

SITE INFORMATION

Report Type: Work Plan

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 Tavaréz
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.Tavaréz@tetrattech.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



June 3, 2014

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

Re: Work Plan 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.tetrattech.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 at 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.

Work Plan

COG proposes to remove impacted material as highlighted (green) in Table 1 and shown on Figure 4. The assessment data showed inconsistent chloride concentrations in the subsurface soil and appears to be from well activities performed on the well. The area of AH-3 (BH-1) did not show significant chloride impact to the soils and no excavation will be performed in this area.

Due to the proximity of the producing well, limited excavation will be performed in the areas of AH-1 (BH-2) and AH-2. The area will be excavated to approximately 3.0' to 4.0' below surface to remove majority of the chlorides, if accessible. In addition, these areas will be capped with a 40 mil liner or clay at 3.0' to 4.0' excavation bottom. Once excavated to the appropriate depths, the excavation will be backfilled with clean soil.

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 safety concerns. As such, Tetra Tech will excavate the soils to the maximum extent practicable.

Upon completion, a final report will be submitted to the NMOCD. If you have any questions or comments concerning the assessment or the proposed remediation activities for this site, please call me at (432) 682-4559.

Respectfully submitted,
TETRA TECH



Ike Tavarez, PG
Senior Project Manager

cc: Robert McNeil – COG

Figures



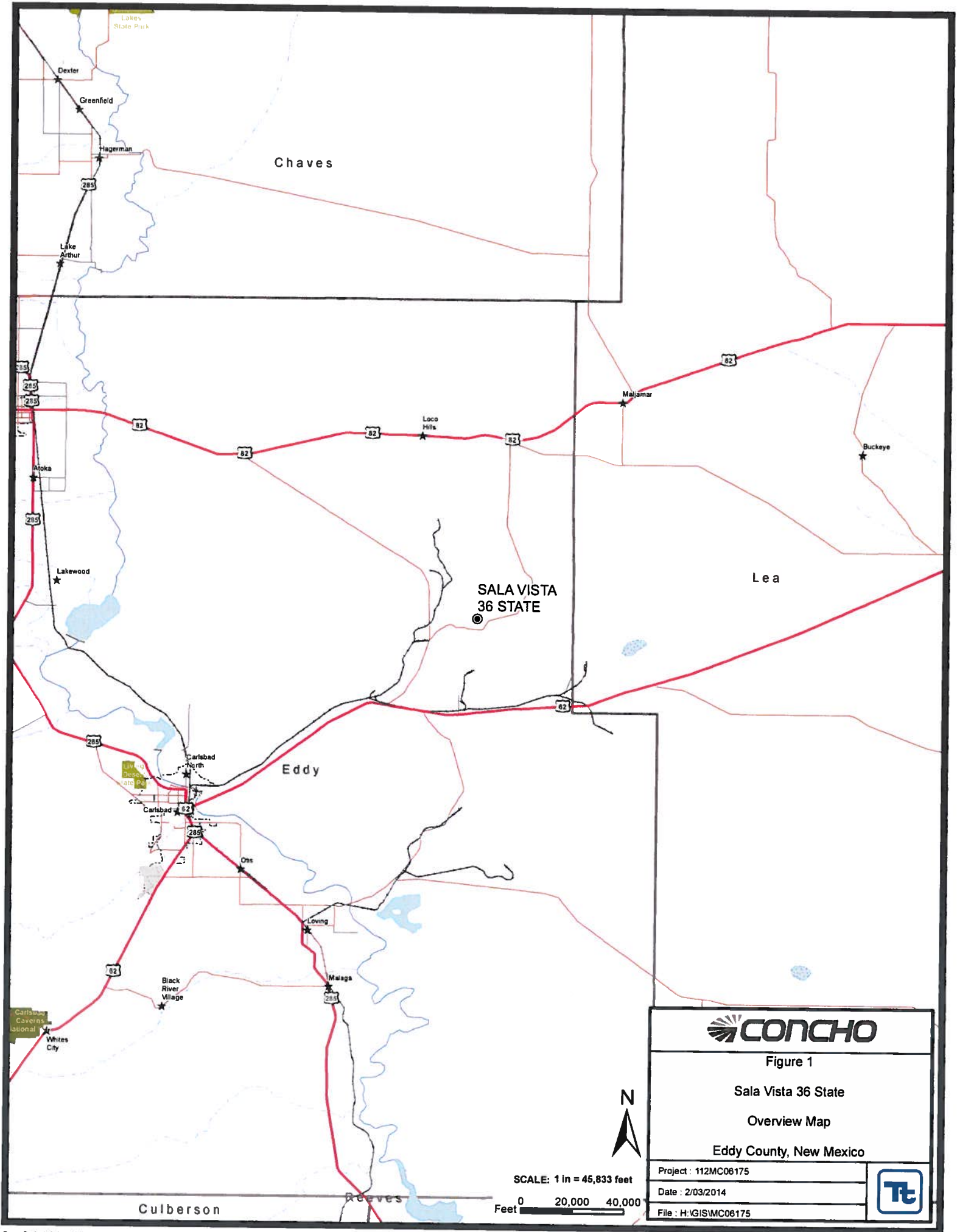


Figure 1

Sala Vista 36 State

Overview Map

Eddy County, New Mexico

Project : 112MC06175

Date : 2/03/2014

File : H:\GIS\MC06175





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



PASTURE

LEASE ROAD

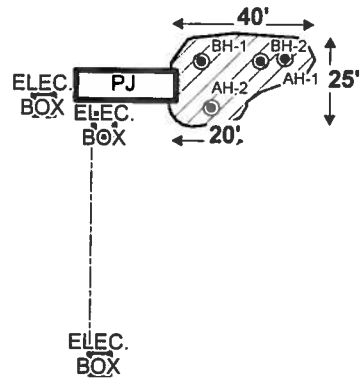
PAD

PA

OVERSPRAY
(COG
MICROBLAZED)

150'

85'



PASTURE

EXPLANATION

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



SCALE: 1 IN = 68 FEET

Feet 0 20 40



Figure 3

Sala Vista 36 State

Spill Assessment Map

Eddy County, New Mexico

Project : 112MC06175

Date : 4/03/2014

File : H:\GIS\WC06175





EXPLANATION

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

SCALE: 1 IN = 66 FEET

Feet 0 20 40



Figure 3a

Sala Vista 36 State

Spill Assessment Map w/ Aerial

Eddy County, New Mexico

Project : 112MC08175

Date : 4/03/2014

File : H:\GIS\MC08175



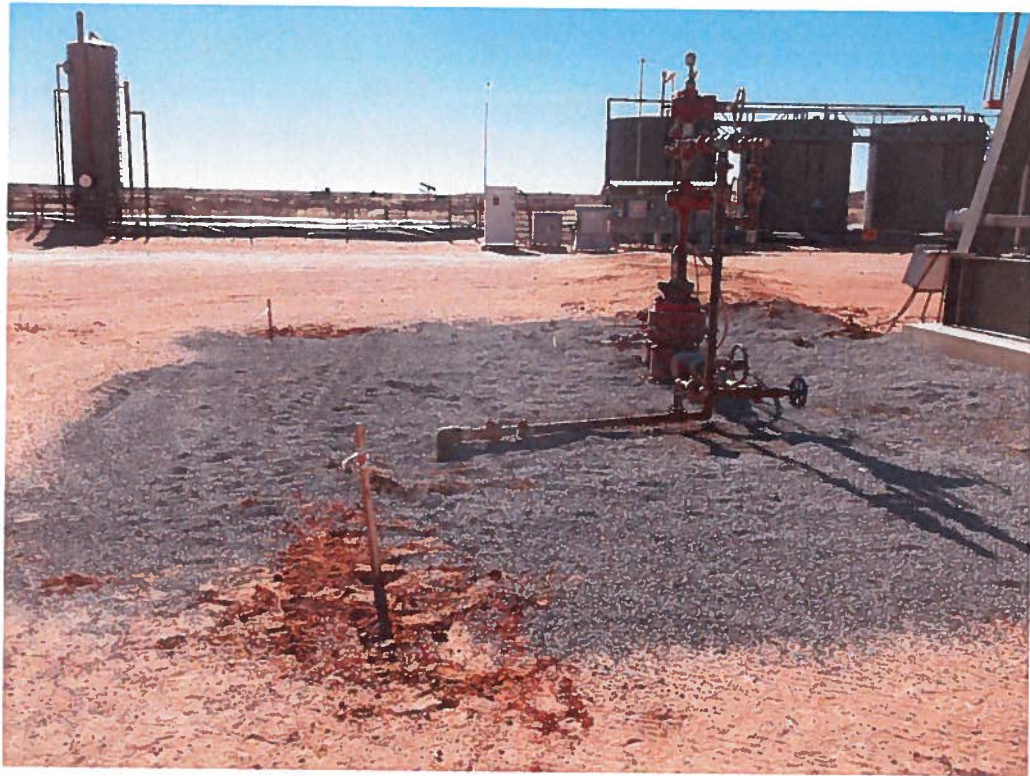
Tables

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)	Ethylbenzene (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
Proposed Excavation Depth

Photos



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

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.

OIL CONSERVATION DIVISION

Signature: 
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

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
18	17	16	15 98	14	13 400
19	20	21	22	23 317	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	8	9	10	11	12
18 82	17	16	15	14	13
19	20	21 84	22	23	24
30	29 164	28	27 429	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	29	28	27	26	25
31 90	32	33	34	35	36
115					

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

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

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

20 South			31 East		
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15 130	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
7	8	9	10	11	12
18	17	16	15	14	13
19 89	20	21	22	23	24
30	29	28	27	26	25
31 9.9	32	33	34 12.3	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

TraceAnalysis, Inc. • 6701 Aberdeen Ave., Suite 9 • Lubbock, TX 79424-1515 • (806) 794-1296

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

Sample - Field Code	BTEx				TPH DRO - NEW DRO	TPH GRO GRO
	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (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



6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800-378-1296 806-794-1296 FAX 806-794-1298
200 East Sunset Road, Suite E El Paso, Texas 79922 915-585-3443 FAX 915-585-4944
5002 Basin Street, Suite A1 Midland, Texas 79703 432-689-6301 FAX 432-689-6313
(BioAquatic) 2501 Mayes Rd., Suite 100 Carrollton, Texas 75006 972-242-7750
E-Mail: lab@traceanalysis.com WEB: www.traceanalysis.com

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

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

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
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

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
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

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 32 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.



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

Analysis Request of Chain of Custody Record

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME:		PROJECT NAME:		SITE MANAGER:	
066 112MCOLE175		Salada Vista State, 310 #2		W. Tovar	
LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP.	GRAB
019	1/21		S	X	AH-2 0-1
020					" 1-1.5
021					" 2-2.5
022					" 3-3.5
023					" 4-4.5
024					" 5-5.5
025					" 6-6.5
026					" 7-7.5
027					" 8-8.5
028					" 9-9.5

RELINQUISHED BY: (Signature) Date: 1/21/14 Time: 1:52

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

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

RECEIVED BY: (Signature) Date: 1/21/14 Time: 1:52

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

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

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

TETRA TECH CONTACT PERSON: L.S. Edwards

SAMPLE CONDITION WHEN RECEIVED: 6.88 1123 3.7/3.5	REMARKS: Please fill out all copies - Laboratory retains Yellow copy - Return Original copy to Tetra Tech - Project Manager retains Pink copy - Accounting receives Gold copy.
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Summary Report

Ike Tavaréz
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

Sample - Field Code	BTEX				TPH DRO - NEW	TPH GRO
	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 Q*	<4.00
358316 - BH-2 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0 Q*	<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



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5002 Basin Street, Suite A1 Midland, Texas 79703 432-689-6301 FAX 432-689-6313
(BioAquatic) 2501 Mayes Rd., Suite 100 Carrollton, Texas 75006 972-242-7750
E-Mail: lab@traceanalysis.com WEB: www.traceanalysis.com

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

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

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
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

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 30 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

A handwritten signature in black ink that reads "Michael Abel". The signature is written in a cursive style with a large, stylized 'M' and 'A'.

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

14031830

Analysis Request of Chain of Custody Record

PAGE: 1 OF: 2

ANALYSIS REQUEST
(Circle or Specify Method No.)**TETRA TECH**1910 N. Big Spring St.
Midland, Texas 79705
(432) 682-4559 • Fax (432) 682-3946

CLIENT NAME: COG		SITE MANAGER: LeTavarez		PRESERVATIVE METHOD		ANALYSIS REQUEST (Circle or Specify Method No.)	
PROJECT NO.: 112-mco-175		PROJECT NAME: Salada Vista State 36 #2		NUMBER OF CONTAINERS		TCRA Metals Ag As Ba Cd Cr Pb Hg Se TCLP Metals Ag As Ba Cd Cr Pb Hg Se TCLP Volatiles TCLP Semi Volatiles RCI GC/MS Vol. B240/B260/624 GC/MS Semi. Vol. B270/625 PCB's 8080/808 Pest. 808/608 Chloride Gamma Spec. Alpha Beta (Air) PLM (Asbestos) Major Anions/Cations, pH, TDS	
LAB I.D. NUMBER	DATE	TIME	MATRIX	COMP	GRAB	SAMPLE IDENTIFICATION	
358309	3/12		5	X	BH-1	0-1	
310						2-3	
311						4-5	
312						6-7	
313						9-10	
314						19-20	
315						24-25	
316						BH-2 0-1	
317						2-3	
318						4-5	
RELINQUISHED BY: (Signature) <i>[Signature]</i>		Date: 3/18/14		Time: 12:5		RECEIVED BY: (Signature) <i>[Signature]</i>	
RELINQUISHED BY: (Signature) <i>[Signature]</i>		Date: 3/18/14		Time: 12:5		RECEIVED BY: (Signature) <i>[Signature]</i>	
RELINQUISHED BY: (Signature) <i>[Signature]</i>		Date: 3/18/14		Time: 12:5		RECEIVED BY: (Signature) <i>[Signature]</i>	
RECEIVING LABORATORY:		State: _____		Phone: _____		Date: _____	
Address: _____		City: _____		Zip: _____		Remarks: Run deeper samples to benzene exceeds 10, total BTEX exceeds 50, or TPH exceeds 100 mg/kg	
Sample Condition When Received:		TPH BH-1 14-151 not listed - address Midland and		TPH BH-1 14-151 not listed - address Midland and		TPH BH-1 14-151 not listed - address Midland and	

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

