11-12	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**1110**	mg/Kg	10	4.00

Sample: 346079 - BH-2 14-15'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106788	Date Analyzed:	2013-11-14	Analyzed By:	AR
Prep Batch:	90362	Sample Preparation:	2013-11-12	Prepared By:	AR

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

Sample: 346080 - BH-2 19-20'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106789	Date Analyzed:	2013-11-14	Analyzed By:	AR
Prep Batch:	90362	Sample Preparation:	2013-11-12	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**7130**	mg/Kg	10	4.00

Sample: 346081 - BH-2 24-25'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106789	Date Analyzed:	2013-11-14	Analyzed By:	AR
Prep Batch:	90362	Sample Preparation:	2013-11-12	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**201**	mg/Kg	5	4.00

Sample: 346082 - BH-2 29-30'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106789	Date Analyzed:	2013-11-14	Analyzed By:	AR
Prep Batch:	90362	Sample Preparation:	2013-11-12	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**24.5**	mg/Kg	5	4.00

Method Blanks

Method Blank (1) QC Batch: 106715

QC Batch:	106715	Date Analyzed:	2013-11-12	Analyzed By:	AR
Prep Batch:	90362	QC Preparation:	2013-11-12	Prepared By:	AR

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

Method Blank (1) QC Batch: 106788

QC Batch:	106788	Date Analyzed:	2013-11-14	Analyzed By:	AR
Prep Batch:	90362	QC Preparation:	2013-11-12	Prepared By:	AR

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

Method Blank (1) QC Batch: 106789

QC Batch:	106789	Date Analyzed:	2013-11-14	Analyzed By:	AR
Prep Batch:	90362	QC Preparation:	2013-11-12	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: 106715 | Date Analyzed: 2013-11-12 | Analyzed By: AR
Prep Batch: 90362 | QC Preparation: 2013-11-12 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2390	mg/Kg	1	2500	<3.85	96	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			2460	mg/Kg	1	2500	<3.85	98	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: 106788 | Date Analyzed: 2013-11-14 | Analyzed By: AR
Prep Batch: 90362 | QC Preparation: 2013-11-12 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2440	mg/Kg	1	2500	<3.85	98	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			2540	mg/Kg	1	2500	<3.85	102	89.7 - 115.9	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: 106789 | Date Analyzed: 2013-11-14 | Analyzed By: AR
Prep Batch: 90362 | QC Preparation: 2013-11-12 | 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			2500	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: 346069

QC Batch: 106715 | Date Analyzed: 2013-11-12 | Analyzed By: AR
Prep Batch: 90362 | QC Preparation: 2013-11-12 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			8440	mg/Kg	10	2500	5890	102	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			8110	mg/Kg	10	2500	5890	89	78.9 - 121	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: 346079

QC Batch: 106788 | Date Analyzed: 2013-11-14 | Analyzed By: AR
Prep Batch: 90362 | QC Preparation: 2013-11-12 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2610	mg/Kg	5	2500	<19.2	104	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			2520	mg/Kg	5	2500	<19.2	101	78.9 - 121	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: 346089

QC Batch: 106789 | Date Analyzed: 2013-11-14 | Analyzed By: AR
Prep Batch: 90362 | QC Preparation: 2013-11-12 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2680	mg/Kg	5	2500	63.7	105	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			2580	mg/Kg	5	2500	63.7	101	78.9 - 121	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: 106715 | Date Analyzed: 2013-11-12 | 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	99.1	99	85 - 115	2013-11-12

Standard (CCV-2)

QC Batch: 106715 | Date Analyzed: 2013-11-12 | 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	2013-11-12

Standard (CCV-1)

QC Batch: 106788 | Date Analyzed: 2013-11-14 | 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	99.6	100	85 - 115	2013-11-14

Standard (CCV-2)

QC Batch: 106788 | Date Analyzed: 2013-11-14 | 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	2013-11-14

Standard (CCV-1)

QC Batch: 106789 | Date Analyzed: 2013-11-14 | 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	99.1	99	85 - 115	2013-11-14

Standard (CCV-2)

QC Batch: 106789 | Date Analyzed: 2013-11-14 | 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	2013-11-14

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

Standard Flags

F	Description
B	Analyte detected in the corresponding method blank above the method detection limit
H	Analyzed out of hold time
J	Estimated concentration
Jb	The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
Je	Estimated concentration exceeding calibration range.
MI1	Split peak or shoulder peak
MI2	Instrument software did not integrate
MI3	Instrument software misidentified the peak
MI4	Instrument software integrated improperly
MI5	Baseline correction
Qc	Calibration check outside of laboratory limits.
Qr	RPD outside of laboratory limits
Qs	Spike recovery outside of laboratory limits.
Qsr	Surrogate recovery outside of laboratory limits.
U	The analyte is not detected above the SDL

Attachments

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

13110803

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.: 112MC05537

PROJECT NAME: Willow State #1

LAB I.D. NUMBER	DATE 2013	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE
346064	11/7		S		X	BH-1 0-1						X
065	"		"		"	2-3						X
066						4-5						X
067						6-7						X
068						9-10						X
069						14-15						X
070						19-20						X
071						24-25						X
072						29-30						X
073						39-40						X

ANALYSIS REQUEST (Circle or Specify Method No.)

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. 8081/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
												X				
												X				
												X				
												X				
												X				
												X				
												X				
												X				
												X				
												X				

RELINQUISHED BY: (Signature) — Date: 11/8/13 Time: 8:09 — RECEIVED BY: (Signature) — Date: 11/8/13 Time: 8:09

SAMPLED BY: (Print & Initial) — Date: 11/7/13 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: — Results by:

RECEIVING LABORATORY: — RECEIVED BY: (Signature)
ADDRESS:
CITY: STATE: ZIP:
CONTACT: PHONE: DATE: TIME:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 9.9°

REMARKS: Midland - all

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

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Analysis Request of Chain of Custody Record

PAGE: 2 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.: 112DC05537

PROJECT NAME: Willow State #1

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
074	11/7		S		X	BH-2 0-1						X												X				
075						2-3						X												X				
076						4-5						X												X				
077						6-7						X												X				
078						9-10						X												X				
079						14-15						X												X				
080						19-20						X												X				
081						24-25						X												X				
082						29-30						X												X				

ANALYSIS REQUEST (Circle or Specify Method No.)

RELINQUISHED BY: (Signature)	Date: 11/8/13 Time: 8:09	RECEIVED BY: (Signature)	Date: 11/8/13 Time: 8:09
SAMPLED BY: (Print & Initial)	Date: 11/7/13 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:	Results by:		
RECEIVING LABORATORY: ADDRESS: CITY: STATE: ZIP: CONTACT: PHONE:	RECEIVED BY: (Signature) DATE: TIME:		RUSH Charges Authorized: Yes No
SAMPLE CONDITION WHEN RECEIVED: 490	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.