Bratcher, Mike, EMNRD

From: Tavarez, Ike [Ike.Tavarez@tetratech.com]
Sent: Friday, January 07, 2011 9:28 AM
To: Bratcher, Mike, EMNRD; Terry Gregston (terry_gregston@nm.blm.gov)
Cc: Pat Ellis; Joshua Russo; 'James Amos (james_amos@nm.blm.gov)'
Subject: COG - Jenkins Fed #12 Work Plan Approval Request
Attachments: COG - Jenkins Federal #12 Work Plan .pdf

COG Operating
Jenkins Federal B #12
Section 20, T17S, R30E
Eddy County, NM
32.821007 103.99520

Mike and Terry,

Please find enclosed Work Plan on the Jenkins Federal B #12 located in Eddy County, New Mexico. Once approved, Tetra Tech will schedule the soil remediation and notify you before we start. Please let me know if you need additional information or call me if you have any questions, thanks

Ike Tavarez, PG | Senior Project Manager

Main: 432.682.4559 | Fax: 432.682.3946 | Cell: 432.425.3878

Ike.Tavarez@tetratech.com

Tetra Tech | Complex World, Clear Solutions™

1910 North Big Spring | Midland, TX 79705 | www.tetratech.com

RECEIVED
JAN 07 2011
NMOCD ARTESIA

SITE INFORMATION

Report Type: Work Plan

General Site Information:						
Site:	Jenkins Federal B #12					
Company:	COG Operating LLC					
Section, Township and Range	20	17S	30E			
Lease Number:	API-30-015-31559					
County:	Eddy County					
GPS:	32.821007° N			103.99520° W		
Surface Owner:	Federal					
Mineral Owner:						
Directions:	From the intersection of Co. Rd. 217 and Hwy 82 travel west on Hwy 82 for 0.4 miles, turn right onto lease rd. and travel 400', turn left and travel 100' to well.					

Release Data:	
Date Released:	8/1/2010
Type Release:	Produced Water
Source of Contamination:	1/2" nipple on wellhead
Fluid Released:	35 bbls
Fluids Recovered:	20 bbls

Official Communication:			
Name:	Pat Ellis		Ike Tavarez
Company:	COG Operating, LLC		Tetra Tech
Address:	550 W. Texas Ave. Ste. 1300		1910 N. Big Spring
P.O. Box			
City:	Midland Texas, 79701		Midland, Texas
Phone number:	(432) 686-3023		432-628-4559
Fax:	(432) 684-7137		
Email:	pellis@conchoresources.com		ike.tavarez@tetratech.com

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

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

TETRA TECH

January 5, 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., Jenkins Federal B #12, Unit F, Section 20, Township 17 South, Range 30 East, Eddy County, New Mexico.

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC. (COG) to assess a spill from the Jenkins Federal B #12 Well Site located in Unit F, Section 20, Township 17 South, Range 30 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.821007°, W 103.99520°. 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 August 1, 2010. Approximately thirty-five (35) barrels of produced water was released when a ½" nipple on the wellhead failed. To alleviate the problem, COG personnel replaced all fittings with stainless steel. Twenty (20) barrels of standing fluids were recovered.

The spill initiated at the wellhead and migrated west on the pad and northwest off the well pad. The west spill area measured approximately 160' long, with a width of 30' to 100'. The north spill area on the pad measured approximately 30' x 80' and the impact off the pad in the pasture measured approximately 90' x 120'. The majority of the impact in the pasture appeared to be overspray. COG immediately scraped the pad and the saturated soil in the pasture. The initial C-141 form is enclosed in Appendix C.

Tetra Tech
[illegible]
Tel [illegible] Fax [illegible]

Groundwater

No water wells were listed within Section 20. According to the NMOCD groundwater map, the average depth to groundwater in this area is greater than 200' below surface. The Geology and Groundwater Resources of Eddy County, New Mexico well report 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-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 September 2, 2010, Tetra Tech personnel inspected and sampled the spill area. A total of eleven (11) auger holes (AH-1 through AH-11) 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 of the submitted samples were below the RRAL for TPH and BTEX. The chloride concentrations were not vertically defined in the areas of AH-1, AH-2, AH-3, AH-4 and AH-8. The remaining auger holes were defined and showed a shallow impact to the soils.

On February 2, 2010, Tetra Tech personnel supervised the installation of soil borings (SB-1 through SB-5) utilizing an air rotary drilling rig. The soil boring locations are shown in Figure 3. The soil borings were extended to depths from 20' to 60' below surface, with samples collected at 2 to 3 foot intervals for the first 10 feet, 5 foot intervals to 30' and 10 foot intervals

thereafter and submitted to the laboratory for chloride analysis. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The results of the sampling are summarized in Table 1.

Referring to Table 1, all of the soil borings installed were vertically defined. Soil boring (SB-1, SB-2 and SB-3) did show a shallow impact to the soil to a depth of 1' to 5' below surface. The deepest impact was found in the area of SB-5, with elevated chloride concentrations greater than 5,000 extending down to 7' and declining to 1,730 mg/kg at 15' below surface. Chloride concentrations of 1,500 mg/kg and 2,070 mg/kg were detected at 25' and 40', respectively. These deeper samples appear to be cross-contamination from the upper sand, which was collapsing into the soil boring.

Work Plan

In order to remediate the site, COG proposes to excavate the impacted soils. The goal of the remediation is to establish surface growth and to reduce the environmental liabilities for the protection of the groundwater. For growth, a minimum of 4.0' of impacted soil will be removed from the spill area, if necessary. Concerns exist regarding a deep excavation plan. Since the impacted area is in the native sand dunes, the proposed excavation depths may not be reached due to wall cave ins and safety concerns for onsite personnel. In addition, impacted soil around oil and gas equipment, structures or lines may not be feasible or practicable to be removed due to safely concerns. As such, Tetra Tech will excavate the soils to the maximum extent practicable. If the depths are not reached, a 40 mil liner will be installed at depth of 4' to 5' below surface to cap the impacted area.

Tetra Tech proposes to supervise the removal of impacted material to the appropriate depths shown in attached Table 1 and Figure 4. The shallow excavation depths range from 1' to 5' below surface. The deepest excavation will be performed in the area of AH-8 (SB-5) to a depth of approximately 7' to 10' below surface in order to remove the elevated chloride concentrations exceeding 5,000 mg/kg. The excavated soil will be transported to proper disposal. Once the areas are excavated to the appropriate depths, the excavations will be backfilled with clean soil.

TETRA TECH

Upon completion, a final report will be submitted to the NMOCD and BLM. If you have any questions or comments concerning the assessment or the work plan, please call me at (432) 682-4559.

Respectfully submitted,
TETRA TECH

Ike Tavarez
Project Manager

cc: Pat Ellis – COG
cc: Terry Gregston – BLM

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	Jenkins B Federal #12	Facility Type	Well

Surface Owner Federal	Mineral Owner	Lease No. NMLC-054988-B (API#) 30-015-31559

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
F	20	17S	30E	2310'	North	2310'	West	Eddy

Latitude 32.821007 Longitude 103.99520

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release 35bbls	Volume Recovered 20bbls
Source of Release ½" nipple on wellhead	Date and Hour of Occurrence 08/01/2010	Date and Hour of Discovery 08/01/2010 8:00 a.m.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher—OCD	
By Whom? Josh Russo	Date and Hour 08/02/2010 1:36 p.m.	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

A ½" nipple on the wellhead failed causing the release. Replaced all fittings with stainless steel.

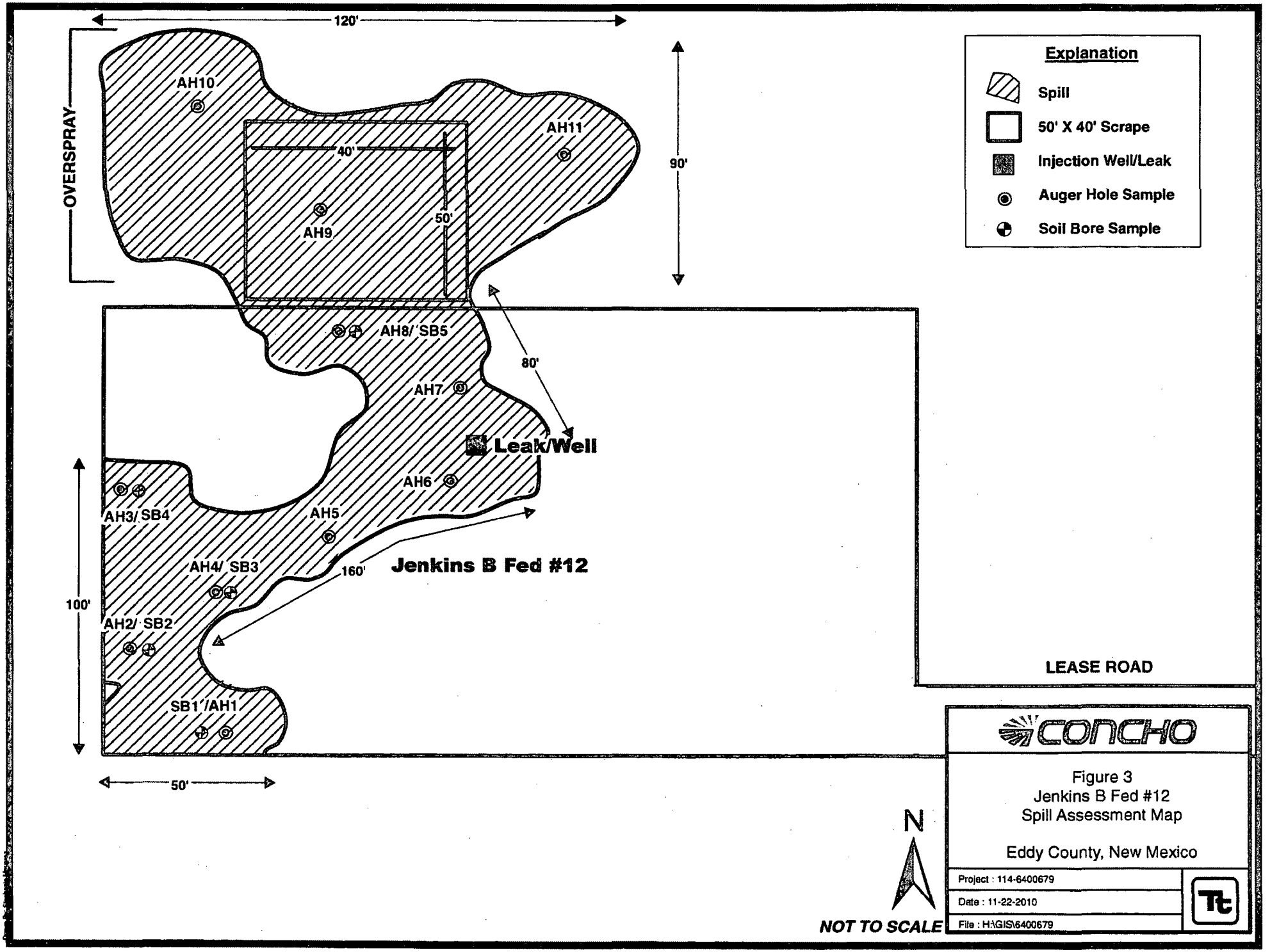
Describe Area Affected and Cleanup Action Taken.*

Initially we released 35bbls of produced water from the wellhead and were able to recover 20bbls with a vacuum truck. The dimensions of the spill areas are 2' x 60' to the north and 10' x 100 to the west, along with an overspray of 20' x 200' to the north. The pad area has been scraped and returned to its original condition. Tetra Tech will sample the spill site area to delineate any possible contamination from the release and we will present a remediation work plan to the NMOCD/BLM for approval prior to any significant remediation work.

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

Signature:	OIL CONSERVATION DIVISION
Printed Name: Josh Russo	Approved by District Supervisor:
Title: HSE Coordinator	Approval Date: / Expiration Date:
E-mail Address: jrusso@conchoresources.com	Conditions of Approval: / Attached ☐
Date: 08/09/2010 Phone: 432-212-2399	

Attach Additional Sheets If Necessary


120'
OVERSPRAY
AH10
AH11
40'
50'
90'
AH9
AH8/ SB5
80'
AH7
Leak/Well
AH6
AH3/ SB4
AH5
AH4/ SB3
160'
Jenkins B Fed #12
100'
AH2/ SB2
SB1 /AH1
50'
LEASE ROAD
Explanation
Spill
50' X 40' Scrape
Injection Well/Leak
Auger Hole Sample
Soil Bore Sample
N
NOT TO SCALE
CONCHO
Figure 3
Jenkins B Fed #12
Spill Assessment Map
Eddy County, New Mexico
Project : 114-6400679
Date : 11-22-2010
File : H:\GIS\6400679

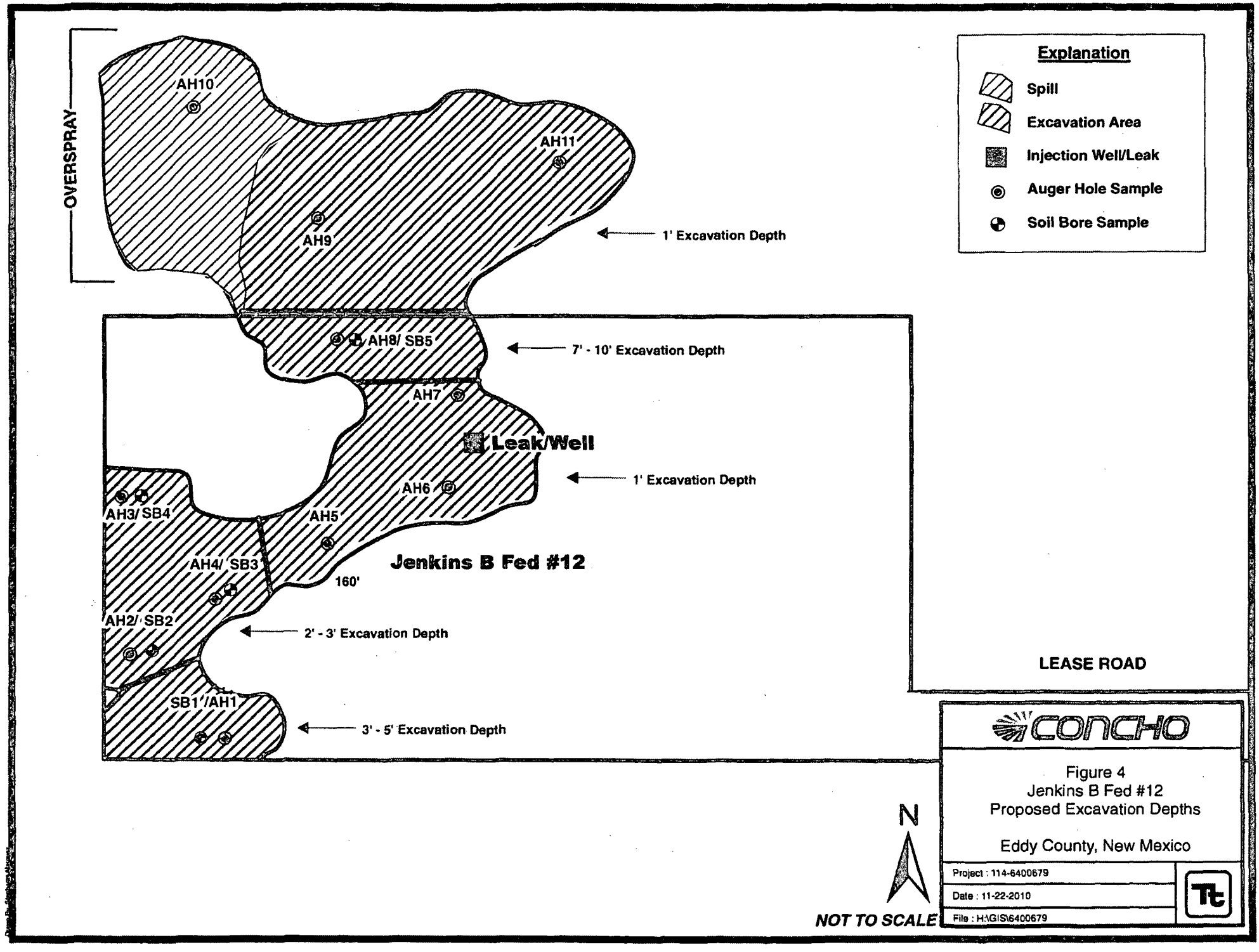

Explanation
Spill
Excavation Area
Injection Well/Leak
Auger Hole Sample
Soil Bore Sample
OVERSPRAY
AH10
AH11
AH9
1' Excavation Depth
AH8/ SB5
7' - 10' Excavation Depth
AH7
Leak/Well
1' Excavation Depth
AH6
AH3/ SB4
AH5
Jenkins B Fed #12
AH4/ SB3
160'
AH2/ SB2
2' - 3' Excavation Depth
SB1 /AH1
3' - 5' Excavation Depth
LEASE ROAD
N
NOT TO SCALE
CONCHO
Figure 4
Jenkins B Fed #12
Proposed Excavation Depths
Eddy County, New Mexico
Project : 114-6400679
Date : 11-22-2010
File : H:\GIS\6400679

Table 1
COG Operating LLC.
JENKINS FEDERAL B #12
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Depth (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	9/2/2010	0-1'		X		<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	3,710
	"	1-1.5'		X		-	-	-	-	-	-	-	12,300
	"	1.5-2'		X		-	-	-	-	-	-	-	7,640
SB-1	2/2/2010	0-1'		X		-	-	-					10,000
	"	3'		X		-	-	-					4,730
	"	5'		X		-	-	-					4,390
	"	7'		X		-	-	-					<200
	"	10'		X		-	-	-					<200
	"	15'		X		-	-	-					<200
	"	20'		X		-	-	-					<200
AH-2	9/2/2010	0-1'		X		<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	14,100
	"	1-1.5'		X		-	-	-	-	-	-	-	13,400
SB-2	12/2/2010	0-1'		X		-	-	-					<200
	"	3'		X		-	-	-					<200
	"	5'		X		-	-	-					743
	"	7'		X		-	-	-					<200
	"	10'		X		-	-	-					<200
	"	15'		X		-	-	-					<200
	"	20'		X		-	-	-					<200

Table 1
COG Operating LLC.
JENKINS FEDERAL B #12
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Depth (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	9/2/2010	0-1'		X		<2.00	<50.0	<50.0	-	-	-	-	12,300
	"	1-1.5'		X		-	-	-	-	-	-	-	3,300
	"	1.5'-2'		X		-	-	-	-	-	-	-	3,930
SB-4	12/2/2010	0-1'		X		-	-	-					7,950
	"	3'		X		-	-	-					3,040
	"	5'		X		-	-	-					<200
	"	7'		X		-	-	-					261
	"	10'		X		-	-	-					<200
	"	15'		X		-	-	-					<200
	"	20'		X		-	-	-					<200
AH-4	9/2/2010	0-1'		X		<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	12,300
	"	1-1.5'		X		-	-	-	-	-	-	-	867
	"	2-2.5'		X		-	-	-	-	-	-	-	2,760
	"	2.5'-3'		X		-	-	-	-	-	-	-	3,100
SB-3	12/2/2010	0-1'		X		-	-	-					8,730
	"	3'		X		-	-	-					11,400
	"	5'		X		-	-	-					876
	"	7'		X		-	-	-					1,170
	"	10'		X		-	-	-					456
	"	15'		X		-	-	-					<200
	"	20'		X		-	-	-					<200

Table 1
COG Operating LLC.
JENKINS FEDERAL B #12
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Depth (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	9/2/2010	0-1'		X		<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	11,300
	"	1-1.5'		X		-	-	-	-	-	-	-	1,130
	"	2-2.5'		X		-	-	-	-	-	-	-	675
	"	3-3.5'		X		-	-	-	-	-	-	-	227
	"	4-4.5'		X		-	-	-	-	-	-	-	<200
AH-6	9/2/2010	0-1'		X		<2.00	<50.0	<50.0	-	-	-	-	2,870
	"	1-1.5'		X		-	-	-	-	-	-	-	594
	"	2-2.5'		X		-	-	-	-	-	-	-	368
	"	3-3.5'		X		-	-	-	-	-	-	-	<200
	"	4-4.5'		X		-	-	-	-	-	-	-	262
AH-7	9/2/2010	0-1'		X		<2.00	<50.0	<50.0	-	-	-	-	3,590
	"	1-1.5'		X		-	-	-	-	-	-	-	<200
	"	2-2.5'		X		-	-	-	-	-	-	-	<200
	"	3-3.5'		X		-	-	-	-	-	-	-	<200

Table 1
COG Operating LLC.
JENKINS FEDERAL B #12
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Depth (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	9/2/2010	0-1'		X		<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	10,000
	"	1-1.5'		X		-	-	-	-	-	-	-	1,840
	"	2-2.5'		X		-	-	-	-	-	-	-	912
	"	3-3.5'		X		-	-	-	-	-	-	-	701
	"	4-4.5'		X		-	-	-	-	-	-	-	4,280
	"	4.5'-5'		X		-	-	-	-	-	-	-	6,850
SB-5	12/2/2010	0-1'		X		-	-	-					19,700
	"	3'		X		-	-	-					8,640
	"	5'		X		-	-	-					1,830
	"	7'		X		-	-	-					8,590
	"	15'		X		-	-	-					1,730
	"	20'		X		-	-	-					850
	"	25'		X		-	-	-					1,500
	"	30'		X		-	-	-					352
	"	40'		X		-	-	-					2,070
	"	50'		X		-	-	-					394
	"	60'		X		-	-	-					<200

Table 1
COG Operating LLC.
JENKINS FEDERAL B #12
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Depth (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	9/2/2010	0-1'		X		<2.00	<50.0	<50.0	-	-	-	-	1,260
	"	1-1.5'		X		-	-	-	-	-	-	-	<200
	"	2-2.5'		X		-	-	-	-	-	-	-	<200
	"	3-3.5'		X		-	-	-	-	-	-	-	<200
	"	4-4.5'		X		-	-	-	-	-	-	-	<200
AH-10	9/2/2010	0-1'		X		<2.00	<50.0	<50.0	-	-	-	-	293
	"	1-1.5'		X		-	-	-	-	-	-	-	<200
	"	2-2.5'		X		-	-	-	-	-	-	-	<200
AH-11	9/2/2010	0-1'		X		<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	2,660
	"	1-1.5'		X		-	-	-	-	-	-	-	<200
	"	2-2.5'		X		-	-	-	-	-	-	-	<200

BEB Below Excavation Bottom

(--) Not Analyzed

Proposed Excavated material

Water Well Data
Average Depth to Groundwater (ft)
COG - Jenkins B Federal #12
Eddy County, New Mexico

16 South 29 East

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

16 South 30 East

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

16 South 31 East

6	5	4	3	2	1
7	8	9	10	11	12 288
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

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 SITE	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	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34 271	35	36

18 South 29 East

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

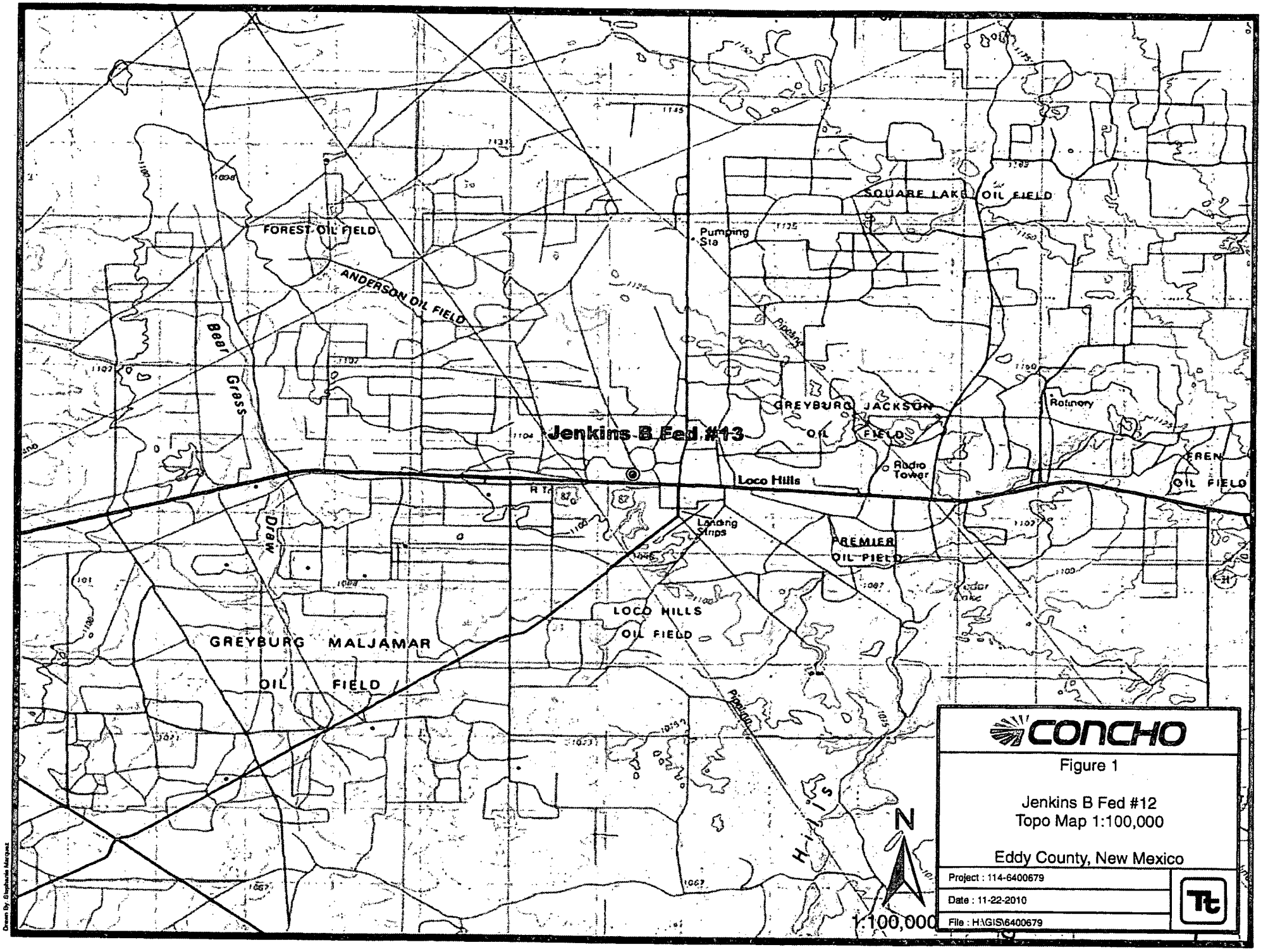
18 South 30 East

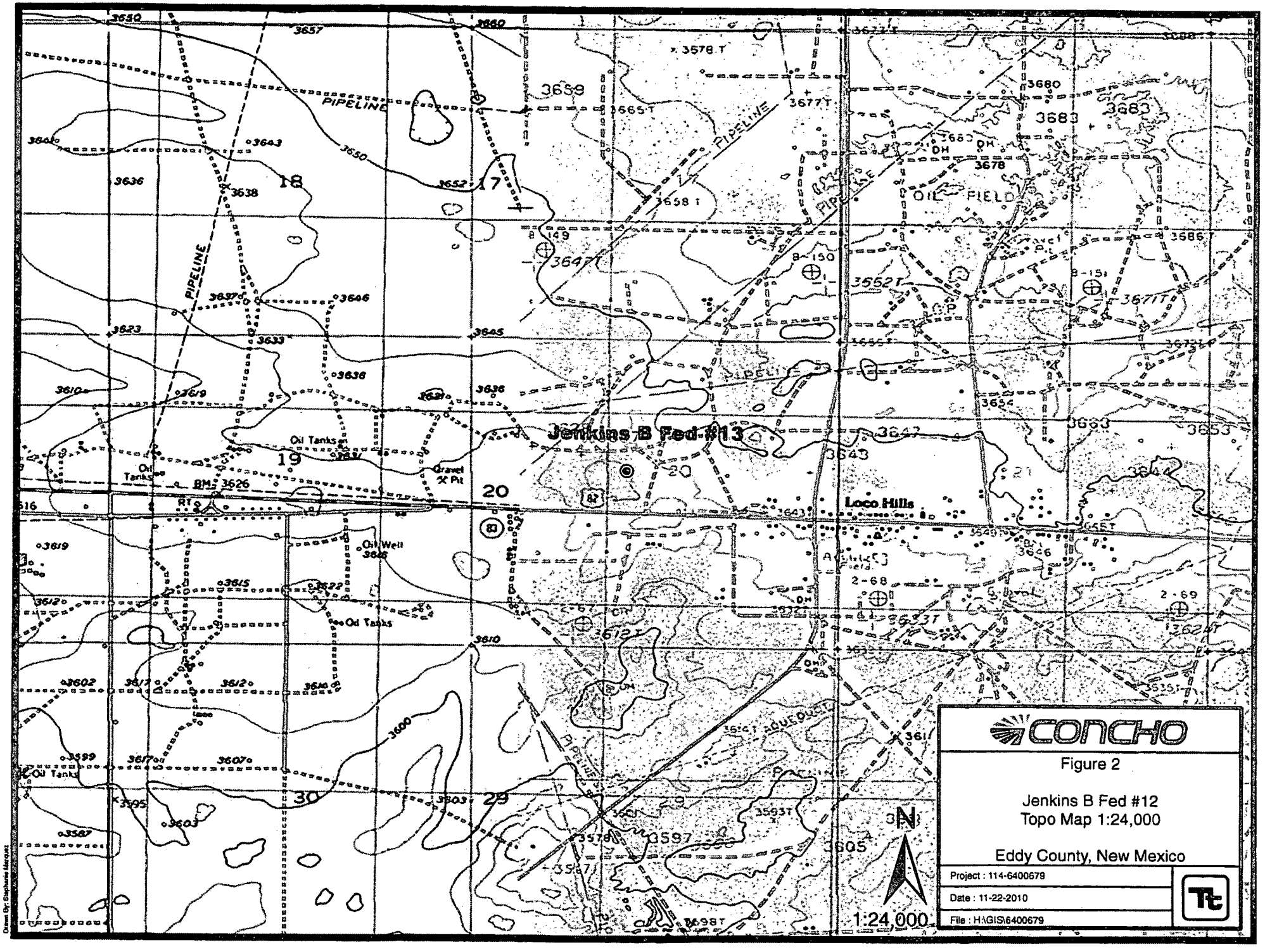
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

18 South 31 East

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

- New Mexico State Engineers Well Reports
- USGS Well Reports
- Geology and Groundwater Conditions in Southern Eddy, County, NM
- NMOCD - Groundwater Data
- Field water level
- New Mexico Water and Infrastructure Data System


Jenkins B Fed #13
FOREST OIL FIELD
ANDERSON OIL FIELD
SQUARE LAKE OIL FIELD
Pumping Sta
Pipeline
Beer Grass Draw
GREYBURG JACKSON OIL FIELD
Refinery
Radio Tower
Loco Hills
Landing Strips
PREMIER OIL FIELD
LOCO HILLS OIL FIELD
GREYBURG MALJAMAR OIL FIELD
Pipeline
Hwy 82
N
1:100,000
CONCHO
Figure 1
Jenkins B Fed #12
Topo Map 1:100,000
Eddy County, New Mexico
Project : 114-6400679
Date : 11-22-2010
File : H:\GIS\6400679
Drawn By: Stephanie Marquez



Drawn By: Stephanie Marquez

Summary Report

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

Report Date: September 14, 2010

Work Order: 10090706

Project Location: Eddy County, NM
Project Name: COG/Jenkins Federal #12
Project Number: 114-6400679

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
243660	AH-1 0-1'	soil	2010-09-02	00:00	2010-09-03
243661	AH-1 1-1.5'	soil	2010-09-02	00:00	2010-09-03
243662	AH-1 1.5-2'	soil	2010-09-02	00:00	2010-09-03
243663	AH-2 0-1'	soil	2010-09-02	00:00	2010-09-03
243664	AH-2 1-1.5'	soil	2010-09-02	00:00	2010-09-03
243665	AH-3 0-1'	soil	2010-09-02	00:00	2010-09-03
243666	AH-3 1-1.5'	soil	2010-09-02	00:00	2010-09-03
243667	AH-3 1.5-2'	soil	2010-09-02	00:00	2010-09-03
243668	AH-4 0-1'	soil	2010-09-02	00:00	2010-09-03
243669	AH-4 1-1.5'	soil	2010-09-02	00:00	2010-09-03
243670	AH-4 2-2.5'	soil	2010-09-02	00:00	2010-09-03
243671	AH-4 2.5-3'	soil	2010-09-02	00:00	2010-09-03
243672	AH-5 0-1'	soil	2010-09-02	00:00	2010-09-03
243673	AH-5 1-1.5'	soil	2010-09-02	00:00	2010-09-03
243674	AH-5 2-2.5'	soil	2010-09-02	00:00	2010-09-03
243675	AH-5 3-3.5'	soil	2010-09-02	00:00	2010-09-03
243676	AH-5 4-4.5'	soil	2010-09-02	00:00	2010-09-03
243677	AH-6 0-1'	soil	2010-09-02	00:00	2010-09-03
243678	AH-6 1-1.5'	soil	2010-09-02	00:00	2010-09-03
243679	AH-6 2-2.5'	soil	2010-09-02	00:00	2010-09-03
243680	AH-6 3-3.5'	soil	2010-09-02	00:00	2010-09-03
243681	AH-6 4-4.5'	soil	2010-09-02	00:00	2010-09-03
243682	AH-7 0-1'	soil	2010-09-02	00:00	2010-09-03
243683	AH-7 1-1.5'	soil	2010-09-02	00:00	2010-09-03
243684	AH-7 2-2.5'	soil	2010-09-02	00:00	2010-09-03
243685	AH-7 3-3.5'	soil	2010-09-02	00:00	2010-09-03
243686	AH-8 0-1'	soil	2010-09-02	00:00	2010-09-03
243687	AH-8 1-1.5'	soil	2010-09-02	00:00	2010-09-03
243688	AH-8 2-2.5'	soil	2010-09-02	00:00	2010-09-03
243689	AH-8 3-3.5'	soil	2010-09-02	00:00	2010-09-03

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
243690	AH-8 4-4.5'	soil	2010-09-02	00:00	2010-09-03
243691	AH-8 4.5-5'	soil	2010-09-02	00:00	2010-09-03
243692	AH-9 0-1'	soil	2010-09-02	00:00	2010-09-03
243693	AH-9 1-1.5'	soil	2010-09-02	00:00	2010-09-03
243694	AH-9 2-2.5'	soil	2010-09-02	00:00	2010-09-03
243695	AH-9 3-3.5'	soil	2010-09-02	00:00	2010-09-03
243696	AH-9 4-4.5'	soil	2010-09-02	00:00	2010-09-03
243697	AH-10 0-1'	soil	2010-09-02	00:00	2010-09-03
243698	AH-10 1-1.5'	soil	2010-09-02	00:00	2010-09-03
243699	AH-10 2-2.5'	soil	2010-09-02	00:00	2010-09-03
243700	AH-11 0-1'	soil	2010-09-02	00:00	2010-09-03
243701	AH-11 1-1.5'	soil	2010-09-02	00:00	2010-09-03
243702	AH-11 2-2.5'	soil	2010-09-02	00:00	2010-09-03

	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)
243660 - AH-1 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
243663 - AH-2 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
243665 - AH-3 0-1'					<50.0	<2.00
243668 - AH-4 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
243672 - AH-5 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
243677 - AH-6 0-1'					<50.0	<2.00
243682 - AH-7 0-1'					<50.0	<2.00
243686 - AH-8 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
243692 - AH-9 0-1'					<50.0	<2.00
243697 - AH-10 0-1'					<50.0	<2.00
243700 - AH-11 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00

Sample: 243660 - AH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		**3710**	mg/Kg	4.00

Sample: 243661 - AH-1 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**12300**	mg/Kg	4.00

Sample: 243662 - AH-1 1.5-2'

Param	Flag	Result	Units	RL
Chloride		**7640**	mg/Kg	4.00

Sample: 243663 - AH-2 0-1'

Param	Flag	Result	Units	RL
Chloride		**14100**	mg/Kg	4.00

Sample: 243664 - AH-2 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**13400**	mg/Kg	4.00

Sample: 243665 - AH-3 0-1'

Param	Flag	Result	Units	RL
Chloride		**12300**	mg/Kg	4.00

Sample: 243666 - AH-3 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**3300**	mg/Kg	4.00

Sample: 243667 - AH-3 1.5-2'

Param	Flag	Result	Units	RL
Chloride		**3930**	mg/Kg	4.00

Sample: 243668 - AH-4 0-1'

Param	Flag	Result	Units	RL
Chloride		**12300**	mg/Kg	4.00

Sample: 243669 - AH-4 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**867**	mg/Kg	4.00

Sample: 243670 - AH-4 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**2760**	mg/Kg	4.00

Sample: 243671 - AH-4 2.5-3'

Param	Flag	Result	Units	RL
Chloride		**3100**	mg/Kg	4.00

Sample: 243672 - AH-5 0-1'

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

Sample: 243673 - AH-5 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**1130**	mg/Kg	4.00

Sample: 243674 - AH-5 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**675**	mg/Kg	4.00

Sample: 243675 - AH-5 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**227**	mg/Kg	4.00

Sample: 243676 - AH-5 4-4.5'

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

Sample: 243677 - AH-6 0-1'

Param	Flag	Result	Units	RL
Chloride		**2870**	mg/Kg	4.00

Sample: 243678 - AH-6 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**594**	mg/Kg	4.00

Sample: 243679 - AH-6 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**368**	mg/Kg	4.00

Sample: 243680 - AH-6 3-3.5'

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

Sample: 243681 - AH-6 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**262**	mg/Kg	4.00

Sample: 243682 - AH-7 0-1'

Param	Flag	Result	Units	RL
Chloride		**3590**	mg/Kg	4.00

Sample: 243683 - AH-7 1-1.5'

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

Sample: 243684 - AH-7 2-2.5'

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

Sample: 243685 - AH-7 3-3.5'

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

Sample: 243686 - AH-8 0-1'

Param	Flag	Result	Units	RL
Chloride		**10000**	mg/Kg	4.00

Sample: 243687 - AH-8 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**1840**	mg/Kg	4.00

Sample: 243688 - AH-8 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**912**	mg/Kg	4.00

Sample: 243689 - AH-8 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**701**	mg/Kg	4.00

Sample: 243690 - AH-8 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**4280**	mg/Kg	4.00

Sample: 243691 - AH-8 4.5-5'

Param	Flag	Result	Units	RL
Chloride		**6850**	mg/Kg	4.00

Sample: 243692 - AH-9 0-1'

Param	Flag	Result	Units	RL
Chloride		**1260**	mg/Kg	4.00

Sample: 243693 - AH-9 1-1.5'

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

Sample: 243694 - AH-9 2-2.5'

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

Sample: 243695 - AH-9 3-3.5'

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

Sample: 243696 - AH-9 4-4.5'

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

Sample: 243697 - AH-10 0-1'

Param	Flag	Result	Units	RL
Chloride		**293**	mg/Kg	4.00

Sample: 243698 - AH-10 1-1.5'

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

Sample: 243699 - AH-10 2-2.5'

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

Sample: 243700 - AH-11 0-1'

Param	Flag	Result	Units	RL
Chloride		**2660**	mg/Kg	4.00

Sample: 243701 - AH-11 1-1.5'

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

Sample: 243702 - AH-11 2-2.5'

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: December 8, 2010

Work Order: 10120602

Project Location: Eddy Co., NM
Project Name: COG/Jenkins B Federal #13
Project Number: 114-6400679

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
252306	SB-1 0-1'	soil	2010-12-02	00:00	2010-12-03
252307	SB-1 3'	soil	2010-12-02	00:00	2010-12-03
252308	SB-1 5'	soil	2010-12-02	00:00	2010-12-03
252309	SB-1 7'	soil	2010-12-02	00:00	2010-12-03
252310	SB-1 10'	soil	2010-12-02	00:00	2010-12-03
252311	SB-1 15'	soil	2010-12-02	00:00	2010-12-03
252312	SB-1 20'	soil	2010-12-02	00:00	2010-12-03
252313	SB-2 0-1'	soil	2010-12-02	00:00	2010-12-03
252314	SB-2 3'	soil	2010-12-02	00:00	2010-12-03
252315	SB-2 5'	soil	2010-12-02	00:00	2010-12-03
252316	SB-2 7'	soil	2010-12-02	00:00	2010-12-03
252317	SB-2 10'	soil	2010-12-02	00:00	2010-12-03
252318	SB-2 15'	soil	2010-12-02	00:00	2010-12-03
252319	SB-2 20'	soil	2010-12-02	00:00	2010-12-03
252320	SB-3 0-1'	soil	2010-12-02	00:00	2010-12-03
252321	SB-3 3'	soil	2010-12-02	00:00	2010-12-03
252322	SB-3 5'	soil	2010-12-02	00:00	2010-12-03
252323	SB-3 7'	soil	2010-12-02	00:00	2010-12-03
252324	SB-3 10'	soil	2010-12-02	00:00	2010-12-03
252325	SB-3 15'	soil	2010-12-02	00:00	2010-12-03
252326	SB-3 20'	soil	2010-12-02	00:00	2010-12-03
252327	SB-4 0-1'	soil	2010-12-02	00:00	2010-12-03
252328	SB-4 3'	soil	2010-12-02	00:00	2010-12-03
252329	SB-4 5'	soil	2010-12-02	00:00	2010-12-03
252330	SB-4 10'	soil	2010-12-02	00:00	2010-12-03
252331	SB-4 7'	soil	2010-12-02	00:00	2010-12-03
252332	SB-4 15'	soil	2010-12-02	00:00	2010-12-03
252333	SB-4 20'	soil	2010-12-02	00:00	2010-12-03
252334	SB-5 0-1'	soil	2010-12-02	00:00	2010-12-03
252335	SB-5 3'	soil	2010-12-02	00:00	2010-12-03

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
252336	SB-5 5'	soil	2010-12-02	00:00	2010-12-03
252337	SB-5 7'	soil	2010-12-02	00:00	2010-12-03
252338	SB-5 15'	soil	2010-12-02	00:00	2010-12-03
252339	SB-5 20'	soil	2010-12-02	00:00	2010-12-03
252340	SB-5 25'	soil	2010-12-02	00:00	2010-12-03
252341	SB-5 30'	soil	2010-12-02	00:00	2010-12-03
252342	SB-5 40'	soil	2010-12-02	00:00	2010-12-03
252343	SB-5 50'	soil	2010-12-02	00:00	2010-12-03
252344	SB-5 60'	soil	2010-12-02	00:00	2010-12-03

Sample: 252306 - SB-1 0-1'

Param	Flag	Result	Units	RL
Chloride		**10000**	mg/Kg	4.00

Sample: 252307 - SB-1 3'

Param	Flag	Result	Units	RL
Chloride		**4730**	mg/Kg	4.00

Sample: 252308 - SB-1 5'

Param	Flag	Result	Units	RL
Chloride		**4390**	mg/Kg	4.00

Sample: 252309 - SB-1 7'

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

Sample: 252310 - SB-1 10'

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

Sample: 252311 - SB-1 15'

continued ...

sample 252311 continued ...

Param	Flag	Result	Units	RL

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

Sample: 252312 - SB-1 20'

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

Sample: 252313 - SB-2 0-1'

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

Sample: 252314 - SB-2 3'

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

Sample: 252315 - SB-2 5'

Param	Flag	Result	Units	RL
Chloride		**743**	mg/Kg	4.00

Sample: 252316 - SB-2 7'

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

Sample: 252317 - SB-2 10'

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

Sample: 252318 - SB-2 15'

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

Sample: 252319 - SB-2 20'

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

Sample: 252320 - SB-3 0-1'

Param	Flag	Result	Units	RL
Chloride		**8730**	mg/Kg	4.00

Sample: 252321 - SB-3 3'

Param	Flag	Result	Units	RL
Chloride		**11400**	mg/Kg	4.00

Sample: 252322 - SB-3 5'

Param	Flag	Result	Units	RL
Chloride		**876**	mg/Kg	4.00

Sample: 252323 - SB-3 7'

Param	Flag	Result	Units	RL
Chloride		**1170**	mg/Kg	4.00

Sample: 252324 - SB-3 10'

Param	Flag	Result	Units	RL
Chloride		**456**	mg/Kg	4.00

Sample: 252325 - SB-3 15'

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

Sample: 252326 - SB-3 20'

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

Sample: 252327 - SB-4 0-1'

Param	Flag	Result	Units	RL
Chloride		**7950**	mg/Kg	4.00

Sample: 252328 - SB-4 3'

Param	Flag	Result	Units	RL
Chloride		**3040**	mg/Kg	4.00

Sample: 252329 - SB-4 5'

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

Sample: 252330 - SB-4 10'

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

Sample: 252331 - SB-4 7'

Param	Flag	Result	Units	RL
Chloride		**261**	mg/Kg	4.00

Sample: 252332 - SB-4 15'

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

Sample: 252333 - SB-4 20'

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

Sample: 252334 - SB-5 0-1'

Param	Flag	Result	Units	RL
Chloride		**19700**	mg/Kg	4.00

Sample: 252335 - SB-5 3'

Param	Flag	Result	Units	RL
Chloride		**8640**	mg/Kg	4.00

Sample: 252336 - SB-5 5'

Param	Flag	Result	Units	RL
Chloride		**1830**	mg/Kg	4.00

Sample: 252337 - SB-5 7'

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

Sample: 252338 - SB-5 15'

Param	Flag	Result	Units	RL
Chloride		**1730**	mg/Kg	4.00

Sample: 252339 - SB-5 20'

Param	Flag	Result	Units	RL
Chloride		**850**	mg/Kg	4.00

Sample: 252340 - SB-5 25'

Param	Flag	Result	Units	RL
Chloride		**1500**	mg/Kg	4.00

Sample: 252341 - SB-5 30'

Param	Flag	Result	Units	RL
Chloride		**352**	mg/Kg	4.00

Sample: 252342 - SB-5 40'

Param	Flag	Result	Units	RL
Chloride		**2070**	mg/Kg	4.00

Sample: 252343 - SB-5 50'

Param	Flag	Result	Units	RL
Chloride		**394**	mg/Kg	4.00

Sample: 252344 - SB-5 60'

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