SITE INFORMATION

Report Type: Closure Report

General Site Information:						
Site:	Salada Vista 36 State #2					
Company:	COG Operating LLC					
Section, Township and Range	Sec 31	T 19S	R 31E			
Lease Number:	API-30-015-28591					
County:	Eddy County					
GPS:	32 37.354° N			103 54.997° W		
Surface Owner:	State					
Mineral Owner:						
Directions:	From the intersection of Hwy 360 and CR 222, travel East on CR 22 for apx. 3.15 miles, turn NORTH onto lease road for apx 0.7 miles, turn EAST onto lease road for apx 0.4 miles to location on south side of lease road.					

Release Data:	
Date Released:	1/9/2014
Type Release:	Oil and Produced Water
Source of Contamination:	Hammer Union Leak
Fluid Released:	20 bbls
Fluids Recovered:	5 bbls

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

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

Acceptable Soil RRAL (mg/kg)		
Benzene	***Total BTEX***	***TPH***
10	50	100

TETRA TECH

July 16, 2014

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

Re: Closure Report for the COG Operating LLC., Salada Vista 36 State #2, Unit D, Section 31, Township 19 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 Salada Vista 36 State #2, Unit D, Section 31, Township 19 South, Range 31 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32 37.354°, W 103 54.997°. 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 January 9, 2014, and released approximately fifteen (15) barrels of oil and five (5) barrels of produced water from a hammer union leak at the well head. To alleviate the problem, COG personnel replaced the hammer union. Five (5) barrels of standing fluids were recovered. The spill affected an area on the pad measuring 40' x 25'; and an area west of the pad was affected by overspray, measuring 150 'x 85' in the pasture. The initial C-141 form is enclosed in Appendix A.

Groundwater

No water wells were listed within Section 31. According to the NMOCD groundwater map, the average depth to groundwater in this area is less than 50' below surface. The groundwater data is shown in Appendix B.

Tetra Tech
4000 North Big Spring, Ste 401 Midland, TX 79705
Tel 432.682.4559 Fax 432.682.3946 www.tetratech.com

Regulatory

A risk-based evaluation was performed for the Site in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases, dated August 13, 1993. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene). Based upon the depth to groundwater, the proposed RRAL for TPH is 100 mg/kg.

Soil Assessment and Analytical Results

On January 21, 2014, Tetra Tech personnel inspected and sampled the spill area. Three (3) auger holes (AH-1, AH-2 and AH-3) were installed using a stainless steel hand auger to assess the impacted soils. Selected samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The results of the sampling are summarized in Table 1. The auger hole locations are shown on Figure 3.

Referring to Table 1, none of the samples exceeded the TPH or BTEX RRAL's. Elevated chloride concentrations were detected in all auger holes (AH-1, AH-2 and AH-3), with chloride highs of 3,400 mg/kg at 9'-9.5', 2,540 mg/kg at 5'-5.5', and 1,140 mg/kg at 8'-8.5' below surface, respectively. The chloride impact in the area of AH-2 declined with depth at 7'-7.5' below surface and was vertically defined. The areas of auger holes (AH-1 and AH-3) were not vertically defined, with bottom auger holes samples art 9-9.5' of 3,400 mg/kg and 1,040 mg/kg, respectively. The area of AH-3 did not show a significant impact to subsurface soils from 0 to 4.0' below surface, but spiked in the deeper samples at 8-8.5' (1,140 mg/kg) and 9-9.5' (1,040 mg/kg).

On March 3, 2014, Tetra Tech personnel installed two (2) boreholes (BH-1 and BH-2) using a drilling rig to vertically define the chloride impact. The borehole locations are shown on Figure 3. The sampling results are summarized in Table 1. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C.

Boreholes BH-1 (AH-3) and BH-2 (AH-1) did show declining chloride concentrations with depth. BH-1 detected a chloride high of 2,470 mg/kg at 2'-3', which declined with depth 4-5' of 48 mg/kg, spiked at 6-7' to 1,080 mg/kg and declined to 671 mg/kg at 9-10' below surface. The BH-1 sampling data did not correlate with the sampling data encountered in area of AH-3. Borehole (BH-2) also showed declining chlorides with depth of 1,700 mg/kg at 9-10 and 160 mg/kg at 14-15' below surface.

TETRA TECH

Remediation Activities

On February 24, 2014, Tetra Tech supervised the removal impacted material as highlighted (green) in Table 1 and shown on Figure 4. As proposed in the work plan, the areas of auger holes (AH-1 and AH-2) were excavated to depths of approximately 3.5' below surface and a clay material was placed to cap the area and prevent further migration of contaminates left in place. Once the areas were excavated to the appropriate depths, the excavations were backfilled with clean soil to grade, and approximately 52 cubic yards of excavated material was hauled to proper disposal.

Conclusion

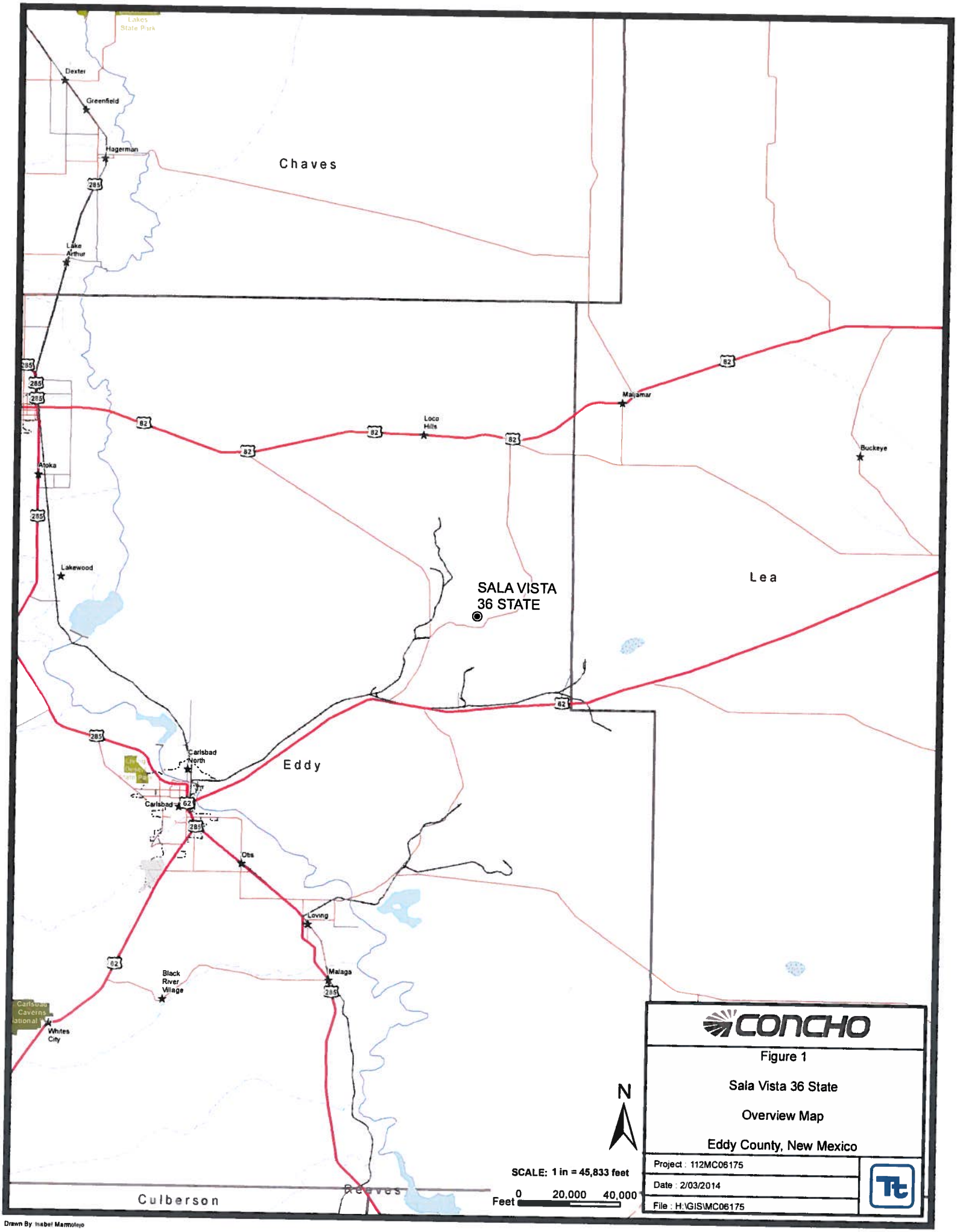
Based on the assessment and remediation work performed at this site, COG requests closure of this spill issue. A final C-141 is enclosed in Appendix A. If you have any questions or comments concerning the assessment or the remediation activities for this site, please call me at (432) 682-4559.

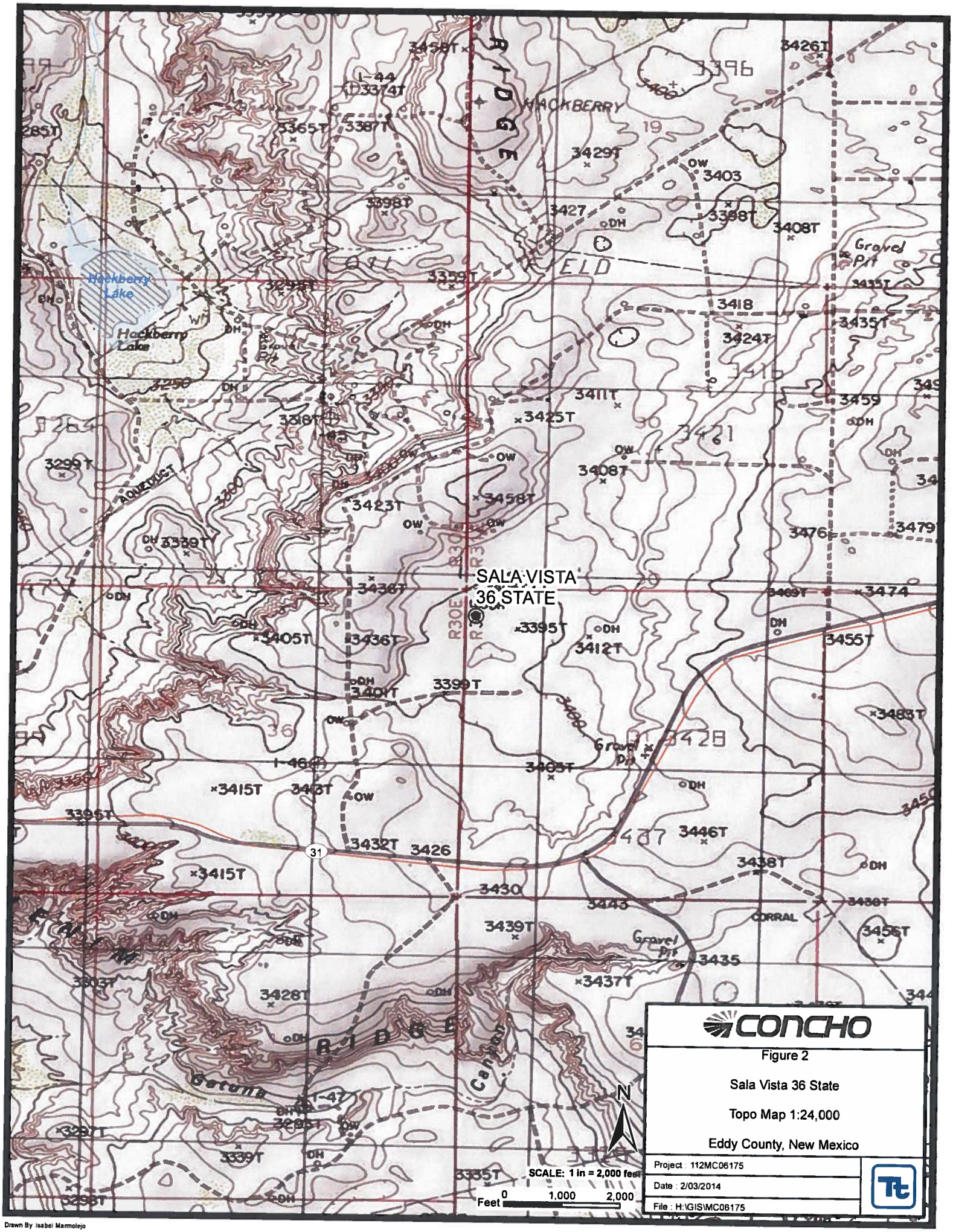
Respectfully submitted,
TETRA TECH

Clair Gonzales,
Geologist

cc: Robert McNeil – COG

Figures


Lakes State Park
Dexter
Greenfield
Hagerman
Chaves
285
Lake Arthur
285
285
285
82
82
82
Loco Hills
82
Maljamar
82
Buckeye
Atoka
285
Lakewood
SALA VISTA
36 STATE
Lea
82
285
Carlsbad North
Eddy
Carlsbad
62
285
Otis
Loving
62
Black River Village
Malaga
285
Whites City
Culberson
Reeves
N
SCALE: 1 in = 45,833 feet
Feet 0 20,000 40,000
CONCHO
Figure 1
Sala Vista 36 State
Overview Map
Eddy County, New Mexico
Project : 112MC06175
Date : 2/03/2014
File : H:\GIS\MC06175
Drawn By Isabel Marmolejo



CONCHO

Figure 2

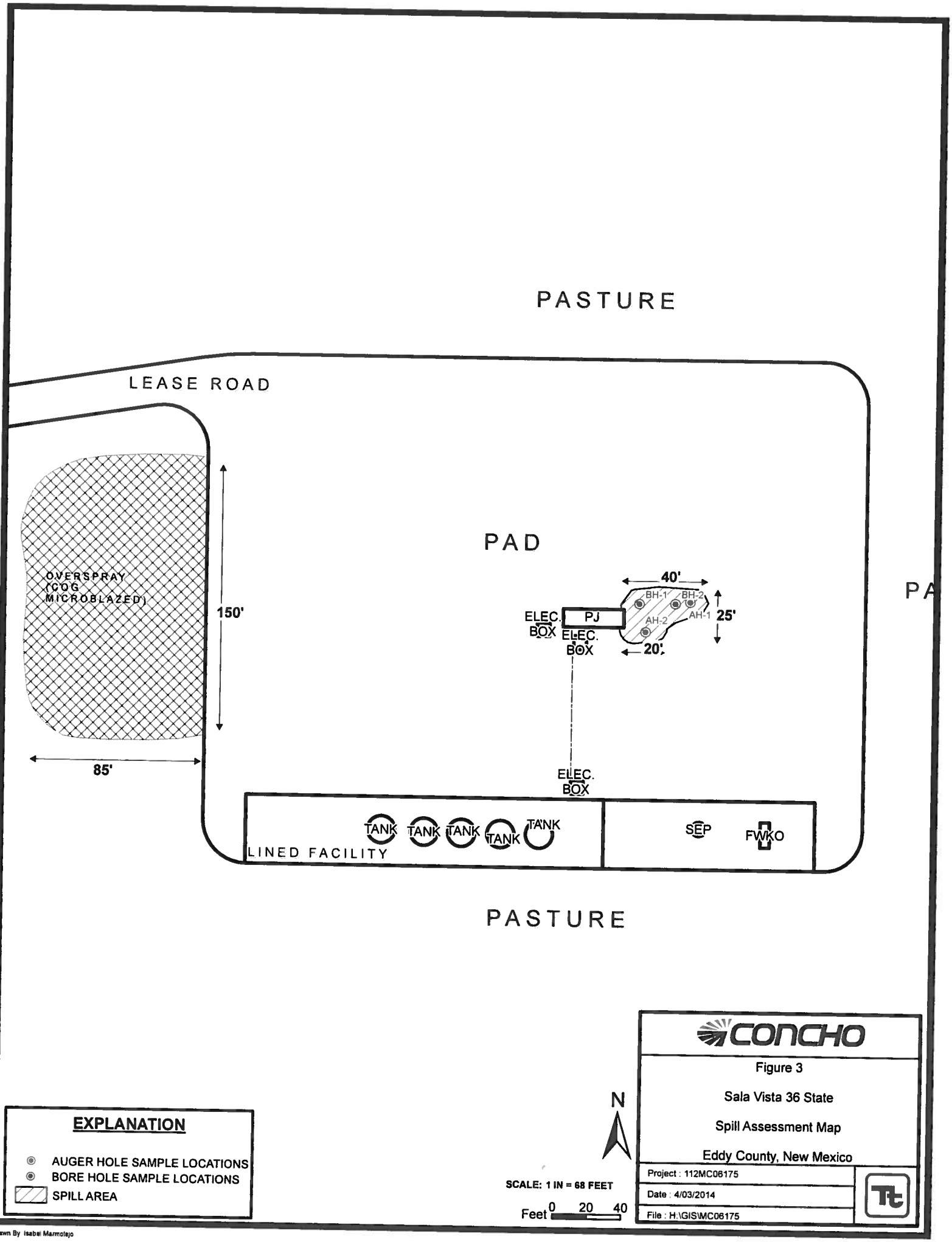
Sala Vista 36 State

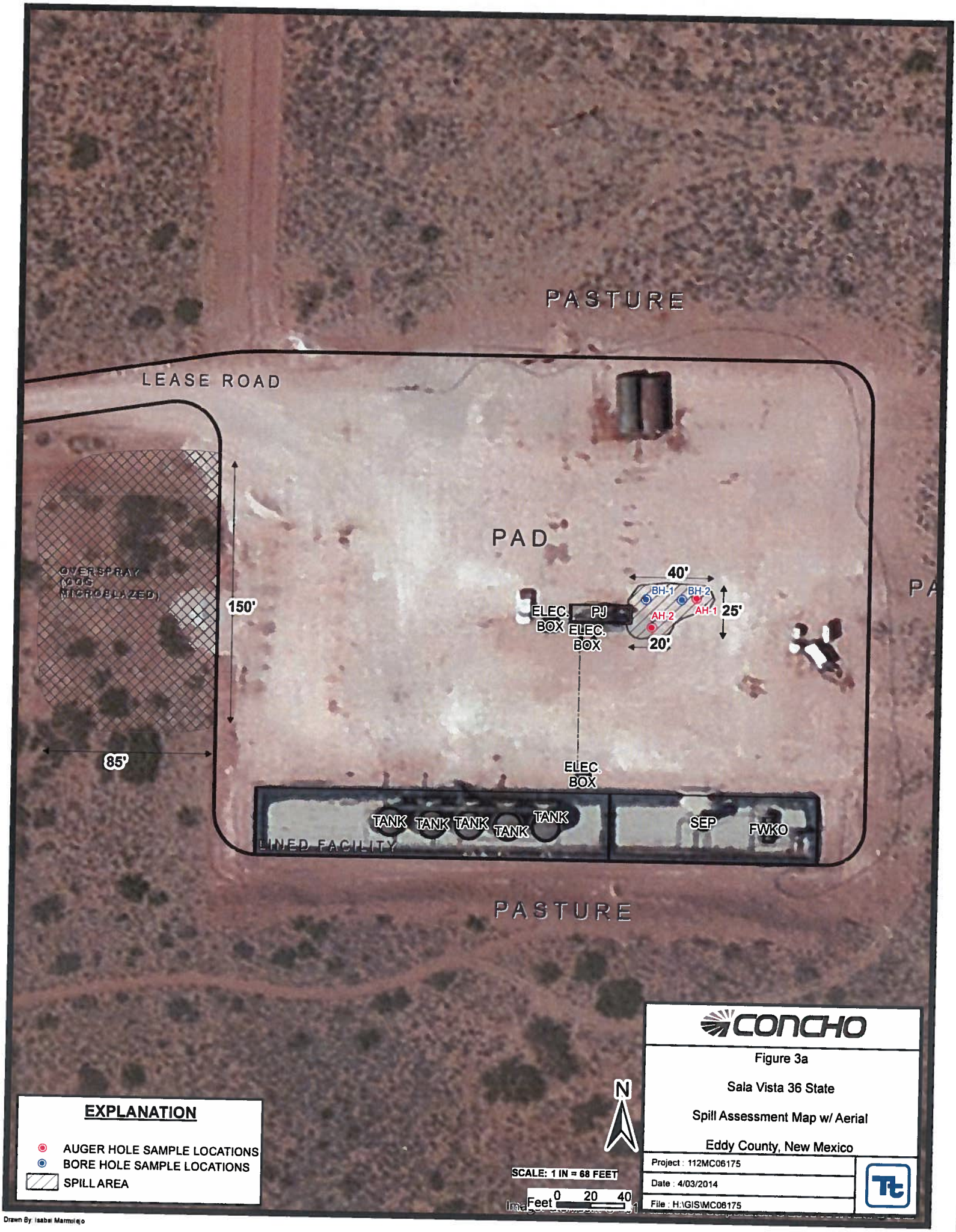
Topo Map 1:24,000

Eddy County, New Mexico

Project : 112MC06175	
Date : 2/03/2014	
File : H:\GIS\MC06175	

Drawn By Isabel Marmolejo


PASTURE
LEASE ROAD
OVERSPRAY (COG MICROBLAZED)
150'
85'
PAD
40'
25'
20'
BH-1
BH-2
AH-1
AH-2
ELEC. BOX
PJ
ELEC. BOX
ELEC. BOX
TANK
TANK
TANK
TANK
TANK
LINED FACILITY
SEP
FWKO
PASTURE
EXPLANATION
AUGER HOLE SAMPLE LOCATIONS
BORE HOLE SAMPLE LOCATIONS
SPILL AREA
N
SCALE: 1 IN = 68 FEET
Feet 0 20 40
CONCHO
Figure 3
Sala Vista 36 State
Spill Assessment Map
Eddy County, New Mexico
Project : 112MC06175
Date : 4/03/2014
File : H:\GIS\MC06175
Drawn By Isabel Marmolejo



EXPLANATION

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

CONCHO

Figure 3a

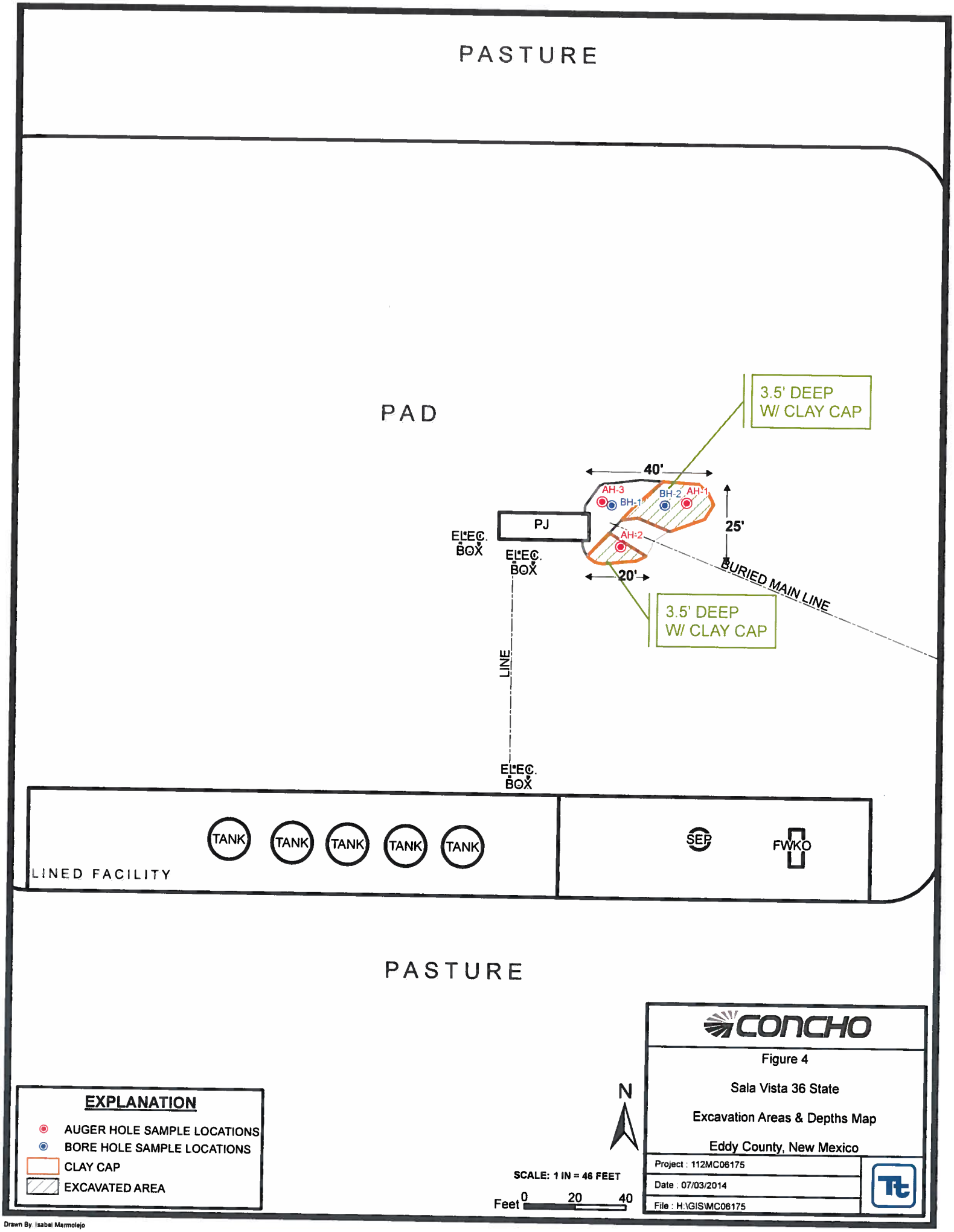
Sala Vista 36 State

Spill Assessment Map w/ Aerial

Eddy County, New Mexico

Project : 112MC06175	
Date : 4/03/2014	
File : H:\GIS\MC06175	

Drawn By: Isabel Marmolejo


PASTURE
PAD
3.5' DEEP
W/ CLAY CAP
40'
AH-3
BH-1
BH-2
AH-1
PJ
AH-2
25'
ELEC. BOX
ELEC. BOX
20'
BURIED MAIN LINE
3.5' DEEP
W/ CLAY CAP
LINE
ELEC. BOX
TANK
TANK
TANK
TANK
TANK
SEP
FWKO
LINED FACILITY
PASTURE
EXPLANATION
AUGER HOLE SAMPLE LOCATIONS
BORE HOLE SAMPLE LOCATIONS
CLAY CAP
EXCAVATED AREA
N
SCALE: 1 IN = 46 FEET
Feet 0 20 40
CONCHO
Figure 4
Sala Vista 36 State
Excavation Areas & Depths Map
Eddy County, New Mexico
Project : 112MC06175
Date : 07/03/2014
File : H:\GIS\MC06175
Drawn By: Isabel Marmolejo

Tables

Table 1
COG Operating LLC.
Salada Vista State 36 #2
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	1/21/2014	0-1	0	X		<4.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	1,970
	"	1-1.5	0	X		-	-	-	-	-	-	-	-	133
	"	2-2.5	0	X		-	-	-	-	-	-	-	-	1,730
	"	3-3.5	0	X		-	-	-	-	-	-	-	-	1,680
	"	4-4.5	0	X		-	-	-	-	-	-	-	-	1,610
	"	5-5.5	0	X		-	-	-	-	-	-	-	-	1,340
	"	6-6.5	0	X		-	-	-	-	-	-	-	-	1,770
	"	7-7.5	0	X		-	-	-	-	-	-	-	-	1,910
	"	8-8.5	0	X		-	-	-	-	-	-	-	-	2,390
	"	9-9.5	0	X		-	-	-	-	-	-	-	-	3,400
BH-2	3/12/2014	0-1	0	X		<4.00	<50.0	<50.0	<0.0200	<0.0500	<0.0200	<0.0200	<0.0200	144
	"	2-3	0	X		-	-	-	-	-	-	-	-	360
	"	4-5	0	X		-	-	-	-	-	-	-	-	2,210
	"	6-7	0	X		-	-	-	-	-	-	-	-	2,470
	"	9-10	0	X		-	-	-	-	-	-	-	-	1,700
	"	14-15	0	X		-	-	-	-	-	-	-	-	160
	"	19-20	0	X		-	-	-	-	-	-	-	-	213
AH-2	1/21/2014	0-1	0	X		<4.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	190
	"	1-1.5	0	X		-	-	-	-	-	-	-	-	146
	"	2-2.5	0	X		-	-	-	-	-	-	-	-	633
	"	3-3.5	0	X		-	-	-	-	-	-	-	-	1,840
	"	4-4.5	0	X		-	-	-	-	-	-	-	-	1,530
	"	5-5.5	0	X		-	-	-	-	-	-	-	-	2,540
	"	6-6.5	0	X		-	-	-	-	-	-	-	-	1,320
	"	7-7.5	0	X		-	-	-	-	-	-	-	-	599
	"	8-8.5	0	X		-	-	-	-	-	-	-	-	68.2
	"	9-9.5	0	X		-	-	-	-	-	-	-	-	63.3

Table 1
COG Operating LLC.
Salada Vista State 36 #2
Eddy County, New Mexico

Sample ID	Sample Date	BEB Sample Depth (ft)	Excavation Bottom Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total						
AH-3	1/21/2014	0-1	0	X		<4.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	34.7
	"	1-1.5	0	X		-	-	-	-	-	-	-	-	<20.0
	"	2-2.5	0	X		-	-	-	-	-	-	-	-	59.6
	"	3-3.5	0	X		-	-	-	-	-	-	-	-	273
	"	4-4.5	0	X		-	-	-	-	-	-	-	-	983
	"	5-5.5	0	X		-	-	-	-	-	-	-	-	883
	"	6-6.5	0	X		-	-	-	-	-	-	-	-	1,090
	"	7-7.5	0	X		-	-	-	-	-	-	-	-	769
	"	8-8.5	0	X		-	-	-	-	-	-	-	-	1,140
	"	9-9.5	0	X		-	-	-	-	-	-	-	-	1,040
BH-1	3/12/2014	0-1	0	X		<4.00	<50.0	<50.0	<0.0200	<0.0500	<0.0200	<0.0200	<0.0200	312
	"	2-3	0	X		-	-	-	-	-	-	-	-	2,470
	"	4-5	0	X		-	-	-	-	-	-	-	-	48.0
	"	6-7	0	X		-	-	-	-	-	-	-	-	1,080
	"	9-10	0	X		-	-	-	-	-	-	-	-	671
	"	14-15	0	X		-	-	-	-	-	-	-	-	612
	"	19-20	0	X		-	-	-	-	-	-	-	-	120
	"	24-25	0	X		-	-	-	-	-	-	-	-	72.0

(-) Not Analyzed

(BEB) Below Excavation Bottom

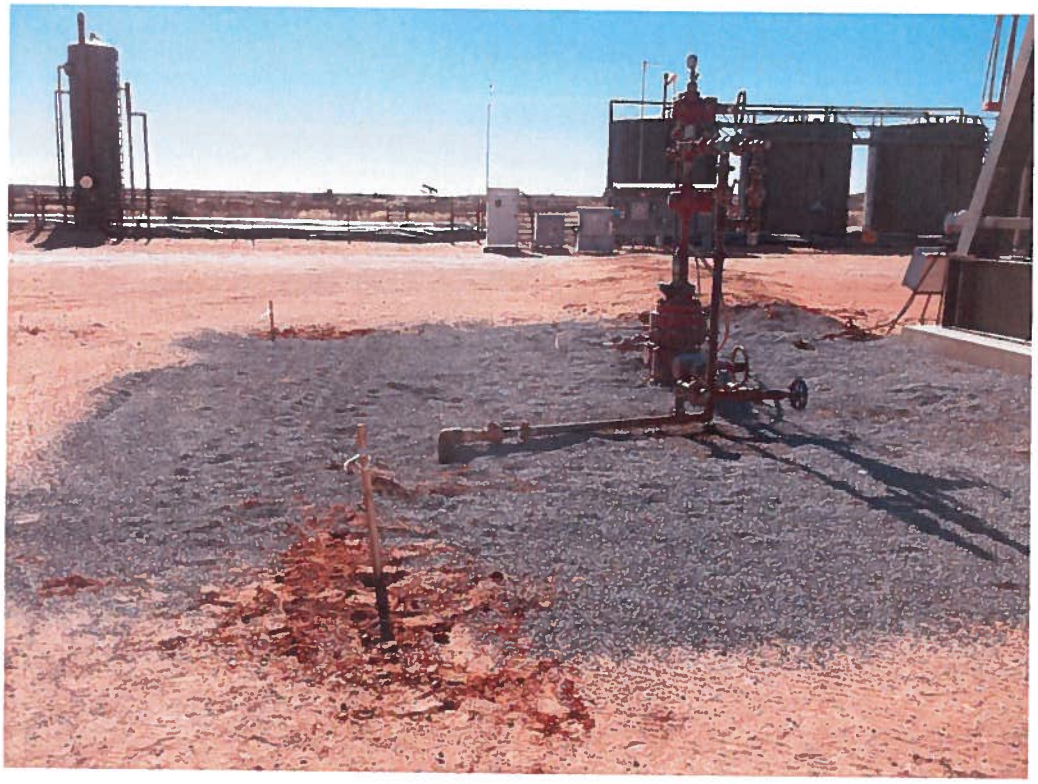
Excavation Depth

Liner Depth

Photos

COG Operating LLC
Salada Vista 36 State #2
Eddy County, New Mexico

TETRA TECH



View South – Area of AH-1 and AH-2

View West – Area of AH-1 and AH-3

COG Operating LLC
Salada Vista 36 State #2
Eddy County, New Mexico

TETRA TECH

View West – Area affected by overspray

View East – Excavated area of AH-1

COG Operating LLC
Salada Vista 36 State #2
Eddy County, New Mexico

TETRA TECH

View East – Excavated area of AH-2

View West – Clay capped area of AH-1

COG Operating LLC
Salada Vista 36 State #2
Eddy County, New Mexico

TETRA TECH

View East – Clay capped area of AH-2

View West – Backfilled excavation area

Appendix A

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	COG OPERATING LLC	Contact	Robert McNeill
Address	600 West Illinois Avenue, Midland, TX 79701	Telephone No.	432-230-0077
Facility Name	Salada Vista 36 State #002	Facility Type	Well Pad

Surface Owner State	Mineral Owner	Lease No. (API#) 30-015-40253

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	31	19S	31E					Eddy

Latitude 32 37.354 **Longitude** 103 54.997

NATURE OF RELEASE

Type of Release Oil and produced water	Volume of Release 15bbls of oil 5bbls of produced water	Volume Recovered 5bbls of oil 0bbls of produced water
Source of Release Hammer union	Date and Hour of Occurrence 01-09-2014	Date and Hour of Discovery 01-09-2014 12:30am
Was Immediate Notice Given? ☐ Yes ☒ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

Hammer union started leaking on the wellhead. Replaced hammer union.

Describe Area Affected and Cleanup Action Taken.*

Initially 15bbls of oil and 5bbls of produced water were released. We were able to recover 5bbls of oil and 0bbls of produced water with a vacuum truck. All free fluids have been recovered. Concho will have the spill site sampled to delineate any possible contamination from the release and we will present a remediation work plan to the NMOCD 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: Robert Grubbs Jr.	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: 01-14-2014 Phone: 432-661-6601		

* Attach Additional Sheets If Necessary

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company **COG Operating LLC**	Contact **Robert McNeil**
Address **600 West Illinois Avenue, Midland, Texas 79701**	Telephone No. **(432) 230-0077**
Facility Name Salada Vista 36 State #2	Facility Type **Well Pad**

Surface Owner: State	Mineral Owner	Lease No. (API#)30-015-40253

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	31	19S	31E					EDDY

Latitude N 32 37.354° **Longitude** W 103 54.997°

NATURE OF RELEASE

Type of Release: Oil and Produced Water	Volume of Release **15 bbls oil 5 bbls of produced water**	Volume Recovered **5bbls oil 0 bbls of produced water**
Source of Release Hammer Union	Date and Hour of Occurrence 01-09-2014	Date and Hour of Discovery **01-09-2014 12:30 am**
Was Immediate Notice Given? ☐ Yes ☒ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*

N/A

Describe Cause of Problem and Remedial Action Taken.*

Hammer union started leaking on the wellhead. Replaced the hammer union.

Describe Area Affected and Cleanup Action Taken.*

Initially 15 bbls of oil and 5 bbls of produced water were released. 5 bbls of oil and 0 bbls of produced water were recovered with a vacuum truck. Tetra Tech inspected site and collected samples to define spills extent. Soil that exceeded RRAL was removed and hauled away for proper disposal. Site was then brought up to surface grade with clean backfill material. Tetra Tech prepared closure report and submitted to NMOCD for review.

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

Signature:	**OIL CONSERVATION DIVISION**
Printed Name: Ike Tavarez (Agent for COG)	Approved by District Supervisor:
Title: Senior Project Manager, P.G.	Approval Date: / Expiration Date:
E-mail Address: ike.tavarez@tetratech.com	Conditions of Approval: / Attached ☐
Date: 7-16-14 Phone: (432) 687-8110	

* Attach Additional Sheets If Necessary

Appendix B

Water Well Data
Average Depth to Groundwater (ft)
COG - Salada Vista 36 State #2
Eddy County, New Mexico

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 44	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 98	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

19 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 90	29	28	27	26	25
31 115	32	33	34	35	36

19 South 31 East

6	5 SITE	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28 180	27	26	25
31 SITE	32	33 101	34	35	36 130

19 South 32 East

6	5	4	3	2	1
7	8 365	9	10	11	12
18	17	16	15	14	13 135
19 102	20 345	21	22	23	24
30	29	28	27	26	25
31	32	33	34 250	35	36

20 South 30 East

6	5 3.5	4	3 6	2	1
7	8	9	10	11	12
18	17	16 29	15	14	13
19	20 29	21 150	22	23	24
30	29	28	27	26	25
31	32 170	33 191	34	35	36

20 South 31 East

6	5	4	3	2	1
7	8	9	10 130	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 80

20 South 32 East

6	5	4	3	2	1 21.8
7	8	9	10	11	12
18 89	17	16	15	14	13
19	20	21	22	23	24
30 9.9	29	28	27 12.3	26	25
31	32	33	34	35	36 46

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

Appendix C

Summary Report

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

Report Date: January 29, 2014

Work Order: 14012134

Project Location: Eddy Co, NM
Project Name: COG/Salada Vista State 36 #2
Project Number: 112MC06175

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
352009	AH-1 0-1'	soil	2014-01-21	00:00	2014-01-21
352010	AH-1 1-1.5'	soil	2014-01-21	00:00	2014-01-21
352011	AH-1 2-2.5'	soil	2014-01-21	00:00	2014-01-21
352012	AH-1 3-3.5'	soil	2014-01-21	00:00	2014-01-21
352013	AH-1 4-4.5'	soil	2014-01-21	00:00	2014-01-21
352014	AH-1 5-5.5'	soil	2014-01-21	00:00	2014-01-21
352015	AH-1 6-6.5'	soil	2014-01-21	00:00	2014-01-21
352016	AH-1 7-7.5'	soil	2014-01-21	00:00	2014-01-21
352017	AH-1 8-8.5'	soil	2014-01-21	00:00	2014-01-21
352018	AH-1 9-9.5'	soil	2014-01-21	00:00	2014-01-21
352019	AH-2 0-1'	soil	2014-01-21	00:00	2014-01-21
352020	AH-2 1-1.5'	soil	2014-01-21	00:00	2014-01-21
352021	AH-2 2-2.5'	soil	2014-01-21	00:00	2014-01-21
352022	AH-2 3-3.5'	soil	2014-01-21	00:00	2014-01-21
352023	AH-2 4-4.5'	soil	2014-01-21	00:00	2014-01-21
352024	AH-2 5-5.5'	soil	2014-01-21	00:00	2014-01-21
352025	AH-2 6-6.5'	soil	2014-01-21	00:00	2014-01-21
352026	AH-2 7-7.5'	soil	2014-01-21	00:00	2014-01-21
352027	AH-2 8-8.5'	soil	2014-01-21	00:00	2014-01-21
352028	AH-2 9-9.5'	soil	2014-01-21	00:00	2014-01-21
352029	AH-3 0-1'	soil	2014-01-21	00:00	2014-01-21
352030	AH-3 1-1.5'	soil	2014-01-21	00:00	2014-01-21
352031	AH-3 2-2.5'	soil	2014-01-21	00:00	2014-01-21
352032	AH-3 3-3.5'	soil	2014-01-21	00:00	2014-01-21
352033	AH-3 4-4.5'	soil	2014-01-21	00:00	2014-01-21
352034	AH-3 5-5.5'	soil	2014-01-21	00:00	2014-01-21
352035	AH-3 6-6.5'	soil	2014-01-21	00:00	2014-01-21
352036	AH-3 7-7.5'	soil	2014-01-21	00:00	2014-01-21
352037	AH-3 8-8.5'	soil	2014-01-21	00:00	2014-01-21
352038	AH-3 9-9.5'	soil	2014-01-21	00:00	2014-01-21

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)
352009 - AH-1 0-1'	<0.0200 Qr	<0.0200 Qr	<0.0200 Qr	<0.0200 Qr	<50.0 Qs	<4.00
352019 - AH-2 0-1'	<0.0200 Qr	<0.0200 Qr	<0.0200 Qr	<0.0200 Qr	<50.0 Qs	<4.00
352029 - AH-3 0-1'	<0.0200 Qr	<0.0200 Qr	<0.0200 Qr	<0.0200 Qr	<50.0 Qs	<4.00

Sample: 352009 - AH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		**1970**	mg/Kg	4

Sample: 352010 - AH-1 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**133**	mg/Kg	4

Sample: 352011 - AH-1 2-2.5'

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

Sample: 352012 - AH-1 3-3.5'

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

Sample: 352013 - AH-1 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**1610**	mg/Kg	4

Sample: 352014 - AH-1 5-5.5'

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

Sample: 352015 - AH-1 6-6.5'

continued ...

sample 352015 continued ...

Param	Flag	Result	Units	RL

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

Sample: 352016 - AH-1 7-7.5'

Param	Flag	Result	Units	RL
Chloride		**1910**	mg/Kg	4

Sample: 352017 - AH-1 8-8.5'

Param	Flag	Result	Units	RL
Chloride		**2390**	mg/Kg	4

Sample: 352018 - AH-1 9-9.5'

Param	Flag	Result	Units	RL
Chloride		**3400**	mg/Kg	4

Sample: 352019 - AH-2 0-1'

Param	Flag	Result	Units	RL
Chloride		**190**	mg/Kg	4

Sample: 352020 - AH-2 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**146**	mg/Kg	4

Sample: 352021 - AH-2 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**633**	mg/Kg	4

Sample: 352022 - AH-2 3-3.5'

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

Sample: 352023 - AH-2 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**1530**	mg/Kg	4

Sample: 352024 - AH-2 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**2540**	mg/Kg	4

Sample: 352025 - AH-2 6-6.5'

Param	Flag	Result	Units	RL
Chloride		**1320**	mg/Kg	4

Sample: 352026 - AH-2 7-7.5'

Param	Flag	Result	Units	RL
Chloride		**599**	mg/Kg	4

Sample: 352027 - AH-2 8-8.5'

Param	Flag	Result	Units	RL
Chloride		**68.2**	mg/Kg	4

Sample: 352028 - AH-2 9-9.5'

Param	Flag	Result	Units	RL
Chloride		**63.3**	mg/Kg	4

Sample: 352029 - AH-3 0-1'

Param	Flag	Result	Units	RL
Chloride		**34.7**	mg/Kg	4

Sample: 352030 - AH-3 1-1.5'

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

Sample: 352031 - AH-3 2-2.5'

Param	Flag	Result	Units	RL
Chloride		**59.6**	mg/Kg	4

Sample: 352032 - AH-3 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**273**	mg/Kg	4

Sample: 352033 - AH-3 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**983**	mg/Kg	4

Sample: 352034 - AH-3 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**883**	mg/Kg	4

Sample: 352035 - AH-3 6-6.5'

Param	Flag	Result	Units	RL
Chloride		**1090**	mg/Kg	4

Sample: 352036 - AH-3 7-7.5'

Param	Flag	Result	Units	RL
Chloride		**769**	mg/Kg	4

Sample: 352037 - AH-3 8-8.5'

Param	Flag	Result	Units	RL
Chloride		**1140**	mg/Kg	4

Sample: 352038 - AH-3 9-9.5'

Param	Flag	Result	Units	RL
Chloride		**1040**	mg/Kg	4

Summary Report

Ike Tavarez
Tetra Tech
1901 N. Big Spring St.
Midland, TX 79705

Report Date: April 8, 2014

Work Order: 14031830

Project Location: Eddy Co, NM
Project Name: COG/Salada Vista State 36 #2
Project Number: 112MC06175

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
358309	BH-1 0-1'	soil	2014-03-12	00:00	2014-03-18
358310	BH-1 2-3'	soil	2014-03-12	00:00	2014-03-18
358311	BH-1 4-5'	soil	2014-03-12	00:00	2014-03-18
358312	BH-1 6-7'	soil	2014-03-12	00:00	2014-03-18
358313	BH-1 9-10'	soil	2014-03-12	00:00	2014-03-18
358314	BH-1 19-20'	soil	2014-03-12	00:00	2014-03-18
358315	BH-1 24-25'	soil	2014-03-12	00:00	2014-03-18
358316	BH-2 0-1'	soil	2014-03-12	00:00	2014-03-18
358317	BH-2 2-3'	soil	2014-03-12	00:00	2014-03-18
358318	BH-2 4-5'	soil	2014-03-12	00:00	2014-03-18
358319	BH-2 6-7'	soil	2014-03-12	00:00	2014-03-18
358320	BH-2 9-10'	soil	2014-03-12	00:00	2014-03-18
358321	BH-2 14-15'	soil	2014-03-12	00:00	2014-03-18
358322	BH-2 19-20'	soil	2014-03-12	00:00	2014-03-18
358324	BH-1 14-15'	soil	2014-03-12	00:00	2014-03-18

	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)
358309 - BH-1 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0 Qs	<4.00
358316 - BH-2 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0 Qs	<4.00

Sample: 358309 - BH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		**312**	mg/Kg	5

Sample: 358310 - BH-1 2-3'

Param	Flag	Result	Units	RL
Chloride		**2470**	mg/Kg	5

Sample: 358311 - BH-1 4-5'

Param	Flag	Result	Units	RL
Chloride		**48.0**	mg/Kg	5

Sample: 358312 - BH-1 6-7'

Param	Flag	Result	Units	RL
Chloride		**1080**	mg/Kg	5

Sample: 358313 - BH-1 9-10'

Param	Flag	Result	Units	RL
Chloride		**671**	mg/Kg	5

Sample: 358314 - BH-1 19-20'

Param	Flag	Result	Units	RL
Chloride		**120**	mg/Kg	5

Sample: 358315 - BH-1 24-25'

Param	Flag	Result	Units	RL
Chloride		**72.0**	mg/Kg	5

Sample: 358316 - BH-2 0-1'

Param	Flag	Result	Units	RL
Chloride		**144**	mg/Kg	5

Sample: 358317 - BH-2 2-3'

Param	Flag	Result	Units	RL
Chloride		**360**	mg/Kg	5

Sample: 358318 - BH-2 4-5'

Param	Flag	Result	Units	RL
Chloride		**2210**	mg/Kg	5

Sample: 358319 - BH-2 6-7'

Param	Flag	Result	Units	RL
Chloride		**2470**	mg/Kg	5

Sample: 358320 - BH-2 9-10'

Param	Flag	Result	Units	RL
Chloride		**1700**	mg/Kg	5

Sample: 358321 - BH-2 14-15'

Param	Flag	Result	Units	RL
Chloride		**160**	mg/Kg	5

Sample: 358322 - BH-2 19-20'

Param	Flag	Result	Units	RL
Chloride		**213**	mg/Kg	5

Sample: 358324 - BH-1 14-15'

Param	Flag	Result	Units	RL
Chloride		**612**	mg/Kg	5