SITE INFORMATION

Report Type: Work Plan 2RP-4118

General Site Information:						
Site:	**Salada Vista State #1**					
Company:	**COG Operating LLC**					
Section, Township and Range	**Unit A**	**Sec. 36**	**T 19S**	**R 30E**		
Lease Number:	**API No. 30-015-34067**					
County:	**Eddy County**					
GPS:	**32.6222343° N**			**103.9202881° W**		
Surface Owner:	State					
Mineral Owner:						
Directions:	From the intersection of NM 360 and CR 222 in rural Eddy County, travel northeast on CR 222 for approximately 3.25 mi, turn north onto lease rd for 0.70 mi, turn east onto lease rd for 0.10 mi to location					

Release Data:	
Date Released:	2/6/2017
Type Release:	Oil & Produced Water
Source of Contamination:	Stuffing Box Failure
Fluid Released:	4 bbls oil & 7 bbls water
Fluids Recovered:	3 bbls oil & 5 bbls water

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***	*65'*
>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:	***10***	

Acceptable Soil RRAL (mg/kg)		
Benzene	***Total BTEX***	***TPH***
10	50	1,000

TETRA TECH

April 5, 2018

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 State #1, Unit A, Section 36, Township 19 South, Range 30 East, Eddy County, New Mexico. 2RP-4118.

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC., (COG) to prepare a work plan and perform the remediation activities for a release that occurred at the Salada Vista State #1, Unit A, Section 36, Township 19 South, Range 30 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.6222343º, W 103.9202881º. 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 February 6, 2017, and released approximately four (4) barrels of oil and seven (7) barrels of produced water due to a stuffing box failure. Approximately three (3) barrels of oil and five (5) barrels of produced water was recovered. The release occurred on the pad area and measured approximately 70' x 80'. The initial C-141 Form is included in Appendix A.

Groundwater

There are no water wells listed within Section 36 on the New Mexico Office of the State Engineers (NMOSE) database, the USGS National Water Information System, or the Geology and Ground-Water Resources of Eddy County, New Mexico (Report 3). However, one well is listed on the NMOSE database in Section 25, approximately 1.20 miles northwest of the site, with a depth to groundwater of 65' below surface. According to the Chevron Texaco Groundwater Trend Map, the average depth to groundwater in the area less than 50' below surface. The groundwater data is shown in Appendix B.

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

TETRA TECH

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 1,000 mg/kg.

Soil Assessment and Analytical Results

On February 22, 2017, COG personnel evaluated and sampled the release area using a backhoe. One backhoe trench (T-1) was installed in the release footprint. Additionally, four (4) Trenches (North, South, East, and West) were installed to define the horizontal extents of the release. Selected samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The sampling results are summarized in Table 1. The trench locations are shown on Figure 3.

Referring to Table 1, the areas of trenches (North, South, East, and West) did not show any TPH, benzene, or total BTEX concentrations above the RRALs. Additionally, the samples collected in these areas did not show a significant chloride impact, with concentrations ranging from 6.99 mg/kg to 271 mg/kg.

The area of trench (T-1) showed TPH concentrations exceeding the RRAL in the shallow soils of 4,930 mg/kg at surface, which then declined with depth to 54.6 mg/kg at 3.0’ below surface. Additionally, an elevated total BTEX concentration of 220 mg/kg was detected at the surface, which declined with depth to 1.60 mg/kg at 2.0’ below surface. None of the samples collected showed benzene concentrations above the RRALs. In addition, the area showed chloride concentration that increased with depth to 1,330 mg/kg at 3.0’, before declining to 51.8 mg/kg at 5.0’ below surface. However, the chloride spiked at 6.0’ to 755 mg/kg before again declining to 10.1 mg/kg at 8.0’ below surface.

Remediation Activities

On February 26, 2019, Tetra Tech personnel were onsite to supervise the excavation and remediation activities. The remediation activities were performed in accordance to the approved work plan. The excavated areas and depths are shown on Figure 4 and highlighted (green) in Table 1. The area of trench (T-1) was excavated to approximately 3.0’ below surface to remove the impacted soils above the RRAL and the excavation measured approximately 44’ x 60’.

TETRA TECH

To confirm removal of impacted soils, Tetra Tech collected confirmation samples. Two (2) bottom hole samples (Bottom hole #1 and Bottom hole #2) were collected as well as four (4) sidewall samples (North Sidewall, South Sidewall, East Sidewall, and West Sidewall). The confirmation 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 sample locations are shown on Figure 4.

Referring to Table 1, none of the confirmation samples showed benzene, total BTEX, or TPH concentrations above the RRALs. Additionally, no significant chloride concentrations were detected. The bottom hole samples (Bottom hole #1 and Bottom hole #2) showed chloride concentrations of 510 mg/kg and 255 mg/kg, respectively. The sidewall samples (North Sidewall, South Sidewall, East Sidewall, and West Sidewall) showed chloride concentrations of 466 mg/kg, 364 mg/kg, 127 mg/kg, and 368 mg/kg, respectively. Once completed, the excavated area was backfilled with clean material to surface grade. Approximately 800 cubic yards of material was hauled to proper disposal.

Conclusion

Based on the soil assessment and remediation work performed at the site, COG requests closure of this spill. The 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.

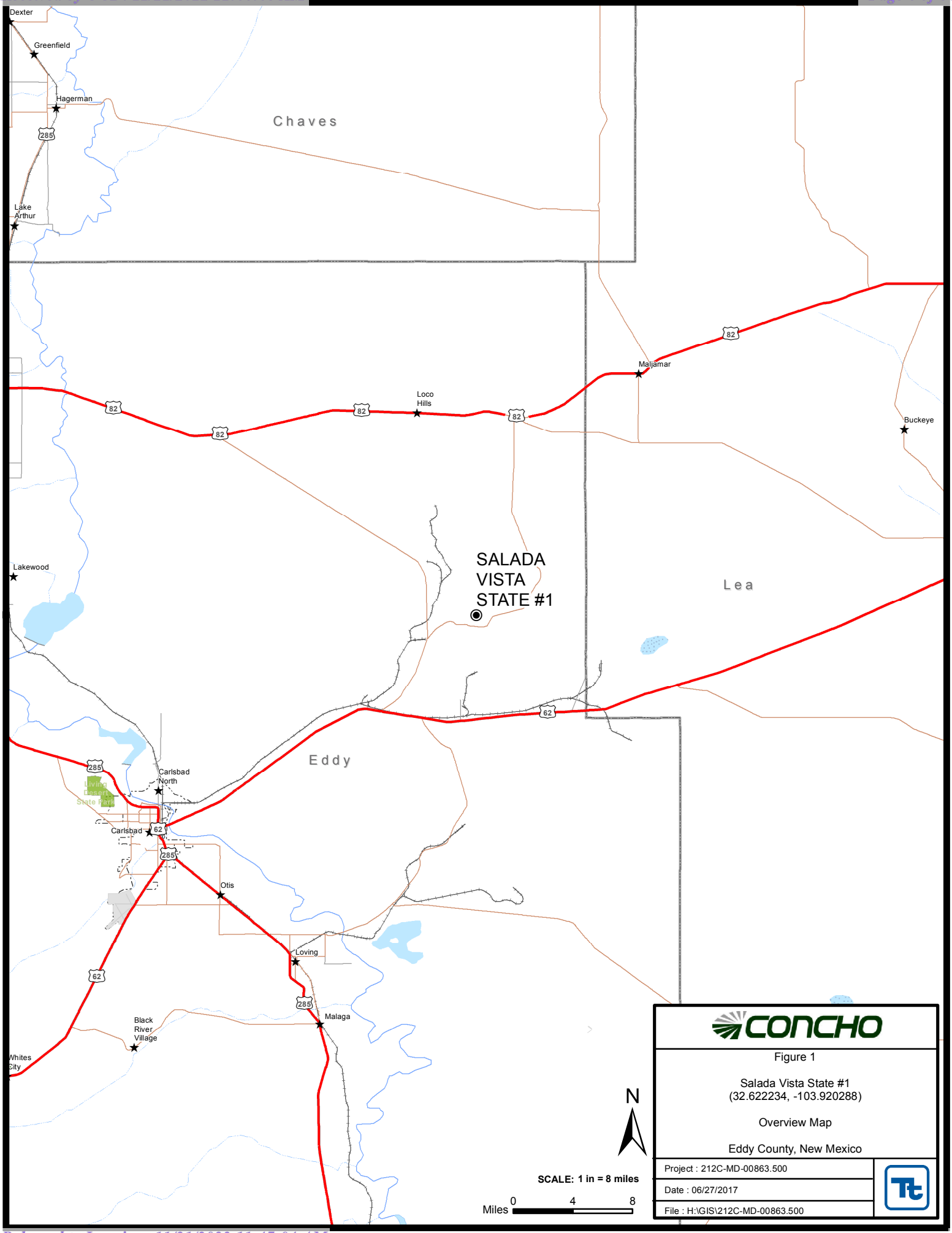
Respectfully submitted,
TETRA TECH

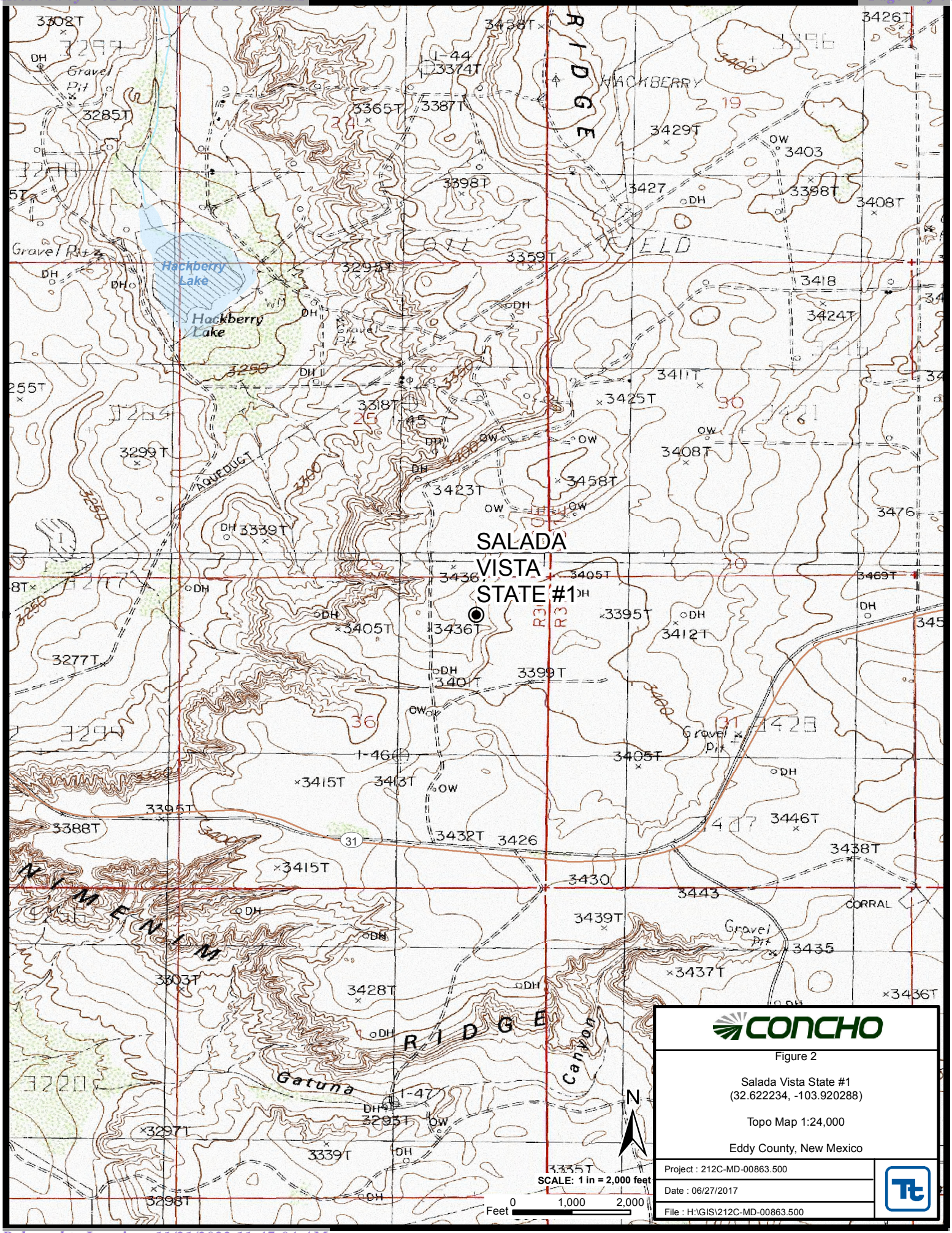
Clair Gonzales,
Project Manager

Ike Tavarez,
Senior Project Manager, P.G.

cc: Robert McNeill – COG
Dakota Neel – COG
Rebecca Haskell – COG
Mark Naranjo - SLO

Figures


Dexter
Greenfield
Hagerman
Chaves
Lake Arthur
Maljamar
Loco Hills
Buckeye
SALADA VISTA STATE #1
Lea
Lakewood
Eddy
Carlsbad North
Carlsbad
Otis
Loving
Malaga
Black River Village
Whites City
82
62
285
N
SCALE: 1 in = 8 miles
Miles 0 4 8
CONCHO
Figure 1
Salada Vista State #1
(32.622234, -103.920288)
Overview Map
Eddy County, New Mexico
Project : 212C-MD-00863.500
Date : 06/27/2017
File : H:\GIS\212C-MD-00863.500



CONCHO

Figure 2

Salada Vista State #1
(32.622234, -103.920288)

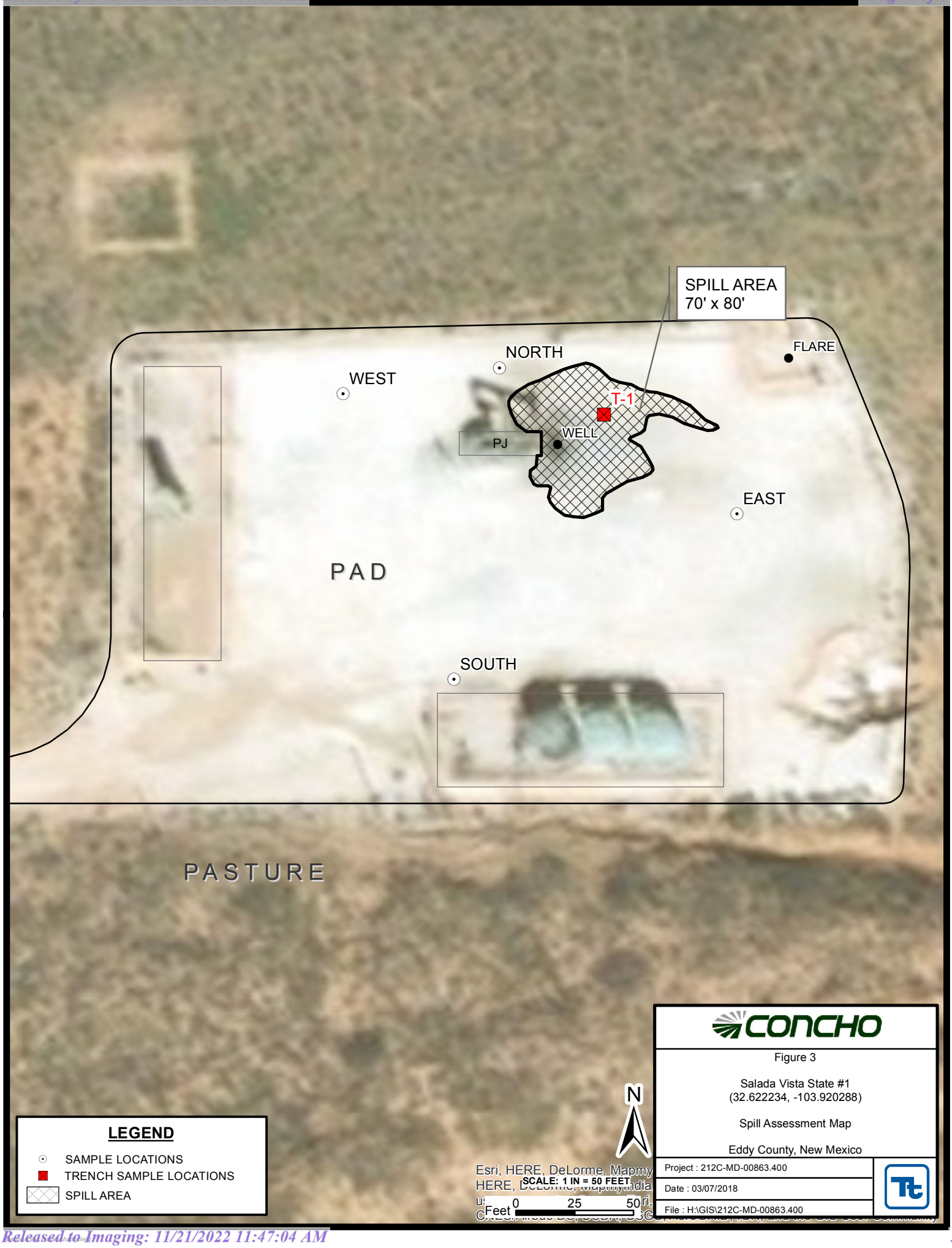
Topo Map 1:24,000

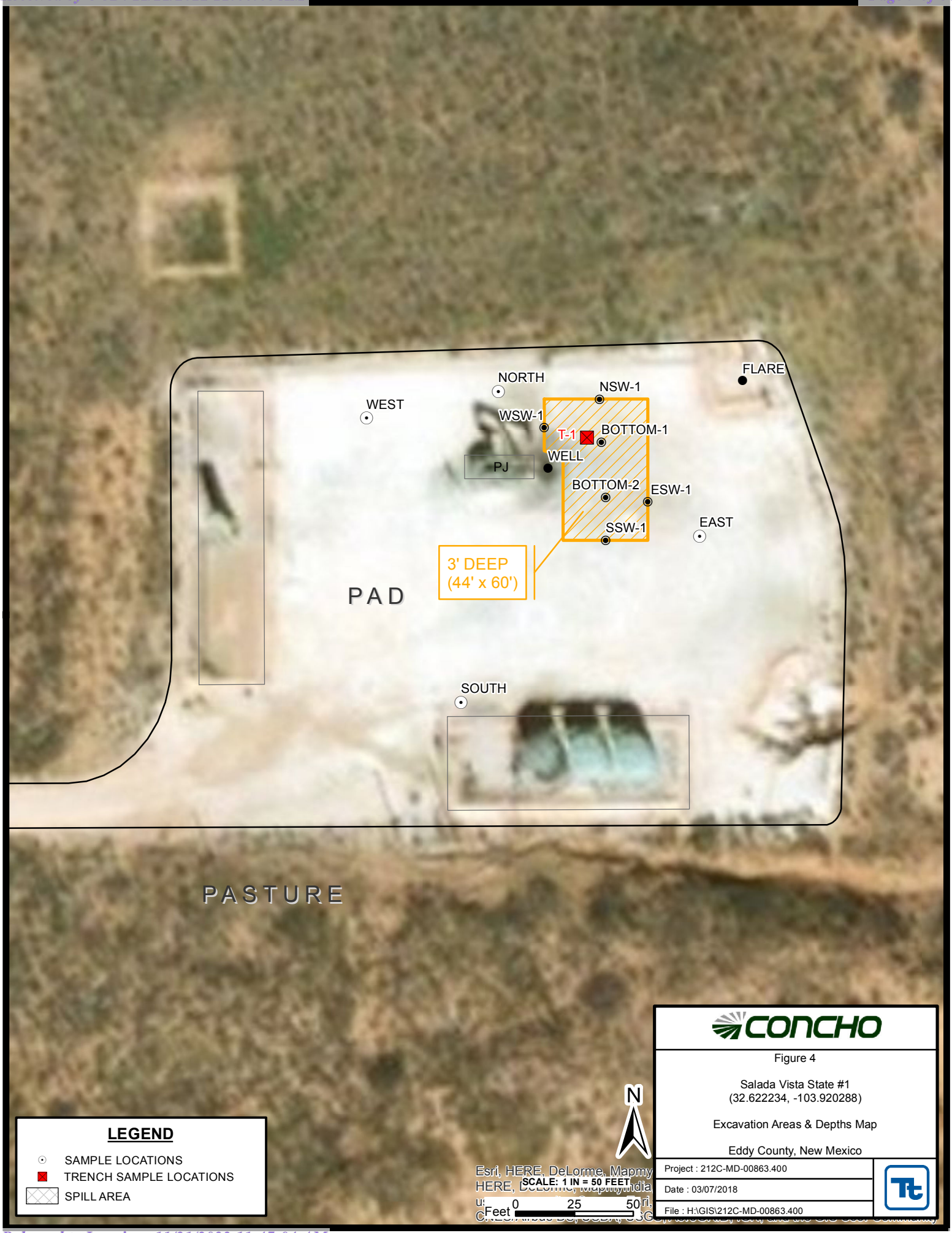
Eddy County, New Mexico

Project : 212C-MD-00863.500

Date : 06/27/2017

File : H:\GIS\212C-MD-00863.500


SPILL AREA
70' x 80'
NORTH
WEST
FLARE
T-1
WELL
PJ
EAST
PAD
SOUTH
PASTURE
N
LEGEND
SAMPLE LOCATIONS
TRENCH SAMPLE LOCATIONS
SPILL AREA
SCALE: 1 IN = 50 FEET
Feet 0 25 50
Esri, HERE, DeLorme, Mapmy
HERE, DeLorme, MapmyIndia
CONCHO
Figure 3
Salada Vista State #1
(32.622234, -103.920288)
Spill Assessment Map
Eddy County, New Mexico
Project : 212C-MD-00863.400
Date : 03/07/2018
File : H:\GIS\212C-MD-00863.400



LEGEND

- SAMPLE LOCATIONS
- TRENCH SAMPLE LOCATIONS
- SPILL AREA

CONCHO

Figure 4

Salada Vista State #1
(32.622234, -103.920288)

Excavation Areas & Depths Map

Eddy County, New Mexico

Project : 212C-MD-00863.400	
Date : 03/07/2018	
File : H:\GIS\212C-MD-00863.400	

Tables

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

Sample ID	Sample Date	Sample Depth (ft)	BEB (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	C6-C10	C10-C28	C28-C35	Total						
T-1	2/22/2017	Surface	-		X	1610	3110	208	**4930**	0.828	48.4	42.9	127	**220**	315
	"	1	-		X	43.4	160	<15.0	**203**	<0.00149	0.00230	<0.00198	0.00385	0.00615	94.5
	"	2	-		X	676	1480	107	**2260**	<0.00150	0.133	0.341	1.12	1.60	237
	"	3	-		X	<15.0	54.6	<15.0	54.6	<0.00153	<0.00204	<0.00204	<0.00204	<0.00153	**1330**
	"	4	-	X		<15.0	57.9	<15.0	57.9	<0.00151	<0.00201	<0.00201	<0.00201	<0.00151	**637**
	"	5	-	X		<15.0	25.4	<15.0	25.4	<0.00148	<0.00198	<0.00198	<0.00198	<0.00148	51.8
	"	6	-	X		-	-	-	-	-	-	-	-	-	**755**
	"	8	-	X		-	-	-	-	-	-	-	-	-	10.1
Bottomhole #1	2/26/2018	-	3	X		<14.9	36.7	<14.9	36.7	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	510
Bottomhole #2	2/26/2018	-	3	X		<15.0	<15.0	<15.0	<15.0	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	255
North Sidewall	2/26/2018	-	-	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	466
South Sidewall	2/26/2018	-	-	X		<15.0	<15.0	<15.0	<15.0	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	364
East Sidewall	2/26/2018	-	-	X		<15.0	<15.0	<15.0	<15.0	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	127
West Sidewall	2/26/2018	-	-	X		<15.0	<15.0	<15.0	<15.0	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	368
North	2/23/2017	Surface	Surface	X		<15.0	31.2	<15.0	31.2	<0.00149	<0.00199	<0.00199	<0.00199	<0.00149	6.99
	"	1	1	X		<15.0	31.2	<15.0	31.2	<0.00148	<0.00197	<0.00197	<0.00197	<0.00148	12.4
South	2/23/2017	Surface	Surface	X		<15.0	<15.0	<15.0	<15.0	<0.00151	<0.00202	<0.00202	<0.00202	<0.00151	101
	"	1	1	X		<15.0	<15.0	<15.0	<15.0	<0.00150	<0.00200	<0.00200	<0.00200	<0.00150	24.7
East	2/23/2017	Surface	Surface	X		<15.0	<15.0	<15.0	<15.0	<0.00285	<0.00380	<0.00380	<0.00380	<0.00285	202
	"	1	1	X		<15.0	17.7	<15.0	17.7	<0.00152	<0.00203	<0.00203	<0.00203	<0.00152	271
West	2/23/2017	Surface	Surface	X		<15.0	<15.0	<15.0	<15.0	<0.00149	<0.00199	<0.00199	<0.00199	<0.00149	158
	"	1	1	X		<15.0	<15.0	<15.0	<15.0	<0.00150	<0.00200	<0.00200	<0.00200	<0.00150	158

BEB — Below Excavation Bottom
(-) — Not Analyzed
Excavation Depths

Photos

COG Operating LLC
Salada Vista State #1
Eddy County, New Mexico

TETRA TECH

View North – Excavation Area

View South – Excavation Area

Appendix A

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., 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 August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

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.	432-683-7443
Facility Name:	SALADA VISTA STATE #001	Facility Type:	Well Head

Surface Owner: State	Mineral Owner:	API No. 30-015-34067

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
A	36	19S	30E	660'	North	990'	East	Eddy

Latitude 32.6222343 **Longitude** 103.9202881

NATURE OF RELEASE

Type of Release: Oil & Produced Water	Volume of Release: 4bbls of Oil & 7bbls of Produced Water	Volume Recovered: 3bbls of Oil & 5bbls of Produced Water
Source of Release: Well Head	Date and Hour of Occurrence: 02/06/2017 08:07 am	Date and Hour of Discovery: 02/06/2017 08:07 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.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

This release was located on the pad. The release was caused by a stuffing box failure.

Describe Area Affected and Cleanup Action Taken.*

This release was contained on the pad. 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:

Printed Name: Robert Grubbs Jr.

Title: Senior HSE Coordinator

E-mail Address: rgrubbs@concho.com

Date: February 9, 2017 Phone: 432-683-7443

OIL CONSERVATION DIVISION

Approved by Environmental Specialist:

Approval Date: Expiration Date:

Conditions of Approval: Attached ☐

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 **Rebecca Haskell**
Address **600 West Illinois Ave, Midland, TX**	Telephone No. **(432) 813-2372**
Facility Name Salada Vista State #1	Facility Type **Well Head**

Surface Owner: State	Mineral Owner	API No. 30-015-34067

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
A	36	19S	30E	660	North	990	East	Eddy

Latitude N 32.6222343° **Longitude** W 103.9202881°

NATURE OF RELEASE

Type of Release: Oil & Produced Water	Volume of Release: 4 bbl oil & 7 bbl produced water	Volume Recovered: 3 bbls oil & 5 bbls produced water
Source of Release: Welhead	Date and Hour of Occurrence 02/06/2017 8:07am	Date and Hour of Discovery 02/06/2017 8:07am
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.*

The release was caused by a stuffing box failure and occurred on the pad area.

Describe Area Affected and Cleanup Action Taken.*

The site was inspected and samples were collected 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	Approved by District Supervisor: Brittany Hall
Title: Project Manager	Approval Date: 11/21/2022 Expiration Date: N/A
E-mail Address: Ike.Tavarez@TetraTech.com	Conditions of Approval: none Attached ☐
Date: 03/07/2018 Phone: (432) 682-4559	

* Attach Additional Sheets If Necessary

Appendix B

Water Well Data
Average Depth to Groundwater (ft)
COG - Salada Vista State #1
Eddy County, New Mexico

18 South 29 East

6	5	4	3	2	1
7	8	9	10 **95**	11	12
18	17	16	15	14	13
19	20	21	22	23	24 158
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 **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

19 South 29 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13 123 101
19	20 62.9	21	22	23	24
30	29	28	27	26	25
31	32	33	34 62' **60**	35 121 **110**	36 **115**

19 South 30 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15 **92**	14	13
19	20	21	22	23	24
30 **90**	29	28	27	26	25 **65**
31 **115**	32	33	34	35	36 SITE

19 South 31 East

6	5 **SITE**	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19 **180**	20	21	22	23	24
30 **90**	29	28 180	27	26	25
31	32	33 101 **140**	34	35	36 **130**

20 South 29 East

6	5	4	3 91	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20 62	21	22	23	24
30 **52**	29	28	27	26	25
31	32	33	34	35	36

20 South 30 East

6	5 **35**	4 **60** **82**	3 6	2	1
7	8	9	10	11 **40**	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**

88 New Mexico State Engineers Well Reports

105 USGS Well Reports

90 Geology and Groundwater Conditions in Southern Lea, County, NM (Report 6)

Geology and Groundwater Resources of Eddy County, NM (Report 3)

34 NMOCD - Groundwater Data

123 Tetra Tech installed temporary wells and field water level

143 NMOCD Groundwater map well location

New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
CP 00357 POD1		CP	ED	4	4	1	24	19S	30E	600667	3612631*	630		
CP 00357 POD2		CP	ED	4	3	1	24	19S	30E	600265	3612627*	630		
CP 00522		CP	ED			3	30	19S	30E	592347	3610451*	120	90	30
CP 00647 POD1	O	CP	ED	4	2	2	15	19S	30E	598235	3614621*	200	92	108
CP 00722 POD2		CP	ED	2	1	1	25	19S	30E	600276	3611620*	350	65	285
CP 00742		CP	ED		3	3	31	19S	30E	592208	3608940	223	115	108
CP 00822 POD1		CP	LE		4	4	15	19S	30E	598148	3613516*	90		
CP 00823 POD1		CP	LE		1	3	17	19S	30E	593715	3613885*	120		
CP 00824 POD1		CP	LE		4	1	20	19S	30E	594129	3612680*	70		
CP 00825 POD1		CP	LE		3	4	28	19S	30E	596164	3610282*	100		
CP 00827 POD1		CP	LE		3	3	35	19S	30E	598596	3608694*	100		
CP 00828 POD1		CP	LE		1	1	35	19S	30E	598585	3609900*	90		

Average Depth to Water: **90 feet**

Minimum Depth: **65 feet**

Maximum Depth: **115 feet**

Record Count: 12

PLSS Search:

Township: 19S **Range:** 30E

***UTM location was derived from PLSS - see Help**

Appendix C

Certificate of Analysis Summary 547700

COG Operating LLC, Artesia, NM

Project Name: Salada Vista State #1

Project Id:

Contact: Aaron Lieb

Project Location:

Date Received in Lab: Thu Mar-02-17 10:20 am

Report Date: 09-MAR-17

Project Manager: Liz Givens

Analysis Requested													
	Lab Id:	547700-001		547700-002		547700-003		547700-004		547700-005		547700-006	
	Field Id:	T1- Surface		T1- 1'		T1- 2'		T1- 3'		T1- 4'		T1- 5'	
	Depth:			1 ft		2 ft		3 ft		4 ft		5 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Feb-22-17 14:00		Feb-22-17 14:00		Feb-22-17 14:00		Feb-22-17 14:00		Feb-22-17 14:00		Feb-22-17 14:00	
BTEX by EPA 8021B	***Extracted:***	Mar-06-17 07:20		Mar-06-17 07:20		Mar-07-17 07:30		Mar-06-17 07:20		Mar-06-17 07:20		Mar-06-17 07:20	
	Analyzed:	Mar-06-17 16:18		Mar-06-17 16:02		Mar-07-17 16:06		Mar-06-17 12:02		Mar-06-17 11:46		Mar-06-17 11:29	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		0.828	0.373	<0.00149	0.00149	<0.00150	0.00150	<0.00153	0.00153	<0.00151	0.00151	<0.00148	0.00148
Toluene		48.4	0.497	0.00230	0.00198	0.133	0.00200	<0.00204	0.00204	<0.00201	0.00201	<0.00198	0.00198
Ethylbenzene		42.9	0.497	<0.00198	0.00198	0.341	0.00200	<0.00204	0.00204	<0.00201	0.00201	<0.00198	0.00198
m_p-Xylenes		93.9	0.497	0.00385	0.00198	0.799	0.00200	<0.00204	0.00204	<0.00201	0.00201	<0.00198	0.00198
o-Xylene		33.5	0.746	<0.00297	0.00297	0.323	0.00301	<0.00305	0.00305	<0.00302	0.00302	<0.00296	0.00296
Total Xylenes		127	0.497	0.00385	0.00198	1.12	0.00200	<0.00204	0.00204	<0.00201	0.00201	<0.00198	0.00198
Total BTEX		220	0.373	0.00615	0.00149	1.60	0.00150	<0.00153	0.00153	<0.00151	0.00151	<0.00148	0.00148
Inorganic Anions by EPA 300/300.1	***Extracted:***	Mar-03-17 14:55		Mar-03-17 14:55		Mar-03-17 14:55		Mar-03-17 14:55		Mar-03-17 14:55		Mar-03-17 14:55	
	Analyzed:	Mar-03-17 16:40		Mar-03-17 17:16		Mar-03-17 17:24		Mar-03-17 17:46		Mar-03-17 17:53		Mar-03-17 18:00	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		315	4.98	94.5	4.94	237	4.89	1330	4.88	637	4.92	51.8	4.90
TPH By SW8015 Mod	***Extracted:***	Mar-06-17 07:00		Mar-06-17 07:00		Mar-06-17 07:00		Mar-06-17 07:00		Mar-06-17 07:00		Mar-06-17 07:00	
	Analyzed:	Mar-07-17 04:19		Mar-07-17 04:39		Mar-07-17 05:38		Mar-07-17 05:57		Mar-07-17 06:16		Mar-07-17 06:34	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C10 Gasoline Range Hydrocarbons		1610	15.0	43.4	15.0	676	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
C10-C28 Diesel Range Hydrocarbons		3110	15.0	160	15.0	1480	15.0	54.6	15.0	57.9	15.0	25.4	15.0
C28-C35 Oil Range Hydrocarbons		208	15.0	<15.0	15.0	107	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH		4930	15.0	203	15.0	2260	15.0	54.6	15.0	57.9	15.0	25.4	15.0

Brandi Ritcherson
Project Manager

Certificate of Analysis Summary 547700

COG Operating LLC, Artesia, NM

Project Name: Salada Vista State #1

Project Id:
Contact: Aaron Lieb
Project Location:

Date Received in Lab: Thu Mar-02-17 10:20 am
Report Date: 09-MAR-17
Project Manager: Liz Givens

Analysis Requested		Lab Id:	547700-007		547700-008		547700-009		547700-010		547700-011		547700-012	
		Field Id:	T1- 6'		T1- 8'		North-Surface		North-1'		South-Surface		South-1'	
		Depth:	6 ft		8 ft				1 ft				1 ft	
		Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
		Sampled:	Feb-22-17 14:00		Feb-22-17 14:00		Feb-23-17 10:00		Feb-23-17 10:00		Feb-23-17 10:00		Feb-23-17 10:00	
BTEX by EPA 8021B		Extracted:					Mar-03-17 16:25		Mar-03-17 16:25		Mar-03-17 16:25		Mar-06-17 07:20	
		Analyzed:					Mar-04-17 19:32		Mar-04-17 19:48		Mar-04-17 20:04		Mar-06-17 09:35	
		Units/RL:					mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene							<0.00149	0.00149	<0.00148	0.00148	<0.00151	0.00151	<0.00150	0.00150
Toluene							<0.00199	0.00199	<0.00197	0.00197	<0.00202	0.00202	<0.00200	0.00200
Ethylbenzene							<0.00199	0.00199	<0.00197	0.00197	<0.00202	0.00202	<0.00200	0.00200
m_p-Xylenes							<0.00199	0.00199	<0.00197	0.00197	<0.00202	0.00202	<0.00200	0.00200
o-Xylene							<0.00299	0.00299	<0.00295	0.00295	<0.00302	0.00302	<0.00299	0.00299
Total Xylenes							<0.00199	0.00199	<0.00197	0.00197	<0.00202	0.00202	<0.00200	0.00200
Total BTEX							<0.00149	0.00149	<0.00148	0.00148	<0.00151	0.00151	<0.00150	0.00150
BTEX by EPA 8021B		Extracted:					Mar-03-17 16:25		Mar-03-17 16:25		Mar-03-17 16:25			
		Analyzed:					Mar-04-17 19:32		Mar-04-17 19:48		Mar-04-17 20:04			
		Units/RL:					mg/L	RL	mg/L	RL	mg/L	RL		
MTBE							<0.00996	0.00996	<0.00984	0.00984	<0.0101	0.0101		
Inorganic Anions by EPA 300/300.1		Extracted:	Mar-03-17 14:55		Mar-03-17 14:55		Mar-03-17 14:55		Mar-03-17 14:55		Mar-03-17 14:55		Mar-03-17 14:55	
		Analyzed:	Mar-03-17 18:08		Mar-03-17 18:15		Mar-03-17 18:22		Mar-03-17 18:44		Mar-03-17 18:52		Mar-03-17 19:14	
		Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride			755	4.99	10.1	4.89	6.99	4.89	12.4	4.93	101	4.98	24.7	4.88
TPH By SW8015 Mod		Extracted:					Mar-06-17 07:00		Mar-06-17 07:00		Mar-06-17 07:00		Mar-06-17 07:00	
		Analyzed:					Mar-07-17 06:54		Mar-07-17 07:14		Mar-07-17 07:34		Mar-07-17 07:53	
		Units/RL:					mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C10 Gasoline Range Hydrocarbons							<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
C10-C28 Diesel Range Hydrocarbons							31.2	15.0	31.2	15.0	<15.0	15.0	<15.0	15.0
C28-C35 Oil Range Hydrocarbons							<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH							31.2	15.0	31.2	15.0	<15.0	15.0	<15.0	15.0

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Brandi Ritcherson
Project Manager

Certificate of Analysis Summary 547700

COG Operating LLC, Artesia, NM

Project Name: Salada Vista State #1

Project Id:
Contact: Aaron Lieb
Project Location:

Date Received in Lab: Thu Mar-02-17 10:20 am
Report Date: 09-MAR-17
Project Manager: Liz Givens

Analysis Requested													
	Lab Id:	547700-013		547700-014		547700-015		547700-016					
	Field Id:	East-Surface		East-1'		West-Surface		West-1'					
	Depth:			1 ft				1 ft					
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	Feb-23-17 10:00		Feb-23-17 10:00		Feb-23-17 10:00		Feb-23-17 10:00					
BTEX by EPA 8021B	***Extracted:***	Mar-06-17 07:20		Mar-06-17 07:20		Mar-06-17 07:20		Mar-06-17 07:20					
	Analyzed:	Mar-06-17 15:45		Mar-06-17 09:52		Mar-06-17 10:25		Mar-06-17 10:41					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.00285	0.00285	<0.00152	0.00152	<0.00149	0.00149	<0.00150	0.00150				
Toluene		<0.00380	0.00380	<0.00203	0.00203	<0.00199	0.00199	<0.00200	0.00200				
Ethylbenzene		<0.00380	0.00380	<0.00203	0.00203	<0.00199	0.00199	<0.00200	0.00200				
m_p-Xylenes		<0.00380	0.00380	<0.00203	0.00203	<0.00199	0.00199	<0.00200	0.00200				
o-Xylene		<0.00570	0.00570	<0.00304	0.00304	<0.00299	0.00299	<0.00301	0.00301				
Total Xylenes		<0.00380	0.00380	<0.00203	0.00203	<0.00199	0.00199	<0.00200	0.00200				
Total BTEX		<0.00285	0.00285	<0.00152	0.00152	<0.00149	0.00149	<0.00150	0.00150				
Inorganic Anions by EPA 300/300.1	***Extracted:***	Mar-03-17 14:55		Mar-03-17 14:55		Mar-03-17 14:55		Mar-03-17 14:55					
	Analyzed:	Mar-03-17 19:21		Mar-03-17 19:29		Mar-03-17 19:36		Mar-03-17 19:43					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		202	4.92	271	4.87	158	4.92	158	4.88				
TPH By SW8015 Mod	***Extracted:***	Mar-06-17 07:00		Mar-06-17 07:00		Mar-06-17 07:00		Mar-06-17 07:00					
	Analyzed:	Mar-07-17 08:50		Mar-07-17 09:09		Mar-06-17 17:20		Mar-06-17 17:40					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
C6-C10 Gasoline Range Hydrocarbons		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0				
C10-C28 Diesel Range Hydrocarbons		<15.0	15.0	17.7	15.0	<15.0	15.0	<15.0	15.0				
C28-C35 Oil Range Hydrocarbons		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0				
Total TPH		<15.0	15.0	17.7	15.0	<15.0	15.0	<15.0	15.0				

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Brandi Ritcherson
Project Manager

Analytical Report 547700

for

COG Operating LLC

Project Manager: Aaron Lieb

Salada Vista State #1

09-MAR-17

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215), Arizona (AZ0765), Florida (E871002), Louisiana (03054)
Oklahoma (9218)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)
Xenco-San Antonio: Texas (T104704534)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

09-MAR-17

Project Manager: **Aaron Lieb**
COG Operating LLC
2407 Pecos Avenue
Artesia, NM 88210

Reference: XENCO Report No(s): **547700**
Salada Vista State #1
Project Address:

Aaron Lieb:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 547700. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 547700 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Brandi Ritcherson
Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

Sample Cross Reference 547700

COG Operating LLC, Artesia, NM

Salada Vista State #1

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
T1- Surface	S	02-22-17 14:00		547700-001
T1- 1'	S	02-22-17 14:00	- 1 ft	547700-002
T1- 2'	S	02-22-17 14:00	- 2 ft	547700-003
T1- 3'	S	02-22-17 14:00	- 3 ft	547700-004
T1- 4'	S	02-22-17 14:00	- 4 ft	547700-005
T1- 5'	S	02-22-17 14:00	- 5 ft	547700-006
T1- 6'	S	02-22-17 14:00	- 6 ft	547700-007
T1- 8'	S	02-22-17 14:00	- 8 ft	547700-008
North-Surface	S	02-23-17 10:00	N/A	547700-009
North-1'	S	02-23-17 10:00	- 1 ft	547700-010
South-Surface	S	02-23-17 10:00	N/A	547700-011
South-1'	S	02-23-17 10:00	- 1 ft	547700-012
East-Surface	S	02-23-17 10:00	N/A	547700-013
East-1'	S	02-23-17 10:00	- 1 ft	547700-014
West-Surface	S	02-23-17 10:00	N/A	547700-015
West-1'	S	02-23-17 10:00	- 1 ft	547700-016

CASE NARRATIVE

Client Name: COG Operating LLC

Project Name: Salada Vista State #1

Project ID:
Work Order Number(s): *547700*

Report Date: *09-MAR-17*
Date Received: *03/02/2017*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3011637 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3011716 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3011846 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analytical Results 547700

COG Operating LLC, Artesia, NM

Salada Vista State #1

Sample Id:	**T1- Surface**	Matrix:	Soil	Date Received:	03.02.17 10.20
Lab Sample Id:	547700-001	Date Collected:	02.22.17 14.00		

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	03.03.17 14.55	Basis:	Wet Weight
Seq Number:	3011928				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**315**	4.98	mg/kg	03.03.17 16.40		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.06.17 07.00	Basis:	Wet Weight
Seq Number:	3011770				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	**1610**	15.0	mg/kg	03.07.17 04.19		1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	**3110**	15.0	mg/kg	03.07.17 04.19		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	**208**	15.0	mg/kg	03.07.17 04.19		1
Total TPH	PHC635	**4930**	15.0	mg/kg	03.07.17 04.19		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	03.07.17 04.19	
o-Terphenyl	84-15-1	93	%	70-135	03.07.17 04.19	

Certificate of Analytical Results 547700

COG Operating LLC, Artesia, NM

Salada Vista State #1

Sample Id:	**T1- Surface**	Matrix:	Soil	Date Received:	03.02.17 10.20
Lab Sample Id:	547700-001	Date Collected:	02.22.17 14.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	03.06.17 07.20	Basis:	Wet Weight
Seq Number:	3011716				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.828**	0.373	mg/kg	03.06.17 16.18		250
Toluene	108-88-3	**48.4**	0.497	mg/kg	03.06.17 16.18		250
Ethylbenzene	100-41-4	**42.9**	0.497	mg/kg	03.06.17 16.18		250
m_p-Xylenes	179601-23-1	**93.9**	0.497	mg/kg	03.06.17 16.18		250
o-Xylene	95-47-6	**33.5**	0.746	mg/kg	03.06.17 16.18		250
Total Xylenes	1330-20-7	**127**	0.497	mg/kg	03.06.17 16.18		250
Total BTEX		**220**	0.373	mg/kg	03.06.17 16.18		250

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	87	%	80-120	03.06.17 16.18	
4-Bromofluorobenzene	460-00-4	89	%	80-120	03.06.17 16.18	

Certificate of Analytical Results 547700

COG Operating LLC, Artesia, NM

Salada Vista State #1

Sample Id:	**T1- 1'**	Matrix:	Soil	Date Received:	03.02.17 10.20
Lab Sample Id:	547700-002	Date Collected:	02.22.17 14.00	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	03.03.17 14.55	Basis:	Wet Weight
Seq Number:	3011928				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**94.5**	4.94	mg/kg	03.03.17 17.16		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.06.17 07.00	Basis:	Wet Weight
Seq Number:	3011770				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	**43.4**	15.0	mg/kg	03.07.17 04.39		1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	**160**	15.0	mg/kg	03.07.17 04.39		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<15.0	15.0	mg/kg	03.07.17 04.39	U	1
Total TPH	PHC635	**203**	15.0	mg/kg	03.07.17 04.39		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	03.07.17 04.39	
o-Terphenyl	84-15-1	93	%	70-135	03.07.17 04.39	

Certificate of Analytical Results 547700

COG Operating LLC, Artesia, NM

Salada Vista State #1

Sample Id:	**T1- 1'**	Matrix:	Soil	Date Received:	03.02.17 10.20
Lab Sample Id:	547700-002	Date Collected:	02.22.17 14.00	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	03.06.17 07.20	Basis:	Wet Weight
Seq Number:	3011716				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00149	0.00149	mg/kg	03.06.17 16.02	U	1
Toluene	108-88-3	**0.00230**	0.00198	mg/kg	03.06.17 16.02		1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	03.06.17 16.02	U	1
m_p-Xylenes	179601-23-1	**0.00385**	0.00198	mg/kg	03.06.17 16.02		1
o-Xylene	95-47-6	<0.00297	0.00297	mg/kg	03.06.17 16.02	U	1
Total Xylenes	1330-20-7	**0.00385**	0.00198	mg/kg	03.06.17 16.02		1
Total BTEX		**0.00615**	0.00149	mg/kg	03.06.17 16.02		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	80-120	03.06.17 16.02	
1,4-Difluorobenzene	540-36-3	109	%	80-120	03.06.17 16.02	

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COG Operating LLC, Artesia, NM

Salada Vista State #1

Sample Id:	**T1- 2'**	Matrix:	Soil	Date Received:	03.02.17 10.20
Lab Sample Id:	547700-003	Date Collected:	02.22.17 14.00	Sample Depth:	2 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	03.03.17 14.55	Basis:	Wet Weight
Seq Number:	3011928				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**237**	4.89	mg/kg	03.03.17 17.24		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.06.17 07.00	Basis:	Wet Weight
Seq Number:	3011770				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	**676**	15.0	mg/kg	03.07.17 05.38		1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	**1480**	15.0	mg/kg	03.07.17 05.38		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	**107**	15.0	mg/kg	03.07.17 05.38		1
Total TPH	PHC635	**2260**	15.0	mg/kg	03.07.17 05.38		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	03.07.17 05.38	
o-Terphenyl	84-15-1	72	%	70-135	03.07.17 05.38	

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COG Operating LLC, Artesia, NM

Salada Vista State #1

Sample Id:	**T1- 2'**	Matrix:	Soil	Date Received:	03.02.17 10.20
Lab Sample Id:	547700-003	Date Collected:	02.22.17 14.00	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	03.07.17 07.30	Basis:	Wet Weight
Seq Number:	3011846				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00150	0.00150	mg/kg	03.07.17 16.06	U	1
Toluene	108-88-3	**0.133**	0.00200	mg/kg	03.07.17 16.06		1
Ethylbenzene	100-41-4	**0.341**	0.00200	mg/kg	03.07.17 16.06		1
m_p-Xylenes	179601-23-1	**0.799**	0.00200	mg/kg	03.07.17 16.06		1
o-Xylene	95-47-6	**0.323**	0.00301	mg/kg	03.07.17 16.06		1
Total Xylenes	1330-20-7	**1.12**	0.00200	mg/kg	03.07.17 16.06		1
Total BTEX		**1.60**	0.00150	mg/kg	03.07.17 16.06		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	96	%	80-120	03.07.17 16.06	
4-Bromofluorobenzene	460-00-4	85	%	80-120	03.07.17 16.06	

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COG Operating LLC, Artesia, NM

Salada Vista State #1

Sample Id:	**T1- 3'**	Matrix:	Soil	Date Received:	03.02.17 10.20
Lab Sample Id:	547700-004	Date Collected:	02.22.17 14.00	Sample Depth:	3 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	03.03.17 14.55	Basis:	Wet Weight
Seq Number:	3011928				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1330**	4.88	mg/kg	03.03.17 17.46		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.06.17 07.00	Basis:	Wet Weight
Seq Number:	3011770				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	03.07.17 05.57	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	**54.6**	15.0	mg/kg	03.07.17 05.57		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<15.0	15.0	mg/kg	03.07.17 05.57	U	1
Total TPH	PHC635	**54.6**	15.0	mg/kg	03.07.17 05.57		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	03.07.17 05.57	
o-Terphenyl	84-15-1	97	%	70-135	03.07.17 05.57	

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COG Operating LLC, Artesia, NM

Salada Vista State #1

Sample Id:	**T1- 3'**	Matrix:	Soil	Date Received:	03.02.17 10.20
Lab Sample Id:	547700-004	Date Collected:	02.22.17 14.00	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	03.06.17 07.20	Basis:	Wet Weight
Seq Number:	3011716				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00153	0.00153	mg/kg	03.06.17 12.02	U	1
Toluene	108-88-3	<0.00204	0.00204	mg/kg	03.06.17 12.02	U	1
Ethylbenzene	100-41-4	<0.00204	0.00204	mg/kg	03.06.17 12.02	U	1
m_p-Xylenes	179601-23-1	<0.00204	0.00204	mg/kg	03.06.17 12.02	U	1
o-Xylene	95-47-6	<0.00305	0.00305	mg/kg	03.06.17 12.02	U	1
Total Xylenes	1330-20-7	<0.00204	0.00204	mg/kg	03.06.17 12.02	U	1
Total BTEX		<0.00153	0.00153	mg/kg	03.06.17 12.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	95	%	80-120	03.06.17 12.02	
4-Bromofluorobenzene	460-00-4	94	%	80-120	03.06.17 12.02	

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COG Operating LLC, Artesia, NM

Salada Vista State #1

Sample Id:	**T1- 4'**	Matrix:	Soil	Date Received:	03.02.17 10.20
Lab Sample Id:	547700-005	Date Collected:	02.22.17 14.00	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	03.03.17 14.55	Basis:	Wet Weight
Seq Number:	3011928				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**637**	4.92	mg/kg	03.03.17 17.53		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.06.17 07.00	Basis:	Wet Weight
Seq Number:	3011770				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	03.07.17 06.16	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	**57.9**	15.0	mg/kg	03.07.17 06.16		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<15.0	15.0	mg/kg	03.07.17 06.16	U	1
Total TPH	PHC635	**57.9**	15.0	mg/kg	03.07.17 06.16		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	03.07.17 06.16	
o-Terphenyl	84-15-1	114	%	70-135	03.07.17 06.16	

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COG Operating LLC, Artesia, NM

Salada Vista State #1

Sample Id:	**T1- 4'**	Matrix:	Soil	Date Received:	03.02.17 10.20
Lab Sample Id:	547700-005	Date Collected:	02.22.17 14.00	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	03.06.17 07.20	Basis:	Wet Weight
Seq Number:	3011716				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00151	0.00151	mg/kg	03.06.17 11.46	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	03.06.17 11.46	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	03.06.17 11.46	U	1
m_p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	03.06.17 11.46	U	1
o-Xylene	95-47-6	<0.00302	0.00302	mg/kg	03.06.17 11.46	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	03.06.17 11.46	U	1
Total BTEX		<0.00151	0.00151	mg/kg	03.06.17 11.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	109	%	80-120	03.06.17 11.46	
1,4-Difluorobenzene	540-36-3	98	%	80-120	03.06.17 11.46	

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COG Operating LLC, Artesia, NM

Salada Vista State #1

Sample Id:	**T1- 5'**	Matrix:	Soil	Date Received:	03.02.17 10.20
Lab Sample Id:	547700-006	Date Collected:	02.22.17 14.00	Sample Depth:	5 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	03.03.17 14.55	Basis:	Wet Weight
Seq Number:	3011928				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**51.8**	4.90	mg/kg	03.03.17 18.00		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.06.17 07.00	Basis:	Wet Weight
Seq Number:	3011770				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	03.07.17 06.34	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	**25.4**	15.0	mg/kg	03.07.17 06.34		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<15.0	15.0	mg/kg	03.07.17 06.34	U	1
Total TPH	PHC635	**25.4**	15.0	mg/kg	03.07.17 06.34		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	03.07.17 06.34	
o-Terphenyl	84-15-1	116	%	70-135	03.07.17 06.34	

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COG Operating LLC, Artesia, NM

Salada Vista State #1

Sample Id:	**T1- 5'**	Matrix:	Soil	Date Received:	03.02.17 10.20
Lab Sample Id:	547700-006	Date Collected:	02.22.17 14.00	Sample Depth:	5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	03.06.17 07.20	Basis:	Wet Weight
Seq Number:	3011716				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00148	0.00148	mg/kg	03.06.17 11.29	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	03.06.17 11.29	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	03.06.17 11.29	U	1
m_p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	03.06.17 11.29	U	1
o-Xylene	95-47-6	<0.00296	0.00296	mg/kg	03.06.17 11.29	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	03.06.17 11.29	U	1
Total BTEX		<0.00148	0.00148	mg/kg	03.06.17 11.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	116	%	80-120	03.06.17 11.29	
4-Bromofluorobenzene	460-00-4	115	%	80-120	03.06.17 11.29	

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COG Operating LLC, Artesia, NM

Salada Vista State #1

Sample Id:	**T1- 6'**	Matrix:	Soil	Date Received:	03.02.17 10.20
Lab Sample Id:	547700-007	Date Collected:	02.22.17 14.00	Sample Depth:	6 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	03.03.17 14.55	Basis:	Wet Weight
Seq Number:	3011928				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**755**	4.99	mg/kg	03.03.17 18.08		1

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COG Operating LLC, Artesia, NM

Salada Vista State #1

Sample Id:	**T1- 8'**	Matrix:	Soil	Date Received:	03.02.17 10.20
Lab Sample Id:	547700-008	Date Collected:	02.22.17 14.00	Sample Depth:	8 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	03.03.17 14.55	Basis:	Wet Weight
Seq Number:	3011928				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**10.1**	4.89	mg/kg	03.03.17 18.15		1

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COG Operating LLC, Artesia, NM

Salada Vista State #1

Sample Id:	**North-Surface**	Matrix:	Soil	Date Received:	03.02.17 10.20
Lab Sample Id:	547700-009	Date Collected:	02.23.17 10.00		

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	03.03.17 14.55	Basis:	Wet Weight
Seq Number:	3011928				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6.99**	4.89	mg/kg	03.03.17 18.22		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.06.17 07.00	Basis:	Wet Weight
Seq Number:	3011770				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	03.07.17 06.54	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	**31.2**	15.0	mg/kg	03.07.17 06.54		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<15.0	15.0	mg/kg	03.07.17 06.54	U	1
Total TPH	PHC635	**31.2**	15.0	mg/kg	03.07.17 06.54		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	03.07.17 06.54	
o-Terphenyl	84-15-1	109	%	70-135	03.07.17 06.54	

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COG Operating LLC, Artesia, NM

Salada Vista State #1

Sample Id:	**North-Surface**	Matrix:	Soil	Date Received:	03.02.17 10.20
Lab Sample Id:	547700-009	Date Collected:	02.23.17 10.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	03.03.17 16.25	Basis:	Wet Weight
Seq Number:	3011637				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00149	0.00149	mg/kg	03.04.17 19.32	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.04.17 19.32	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.04.17 19.32	U	1
m_p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	03.04.17 19.32	U	1
o-Xylene	95-47-6	<0.00299	0.00299	mg/kg	03.04.17 19.32	U	1
MTBE	1634-04-4	<0.00996	0.00996	mg/L	03.04.17 19.32	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.04.17 19.32	U	1
Total BTEX		<0.00149	0.00149	mg/kg	03.04.17 19.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	105	%	80-120	03.04.17 19.32	
1,4-Difluorobenzene	540-36-3	116	%	80-120	03.04.17 19.32	

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COG Operating LLC, Artesia, NM

Salada Vista State #1

Sample Id:	**North-1'**	Matrix:	Soil	Date Received:	03.02.17 10.20
Lab Sample Id:	547700-010	Date Collected:	02.23.17 10.00	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	03.03.17 14.55	Basis:	Wet Weight
Seq Number:	3011928				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**12.4**	4.93	mg/kg	03.03.17 18.44		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.06.17 07.00	Basis:	Wet Weight
Seq Number:	3011770				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	03.07.17 07.14	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	**31.2**	15.0	mg/kg	03.07.17 07.14		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<15.0	15.0	mg/kg	03.07.17 07.14	U	1
Total TPH	PHC635	**31.2**	15.0	mg/kg	03.07.17 07.14		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	03.07.17 07.14	
o-Terphenyl	84-15-1	110	%	70-135	03.07.17 07.14	

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COG Operating LLC, Artesia, NM

Salada Vista State #1

Sample Id:	**North-1'**	Matrix:	Soil	Date Received:	03.02.17 10.20
Lab Sample Id:	547700-010	Date Collected:	02.23.17 10.00	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	03.03.17 16.25	Basis:	Wet Weight
Seq Number:	3011637				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00148	0.00148	mg/kg	03.04.17 19.48	U	1
Toluene	108-88-3	<0.00197	0.00197	mg/kg	03.04.17 19.48	U	1
Ethylbenzene	100-41-4	<0.00197	0.00197	mg/kg	03.04.17 19.48	U	1
m_p-Xylenes	179601-23-1	<0.00197	0.00197	mg/kg	03.04.17 19.48	U	1
o-Xylene	95-47-6	<0.00295	0.00295	mg/kg	03.04.17 19.48	U	1
MTBE	1634-04-4	<0.00984	0.00984	mg/L	03.04.17 19.48	U	1
Total Xylenes	1330-20-7	<0.00197	0.00197	mg/kg	03.04.17 19.48	U	1
Total BTEX		<0.00148	0.00148	mg/kg	03.04.17 19.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	110	%	80-120	03.04.17 19.48	
4-Bromofluorobenzene	460-00-4	96	%	80-120	03.04.17 19.48	

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COG Operating LLC, Artesia, NM

Salada Vista State #1

Sample Id:	**South-Surface**	Matrix:	Soil	Date Received:	03.02.17 10.20
Lab Sample Id:	547700-011	Date Collected:	02.23.17 10.00		

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	03.03.17 14.55	Basis:	Wet Weight
Seq Number:	3011928				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**101**	4.98	mg/kg	03.03.17 18.52		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.06.17 07.00	Basis:	Wet Weight
Seq Number:	3011770				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	03.07.17 07.34	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	03.07.17 07.34	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<15.0	15.0	mg/kg	03.07.17 07.34	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.07.17 07.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	03.07.17 07.34	
o-Terphenyl	84-15-1	95	%	70-135	03.07.17 07.34	

Certificate of Analytical Results 547700

COG Operating LLC, Artesia, NM

Salada Vista State #1

Sample Id:	**South-Surface**	Matrix:	Soil	Date Received:	03.02.17 10.20
Lab Sample Id:	547700-011	Date Collected:	02.23.17 10.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	03.03.17 16.25	Basis:	Wet Weight
Seq Number:	3011637				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00151	0.00151	mg/kg	03.04.17 20.04	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	03.04.17 20.04	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	03.04.17 20.04	U	1
m_p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	03.04.17 20.04	U	1
o-Xylene	95-47-6	<0.00302	0.00302	mg/kg	03.04.17 20.04	U	1
MTBE	1634-04-4	<0.0101	0.0101	mg/L	03.04.17 20.04	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	03.04.17 20.04	U	1
Total BTEX		<0.00151	0.00151	mg/kg	03.04.17 20.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	80-120	03.04.17 20.04	
4-Bromofluorobenzene	460-00-4	106	%	80-120	03.04.17 20.04	

Certificate of Analytical Results 547700

COG Operating LLC, Artesia, NM

Salada Vista State #1

Sample Id:	**South-1'**	Matrix:	Soil	Date Received:	03.02.17 10.20
Lab Sample Id:	547700-012	Date Collected:	02.23.17 10.00	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	03.03.17 14.55	Basis:	Wet Weight
Seq Number:	3011928				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**24.7**	4.88	mg/kg	03.03.17 19.14		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.06.17 07.00	Basis:	Wet Weight
Seq Number:	3011770				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	03.07.17 07.53	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	03.07.17 07.53	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<15.0	15.0	mg/kg	03.07.17 07.53	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.07.17 07.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	03.07.17 07.53	
o-Terphenyl	84-15-1	92	%	70-135	03.07.17 07.53	

Certificate of Analytical Results 547700

COG Operating LLC, Artesia, NM

Salada Vista State #1

Sample Id:	**South-1'**	Matrix:	Soil	Date Received:	03.02.17 10.20
Lab Sample Id:	547700-012	Date Collected:	02.23.17 10.00	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	03.06.17 07.20	Basis:	Wet Weight
Seq Number:	3011716				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00150	0.00150	mg/kg	03.06.17 09.35	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.06.17 09.35	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.06.17 09.35	U	1
m_p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	03.06.17 09.35	U	1
o-Xylene	95-47-6	<0.00299	0.00299	mg/kg	03.06.17 09.35	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.06.17 09.35	U	1
Total BTEX		<0.00150	0.00150	mg/kg	03.06.17 09.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	80-120	03.06.17 09.35	
1,4-Difluorobenzene	540-36-3	117	%	80-120	03.06.17 09.35	

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COG Operating LLC, Artesia, NM

Salada Vista State #1

Sample Id:	**East-Surface**	Matrix:	Soil	Date Received:	03.02.17 10.20
Lab Sample Id:	547700-013	Date Collected:	02.23.17 10.00		

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	03.03.17 14.55	Basis:	Wet Weight
Seq Number:	3011928				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**202**	4.92	mg/kg	03.03.17 19.21		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.06.17 07.00	Basis:	Wet Weight
Seq Number:	3011770				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	03.07.17 08.50	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	03.07.17 08.50	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<15.0	15.0	mg/kg	03.07.17 08.50	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.07.17 08.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	03.07.17 08.50	
o-Terphenyl	84-15-1	104	%	70-135	03.07.17 08.50	

Certificate of Analytical Results 547700

COG Operating LLC, Artesia, NM

Salada Vista State #1

Sample Id:	**East-Surface**	Matrix:	Soil	Date Received:	03.02.17 10.20
Lab Sample Id:	547700-013	Date Collected:	02.23.17 10.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	03.06.17 07.20	Basis:	Wet Weight
Seq Number:	3011716				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00285	0.00285	mg/kg	03.06.17 15.45	U	1
Toluene	108-88-3	<0.00380	0.00380	mg/kg	03.06.17 15.45	U	1
Ethylbenzene	100-41-4	<0.00380	0.00380	mg/kg	03.06.17 15.45	U	1
m_p-Xylenes	179601-23-1	<0.00380	0.00380	mg/kg	03.06.17 15.45	U	1
o-Xylene	95-47-6	<0.00570	0.00570	mg/kg	03.06.17 15.45	U	1
Total Xylenes	1330-20-7	<0.00380	0.00380	mg/kg	03.06.17 15.45	U	1
Total BTEX		<0.00285	0.00285	mg/kg	03.06.17 15.45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	85	%	80-120	03.06.17 15.45	
4-Bromofluorobenzene	460-00-4	91	%	80-120	03.06.17 15.45	

Certificate of Analytical Results 547700

COG Operating LLC, Artesia, NM

Salada Vista State #1

Sample Id:	**East-1'**	Matrix:	Soil	Date Received:	03.02.17 10.20
Lab Sample Id:	547700-014	Date Collected:	02.23.17 10.00	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	03.03.17 14.55	Basis:	Wet Weight
Seq Number:	3011928				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**271**	4.87	mg/kg	03.03.17 19.29		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.06.17 07.00	Basis:	Wet Weight
Seq Number:	3011770				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	03.07.17 09.09	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	**17.7**	15.0	mg/kg	03.07.17 09.09		1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<15.0	15.0	mg/kg	03.07.17 09.09	U	1
Total TPH	PHC635	**17.7**	15.0	mg/kg	03.07.17 09.09		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	03.07.17 09.09	
o-Terphenyl	84-15-1	100	%	70-135	03.07.17 09.09	

Certificate of Analytical Results 547700

COG Operating LLC, Artesia, NM

Salada Vista State #1

Sample Id:	**East-1'**	Matrix:	Soil	Date Received:	03.02.17 10.20
Lab Sample Id:	547700-014	Date Collected:	02.23.17 10.00	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	03.06.17 07.20	Basis:	Wet Weight
Seq Number:	3011716				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00152	0.00152	mg/kg	03.06.17 09.52	U	1
Toluene	108-88-3	<0.00203	0.00203	mg/kg	03.06.17 09.52	U	1
Ethylbenzene	100-41-4	<0.00203	0.00203	mg/kg	03.06.17 09.52	U	1
m_p-Xylenes	179601-23-1	<0.00203	0.00203	mg/kg	03.06.17 09.52	U	1
o-Xylene	95-47-6	<0.00304	0.00304	mg/kg	03.06.17 09.52	U	1
Total Xylenes	1330-20-7	<0.00203	0.00203	mg/kg	03.06.17 09.52	U	1
Total BTEX		<0.00152	0.00152	mg/kg	03.06.17 09.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	90	%	80-120	03.06.17 09.52	
1,4-Difluorobenzene	540-36-3	107	%	80-120	03.06.17 09.52	

Certificate of Analytical Results 547700

COG Operating LLC, Artesia, NM

Salada Vista State #1

Sample Id:	**West-Surface**	Matrix:	Soil	Date Received:	03.02.17 10.20
Lab Sample Id:	547700-015	Date Collected:	02.23.17 10.00		

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	03.03.17 14.55	Basis:	Wet Weight
Seq Number:	3011928				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**158**	4.92	mg/kg	03.03.17 19.36		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.06.17 07.00	Basis:	Wet Weight
Seq Number:	3011763				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	03.06.17 17.20	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	03.06.17 17.20	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<15.0	15.0	mg/kg	03.06.17 17.20	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.06.17 17.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	03.06.17 17.20	
o-Terphenyl	84-15-1	116	%	70-135	03.06.17 17.20	

Certificate of Analytical Results 547700

COG Operating LLC, Artesia, NM

Salada Vista State #1

Sample Id:	**West-Surface**	Matrix:	Soil	Date Received:	03.02.17 10.20
Lab Sample Id:	547700-015	Date Collected:	02.23.17 10.00		
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	03.06.17 07.20	Basis:	Wet Weight
Seq Number:	3011716				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00149	0.00149	mg/kg	03.06.17 10.25	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.06.17 10.25	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.06.17 10.25	U	1
m_p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	03.06.17 10.25	U	1
o-Xylene	95-47-6	<0.00299	0.00299	mg/kg	03.06.17 10.25	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.06.17 10.25	U	1
Total BTEX		<0.00149	0.00149	mg/kg	03.06.17 10.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	115	%	80-120	03.06.17 10.25	
4-Bromofluorobenzene	460-00-4	105	%	80-120	03.06.17 10.25	

Certificate of Analytical Results 547700

COG Operating LLC, Artesia, NM

Salada Vista State #1

Sample Id:	**West-1'**	Matrix:	Soil	Date Received:	03.02.17 10.20
Lab Sample Id:	547700-016	Date Collected:	02.23.17 10.00	Sample Depth:	1 ft

Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MGO			% Moisture:	
Analyst:	MGO	Date Prep:	03.03.17 14.55	Basis:	Wet Weight
Seq Number:	3011928				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**158**	4.88	mg/kg	03.03.17 19.43		1

Analytical Method:	TPH By SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.06.17 07.00	Basis:	Wet Weight
Seq Number:	3011763				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	PHC610	<15.0	15.0	mg/kg	03.06.17 17.40	U	1
C10-C28 Diesel Range Hydrocarbons	C10C28DRO	<15.0	15.0	mg/kg	03.06.17 17.40	U	1
C28-C35 Oil Range Hydrocarbons	PHCG2835	<15.0	15.0	mg/kg	03.06.17 17.40	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.06.17 17.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	03.06.17 17.40	
o-Terphenyl	84-15-1	108	%	70-135	03.06.17 17.40	

Certificate of Analytical Results 547700

COG Operating LLC, Artesia, NM

Salada Vista State #1

Sample Id:	**West-1'**	Matrix:	Soil	Date Received:	03.02.17 10.20
Lab Sample Id:	547700-016	Date Collected:	02.23.17 10.00	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	03.06.17 07.20	Basis:	Wet Weight
Seq Number:	3011716				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00150	0.00150	mg/kg	03.06.17 10.41	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.06.17 10.41	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.06.17 10.41	U	1
m_p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	03.06.17 10.41	U	1
o-Xylene	95-47-6	<0.00301	0.00301	mg/kg	03.06.17 10.41	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.06.17 10.41	U	1
Total BTEX		<0.00150	0.00150	mg/kg	03.06.17 10.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	88	%	80-120	03.06.17 10.41	
1,4-Difluorobenzene	540-36-3	106	%	80-120	03.06.17 10.41	

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

***** (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

QC Summary 547700

COG Operating LLC

Salada Vista State #1

Analytical Method: **Inorganic Anions by EPA 300/300.1** Prep Method: E300P
Seq Number: 3011928 Matrix: Solid Date Prep: 03.03.17
MB Sample Id: 721009-1-BLK LCS Sample Id: 721009-1-BKS LCSD Sample Id: 721009-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	246	98	250	100	90-110	2	20	mg/kg	03.03.17 16:25	

Analytical Method: **Inorganic Anions by EPA 300/300.1** Prep Method: E300P
Seq Number: 3011928 Matrix: Soil Date Prep: 03.03.17
Parent Sample Id: 547700-001 MS Sample Id: 547700-001 S MSD Sample Id: 547700-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	315	249	556	97	560	98	90-110	1	20	mg/kg	03.03.17 16:47	

Analytical Method: **Inorganic Anions by EPA 300/300.1** Prep Method: E300P
Seq Number: 3011928 Matrix: Soil Date Prep: 03.03.17
Parent Sample Id: 547700-009 MS Sample Id: 547700-009 S MSD Sample Id: 547700-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6.99	245	253	100	252	100	90-110	0	20	mg/kg	03.03.17 18:30	

Analytical Method: **TPH By SW8015 Mod** Prep Method: TX1005P
Seq Number: 3011763 Matrix: Solid Date Prep: 03.06.17
MB Sample Id: 721097-1-BLK LCS Sample Id: 721097-1-BKS LCSD Sample Id: 721097-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
C6-C10 Gasoline Range Hydrocarbons	<15.0	1000	1020	102	966	97	70-135	5	35	mg/kg	03.06.17 09:08	
C10-C28 Diesel Range Hydrocarbons	<15.0	1000	1000	100	950	95	70-135	5	35	mg/kg	03.06.17 09:08	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	115		108		104		70-135	%	03.06.17 09:08
o-Terphenyl	117		107		100		70-135	%	03.06.17 09:08

QC Summary 547700

COG Operating LLC

Salada Vista State #1

Analytical Method: TPH By SW8015 Mod — Prep Method: TX1005P
Seq Number: 3011770 — Matrix: Solid — Date Prep: 03.06.17
MB Sample Id: 721098-1-BLK — LCS Sample Id: 721098-1-BKS — LCSD Sample Id: 721098-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
C6-C10 Gasoline Range Hydrocarbons	<15.0	1000	985	99	988	99	70-135	0	35	mg/kg	03.07.17 03:42	
C10-C28 Diesel Range Hydrocarbons	<15.0	1000	920	92	916	92	70-135	0	35	mg/kg	03.07.17 03:42	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	119		102		102		70-135	%	03.07.17 03:42
o-Terphenyl	126		97		95		70-135	%	03.07.17 03:42

Analytical Method: TPH By SW8015 Mod — Prep Method: TX1005P
Seq Number: 3011763 — Matrix: Soil — Date Prep: 03.06.17
Parent Sample Id: 547697-006 — MS Sample Id: 547697-006 S — MSD Sample Id: 547697-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
C6-C10 Gasoline Range Hydrocarbons	<15.0	999	1050	105	939	94	70-135	11	35	mg/kg	03.06.17 11:51	
C10-C28 Diesel Range Hydrocarbons	<15.0	999	1040	104	954	95	70-135	9	35	mg/kg	03.06.17 11:51	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	108		101		70-135	%	03.06.17 11:51
o-Terphenyl	106		96		70-135	%	03.06.17 11:51

Analytical Method: TPH By SW8015 Mod — Prep Method: TX1005P
Seq Number: 3011770 — Matrix: Soil — Date Prep: 03.06.17
Parent Sample Id: 547700-002 — MS Sample Id: 547700-002 S — MSD Sample Id: 547700-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
C6-C10 Gasoline Range Hydrocarbons	43.4	998	1060	102	966	92	70-135	9	35	mg/kg	03.07.17 04:59	
C10-C28 Diesel Range Hydrocarbons	160	998	1270	111	1200	104	70-135	6	35	mg/kg	03.07.17 04:59	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	98		91		70-135	%	03.07.17 04:59
o-Terphenyl	86		75		70-135	%	03.07.17 04:59

QC Summary 547700

COG Operating LLC

Salada Vista State #1

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3011637 | Matrix: Solid | Date Prep: 03.03.17
MB Sample Id: 721035-1-BLK | LCS Sample Id: 721035-1-BKS | LCSD Sample Id: 721035-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00151	0.100	0.0868	87	0.0842	83	70-130	3	35	mg/kg	03.04.17 01:48	
Toluene	<0.00201	0.100	0.0957	96	0.0904	90	70-130	6	35	mg/kg	03.04.17 01:48	
Ethylbenzene	<0.00201	0.100	0.0959	96	0.0918	91	71-129	4	35	mg/kg	03.04.17 01:48	
m_p-Xylenes	<0.00201	0.201	0.187	93	0.178	88	70-135	5	35	mg/kg	03.04.17 01:48	
o-Xylene	<0.00301	0.100	0.0962	96	0.0930	92	71-133	3	35	mg/kg	03.04.17 01:48	
MTBE	<0.0100	0.502	0.467	93	0.467	93	71-133	0	35	mg/L	03.04.17 01:48	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		107		99		80-120	%	03.04.17 01:48
4-Bromofluorobenzene	94		92		94		80-120	%	03.04.17 01:48

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3011716 | Matrix: Solid | Date Prep: 03.06.17
MB Sample Id: 721088-1-BLK | LCS Sample Id: 721088-1-BKS | LCSD Sample Id: 721088-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00151	0.101	0.0862	85	0.0872	86	70-130	1	35	mg/kg	03.06.17 07:56	
Toluene	<0.00201	0.101	0.0947	94	0.0962	95	70-130	2	35	mg/kg	03.06.17 07:56	
Ethylbenzene	<0.00201	0.101	0.0975	97	0.0967	96	71-129	1	35	mg/kg	03.06.17 07:56	
m_p-Xylenes	<0.00201	0.201	0.190	95	0.188	93	70-135	1	35	mg/kg	03.06.17 07:56	
o-Xylene	<0.00302	0.101	0.0998	99	0.100	99	71-133	0	35	mg/kg	03.06.17 07:56	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	111		106		104		80-120	%	03.06.17 07:56
4-Bromofluorobenzene	93		100		95		80-120	%	03.06.17 07:56

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3011846 | Matrix: Solid | Date Prep: 03.07.17
MB Sample Id: 721149-1-BLK | LCS Sample Id: 721149-1-BKS | LCSD Sample Id: 721149-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00149	0.0990	0.0959	97	0.110	110	70-130	14	35	mg/kg	03.07.17 11:59	
Toluene	<0.00198	0.0990	0.103	104	0.118	118	70-130	14	35	mg/kg	03.07.17 11:59	
Ethylbenzene	<0.00198	0.0990	0.101	102	0.117	117	71-129	15	35	mg/kg	03.07.17 11:59	
m_p-Xylenes	<0.00198	0.198	0.198	100	0.230	115	70-135	15	35	mg/kg	03.07.17 11:59	
o-Xylene	<0.00297	0.0990	0.103	104	0.119	119	71-133	14	35	mg/kg	03.07.17 11:59	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	115		103		101		80-120	%	03.07.17 11:59
4-Bromofluorobenzene	89		96		96		80-120	%	03.07.17 11:59

QC Summary 547700

COG Operating LLC

Salada Vista State #1

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3011716 | Matrix: Soil | Date Prep: 03.06.17
Parent Sample Id: 547700-012 | MS Sample Id: 547700-012 S | MSD Sample Id: 547700-012 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00150	0.100	0.0843	84	0.0834	84	70-130	1	35	mg/kg	03.06.17 08:29	
Toluene	<0.00200	0.100	0.0880	88	0.0896	90	70-130	2	35	mg/kg	03.06.17 08:29	
Ethylbenzene	<0.00200	0.100	0.0905	91	0.0882	88	71-129	3	35	mg/kg	03.06.17 08:29	
m_p-Xylenes	<0.00200	0.200	0.175	88	0.172	86	70-135	2	35	mg/kg	03.06.17 08:29	
o-Xylene	<0.00301	0.100	0.0887	89	0.0906	91	71-133	2	35	mg/kg	03.06.17 08:29	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	114		108		80-120	%	03.06.17 08:29
4-Bromofluorobenzene	104		107		80-120	%	03.06.17 08:29

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3011846 | Matrix: Soil | Date Prep: 03.07.17
Parent Sample Id: 547957-003 | MS Sample Id: 547957-003 S | MSD Sample Id: 547957-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00280	0.187	0.151	81	0.158	86	70-130	5	35	mg/kg	03.07.17 12:33	
Toluene	<0.00373	0.187	0.157	84	0.179	98	70-130	13	35	mg/kg	03.07.17 12:33	
Ethylbenzene	<0.00373	0.187	0.154	82	0.162	89	71-129	5	35	mg/kg	03.07.17 12:33	
m_p-Xylenes	<0.00373	0.373	0.307	82	0.321	88	70-135	4	35	mg/kg	03.07.17 12:33	
o-Xylene	<0.00560	0.187	0.158	84	0.165	90	71-133	4	35	mg/kg	03.07.17 12:33	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		119		80-120	%	03.07.17 12:33
4-Bromofluorobenzene	117		111		80-120	%	03.07.17 12:33

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3011637 | Matrix: Soil | Date Prep: 03.03.17
Parent Sample Id: 547697-012 | MS Sample Id: 547697-012 S

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	Limits	Units	Analysis Date	Flag
Benzene	<0.00148	0.0988	0.0814	82	70-130	mg/kg	03.04.17 02:53	
Toluene	<0.00198	0.0988	0.0927	94	70-130	mg/kg	03.04.17 02:53	
Ethylbenzene	<0.00198	0.0988	0.109	110	71-129	mg/kg	03.04.17 02:53	
m_p-Xylenes	<0.00198	0.198	0.202	102	70-135	mg/kg	03.04.17 02:53	
o-Xylene	<0.00296	0.0988	0.118	119	71-133	mg/kg	03.04.17 02:53	
MTBE	<0.00988	0.494	<0.00988	0	71-133	mg/L	03.04.17 02:53	X

Surrogate	MS %Rec	MS Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		80-120	%	03.04.17 02:53
4-Bromofluorobenzene	105		80-120	%	03.04.17 02:53

CHAIN OF CUSTODY

Page 1 Of 2

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San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5251)
www.xenco.com
Phoenix, Arizona (480-355-0900)

Xenco Quote # | Xenco Job # 547700

Client / Reporting Information

Company Name / Branch: COG Operating LLC
Company Address: 2407 PECOS Avenue Artesia NM 88210
Email: alieb@concho.com dneel2@concho.com rhaskell@concho.com
Phone No: 575-748-1553
Project Contact: Aaron Lieb
Samplers's Name- Aaron Lieb

Project Information

Project Name/Number: Salada Vista State #1
Project Location:
Invoice To: COG Operating LLC
Attn: Robert Mcneill
600 W. Illinois
Midland TX 79701
PO Number:

Analytical Information

Matrix Codes

W = Water
S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
OW =Ocean/Sea Water
WI = Wipe
O = Oil
WW= Waste Water
A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Date	Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	BTEX	TPH	Chloride	Field Comments
1	T1 - SURFACE	Surf	2/22/17	2:00pm											X	X	X	
2	T1 - 1'	1'													X	X	X	
3	T1 - 2'	2'													X	X	X	
4	T1 - 3'	3'													X	X	X	
5	T1 - 4'	4'													X	X	X	
6	T1 - 5'	5'													X	X	X	
7	T1 - 6'	6'															X	
8	T1 - 8'	8'															X	
9																		
10																		

Turnaround Time (Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [ ] Contract TAT
- [ ] 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level III Std QC+ Forms
- [ ] Level 3 (CLP Forms)
- [ ] TRRP Checklist
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] TRRP Level IV
- [ ] UST / RG -411

Notes:

FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1						
2						
3	Relinquished by:	Date Time: 3/1/17 11:46	Received By: 11:46AM 3-1-17 Sid Butler 3.5	Relinquished By:	Date Time: 3/2/17 10:30	Received By:
4						
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice

Cooler Temp. 3.5C | Thermo. Corr. Factor

Temp: 1.7 IR ID:R-8
CF:+ 0.1
Corrected Temp: 1.8

Notice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cos losses or expenses incurred by the Client if such loses are due to circumstances beyond the control of Xenco. A minimum charge of $75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but n will be enforced unless previously negotiated under a fully executed client contract.

CHAIN OF CUSTODY

Page 2 Of 2

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Dallas Texas (214-902-0300) | Midland, Texas (432-704-5251)

www.xenco.com

Xenco Quote # | Xenco Job #

Client / Reporting Information

Company Name / Branch: COG Operating LLC

Company Address: 2407 PECOS Avenue Artesia NM 88210

Email: alieb@concho.com dneel2@concho.com rhaskell@concho.com | Phone No: 575-748-1553

Project Contact: Aaron Lieb

Samplers's Name- Aaron Lieb

Project Information

Project Name/Number: Salada Vista State #1

Project Location:

Invoice To: COG Operating LLC, Attn: Robert Mcneill, 600 W. Illinois, Midland TX 79701

PO Number:

Matrix Codes

W = Water
S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
OW =Ocean/Sea Water
WI = Wipe
O = Oil
WW= Waste Water
A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Analytical Information: BTEX	TPH	Chloride	Field Comments
1	North - Surface	Surf	2/23/17	10:Am											X	X	X	
2	North - 1'	1		10 Am											X	X	X	
3	South - Surface	Surf		10:Am											X	X	X	
4	South - 1'	1'		10:Am											X	X	X	
5	East - Surface	Surf		10:Am											X	X	X	
6	East - 1'	1'		10:Am											X	X	X	
7	West - Surface	Surf		10:Am											X	X	X	
8	West - 1'	1'													X	X	X	
9																		
10																		

Turnaround Time (Business days)

- ☐ Same Day TAT
- ☐ 5 Day TAT
- ☐ Next Day EMERGENCY
- ☐ 7 Day TAT
- ☐ 2 Day EMERGENCY
- ☐ Contract TAT
- ☐ 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

- ☐ Level II Std QC
- ☐ Level IV (Full Data Pkg /raw data)
- ☐ Level III Std QC+ Forms
- ☐ TRRP Level IV
- ☐ Level 3 (CLP Forms)
- ☐ UST / RG -411
- ☐ TRRP Checklist

Notes:

FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1						
2	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3		3/1/17 11:46am	Sid Butler 11:[illegible] 3-1-17 3.5		3/2/17 [illegible]	
4	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. / Thermo. Corr. Factor
5						3.5°C

Temp: [illegible] IR ID:R-8
CF:+ 0.1
Corrected Temp: 1.8

Notice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost losses or expenses incurred by the Client if such loses are due to circumstances beyond the control of Xenco. A minimum charge of $75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but will be enforced unless previously negotiated under a fully executed client contract.


Part # 156148-434 RRD 04/16
TRK# 0201 6606 3913 7980
THU - 02 MAR 10:30A
PRIORITY OVERNIGHT
41 MAFA
79701
TX-US LBB
FedEx Express
J151315081301uv
DEPT:
REF:
INV:
PO:
(432) 563-1800

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: COG Operating LLC

Date/ Time Received: 03/02/2017 10:20:00 AM

Work Order #: 547700

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	1.8
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seal present on shipping container/ cooler?	**Yes**
#5 *Custody Seals intact on shipping container/ cooler?	**Yes**
#6 Custody Seals intact on sample bottles?	**Yes**
#7 *Custody Seals Signed and dated?	**Yes**
#8 *Chain of Custody present?	**Yes**
#9 Sample instructions complete on Chain of Custody?	**Yes**
#10 Any missing/extra samples?	**No**
#11 Chain of Custody signed when relinquished/ received?	**Yes**
#12 Chain of Custody agrees with sample label(s)?	**Yes**
#13 Container label(s) legible and intact?	**Yes**
#14 Sample matrix/ properties agree with Chain of Custody?	**Yes**
#15 Samples in proper container/ bottle?	**Yes**
#16 Samples properly preserved?	**Yes**
#17 Sample container(s) intact?	**Yes**
#18 Sufficient sample amount for indicated test(s)?	**Yes**
#19 All samples received within hold time?	**Yes**
#20 Subcontract of sample(s)?	**N/A**
#21 VOC samples have zero headspace?	**N/A**
#22 <2 for all samples preserved with HNO3,HCL, H2SO4? Except for samples for the analysis of HEM or HEM-SGT which are verified by the analysts.	**N/A**
#23 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	**N/A**

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: PH Device/Lot#:

Checklist completed by: Jessica Kramer Date: 03/02/2017
Jessica Kramer

Checklist reviewed by: Holly Taylor Date: 03/02/2017
Holly Taylor

Analytical Report 577756

for

Tetra Tech- Midland

Project Manager: Ike Tavarez

Salada Vista State #1

212C-MD-00863

02-MAR-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215-18-24), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab code: TX01468):
Texas (T104704295-17-16), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab code: TX00127): Texas (T104704221-17-12)
Xenco-Lubbock (EPA Lab code: TX00139): Texas (T104704219-17-16)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-18-14)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)

02-MAR-18

Project Manager: **Ike Tavarez**
Tetra Tech- Midland
4000 N. Big Spring Suite 401
Midland, TX 79705

Reference: XENCO Report No(s): **577756**
Salada Vista State #1
Project Address: Eddy Co., NM

Ike Tavarez:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 577756. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 577756 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Jessica Kramer

Jessica Kramer
Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
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Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

Sample Cross Reference 577756

Tetra Tech- Midland, Midland, TX

Salada Vista State #1

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
NSW-1	S	02-26-18 11:00		577756-001
WSW-1	S	02-26-18 11:30		577756-002
Bottomhole -1 @ 3'	S	02-26-18 12:00		577756-003
ESW-1	S	02-26-18 16:00		577756-004
Bottomhole-2 @ 3'	S	02-26-18 14:30		577756-005
SSW-1	S	02-26-18 14:00		577756-006

CASE NARRATIVE

Client Name: Tetra Tech- Midland

Project Name: Salada Vista State #1

Project ID: *212C-MD-00863*
Work Order Number(s): *577756*

Report Date: *02-MAR-18*
Date Received: *02/28/2018*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3042585 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3042612 Inorganic Anions by EPA 300
Lab Sample ID 577797-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD).
Chloride recovered below QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference.
Samples in the analytical batch are: 577756-001, -002, -003, -004, -005, -006.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Certificate of Analysis Summary 577756

Tetra Tech- Midland, Midland, TX

Project Name: Salada Vista State #1

Project Id: 212C-MD-00863
Contact: Ike Tavarez
Project Location: Eddy Co., NM

Date Received in Lab: Wed Feb-28-18 02:40 pm
Report Date: 02-MAR-18
Project Manager: Jessica Kramer

Analysis Requested	*Lab Id:*	577756-001		577756-002		577756-003		577756-004		577756-005		577756-006	
	Field Id:	NSW-1		WSW-1		Bottomhole -1 @ 3'		ESW-1		Bottomhole-2 @ 3'		SSW-1	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Feb-26-18 11:00		Feb-26-18 11:30		Feb-26-18 12:00		Feb-26-18 16:00		Feb-26-18 14:30		Feb-26-18 14:00	
BTEX by EPA 8021B	*Extracted:*	Mar-01-18 16:00		Mar-01-18 16:00		Mar-01-18 16:00		Mar-01-18 16:00		Mar-01-18 16:00		Mar-01-18 16:00	
	Analyzed:	Mar-02-18 02:10		Mar-02-18 02:29		Mar-02-18 02:48		Mar-02-18 03:07		Mar-02-18 03:27		Mar-02-18 03:46	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199	<0.00201	0.00201	<0.00201	0.00201
Toluene		<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199	<0.00201	0.00201	<0.00201	0.00201
Ethylbenzene		<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199	<0.00201	0.00201	<0.00201	0.00201
m,p-Xylenes		<0.00399	0.00399	<0.00401	0.00401	<0.00403	0.00403	<0.00398	0.00398	<0.00402	0.00402	<0.00402	0.00402
o-Xylene		<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199	<0.00201	0.00201	<0.00201	0.00201
Total Xylenes		<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199	<0.00201	0.00201	<0.00201	0.00201
Total BTEX		<0.00200	0.00200	<0.00200	0.00200	<0.00202	0.00202	<0.00199	0.00199	<0.00201	0.00201	<0.00201	0.00201
Chloride by EPA 300	*Extracted:*	Mar-01-18 15:00		Mar-01-18 15:00		Mar-01-18 15:00		Mar-01-18 15:00		Mar-01-18 15:00		Mar-01-18 15:00	
	Analyzed:	Mar-01-18 21:35		Mar-01-18 21:51		Mar-01-18 21:56		Mar-01-18 22:01		Mar-01-18 22:06		Mar-01-18 22:22	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		466	4.90	368	4.92	510	4.93	127	4.96	255	4.90	364	4.98
TPH by SW8015 Mod	*Extracted:*	Mar-01-18 12:00		Mar-01-18 12:00		Mar-01-18 12:00		Mar-01-18 12:00		Mar-01-18 12:00		Mar-01-18 12:00	
	Analyzed:	Mar-01-18 14:33		Mar-01-18 15:51		Mar-01-18 16:16		Mar-01-18 16:42		Mar-01-18 17:07		Mar-01-18 17:32	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	36.7	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0	<14.9	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH		<15.0	15.0	<15.0	15.0	36.7	14.9	<15.0	15.0	<15.0	15.0	<15.0	15.0

Jessica Kramer
Project Assistant

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

Form 2 - Surrogate Recoveries

Project Name: Salada Vista State #1

Work Orders : 577756,

Project ID: 212C-MD-00863

Lab Batch #: 3042633 **Sample:** 577756-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/01/18 14:33

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.3	99.9	96	70-135	
o-Terphenyl	47.7	50.0	95	70-135	

Lab Batch #: 3042633 **Sample:** 577756-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/01/18 15:51

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	99.8	108	70-135	
o-Terphenyl	50.5	49.9	101	70-135	

Lab Batch #: 3042633 **Sample:** 577756-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/01/18 16:16

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	98.6	99.6	99	70-135	
o-Terphenyl	50.9	49.8	102	70-135	

Lab Batch #: 3042633 **Sample:** 577756-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/01/18 16:42

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	107	99.8	107	70-135	
o-Terphenyl	49.8	49.9	100	70-135	

Lab Batch #: 3042633 **Sample:** 577756-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/01/18 17:07

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	106	99.8	106	70-135	
o-Terphenyl	49.0	49.9	98	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Salada Vista State #1

Work Orders : 577756,

Project ID: 212C-MD-00863

Lab Batch #: 3042633 **Sample:** 577756-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/01/18 17:32

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	102	100	102	70-135	
o-Terphenyl	48.0	50.0	96	70-135	

Lab Batch #: 3042585 **Sample:** 577756-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/02/18 02:10

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0241	0.0300	80	70-130	
4-Bromofluorobenzene	0.0302	0.0300	101	70-130	

Lab Batch #: 3042585 **Sample:** 577756-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/02/18 02:29

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0251	0.0300	84	70-130	
4-Bromofluorobenzene	0.0331	0.0300	110	70-130	

Lab Batch #: 3042585 **Sample:** 577756-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/02/18 02:48

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0248	0.0300	83	70-130	
4-Bromofluorobenzene	0.0330	0.0300	110	70-130	

Lab Batch #: 3042585 **Sample:** 577756-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/02/18 03:07

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0232	0.0300	77	70-130	
4-Bromofluorobenzene	0.0306	0.0300	102	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Salada Vista State #1

Work Orders : 577756,

Project ID: 212C-MD-00863

Lab Batch #: 3042585 **Sample:** 577756-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/02/18 03:27

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0247	0.0300	82	70-130	
4-Bromofluorobenzene	0.0300	0.0300	100	70-130	

Lab Batch #: 3042585 **Sample:** 577756-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/02/18 03:46

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0260	0.0300	87	70-130	
4-Bromofluorobenzene	0.0299	0.0300	100	70-130	

Lab Batch #: 3042633 **Sample:** 7640031-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/01/18 13:16

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	104	100	104	70-135	
o-Terphenyl	53.5	50.0	107	70-135	

Lab Batch #: 3042585 **Sample:** 7640030-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/02/18 01:52

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0253	0.0300	84	70-130	
4-Bromofluorobenzene	0.0280	0.0300	93	70-130	

Lab Batch #: 3042633 **Sample:** 7640031-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/01/18 13:41

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	116	100	116	70-135	
o-Terphenyl	58.0	50.0	116	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Salada Vista State #1

Work Orders : 577756,

Project ID: 212C-MD-00863

Lab Batch #: 3042585 **Sample:** 7640030-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/01/18 23:57

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0261	0.0300	87	70-130	
4-Bromofluorobenzene	0.0314	0.0300	105	70-130	

Lab Batch #: 3042633 **Sample:** 7640031-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/01/18 14:07

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	122	100	122	70-135	
o-Terphenyl	60.1	50.0	120	70-135	

Lab Batch #: 3042585 **Sample:** 7640030-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 03/02/18 00:16

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0257	0.0300	86	70-130	
4-Bromofluorobenzene	0.0335	0.0300	112	70-130	

Lab Batch #: 3042633 **Sample:** 577756-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/01/18 14:59

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	118	99.7	118	70-135	
o-Terphenyl	56.8	49.9	114	70-135	

Lab Batch #: 3042585 **Sample:** 577756-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/02/18 00:35

SURROGATE RECOVERY STUDY

BTEX by EPA 8021B

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0253	0.0300	84	70-130	
4-Bromofluorobenzene	0.0324	0.0300	108	70-130	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Salada Vista State #1

Work Orders : 577756,

Project ID: 212C-MD-00863

Lab Batch #: 3042633 **Sample:** 577756-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 03/01/18 15:24

SURROGATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	107	99.7	107	70-135	
o-Terphenyl	52.2	49.9	105	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

BS / BSD Recoveries

Project Name: Salada Vista State #1

Work Order #: 577756 **Project ID:** 212C-MD-00863

Analyst: ALJ **Date Prepared:** 03/01/2018 **Date Analyzed:** 03/01/2018

Lab Batch ID: 3042585 **Sample:** 7640030-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Benzene	<0.00202	0.101	0.0822	81	0.100	0.0818	82	0	70-130	35	
Toluene	<0.00202	0.101	0.0867	86	0.100	0.0868	87	0	70-130	35	
Ethylbenzene	<0.00202	0.101	0.0973	96	0.100	0.0986	99	1	70-130	35	
m,p-Xylenes	<0.00403	0.202	0.193	96	0.200	0.195	98	1	70-130	35	
o-Xylene	<0.00202	0.101	0.0959	95	0.100	0.0974	97	2	70-130	35	

Analyst: OJS **Date Prepared:** 03/01/2018 **Date Analyzed:** 03/01/2018

Lab Batch ID: 3042612 **Sample:** 7640019-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	271	108	250	256	102	6	90-110	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

BS / BSD Recoveries

Project Name: Salada Vista State #1

Work Order #: 577756 **Project ID:** 212C-MD-00863

Analyst: ARM **Date Prepared:** 03/01/2018 **Date Analyzed:** 03/01/2018

Lab Batch ID: 3042633 **Sample:** 7640031-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	974	97	1000	1080	108	10	70-135	35	
Diesel Range Organics (DRO)	<15.0	1000	1000	100	1000	1110	111	10	70-135	35	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Form 3 - MS Recoveries

Project Name: Salada Vista State #1

Work Order #: 577756

Lab Batch #: 3042585 **Project ID:** 212C-MD-00863

Date Analyzed: 03/02/2018 **Date Prepared:** 03/01/2018 **Analyst:** ALJ

QC- Sample ID: 577756-001 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

BTEX by EPA 8021B	MATRIX / MATRIX SPIKE RECOVERY STUDY					
Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Benzene	<0.00199	0.0996	0.0732	73	70-130	
Toluene	<0.00199	0.0996	0.0768	77	70-130	
Ethylbenzene	<0.00199	0.0996	0.0839	84	70-130	
m,p-Xylenes	<0.00398	0.199	0.166	83	70-130	
o-Xylene	<0.00199	0.0996	0.0832	84	70-130	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference [E] = 200*(C-A)/(C+B)
All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit

Form 3 - MS / MSD Recoveries

Project Name: Salada Vista State #1

Work Order # : 577756 **Project ID:** 212C-MD-00863

Lab Batch ID: 3042612 **QC- Sample ID:** 577756-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 03/01/2018 **Date Prepared:** 03/01/2018 **Analyst:** OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	466	245	675	85	245	716	102	6	90-110	20	X

Lab Batch ID: 3042612 **QC- Sample ID:** 577797-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 03/01/2018 **Date Prepared:** 03/01/2018 **Analyst:** OJS

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Chloride by EPA 300 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	661	250	921	104	250	869	83	6	90-110	20	X

Lab Batch ID: 3042633 **QC- Sample ID:** 577756-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 03/01/2018 **Date Prepared:** 03/01/2018 **Analyst:** ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH by SW8015 Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	997	1060	106	997	957	96	10	70-135	35	
Diesel Range Organics (DRO)	<15.0	997	1100	110	997	1010	101	9	70-135	35	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Analysis Request of Chain of Custody Record

Page _____ of _____

Tetra Tech, Inc.

4000 N. Big Spring Street, Ste
401 Midland,Texas 79705
Tel (432) 682-4559
Fax (432) 682-3946

577756

Client Name: Concho

Site Manager: Ike Tavarez

Project Name: Salada Vista State #1

Project Location: (county, state) Eddy Co., NM

Project #: 212C-MD-00863

Invoice to: Tetra Tech

Receiving Laboratory: Xenco

Sampler Signature: Johnathan P. Kelly

Comments:

LAB # (LAB USE ONLY)	SAMPLE IDENTIFICATION	SAMPLING DATE	SAMPLING TIME	MATRIX WATER	MATRIX SOIL	PRESERVATIVE METHOD HCL	PRESERVATIVE METHOD HNO_3	PRESERVATIVE METHOD ICE	# CONTAINERS	FILTERED (Y/N)
	NSW-1	2/26/18	1100		X			X		
	WSW-1	2/26/18	1130		X			X		
	Bottom Hole-1 @ 3'	2/26/18	1200		X			X		
	ESW-1	2/26/18	1600		X			X		
	Bottom Hole-2 @ 3'	2/27/18	1430		X			X		
	SSW-1	2/27/18	1400		X			X		

ANALYSIS REQUEST
(Circle or Specify Method No.)

	BTEX 8021B	BTEX 8260B	TPH TX1005 (Ext to C35)	TPH 8015M (GRO - DRO - ORO - MRO)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC/MS Vol. 8260B / 624	GC/MS Semi. Vol. 8270C/625	PCB's 8082 / 608	NORM	PLM (Asbestos)	Chloride	Chloride Sulfate TDS	General Water Chemistry (see attached list)	Anion/Cation Balance					Hold
NSW-1	X			X												X							
WSW-1	X			X												X							
Bottom Hole-1 @ 3'	X			X												X							
ESW-1	X			X												X							
Bottom Hole-2 @ 3'	X			X												X							
SSW-1	X			X												X							

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Johnathan P. Kelly	2/28/18	1440	Patty Lee	2/28/17	1440
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

LAB USE ONLY

Sample Temperature

(Circle) HAND DELI

REMARKS:

☐ RUSH: Same Day 24 hr 48 hr 72 hr

☐ Rush Charges Authorized

☐ Special Report Limits or TRRP Report

Temp: 5.9 IR ID:R-8

CF:(0-6: -0.2°C)
(6-23: +0.2°C)

Corrected Temp: 5.7

ORIGINAL COPY

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Tetra Tech- Midland

Date/ Time Received: 02/28/2018 02:40:00 PM

Work Order #: 577756

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	5.7	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**	
#5 Custody Seals intact on sample bottles?	**N/A**	
#6*Custody Seals Signed and dated?	**N/A**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**Yes**	
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**Yes**	TPH in bulk container
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**No**	
#18 Water VOC samples have zero headspace?	**N/A**	

*** Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst: PH Device/Lot#:

Checklist completed by: Katie Lowe Date: 02/28/2018

Checklist reviewed by: Jessica Kramer Date: 02/28/2018

Jessica Kramer

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 160432

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 160432
	Action Type: [IM-SD] Incident File Support Doc (ENV) (IM-BNF)

CONDITIONS

Created By	Condition	Condition Date
bhall	None	11/21/2022