SITE INFORMATION

2RP-553

Report Type: Work Plan

General Site Information:		
Site:	High Lonesome Penrose Unit Tank Battery	
Company:	COG Operating LLC	
Section, Township and Range	Unit G Sec. 15 T-16S S-29E	
Lease Number:	30-015-02728	
County:	Eddy County	
GPS:	N 32.923067	W 104.058967
Surface Owner:	Federal	
Mineral Owner:		
Directions:	From intersection of Hwy 529 and Hwy 82, Travel 10.6 miles west on Hwy 82, Turn right on Cr-214 (Barnaval Draw) 5.1 miles, turn right 0.2 miles, stay left 1.0 miles, stay left 1.1 miles to location	

Release Data:	
Date Released:	2/2/2010
Type Release:	Produced water
Source of Contamination:	Hole in bottom of water tank
Fluid Released:	20 bbls
Fluids Recovered:	90 bbls (due to recent rains)

Official Communication:			
Name:	Pat Ellis		Kim Dorey
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) 631-0348
Fax:	(432) 684-7137		
Email:	pellis@conchoresources.com		kim.dorey@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

August 10, 2011

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

Re: Work Plan for the COG Operating LLC.
High Lonesome Penrose Unit Tank Battery
Unit G, Section 15, Township 16 South, Range 29 East
Eddy County, New Mexico.

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC. (COG) to assess a spill from the High Lonesome Penrose Unit Tank Battery, Unit G, Section 15, Township 16 South, Range 29 East, Eddy County, New Mexico. (Site). The spill site coordinates are N 32.923067°, W 104.058967°. 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 February 2, 2010, and released approximately twenty (20) barrels of produced water from a water tank. To alleviate the problem, COG personnel removed and replaced the water tank. Ninety (90) barrels of standing fluids (includes rain water) were recovered from the spill area. The spill initiated from the water vessel and migrated south down a lease road affecting a 15' wide by 785' length area. The spill continued south west traveling through a native dry creek for approximately 920'. The initial Form C-141 is enclosed in Appendix A.

Groundwater

No water wells were listed within Section 15. According to the New Mexico Office of the State Engineer database, one well is located in Section 19, with a reported depth to water of 110' below surface. Due to the limited groundwater data, Mike Bratcher of the NMOCD requested a temporary monitor well be installed.

On March 3, 2011, Tetra Tech personnel oversaw the installation of a temporary monitor well located in Sec 14. On March 23, 2011, Tetra Tech personnel gauged the well and recorded the well as dry with a total depth of 220'

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

bgs. Based on the findings, and as discussed and agreed with Mike Bratcher, groundwater is greater than 220' bgs or suspected absent in the area. The well log and groundwater data is shown in Appendix B.

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 and Analytical Results

On March 10, 2010, Tetra Tech personnel inspected and sampled the spill area. A total of seventeen (17) auger holes (AH-1 through AH-17) were installed using a stainless steel hand auger to assess the impacted soils. Select 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 results of the sampling are summarized in Table 1. The auger hole locations are shown on Figure 3.

Referring to Table 1, all the submitted samples were below the RRAL for TPH and BTEX. Elevated chloride concentrations were detected for AH-2 through AH-9 ranging from 1,110 mg/kg to 14,300 mg/kg. All remaining auger holes had chloride levels that ranged from <200 mg/kg to 271 mg/kg.

To delineate the chloride impact, Tetra Tech supervised the installation of eight (8) soil boreholes (SB-1 through SB-8) utilizing an air rotary drilling rig on April 30, 2010. Soil samples were collected to a total depth ranging from 15' of 80' below surface and the results are summarized in Table 1.

Referring to Table 1, chloride concentrations declined to 265 mg/kg or less for SB-4 through SB-8 with depth. SB-3 declined from 11,300 mg/kg at 3' bgs to 434 mg/kg at 80' bgs. SB-2 showed a significant decline 20,000 mg/kg at 40' to 1,930 mg/kg at 60'.

The deepest impact was found in the area of SB-2, with elevated chloride concentrations greater than 5,000 extending down to 50' and declining to 1,930 mg/kg at 60' below surface. Chloride concentrations observed in the 70' and 80' sample increased from the concentrations observed in the 60' sample. These

samples were likely cross contaminated from the loose sand sloughing from above. Drilling was halted at 80' due to the flowing sands.

Work Plan

In order to remediate the site, COG proposes to excavate select chloride impacted soils. The goal of the remediation is to remove soils with elevated chloride concentrations within the root zone and protect the adjacent land along the roadway from any future runoff of surface water with dissolved chlorides from the surface of the lease road affected by this release. Excavation depths greater than 4' bgs are not warranted at this time since the release was adequately assessed and groundwater was found to be in excess of 220' bgs or absent in the area. For future growth, 4.0' of impacted soil will be removed from the spill area with elevated chloride concentrations. If flowing sands are encountered within the initial 4' feet, the NMOCD will be notified and excavation activities will halt. As such, Tetra Tech will excavate the soils to the maximum extent practicable.

Tetra Tech proposes to supervise the removal of impacted material as shown in attached Table 1 and shown in Figure 4. The areas near SB-2 through SB-8 will be excavated to an approximate depth of 4' bgs, then backfilled with clean material. The caliche for the road will be replaced and compacted. The excavated soil will be transported to proper disposal.

Upon completion a final report will be submitted to the NMOCD. If you have any questions or require any additional information regarding this work plan proposal, please call me at (432) 682-4559.

Respectfully submitted,
TETRA TECH

Aaron M. Hale
Senior Project Manager

cc: Pat Ellis – COG
cc: Terry Gregston – BLM
cc: Mike Bratcher - OCD

Figures

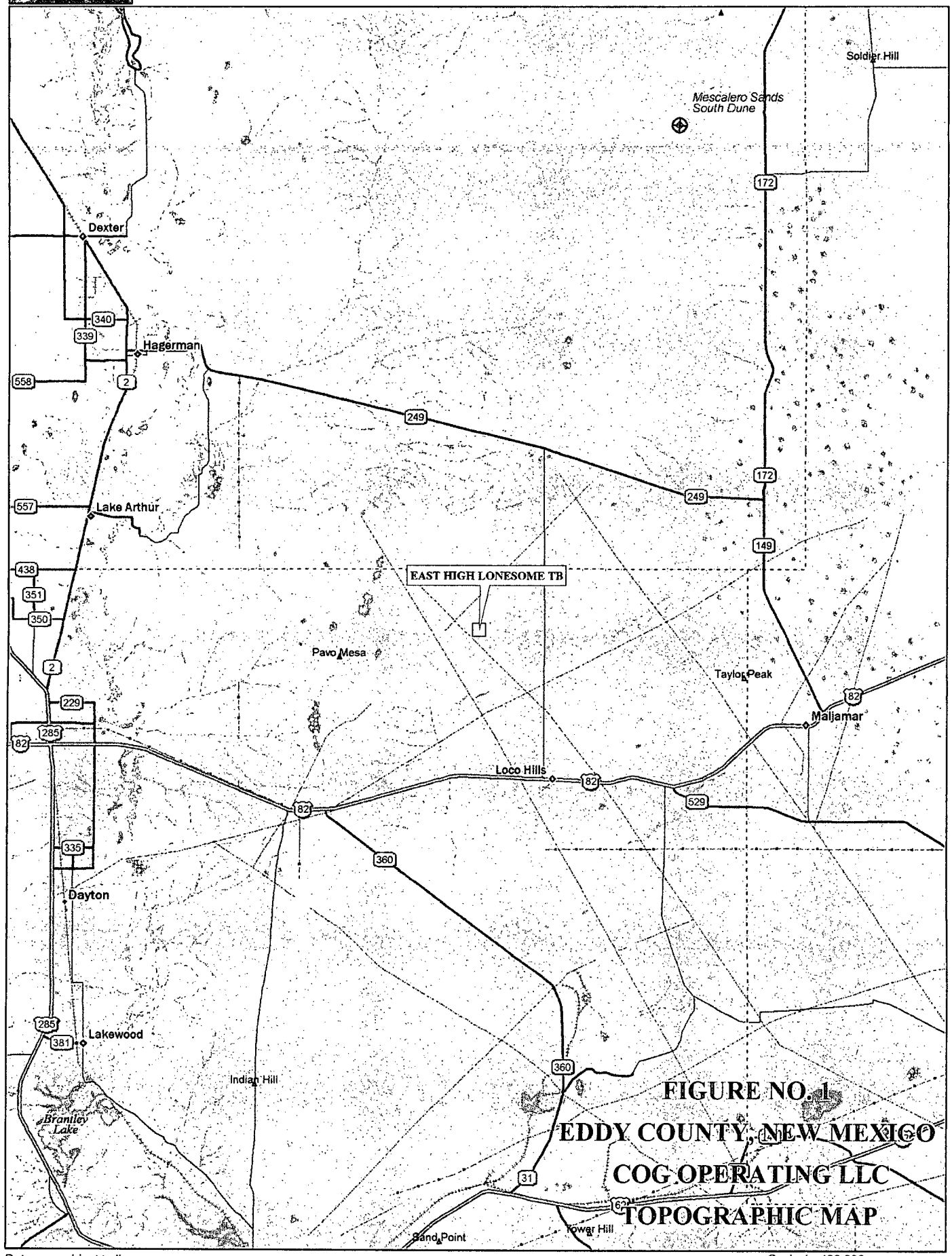


FIGURE NO. 1

EDDY COUNTY, NEW MEXICO

COG OPERATING LLC

TOPOGRAPHIC MAP

TN

MN (7.9°E)

Scale 1 : 400,000

1" = 6.31 mi

Data Zoom 9-0

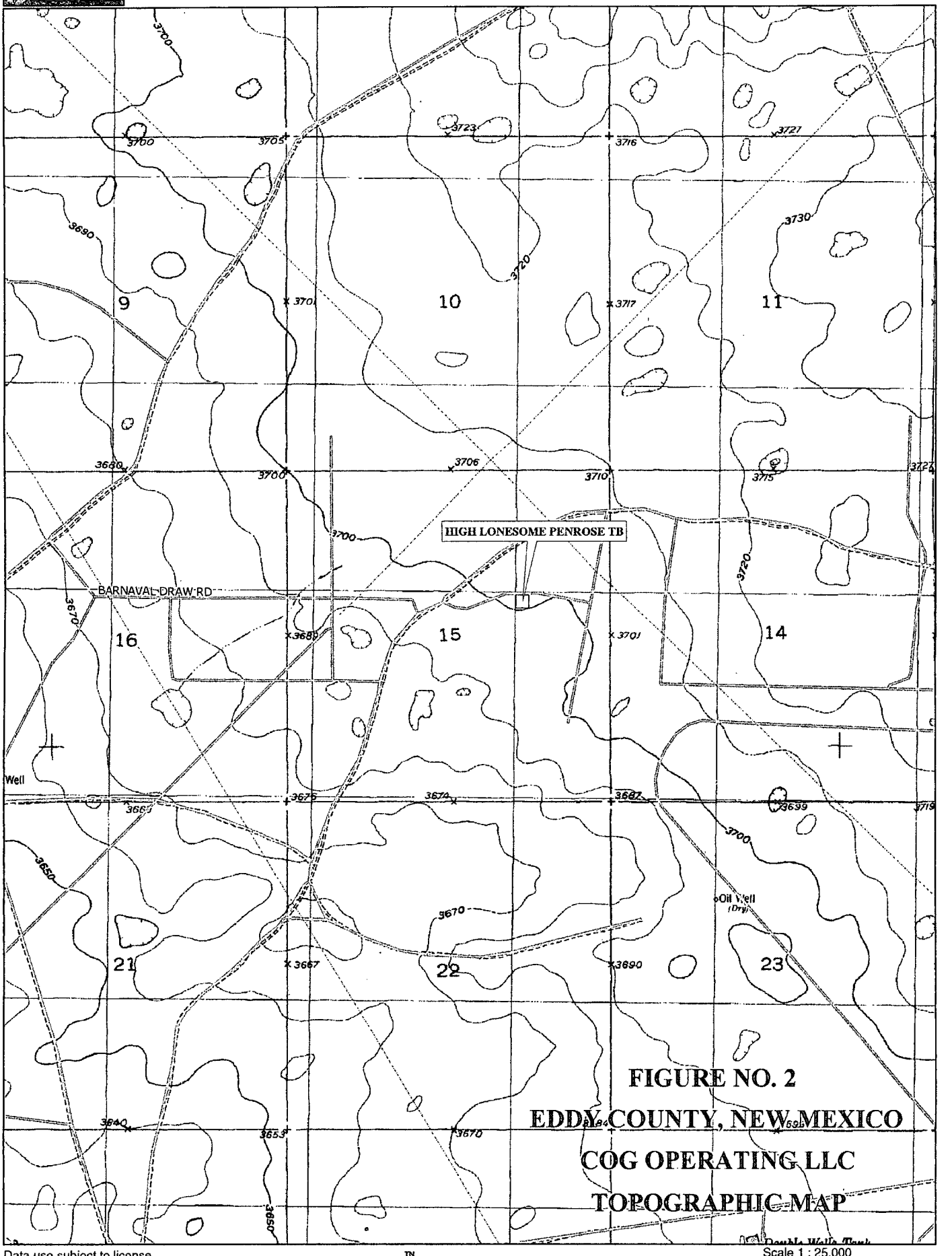


FIGURE NO. 2

EDDY COUNTY, NEW MEXICO

COG OPERATING LLC

TOPOGRAPHIC MAP

TN
MN (7.9°E)

Scale 1 : 25,000

0 600 1200 1800 2400 3000 ft
0 200 400 600 800 1000 m

1" = 2,083.3 ft Data Zoom 13-0

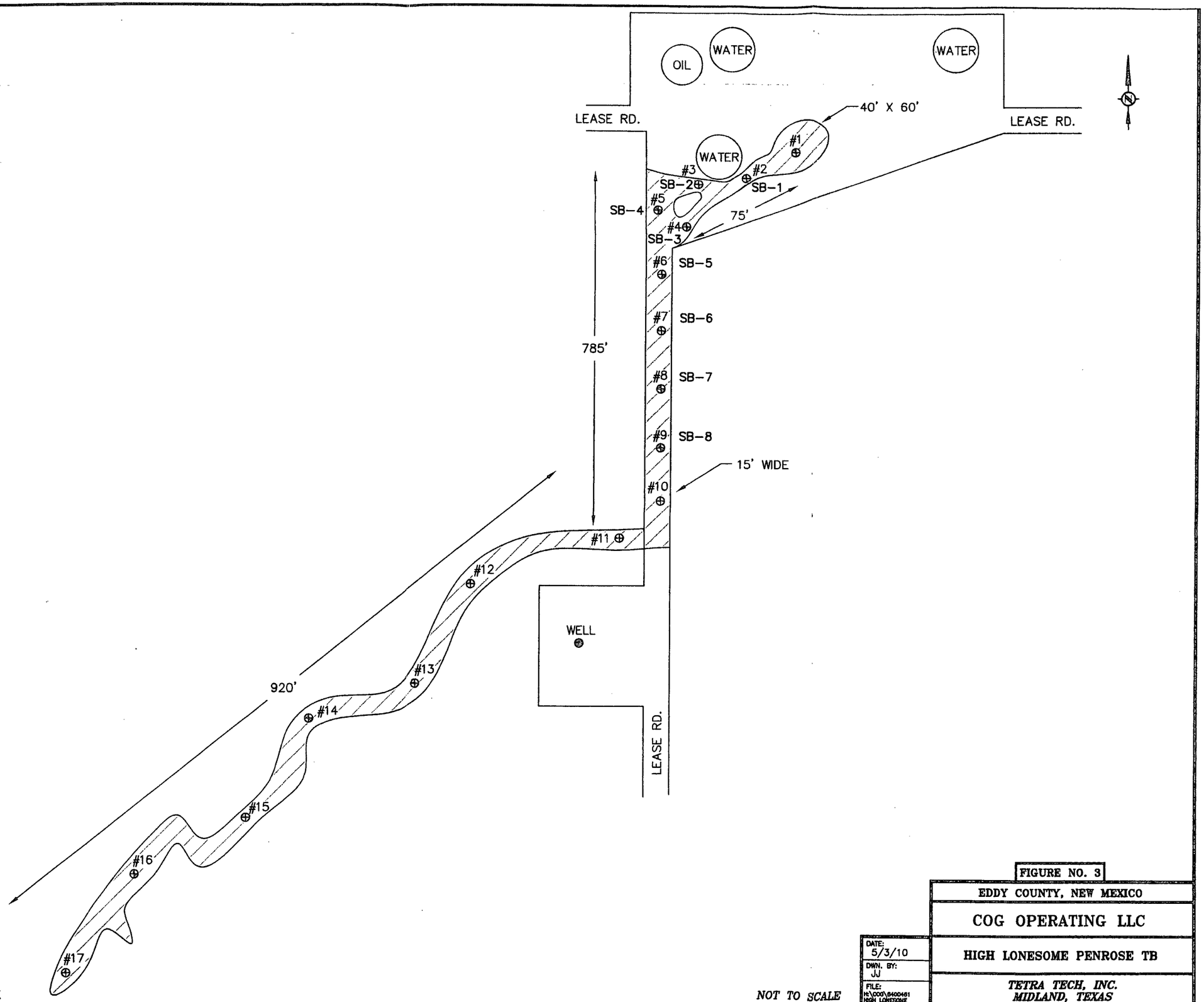


FIGURE NO. 3

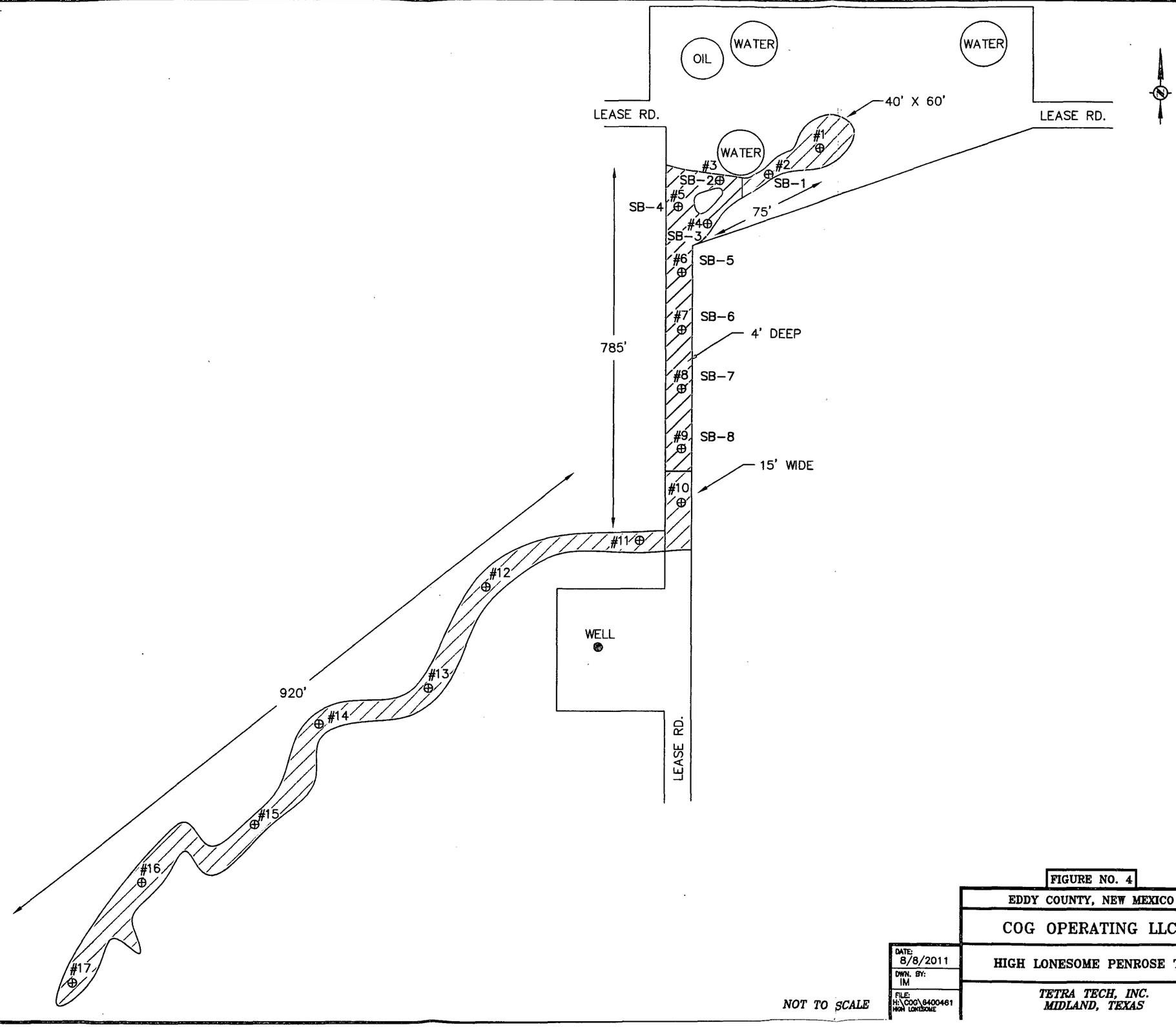
EDDY COUNTY, NEW MEXICO

COG OPERATING LLC

HIGH LONESOME PENROSE TB

TETRA TECH, INC.
MIDLAND, TEXAS

DATE: 5/3/10
DWN. BY: JJ
FILE: N:\000\04000481 HIGH LONESOME



NOT TO SCALE

FIGURE NO. 4

EDDY COUNTY, NEW MEXICO

COG OPERATING LLC

HIGH LONESOME PENROSE TB

DATE: 8/8/2011
DWN. BY: IM
FILE: H:\COG\6400461 HIGH LONESOME

TETRA TECH, INC.
MIDLAND, TEXAS

Tables

Table 1
COG Operating LLC.
High Lonesome Penrose Unit TB
EDDY COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth (ft)	BEB	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total					
AH-1	3/10/10	0-1'	0.5'	X		<1.00	<50.0	<50.0	<0.0100	<0.0100	<0.0100	<0.0100	271
		1-1.5'	0.5'	X		-	-	-	-	-	-	-	389
AH-2	3/10/10	0-1'		X		<1.00	<50.0	<50.0	<0.0100	<0.0100	<0.0100	<0.0100	<200
		1-1.5'		X		-	-	-	-	-	-	-	488
		2-2.5'		X		-	-	-	-	-	-	-	1,630
SB-1	4/30/10	1'		X		-	-	-	-	-	-	-	<200
		3'		X		-	-	-	-	-	-	-	890
		5'		X		-	-	-	-	-	-	-	5,150
		7'		X		-	-	-	-	-	-	-	6,240
		10'		X		-	-	-	-	-	-	-	13,000
		15'		X		-	-	-	-	-	-	-	15,700
		20'		X		-	-	-	-	-	-	-	18,400
		30'		X		-	-	-	-	-	-	-	15,000
		40'		X		-	-	-	-	-	-	-	5,650
		50'		X		-	-	-	-	-	-	-	2,210
		60'		X		-	-	-	-	-	-	-	2,680
		70'		X		-	-	-	-	-	-	-	265

Table 1
COG Operating LLC.
High Lonesome Penrose Unit TB
EDDY COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth (ft)	BEB	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total					
AH-3	3/10/10	0-1'		X		<1.00	<50.0	<50.0	<0.0100	<0.0100	<0.0100	<0.0100	<200
		1-1.5'		X		-	-	-	-	-	-	-	340
		2-2.5'		X		-	-	-	-	-	-	-	1,110
SB-2	4/30/10	3'		X		-	-	-	-	-	-	-	2,540
		5'		X		-	-	-	-	-	-	-	8,150
		10'		X		-	-	-	-	-	-	-	5,920
		15'		X		-	-	-	-	-	-	-	6,560
		20'		X		-	-	-	-	-	-	-	15,300
		30'		X		-	-	-	-	-	-	-	12,400
		40'		X		-	-	-	-	-	-	-	20,000
		50'		X		-	-	-	-	-	-	-	7,690
		60'		X		-	-	-	-	-	-	-	1,930
		70'		X		-	-	-	-	-	-	-	3,480
		80'		X		-	-	-	-	-	-	-	4,130

Table 1
COG Operating LLC.
High Lonesome Penrose Unit TB
EDDY COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth (ft)	BEB	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total					
AH-4	3/10/10	0-1'		X		<1.00	<50.0	<50.0	<0.0100	<0.0100	<0.0100	<0.0100	6,150
		1-1.5'		X		-	-	-	-	-	-	-	8,040
		1.5'-2'		X		-	-	-	-	-	-	-	14,300
SB-3	4/30/10	3'		X		-	-	-	-	-	-	-	11,300
		5'		X		-	-	-	-	-	-	-	4,080
		10'		X		-	-	-	-	-	-	-	1,520
		15'		X		-	-	-	-	-	-	-	1,020
		20'		X		-	-	-	-	-	-	-	7,260
		30'		X		-	-	-	-	-	-	-	10,400
		40'		X		-	-	-	-	-	-	-	7,080
		50'		X		-	-	-	-	-	-	-	9,940
		60'		X		-	-	-	-	-	-	-	2,340
		70'		X		-	-	-	-	-	-	-	801
		80'		X		-	-	-	-	-	-	-	434

Table 1
COG Operating LLC.
High Lonesome Penrose Unit TB
EDDY COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth (ft)	BEB	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total					
AH-5	3/10/10	0-1'		X		<1.00	<50.0	<50.0	<0.0100	<0.0100	<0.0100	<0.0100	620
SB-4	4/30/10	1'		X		-	-	-	-	-	-	-	7,120
		3'		X		-	-	-	-	-	-	-	8,590
		5'		X		-	-	-	-	-	-	-	14,400
		7'		X		-	-	-	-	-	-	-	14,800
		10'		X		-	-	-	-	-	-	-	7,570
		20'		X		-	-	-	-	-	-	-	6,580
		25'		X		-	-	-	-	-	-	-	3,070
		30'		X		-	-	-	-	-	-	-	911
		40'		X		-	-	-	-	-	-	-	2,840
		50'		X		-	-	-	-	-	-	-	11,300
		60'		X		-	-	-	-	-	-	-	1,490
		70'		X		-	-	-	-	-	-	-	<200

Table 1
COG Operating LLC.
High Lonesome Penrose Unit TB
EDDY COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth (ft)	BEB	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total					
AH-6	3/10/10	0-1'		X		8	<50.0	<50.0	<0.0100	<0.0100	<0.0100	<0.0100	12,900
SB-5	4/30/10	1'		X		-	-	-	-	-	-	-	5,750
		3'		X		-	-	-	-	-	-	-	8,840
		5'		X		-	-	-	-	-	-	-	15,200
		7'		X		-	-	-	-	-	-	-	14,800
		10'		X		-	-	-	-	-	-	-	9,650
		15'		X		-	-	-	-	-	-	-	5,350
		20'		X		-	-	-	-	-	-	-	5,280
		25'		X		-	-	-	-	-	-	-	4,330
		30'		X		-	-	-	-	-	-	-	3,780
		40'		X		-	-	-	-	-	-	-	350
		45'		X		-	-	-	-	-	-	-	1,950
		50'		X		-	-	-	-	-	-	-	10,700
		60'		X		-	-	-	-	-	-	-	1,950
		70'		X		-	-	-	-	-	-	-	<200

Table 1
COG Operating LLC.
High Lonesome Penrose Unit TB
EDDY COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth (ft)	BEB	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total					
AH-7	3/10/10	0-1'		X		<1.00	<50.0	<50.0	<0.0100	<0.0100	<0.0100	<0.0100	699
		1-1.5'		X		-	-	-	-	-	-	-	2,180
SB-6	4/30/10	1'		X		-	-	-	-	-	-	-	6,150
		3'		X		-	-	-	-	-	-	-	10,500
		5'		X		-	-	-	-	-	-	-	7,000
		7'		X		-	-	-	-	-	-	-	9,630
		10'		X		-	-	-	-	-	-	-	2,570
		15'		X		-	-	-	-	-	-	-	444
		20'		X		-	-	-	-	-	-	-	<200
		25'		X		-	-	-	-	-	-	-	<200

Table 1
COG Operating LLC.
High Lonesome Penrose Unit TB
EDDY COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth (ft)	BEB	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total					
AH-8	3/10/10	0-.5'		X		<1.00	<50.0	<50.0	<0.0100	<0.0100	<0.0100	<0.0100	3,580
SB-7	4/30/10	1'		X		-	-	-	-	-	-	-	3,320
		3'		X		-	-	-	-	-	-	-	6,230
		5'		X		-	-	-	-	-	-	-	6,270
		7'		X		-	-	-	-	-	-	-	4,130
		10'		X		-	-	-	-	-	-	-	615
		15'		X		-	-	-	-	-	-	-	226
		20'		X		-	-	-	-	-	-	-	<200

Table 1
COG Operating LLC.
High Lonesome Penrose Unit TB
EDDY COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth (ft)	BEB	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total					
AH-9	3/10/10	0-1'		X		<1.00	<50.0	<50.0	<0.0100	<0.0100	<0.0100	<0.0100	493
		1-1.5'		X		-	-	-	-	-	-	-	2,180
		2-2.5'		X		-	-	-	-	-	-	-	3,510
		3-3.5'		X		-	-	-	-	-	-	-	6,710
SB-8	4/30/10	3'		X		-	-	-	-	-	-	-	2,050
		5'		X		-	-	-	-	-	-	-	1,710
		7'		X		-	-	-	-	-	-	-	973
		10'		X		-	-	-	-	-	-	-	246
		15'		X		-	-	-	-	-	-	-	<200

Table 1
COG Operating LLC.
High Lonesome Penrose Unit TB
EDDY COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth (ft)	BEB	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total					
AH-10	3/10/10	0-1'		X		<1.00	<50.0	<50.0	<0.0100	<0.0100	<0.0100	<0.0100	292
AH-11	3/10/10	0-1'		X		<1.00	<50.0	<50.0	<0.0100	<0.0100	<0.0100	<0.0100	<200
		1-1.5'		X		-	-	-	-	-	-	-	<200
AH-12	3/10/10	0-1'		X		<1.00	<50.0	<50.0	<0.0100	<0.0100	<0.0100	<0.0100	<200
AH-13	3/10/10	0-.5'		X		<1.00	<50.0	<50.0	<0.0100	<0.0100	<0.0100	<0.0100	<200
AH-14	3/10/10	0-1'		X		<1.00	<50.0	<50.0	<0.0100	<0.0100	<0.0100	<0.0100	<200
		1-1.5'		X		-	-	-	-	-	-	-	<200
		2-2.5'		X		-	-	-	-	-	-	-	<200
AH-15	3/10/10	0-1'		X		<1.00	<50.0	<50.0	<0.0100	<0.0100	<0.0100	<0.0100	<200
AH-16	3/10/10	0-1'		X		<1.00	<50.0	<50.0	<0.0100	<0.0100	<0.0100	<0.0100	<200
AH-17	3/10/10	0-1'		X		<1.00	<50.0	<50.0	<0.0100	<0.0100	<0.0100	<0.0100	<200

BEB Below Excavation Bottom
(--) Not Analyzed
[ ] Proposed Excavation Depths

Appendix A

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	COG Operating, LLC	Contact	Pat Ellis
Address	550 W. Texas, Suite 100 Midland, TX 79701	Telephone No.	432-230-0077
Facility Name	High Lonesome Penrose Unit Tank Battery	Facility Type	Tank Battery

Surface Owner Federal	Mineral Owner	Lease No. (API#) 30-015-02728

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
G	15	16S	29E	1980	NORTH	1980	EAST	EDDY

Latitude 32.923067 **Longitude** 104.058967

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 20bbls	Volume Recovered 90bbls
Source of Release Water Tank	Date and Hour of Occurrence 02/02/2010	Date and Hour of Discovery 02/02/2010 8:30 a.m.
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

RECEIVED
OCT 11 2011
NMOCD ARTESIA

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

There was a hole in the bottom of a water tank. The water tank was immediately removed and replaced with a new one.

Describe Area Affected and Cleanup Action Taken.*

The area surrounding the water tank was saturated with 20bbls of produced water that had been released from the water tank, and standing rain water. A vacuum truck recovered 90 bbls of water because of the amount of rain water at the facility. One-call protocol will be made by dirt contractor who will then remove saturated soils prior to soil sampling by Tetra Tech. Tetra Tech will then sample spill site area to delineate any possible contamination from the release and we will present a remediation work plan to the NMOCD/BLM for your 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:		
Printed Name: Josh Russo		
Title: HSE Coordinator	Approval Date:	Expiration Date:
E-mail Address: jrusso@conchoresources.com	Conditions of Approval:	Attached ☐
Date: 02/11/2010 Phone: 432-212-2399		

* Attach Additional Sheets If Necessary

Appendix B

Water Well Data
Average Depth to Groundwater (ft)
COG - High Lonesome Tank Battery
Eddy County, New Mexico

2	1 **23**				
11	12				
14	13				
23	24				
26	25				
35	36				

6	5	4	3	2	1
7	8	9	10	11	12
18 **35**	17 **43**	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

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

6	5	4
7	8	9
18	17	16
19	20	21
30	29	28
31	32	33

16 South 28 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21 **61**	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

16 South 29 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15 **SITE**	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

17 South 28 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22 **79**	23	24
30	29	28	27	26	25
31	32	33	34 **53**	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	33	34	35	36

- New Mexico State Engineers Well Reports
- USGS Well Reports
- Geology and Groundwater Conditions in Southern Eddy, County, NM
- NMOCD - Groundwater Data
- Field water level
- High Lonesome Penrose Unit Tank Battery Site

Tempory monitor well installed by Tetra Tech 3/15/11 - 220' Dry

SAMPLE LOG

Boring/Well: TMW-1
Project Number: 114-6400561
Client: COG
Site Location: East High Lonesome
Location: Eddy Co., NM
Legals: Township 16-S Range 29-E Sec 14 Unit H
Total Depth 220
Date Installed: 03/15/11

DEPTH (Ft)	OVM	SAMPLE DESCRIPTION
5	--	Loose brown sand
10	--	soft sandy clay
15	--	Medium stiff clay with some sand
20	--	Medium stiff clay very little sand
25	--	Dense silty sand
30	--	Medium dense silty sand
35	--	Medium dense silty sand
40	--	Medium dense silty sand
45	--	Medium dense silty sand
50	--	Medium stiff silty clay
55	--	Medium stiff silty clay
60	--	Medium stiff silty clay
65	--	Medium stiff silty clay
70	--	Medium stiff silty clay
75	--	Medium stiff silty clay - slightly damp
80	--	Medium stiff silty clay - slightly damp
85	--	Medium dense silty sand
90	--	Medium dense silty sand
95	--	Medium dense silty sand
100	--	Medium dense silty sand
105	--	Medium dense silty sand ~5% 0.5mm gravel
110	--	Medium dense silty sand ~5% 0.5mm gravel
115	--	Medium dense silty sand - gravel layer 0.5-2.5mm gravel
120	--	Medium dense silty sand some gravel
125	--	Loose silty sand
130	--	Loose silty sand
135	--	Loose silty sand
140	--	Loose silty sand
145	--	Stiff silty clay
150	--	Stiff clay
155	--	Stiff clay
160	--	Stiff clay
165	--	Stiff sandy clay
170	--	Coarse sand and gravel mix
175	--	Large gravel and sand 15mm
180	--	Coarse sand and gravel mix with silty clay
185	--	gravel 10 mm and sandy clay
190	--	Lots of gravel and coarse sand mix
195	--	Gravel and sand
200	--	Gravel and sand mix (tapering off)
205	--	Mostly stiff clay with some sand and 0.5mm gravel
210	--	Stiff red clay
215	--	Stiff red clay
220	--	Stiff red clay

Total Depth 220' **Groundwater was not encountered**

Appendix C

Summary Report

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

Report Date: March 23, 2010

Work Order: 10031516

Project Location: Eddy County, NM
Project Name: COG/High Lonesome Penrose Unit TB
Project Number: 114-6400461

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
225686	AH-1 0-1' 0.5' BEB	soil	2010-03-10	00:00	2010-03-12
225687	AH-1 1-1.5' 0.5' BEB	soil	2010-03-10	00:00	2010-03-12
225688	AH-2 0-1'	soil	2010-03-10	00:00	2010-03-12
225689	AH-2 1-1.5'	soil	2010-03-10	00:00	2010-03-12
225690	AH-2 2-2.5'	soil	2010-03-10	00:00	2010-03-12
225691	AH-3 0-1'	soil	2010-03-10	00:00	2010-03-12
225692	AH-3 1-1.5'	soil	2010-03-10	00:00	2010-03-12
225693	AH-3 2-2.5'	soil	2010-03-10	00:00	2010-03-12
225694	AH-4 0-1'	soil	2010-03-10	00:00	2010-03-12
225695	AH-4 1-1.5'	soil	2010-03-10	00:00	2010-03-12
225696	AH-4 1.5-2'	soil	2010-03-10	00:00	2010-03-12
225697	AH-5 0-1'	soil	2010-03-10	00:00	2010-03-12
225698	AH-6 0-1'	soil	2010-03-10	00:00	2010-03-12
225699	AH-7 0-1'	soil	2010-03-10	00:00	2010-03-12
225700	AH-7 1-1.5'	soil	2010-03-10	00:00	2010-03-12
225701	AH-8 0-.5'	soil	2010-03-10	00:00	2010-03-12
225702	AH-9 0-1'	soil	2010-03-10	00:00	2010-03-12
225703	AH-9 1-1.5'	soil	2010-03-10	00:00	2010-03-12
225704	AH-9 2-2.5'	soil	2010-03-10	00:00	2010-03-12
225705	AH-9 3-3.5'	soil	2010-03-10	00:00	2010-03-12
225706	AH-10 0-1'	soil	2010-03-10	00:00	2010-03-12
225707	AH-11 0-1'	soil	2010-03-11	00:00	2010-03-12
225708	AH-11 1-1.5'	soil	2010-03-11	00:00	2010-03-12
225709	AH-12 0-1'	soil	2010-03-11	00:00	2010-03-12
225710	AH-13 0-.5'	soil	2010-03-11	00:00	2010-03-12
225711	AH-14 0-1'	soil	2010-03-11	00:00	2010-03-12
225712	AH-14 1-1.5'	soil	2010-03-11	00:00	2010-03-12
225713	AH-14 2-2.5'	soil	2010-03-11	00:00	2010-03-12
225714	AH-15 0-1'	soil	2010-03-11	00:00	2010-03-12
225715	AH-16 0-1'	soil	2010-03-11	00:00	2010-03-12

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
225716	AH-17 0-1'	soil	2010-03-11	00:00	2010-03-12

Sample - Field Code	BTEX Benzene (mg/Kg)	BTEX Toluene (mg/Kg)	BTEX Ethylbenzene (mg/Kg)	BTEX Xylene (mg/Kg)	TPH DRO - NEW DRO (mg/Kg)	TPH GRO GRO (mg/Kg)
225686 - AH-1 0-1' 0.5' BEB	<0.0100	<0.0100	<0.0100	<0.0100	<50.0	<1.00
225688 - AH-2 0-1'	<0.0100	<0.0100	<0.0100	<0.0100	<50.0	<1.00
225691 - AH-3 0-1'	<0.0100	<0.0100	<0.0100	<0.0100	<50.0	<1.00
225694 - AH-4 0-1'	<0.0100	<0.0100	<0.0100	<0.0100	<50.0	<1.00
225697 - AH-5 0-1'					<50.0	<1.00
225698 - AH-6 0-1'	<0.0100	<0.0100	<0.0100	<0.0100	<50.0	**8.07**
225699 - AH-7 0-1'					<50.0	<1.00
225701 - AH-8 0-.5'	<0.0100	<0.0100	<0.0100	<0.0100	<50.0	<1.00
225702 - AH-9 0-1'					<50.0	<1.00
225706 - AH-10 0-1'	<0.0100	<0.0100	<0.0100	<0.0100	<50.0	<1.00
225707 - AH-11 0-1'	<0.0100	<0.0100	<0.0100	<0.0100	<50.0	<1.00
225709 - AH-12 0-1'					<50.0	<1.00
225710 - AH-13 0-.5'	<0.0100	<0.0100	<0.0100	<0.0100	<50.0	<1.00
225711 - AH-14 0-1'					<50.0	<1.00
225714 - AH-15 0-1'	<0.0100	<0.0100	<0.0100	<0.0100	<50.0	<1.00
225715 - AH-16 0-1'					<50.0	<1.00
225716 - AH-17 0-1'	<0.0100	<0.0100	<0.0100	<0.0100	<50.0	<1.00

Sample: 225686 - AH-1 0-1' 0.5' BEB

Param	Flag	Result	Units	RL
Chloride		**271**	mg/Kg	4.00

Sample: 225687 - AH-1 1-1.5' 0.5' BEB

Param	Flag	Result	Units	RL
Chloride		**389**	mg/Kg	4.00

Sample: 225688 - AH-2 0-1'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 225689 - AH-2 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**488**	mg/Kg	4.00

Sample: 225690 - AH-2 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**1630**	mg/Kg	4.00

Sample: 225691 - AH-3 0-1'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 225692 - AH-3 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**340**	mg/Kg	4.00

Sample: 225693 - AH-3 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**1110**	mg/Kg	4.00

Sample: 225694 - AH-4 0-1'

Param	Flag	Result	Units	RL
Chloride		**6150**	mg/Kg	4.00

Sample: 225695 - AH-4 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**8040**	mg/Kg	4.00

Sample: 225696 - AH-4 1.5-2'

Param	Flag	Result	Units	RL
Chloride		**14300**	mg/Kg	4.00

Sample: 225697 - AH-5 0-1'

Param	Flag	Result	Units	RL
Chloride		**620**	mg/Kg	4.00

Sample: 225698 - AH-6 0-1'

Param	Flag	Result	Units	RL
Chloride		**12900**	mg/Kg	4.00

Sample: 225699 - AH-7 0-1'

Param	Flag	Result	Units	RL
Chloride		**699**	mg/Kg	4.00

Sample: 225700 - AH-7 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**2180**	mg/Kg	4.00

Sample: 225701 - AH-8 0-.5'

Param	Flag	Result	Units	RL
Chloride		**3580**	mg/Kg	4.00

Sample: 225702 - AH-9 0-1'

Param	Flag	Result	Units	RL
Chloride		**493**	mg/Kg	4.00

Sample: 225703 - AH-9 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**2180**	mg/Kg	4.00

Sample: 225704 - AH-9 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**3510**	mg/Kg	4.00

Sample: 225705 - AH-9 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**6710**	mg/Kg	4.00

Sample: 225706 - AH-10 0-1'

Param	Flag	Result	Units	RL
Chloride		**292**	mg/Kg	4.00

Sample: 225707 - AH-11 0-1'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 225708 - AH-11 1-1.5'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 225709 - AH-12 0-1'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 225710 - AH-13 0-.5'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 225711 - AH-14 0-1'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 225712 - AH-14 1-1.5'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 225713 - AH-14 2-2.5'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 225714 - AH-15 0-1'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 225715 - AH-16 0-1'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 225716 - AH-17 0-1'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Summary Report

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

Report Date: May 18, 2010

Work Order: 10050422

Project Location: Eddy County, NM
Project Name: COG/High Lonesome Penrose Unit TB
Project Number: 114-6400461

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
230478	SB-1 1'	soil	2010-04-30	00:00	2010-05-03
230479	SB-1 3'	soil	2010-04-30	00:00	2010-05-03
230480	SB-1 5'	soil	2010-04-30	00:00	2010-05-03
230481	SB-1 7'	soil	2010-04-30	00:00	2010-05-03
230482	SB-1 10'	soil	2010-04-30	00:00	2010-05-03
230483	SB-1 15'	soil	2010-04-30	00:00	2010-05-03
230484	SB-1 20'	soil	2010-04-30	00:00	2010-05-03
230485	SB-1 30'	soil	2010-04-30	00:00	2010-05-03
230486	SB-1 40'	soil	2010-04-30	00:00	2010-05-03
230487	SB-1 50'	soil	2010-04-30	00:00	2010-05-03
230488	SB-1 60'	soil	2010-04-30	00:00	2010-05-03
230489	SB-1 70'	soil	2010-04-30	00:00	2010-05-03
230491	SB-2 3'	soil	2010-04-30	00:00	2010-05-03
230492	SB-2 5'	soil	2010-04-30	00:00	2010-05-03
230493	SB-2 10'	soil	2010-04-30	00:00	2010-05-03
230494	SB-2 15'	soil	2010-04-30	00:00	2010-05-03
230495	SB-2 20'	soil	2010-04-30	00:00	2010-05-03
230496	SB-2 30'	soil	2010-04-30	00:00	2010-05-03
230497	SB-2 40'	soil	2010-04-30	00:00	2010-05-03
230498	SB-2 50'	soil	2010-04-30	00:00	2010-05-03
230499	SB-2 60'	soil	2010-04-30	00:00	2010-05-03
230500	SB-2 70'	soil	2010-04-30	00:00	2010-05-03
230501	SB-2 80'	soil	2010-04-30	00:00	2010-05-03
230502	SB-3 3'	soil	2010-04-30	00:00	2010-05-03
230503	SB-3 5'	soil	2010-04-30	00:00	2010-05-03
230504	SB-3 10'	soil	2010-04-30	00:00	2010-05-03
230505	SB-3 15'	soil	2010-04-30	00:00	2010-05-03
230506	SB-3 20'	soil	2010-04-30	00:00	2010-05-03
230507	SB-3 30'	soil	2010-04-30	00:00	2010-05-03
230508	SB-3 40'	soil	2010-04-30	00:00	2010-05-03

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
230509	SB-3 50'	soil	2010-04-30	00:00	2010-05-03
230510	SB-3 60'	soil	2010-04-30	00:00	2010-05-03
230511	SB-3 70'	soil	2010-04-30	00:00	2010-05-03
230512	SB-3 80'	soil	2010-04-30	00:00	2010-05-03
230518	SB-4 1'	soil	2010-04-30	00:00	2010-05-03
230519	SB-4 3'	soil	2010-04-30	00:00	2010-05-03
230520	SB-4 5'	soil	2010-04-30	00:00	2010-05-03
230521	SB-4 7'	soil	2010-04-30	00:00	2010-05-03
230522	SB-4 10'	soil	2010-04-30	00:00	2010-05-03
230523	SB-4 20'	soil	2010-04-30	00:00	2010-05-03
230524	SB-4 25'	soil	2010-04-30	00:00	2010-05-03
230525	SB-4 30'	soil	2010-04-30	00:00	2010-05-03
230526	SB-4 40'	soil	2010-04-30	00:00	2010-05-03
230527	SB-4 50'	soil	2010-04-30	00:00	2010-05-03
230528	SB-4 60'	soil	2010-04-30	00:00	2010-05-03
230529	SB-4 70'	soil	2010-04-30	00:00	2010-05-03
230531	SB-5 1'	soil	2010-04-30	00:00	2010-05-03
230532	SB-5 3'	soil	2010-04-30	00:00	2010-05-03
230533	SB-5 5'	soil	2010-04-30	00:00	2010-05-03
230534	SB-5 7'	soil	2010-04-30	00:00	2010-05-03
230535	SB-5 10'	soil	2010-04-30	00:00	2010-05-03
230536	SB-5 15'	soil	2010-04-30	00:00	2010-05-03
230537	SB-5 20'	soil	2010-04-30	00:00	2010-05-03
230538	SB-5 25'	soil	2010-04-30	00:00	2010-05-03
230539	SB-5 30'	soil	2010-04-30	00:00	2010-05-03
230540	SB-5 40'	soil	2010-04-30	00:00	2010-05-03
230541	SB-5 45'	soil	2010-04-30	00:00	2010-05-03
230542	SB-5 50'	soil	2010-04-30	00:00	2010-05-03
230543	SB-5 60'	soil	2010-04-30	00:00	2010-05-03
230544	SB-5 70'	soil	2010-04-30	00:00	2010-05-03
230547	SB-6 1'	soil	2010-04-30	00:00	2010-05-03
230548	SB-6 3'	soil	2010-04-30	00:00	2010-05-03
230549	SB-6 5'	soil	2010-04-30	00:00	2010-05-03
230550	SB-6 7'	soil	2010-04-30	00:00	2010-05-03
230551	SB-6 10'	soil	2010-04-30	00:00	2010-05-03
230552	SB-6 15'	soil	2010-04-30	00:00	2010-05-03
230553	SB-6 20'	soil	2010-04-30	00:00	2010-05-03
230554	SB-6 25'	soil	2010-04-30	00:00	2010-05-03
230555	SB-7 1'	soil	2010-04-30	00:00	2010-05-03
230556	SB-7 3'	soil	2010-04-30	00:00	2010-05-03
230557	SB-7 5'	soil	2010-04-30	00:00	2010-05-03
230558	SB-7 7'	soil	2010-04-30	00:00	2010-05-03
230559	SB-7 10'	soil	2010-04-30	00:00	2010-05-03
230560	SB-7 15'	soil	2010-04-30	00:00	2010-05-03
230561	SB-7 20'	soil	2010-04-30	00:00	2010-05-03
230562	SB-8 3'	soil	2010-04-30	00:00	2010-05-03
230563	SB-8 5'	soil	2010-04-30	00:00	2010-05-03
230564	SB-8 7'	soil	2010-04-30	00:00	2010-05-03
230565	SB-8 10'	soil	2010-04-30	00:00	2010-05-03

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
230566	SB-8 15'	soil	2010-04-30	00:00	2010-05-03

Sample: 230478 - SB-1 1'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 230479 - SB-1 3'

Param	Flag	Result	Units	RL
Chloride		**890**	mg/Kg	4.00

Sample: 230480 - SB-1 5'

Param	Flag	Result	Units	RL
Chloride		**5150**	mg/Kg	4.00

Sample: 230481 - SB-1 7'

Param	Flag	Result	Units	RL
Chloride		**6240**	mg/Kg	4.00

Sample: 230482 - SB-1 10'

Param	Flag	Result	Units	RL
Chloride		**13000**	mg/Kg	4.00

Sample: 230483 - SB-1 15'

Param	Flag	Result	Units	RL
Chloride		**15700**	mg/Kg	4.00

Sample: 230484 - SB-1 20'

Param	Flag	Result	Units	RL
Chloride		**18400**	mg/Kg	4.00

Sample: 230485 - SB-1 30'

Param	Flag	Result	Units	RL
Chloride		**15000**	mg/Kg	4.00

Sample: 230486 - SB-1 40'

Param	Flag	Result	Units	RL
Chloride		**5650**	mg/Kg	4.00

Sample: 230487 - SB-1 50'

Param	Flag	Result	Units	RL
Chloride		**2210**	mg/Kg	4.00

Sample: 230488 - SB-1 60'

Param	Flag	Result	Units	RL
Chloride		**2680**	mg/Kg	4.00

Sample: 230489 - SB-1 70'

Param	Flag	Result	Units	RL
Chloride		**265**	mg/Kg	4.00

Sample: 230491 - SB-2 3'

Param	Flag	Result	Units	RL
Chloride		**2540**	mg/Kg	4.00

Sample: 230492 - SB-2 5'

Param	Flag	Result	Units	RL
Chloride		**8150**	mg/Kg	4.00

Sample: 230493 - SB-2 10'

Param	Flag	Result	Units	RL
Chloride		**5920**	mg/Kg	4.00

Sample: 230494 - SB-2 15'

Param	Flag	Result	Units	RL
Chloride		**6560**	mg/Kg	4.00

Sample: 230495 - SB-2 20'

Param	Flag	Result	Units	RL
Chloride		**15300**	mg/Kg	4.00

Sample: 230496 - SB-2 30'

Param	Flag	Result	Units	RL
Chloride		**12400**	mg/Kg	4.00

Sample: 230497 - SB-2 40'

Param	Flag	Result	Units	RL
Chloride		**20000**	mg/Kg	4.00

Sample: 230498 - SB-2 50'

Param	Flag	Result	Units	RL
Chloride		**7690**	mg/Kg	4.00

Sample: 230499 - SB-2 60'

Param	Flag	Result	Units	RL
Chloride		**1930**	mg/Kg	4.00

Sample: 230500 - SB-2 70'

Param	Flag	Result	Units	RL
Chloride		**3480**	mg/Kg	4.00

Sample: 230501 - SB-2 80'

Param	Flag	Result	Units	RL
Chloride		**4130**	mg/Kg	4.00

Sample: 230502 - SB-3 3'

Param	Flag	Result	Units	RL
Chloride		**11300**	mg/Kg	4.00

Sample: 230503 - SB-3 5'

Param	Flag	Result	Units	RL
Chloride		**4080**	mg/Kg	4.00

Sample: 230504 - SB-3 10'

Param	Flag	Result	Units	RL
Chloride		**1520**	mg/Kg	4.00

Sample: 230505 - SB-3 15'

Param	Flag	Result	Units	RL
Chloride		**1020**	mg/Kg	4.00

Sample: 230506 - SB-3 20'

Param	Flag	Result	Units	RL
Chloride		**7260**	mg/Kg	4.00

Sample: 230507 - SB-3 30'

Param	Flag	Result	Units	RL
Chloride		**10400**	mg/Kg	4.00

Sample: 230508 - SB-3 40'

Param	Flag	Result	Units	RL
Chloride		**7080**	mg/Kg	4.00

Sample: 230509 - SB-3 50'

Param	Flag	Result	Units	RL
Chloride		**9940**	mg/Kg	4.00

Sample: 230510 - SB-3 60'

Param	Flag	Result	Units	RL
Chloride		**2340**	mg/Kg	4.00

Sample: 230511 - SB-3 70'

Param	Flag	Result	Units	RL
Chloride		**801**	mg/Kg	4.00

Sample: 230512 - SB-3 80'

Param	Flag	Result	Units	RL
Chloride		**434**	mg/Kg	4.00

Sample: 230518 - SB-4 1'

Param	Flag	Result	Units	RL
Chloride		**7120**	mg/Kg	4.00

Sample: 230519 - SB-4 3'

Param	Flag	Result	Units	RL
Chloride		**8590**	mg/Kg	4.00

Sample: 230520 - SB-4 5'

Param	Flag	Result	Units	RL
Chloride		**14400**	mg/Kg	4.00

Sample: 230521 - SB-4 7'

Param	Flag	Result	Units	RL
Chloride		**14800**	mg/Kg	4.00

Sample: 230522 - SB-4 10'

Param	Flag	Result	Units	RL
Chloride		**7570**	mg/Kg	4.00

Sample: 230523 - SB-4 20'

Param	Flag	Result	Units	RL
Chloride		**6580**	mg/Kg	4.00

Sample: 230524 - SB-4 25'

Param	Flag	Result	Units	RL
Chloride		**3070**	mg/Kg	4.00

Sample: 230525 - SB-4 30'

Param	Flag	Result	Units	RL
Chloride		**911**	mg/Kg	4.00

Sample: 230526 - SB-4 40'

Param	Flag	Result	Units	RL
Chloride		**2840**	mg/Kg	4.00

Sample: 230527 - SB-4 50'

Param	Flag	Result	Units	RL
Chloride		**11300**	mg/Kg	4.00

Sample: 230528 - SB-4 60'

Param	Flag	Result	Units	RL
Chloride		**1490**	mg/Kg	4.00

Sample: 230529 - SB-4 70'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 230531 - SB-5 1'

Param	Flag	Result	Units	RL
Chloride		**5750**	mg/Kg	4.00

Sample: 230532 - SB-5 3'

Param	Flag	Result	Units	RL
Chloride		**8840**	mg/Kg	4.00

Sample: 230533 - SB-5 5'

Param	Flag	Result	Units	RL
Chloride		**15200**	mg/Kg	4.00

Sample: 230534 - SB-5 7'

Param	Flag	Result	Units	RL
Chloride		**14800**	mg/Kg	4.00

Sample: 230535 - SB-5 10'

Param	Flag	Result	Units	RL
Chloride		**9650**	mg/Kg	4.00

Sample: 230536 - SB-5 15'

Param	Flag	Result	Units	RL
Chloride		**5350**	mg/Kg	4.00

Sample: 230537 - SB-5 20'

Param	Flag	Result	Units	RL
Chloride		**5280**	mg/Kg	4.00

Sample: 230538 - SB-5 25'

Param	Flag	Result	Units	RL
Chloride		**4330**	mg/Kg	4.00

Sample: 230539 - SB-5 30'

Param	Flag	Result	Units	RL
Chloride		**3780**	mg/Kg	4.00

Sample: 230540 - SB-5 40'

Param	Flag	Result	Units	RL
Chloride		**350**	mg/Kg	4.00

Sample: 230541 - SB-5 45'

Param	Flag	Result	Units	RL
Chloride		**1950**	mg/Kg	4.00

Sample: 230542 - SB-5 50'

Param	Flag	Result	Units	RL
Chloride		**10700**	mg/Kg	4.00

Sample: 230543 - SB-5 60'

Param	Flag	Result	Units	RL
Chloride		**1950**	mg/Kg	4.00

Sample: 230544 - SB-5 70'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 230547 - SB-6 1'

Param	Flag	Result	Units	RL
Chloride		**6150**	mg/Kg	4.00

Sample: 230548 - SB-6 3'

Param	Flag	Result	Units	RL
Chloride		**10500**	mg/Kg	4.00

Sample: 230549 - SB-6 5'

Param	Flag	Result	Units	RL
Chloride		**7000**	mg/Kg	4.00

Sample: 230550 - SB-6 7'

Param	Flag	Result	Units	RL
Chloride		**9630**	mg/Kg	4.00

Sample: 230551 - SB-6 10'

Param	Flag	Result	Units	RL
Chloride		**2570**	mg/Kg	4.00

Sample: 230552 - SB-6 15'

Param	Flag	Result	Units	RL
Chloride		**444**	mg/Kg	4.00

Sample: 230553 - SB-6 20'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 230554 - SB-6 25'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 230555 - SB-7 1'

Param	Flag	Result	Units	RL
Chloride		**3320**	mg/Kg	4.00

Sample: 230556 - SB-7 3'

Param	Flag	Result	Units	RL
Chloride		**6230**	mg/Kg	4.00

Sample: 230557 - SB-7 5'

Param	Flag	Result	Units	RL
Chloride		**6270**	mg/Kg	4.00

Sample: 230558 - SB-7 7'

Param	Flag	Result	Units	RL
Chloride		**4130**	mg/Kg	4.00

Sample: 230559 - SB-7 10'

Param	Flag	Result	Units	RL
Chloride		**615**	mg/Kg	4.00

Sample: 230560 - SB-7 15'

Param	Flag	Result	Units	RL
Chloride		**226**	mg/Kg	4.00

Sample: 230561 - SB-7 20'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 230562 - SB-8 3'

Param	Flag	Result	Units	RL
Chloride		**2050**	mg/Kg	4.00

Sample: 230563 - SB-8 5'

Param	Flag	Result	Units	RL
Chloride		**1710**	mg/Kg	4.00

Sample: 230564 - SB-8 7'

Param	Flag	Result	Units	RL
Chloride		**973**	mg/Kg	4.00

Sample: 230565 - SB-8 10'

Param	Flag	Result	Units	RL
Chloride		**246**	mg/Kg	4.00

Sample: 230566 - SB-8 15'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00