

SITE INFORMATION

Report Type: Work Plan

General Site Information:

Site:	Loco Hills SWD 35 #001					
Company:	COG Operating LLC					
Section, Township and Range	Unit F	Sec 36	T17S	R30E		
Lease Number:	API-30-015-31635					
County:	Eddy County					
GPS:	32.78561° N			103.91967° W		
Surface Owner:	State					
Mineral Owner:						
Directions:	From Loco Hills travel 5.75 miles east to CR 222 (Shugart Rd). Turn south on CR 222 and travel 2.36 miles turning right traveling west on the caliche lease road. Stay on the main lease road traveling west for approx. 2.29 miles and turn right traveling north for 0.26 miles to the location.					

Release Data:

Date Released:	6/8/2013
Type Release:	Oil and Produced Water
Source of Contamination:	Lightning Struck a Fiberglass Tank
Fluid Released:	300 bbls oil 1200 bbls produced water
Fluids Recovered:	0 bbls oil 0 bbls produced water

Official Communication:

Name:	Robert McNeill	Ike Tavaréz
Company:	COG Operating, LLC	Tetra Tech
Address:	One Concho Center 600 W. Illinois Ave.	1910 N. Big Spring
City:	Midland Texas, 79701	Midland, Texas
Phone number:	(432) 686-3023	(432) 682-4559
Fax:	(432) 684-7137	(432) 682-3946
Email:	rmcneill@concho.com	ike.tavarez@tetrattech.com

Ranking Criteria

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

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



October 23, 2013

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

Re: Work Plan for the COG Operating LLC., Loco Hills SWD 35 #1, Unit F, Section 36, Township 17 South, Range 30 East, Eddy County, New Mexico.

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC. (COG) to assess a spill from the Loco Hills SWD 35 #1 located in Unit F, Section 36, Township 17 South, Range 30 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.78561°, W 103.91967°. 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 June 8, 2013, and released approximately 300 barrels of oil and 1200 barrels produced fluid from facility tanks that were struck by lightning during a storm. No fluids were recovered. The spill initiated at the SWD impacting an area of approximately 80' X 160 and migrated into the pasture affecting an area approximately 50' x 330', 70' x 250' and 40' x 245'. The initial C-141 form is enclosed in Appendix A.

Groundwater

No water wells were listed within Section 36. According to the NMOCD groundwater map, the average depth to groundwater in this area is approximately 325' below surface. The groundwater data is shown in Appendix B.

Tetra Tech

1910 North Big Spring, Midland, TX 79705

Tel 432.682.4559

Fax 432.682.3946

www.tetrattech.com

Regulatory

A risk-based evaluation was performed for the Site in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases, dated August 13, 1993. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene). Based upon the depth to groundwater, the proposed RRAL for TPH is 5,000 mg/kg.

Soil Assessment and Analytical Results

On August 24 through 26, 2013, Tetra Tech supervised the installation of eighteen (18) soil borings (SB-1 through SB-18) using an air rotary drilling rig to assess the soils. The soil bores were installed in the spill area on the pad and in the pasture to define the vertical extents. 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 the laboratory analysis chain-of-custody documentation are included in Appendix C. The soil boring results are summarized in Table 1 and shown on Figure 3.

Referring to Table 1, none of the samples exceeded the RRAL for TPH or BTEX. The soil borings on the pad (SB-1 through SB-6) showed a shallow chloride impact to the soils and were vertically defined at approximately 4-5' to 9-10' below surface. Soil boring (SB-1) did show a chloride spike at 9-10' to 19-20', but declined to 197 mg/kg at 24-25' below surface. After the sampling was performed, COG has constructed a new lined facility, which encompassed the areas of SB-1 through SB-6.

In the pasture, the soil borings (SB-7, SB-9 and SB-11) did not show a significant chloride impact to the soils. The areas of SB-8, SB-14 and SB-15 did not show a significant impact the shallow soil from (0 to 5.0'), but spiked at 6-7' to 9-10' and declined at 14-15' below surface. Based on the groundwater depth, these areas or limited spikes do not appear to an environmental concern.

The areas of SB-10, SB-12, SB-13, SB-16, SB-17 and SB-18 showed elevated chlorides at depths ranging from surface to 3.0' to 10.0' below surface, which all declined with depth and were vertically defined.

Work Plan

COG proposes to remove the impacted material as highlighted (green) in Table 1 and shown on Figure 4. After the sampling was performed, COG constructed a new facility in the same area. The new SWD is a lined facility and



TETRA TECH

encompassed the areas of SB-1 through SB-6 on the pad. The impacted soil on the pad will be deferred until the abandonment of the facility.

In the pasture, the areas of SB-10, SB-12, SB-13, SB-16, SB-17 and SB-18 will be excavated to a depth of 4.0' to 7.0' below surface. Once excavated to the appropriate depth, the area of SB-12 will be capped with a 40 mil liner to cap the remaining impact. All of the remaining excavated soil will be transported to proper disposal.

The proposed excavation depths may not be reached due to wall cave ins and safety concerns for onsite personnel. In addition, impacted soil around oil and gas equipment, structures or lines may not be feasible or practicable to be removed due to safety concerns. As such, Tetra Tech will excavate the soils to the maximum extent practicable. Any remaining impact not accessible to be removed will be deferred until abandonment.

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

Respectfully submitted,
TETRA TECH

Ike Tavarez, PG
Senior Project Manager

cc: Pat Ellis – COG

FIGURES

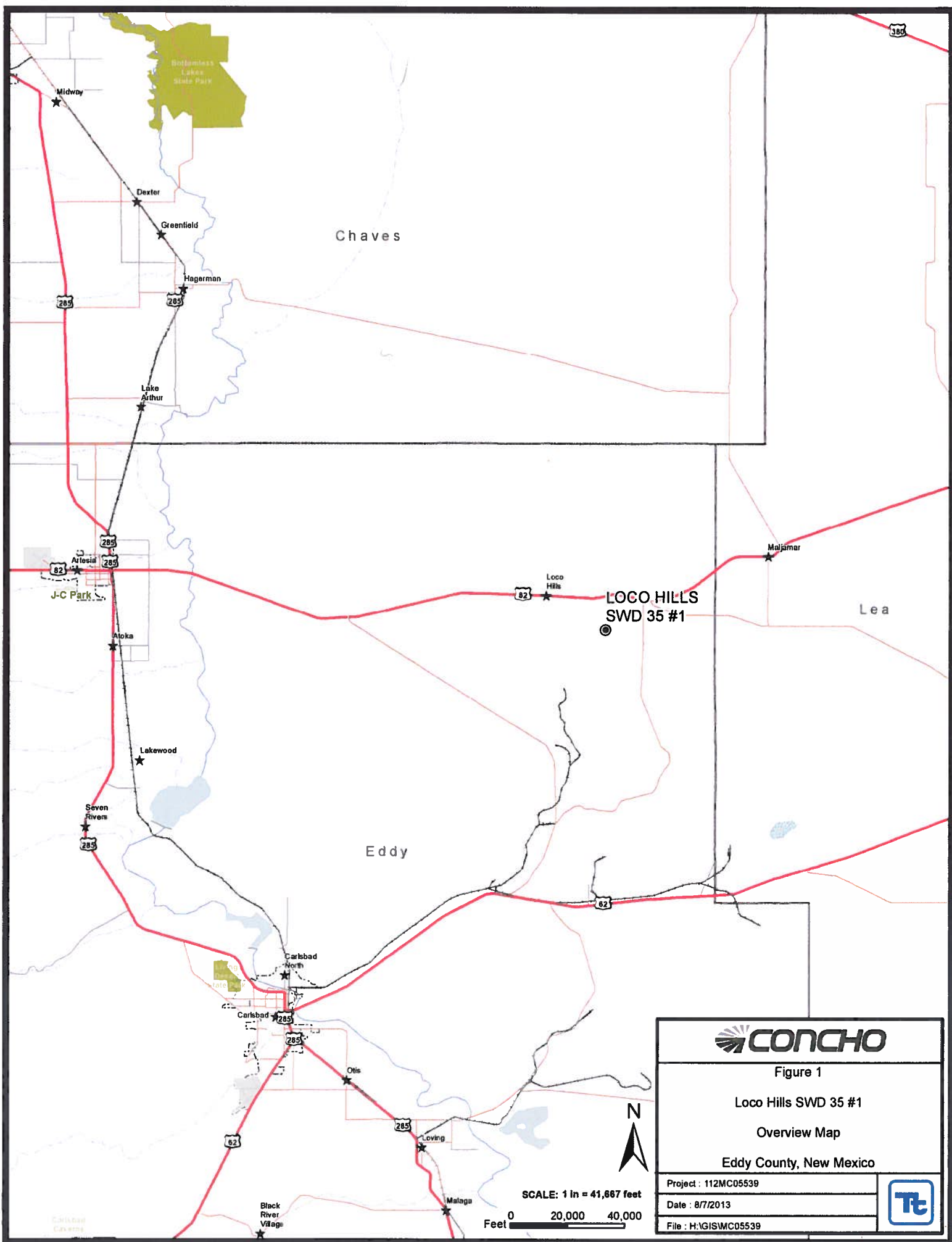


Figure 1

Loco Hills SWD 35 #1

Overview Map

Eddy County, New Mexico

Project : 112MC05539

Date : 8/7/2013

File : H:\GIS\MC05539



SCALE: 1 in = 41,667 feet

0 20,000 40,000
Feet







LEGEND

- SAMPLE BORING HOLE LOCATIONS
- SPILL AREA

0 40 85
SCALE: 1" = 85'-0"



Figure 3

Loco Hills SWD 35 #1

Spill Assessment Map

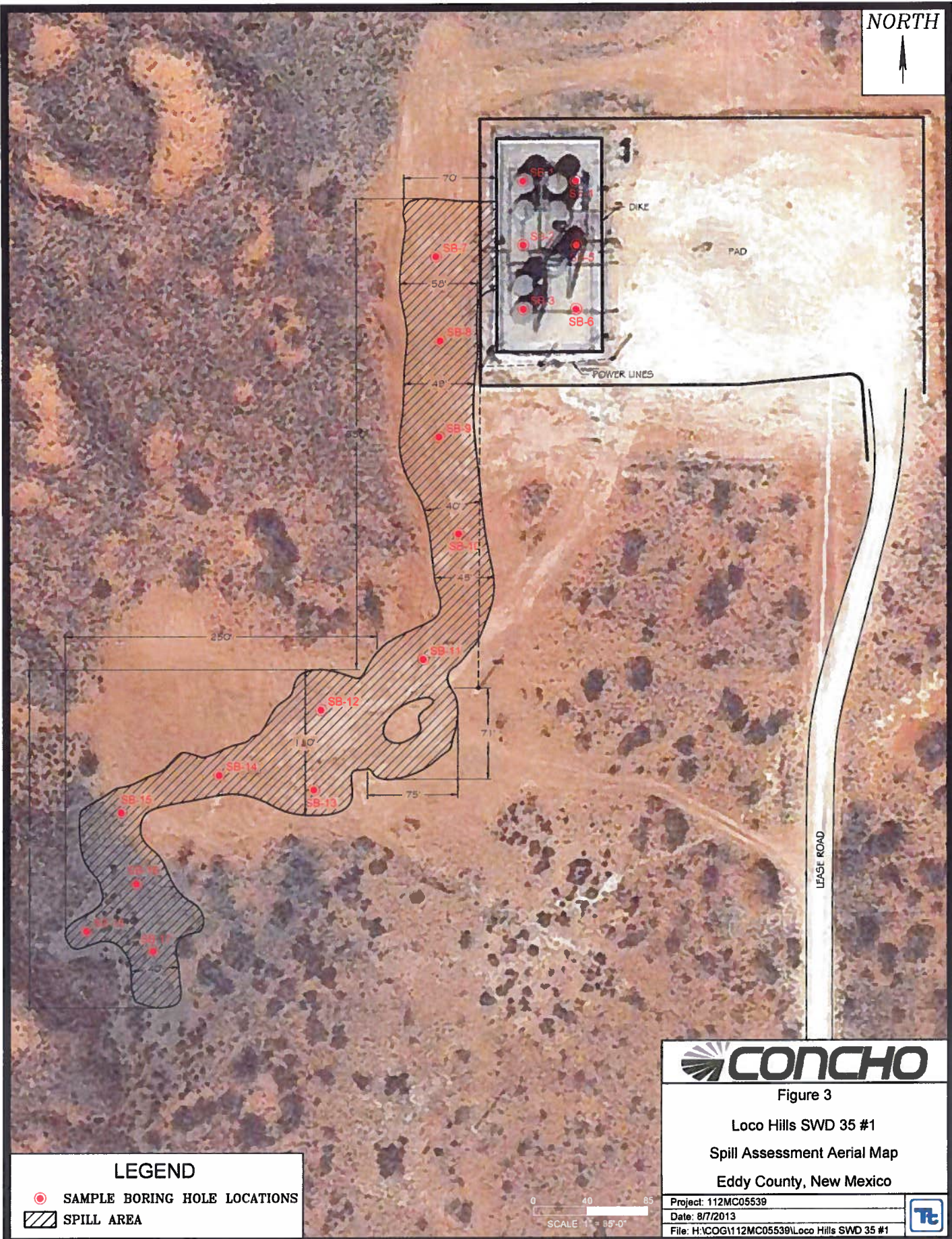
Eddy County, New Mexico

Project: 112MC05539

Date: 8/7/2013

File: H:\COG\112MC05539\Loco Hills SWD 35 #1





LEGEND

- SAMPLE BORING HOLE LOCATIONS
- SPILL AREA



Figure 3

Loco Hills SWD 35 #1

Spill Assessment Aerial Map

Eddy County, New Mexico

Project: 112MC05539

Date: 8/7/2013

File: H:\COG\112MC05539\Loco Hills SWD 35 #1



NORTH



LEGEND

- SAMPLE BORING HOLE LOCATIONS
- CAPPED AREAS
- PROPOSED EXCAVATION AREAS

0 40 85
SCALE: 1" = 85'-0"



Figure 4

Loco Hills SWD 35 #1

Proposed Excavation Areas & Depths Map

Eddy County, New Mexico

Project: 112MC05539

Date: 10/23/2013

File: H:\COG\112MC05539\Loco Hills SWD 35 #1



TABLES

Table 1

[illegible]

Table 1

[illegible]

Table 1

[illegible]

Table 1

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	Total						
SB-11	7/25/2013	0-1	X		4.34	<50.0	4.34	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	35.0
	"	2-3	X		-	-	-	-	-	-	-	-	925
	"	4-5	X		-	-	-	-	-	-	-	-	85.0
	"	6-7	X		-	-	-	-	-	-	-	-	145
SB-12	7/25/2013	0-1	X		4.07	<50.0	4.07	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	3,410
	"	2-3	X		-	-	-	-	-	-	-	-	1,080
	"	4-5	X		-	-	-	-	-	-	-	-	25.0
	"	6-7	X		-	-	-	-	-	-	-	-	3,060.0
	"	9-10	X		-	-	-	-	-	-	-	-	7,410.0
	"	14-15	X		-	-	-	-	-	-	-	-	6,780.0
	"	19-20	X		-	-	-	-	-	-	-	-	1,810
	"	24-25	X		-	-	-	-	-	-	-	-	615
SB-13	7/25/2013	0-1	X		4.16	<50.0	4.16	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	7,410
	"	2-3	X		-	-	-	-	-	-	-	-	13,200
	"	4-5	X		-	-	-	-	-	-	-	-	362
	"	6-7	X		-	-	-	-	-	-	-	-	1,670
SB-14	7/25/2013	0-1	X		-	-	-	-	-	-	-	-	1,530
	"	14-15	X		-	-	-	-	-	-	-	-	264
	7/25/2013	0-1	X		4.34	<50.0	4.34	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	159
	"	2-3	X		-	-	-	-	-	-	-	-	125
SB-14	"	4-5	X		-	-	-	-	-	-	-	-	735
	"	6-7	X		-	-	-	-	-	-	-	-	2,400.0
	"	9-10	X		-	-	-	-	-	-	-	-	3,540.0
	"	14-15	X		-	-	-	-	-	-	-	-	101.0
SB-14	"	19-20	X		-	-	-	-	-	-	-	-	72.1

Table 1

[illegible]

Table 1
COG Operating LLC.
Loco Hills SWD 35 #1
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	Total						
SB-18	7/26/2013	0-1	X		4.03	82.90	86.93	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	8,040
	"	2-3	X		-	-	-	-	-	-	-	-	10,400
	"	4-5	X		-	-	-	-	-	-	-	-	7,270
	"	6-7	X		-	-	-	-	-	-	-	-	12,800
	"	9-10	X		-	-	-	-	-	-	-	-	3,420
	"	14-15	X		-	-	-	-	-	-	-	-	765
	"	19-20	X		-	-	-	-	-	-	-	-	219

(-) Not Analyzed

Proposed Excavation Depths

Proposed 40 Mil Liner

PHOTOGRAPHS

COG Operating LLC
Loco Hills SWD 35 #001
Eddy County, New Mexico



TETRA TECH



View East – Area of SB-1



View South – Area of SB-5

COG Operating LLC
Loco Hills SWD 35 #001
Eddy County, New Mexico



TETRA TECH



View South – Area of SB-11



View West – Area of SB-18

APPENDIX A

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	COG OPERATING LLC	Contact	Pat Ellis
Address	600 West Illinois Avenue, Midland, TX 79701	Telephone No.	432-230-0077
Facility Name	LOCO HILLS SWD 35 #001	Facility Type	TANK BATTERY

Surface Owner	STATE	Mineral Owner		Lease No. (API#)	30-015-31635
---------------	-------	---------------	--	------------------	--------------

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
F	36	17S	30E					EDDY

Latitude 32.78561

Longitude 103.91967

NATURE OF RELEASE

Type of Release	Oil and produced water	Volume of Release	300bbls of oil 1200bbls of produced water	Volume Recovered	0bbls oil 0 produced water
Source of Release	Lightning struck fiberglass tank.	Date and Hour of Occurrence	06-08-2013	Date and Hour of Discovery	06-08-2013 12:00am
Was Immediate Notice Given?	☒ Yes ☐ No ☐ Not Required	If YES, To Whom?	Mike Bratcher - NMOCD		
By Whom?	Michelle Mullins	Date and Hour	06-08-2013 8:50PM		
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.*

Lightning struck a fiberglass tank during thunder storm. Act of God.

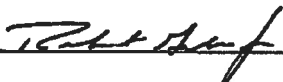
Describe Area Affected and Cleanup Action Taken.*

Initially 300bbls of oil and 1200bbls of produced water were released due to a lightning strike on one of our fiberglass tanks. We were unable to recover any fluids due to the fire consuming all liquids. The spill was on the pad and the pasture. Tetra Tech will sample the spill site area to delineate any possible contamination from the release and we will present a work plan to the NMOCD for approval prior to any significant remediation work.

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

OIL CONSERVATION DIVISION

Signature:



Printed Name:

Robert Grubbs Jr.

Approved by District Supervisor:

Title:

Senior Environmental Coordinator

Approval Date:

Expiration Date:

E-mail Address:

rgrubbs@concho.com

Conditions of Approval:

Attached ☐

Date:

Phone: 432-661-6601

* Attach Additional Sheets If Necessary

APPENDIX B

Water Well Data
Average Depth to Groundwater (ft)
COG - Loco Hills SWD #1
Eddy County, New Mexico

16 South			29 East		
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14 220	13
19	20	21	22	23	24
110	29	28	27	26	25
30	32	33	34	35	36
31	32	33	34	35	36

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

16 South			31 East		
6	5	4	3	2 290	1
7	8	9	10	11	12
18	17	16	15	14 113	13 288
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36
290					

17 South			29 East		
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22 76	23	24
30	29 210	28	27	26	25
31	32	33	34	35	36
				153	

17 South			30 East		
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20 80	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36 Site

17 South			31 East		
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36
			271		

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
30	29	28	27	26	25
31	32	33	34	35	36
					158

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

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

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

APPENDIX C

Summary Report

(Corrected Report)

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

Report Date: August 7, 2013

Work Order: 13072931



Project Location: NM
Project Name: COG/Loco Hills SWD 35 #1
Project Number: 112MC05539

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
336874	SB-1 0-1'	soil	2013-07-24	00:00	2013-07-29
336875	SB-1 2-3'	soil	2013-07-24	00:00	2013-07-29
336876	SB-1 4-5'	soil	2013-07-24	00:00	2013-07-29
336877	SB-1 6-7'	soil	2013-07-24	00:00	2013-07-29
336878	SB-1 9-10'	soil	2013-07-24	00:00	2013-07-29
336879	SB-1 14-15'	soil	2013-07-24	00:00	2013-07-29
336880	SB-1 19-20'	soil	2013-07-24	00:00	2013-07-29
336881	SB-1 24-25'	soil	2013-07-24	00:00	2013-07-29
336882	SB-1 29-30'	soil	2013-07-24	00:00	2013-07-29
336883	SB-2 0-1'	soil	2013-07-24	00:00	2013-07-29
336884	SB-2 2-3'	soil	2013-07-24	00:00	2013-07-29
336885	SB-2 4-5'	soil	2013-07-24	00:00	2013-07-29
336886	SB-2 6-7'	soil	2013-07-24	00:00	2013-07-29
336887	SB-2 9-10'	soil	2013-07-24	00:00	2013-07-29
336888	SB-3 0-1'	soil	2013-07-24	00:00	2013-07-29
336889	SB-4 2-3'	soil	2013-07-24	00:00	2013-07-29
336890	SB-3 4-5'	soil	2013-07-24	00:00	2013-07-29
336891	SB-3 6-7'	soil	2013-07-24	00:00	2013-07-29
336892	SB-3 9-10'	soil	2013-07-24	00:00	2013-07-29
336893	SB-3 14-15'	soil	2013-07-24	00:00	2013-07-29
336894	SB-4 0-1'	soil	2013-07-24	00:00	2013-07-29
336895	SB-3 2-3'	soil	2013-07-24	00:00	2013-07-29
336896	SB-4 4-5'	soil	2013-07-24	00:00	2013-07-29
336897	SB-4 6-7'	soil	2013-07-24	00:00	2013-07-29
336898	SB-4 9-10'	soil	2013-07-24	00:00	2013-07-29
336899	SB-4 14-15'	soil	2013-07-24	00:00	2013-07-29
336900	SB-5 0-1'	soil	2013-07-24	00:00	2013-07-29
336901	SB-5 2-3'	soil	2013-07-24	00:00	2013-07-29

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
336902	SB-5 4-5'	soil	2013-07-24	00:00	2013-07-29
336903	SB-5 6-7'	soil	2013-07-24	00:00	2013-07-29
336904	SB-6 0-1'	soil	2013-07-24	00:00	2013-07-29
336905	SB-6 2-3'	soil	2013-07-24	00:00	2013-07-29
336906	SB-6 4-5'	soil	2013-07-24	00:00	2013-07-29
336907	SB-6 6-7'	soil	2013-07-24	00:00	2013-07-29
336908	SB-6 9-10'	soil	2013-07-24	00:00	2013-07-29
336909	SB-6 14-15'	soil	2013-07-24	00:00	2013-07-29
336910	SB-7 0-1'	soil	2013-07-24	00:00	2013-07-29
336911	SB-7 2-3'	soil	2013-07-24	00:00	2013-07-29
336912	SB-7 4-5'	soil	2013-07-25	00:00	2013-07-29
336913	SB-7 6-7'	soil	2013-07-25	00:00	2013-07-29
336914	SB-8 0-1'	soil	2013-07-25	00:00	2013-07-29
336915	SB-8 2-3'	soil	2013-07-25	00:00	2013-07-29
336916	SB-8 4-5'	soil	2013-07-25	00:00	2013-07-29
336917	SB-8 6-7'	soil	2013-07-25	00:00	2013-07-29
336918	SB-8 9-10'	soil	2013-07-25	00:00	2013-07-29
336919	SS-8 14-15'	soil	2013-07-25	00:00	2013-07-29
336920	SB-9 0-1'	soil	2013-07-25	00:00	2013-07-29
336921	SB-9 2-3'	soil	2013-07-25	00:00	2013-07-29
336922	SB-9 4-5'	soil	2013-07-25	00:00	2013-07-29
336923	SB-9 6-7'	soil	2013-07-25	00:00	2013-07-29
336924	SB-9 9-10'	soil	2013-07-25	00:00	2013-07-29
336925	SB-10 0-1'	soil	2013-07-25	00:00	2013-07-29
336926	SB-10 2-3'	soil	2013-07-25	00:00	2013-07-29
336927	SB-10 4-5'	soil	2013-07-25	00:00	2013-07-29
336928	SB-10 6-7'	soil	2013-07-25	00:00	2013-07-29
336929	SB-10 9-10'	soil	2013-07-25	00:00	2013-07-29
336930	SB-11 0-1'	soil	2013-07-25	00:00	2013-07-29
336931	SB-11 2-3'	soil	2013-07-25	00:00	2013-07-29
336932	SB-11 4-5'	soil	2013-07-25	00:00	2013-07-29
336933	SB-11 6-7'	soil	2013-07-25	00:00	2013-07-29
336934	SB-12 0-1'	soil	2013-07-25	00:00	2013-07-29
336935	SB-12 2-3'	soil	2013-07-25	00:00	2013-07-29
336936	SB-12 4-5'	soil	2013-07-25	00:00	2013-07-29
336937	SB-12 6-7'	soil	2013-07-25	00:00	2013-07-29
336938	SB-12 9-10'	soil	2013-07-25	00:00	2013-07-29
336939	SB-12 14-15'	soil	2013-07-25	00:00	2013-07-29
336940	SB-12 19-20'	soil	2013-07-25	00:00	2013-07-29
336941	SB-12 24-25'	soil	2013-07-25	00:00	2013-07-29
336942	SB-12 29-30'	soil	2013-07-25	00:00	2013-07-29
336943	SB-13 0-1'	soil	2013-07-25	00:00	2013-07-29
336944	SB-13 2-3'	soil	2013-07-25	00:00	2013-07-29
336945	SB-13 4-5'	soil	2013-07-25	00:00	2013-07-29
336946	SB-13 6-7'	soil	2013-07-25	00:00	2013-07-29
336947	SB-13 9-10'	soil	2013-07-25	00:00	2013-07-29
336948	SB-13 14-15'	soil	2013-07-25	00:00	2013-07-29
336949	SB-14 0-1'	soil	2013-07-25	00:00	2013-07-29
336950	SB-14 2-3'	soil	2013-07-25	00:00	2013-07-29

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
336951	SB-14 4-5'	soil	2013-07-25	00:00	2013-07-29
336952	SB-14 6-7'	soil	2013-07-25	00:00	2013-07-29
336953	SB-14 9-10'	soil	2013-07-25	00:00	2013-07-29
336954	SB-14 14-15'	soil	2013-07-25	00:00	2013-07-29
336955	SB-14 19-20'	soil	2013-07-25	00:00	2013-07-29
336956	SB-15 0-1'	soil	2013-07-26	00:00	2013-07-29
336957	SB-15 2-3'	soil	2013-07-26	00:00	2013-07-29
336958	SB-15 4-5'	soil	2013-07-26	00:00	2013-07-29
336959	SB-15 6-7'	soil	2013-07-26	00:00	2013-07-29
336960	SB-15 9-10'	soil	2013-07-26	00:00	2013-07-29
336961	SB-15 14-15'	soil	2013-07-26	00:00	2013-07-29
336962	SB-15 19-20'	soil	2013-07-26	00:00	2013-07-29
336963	SB-15 24-25'	soil	2013-07-26	00:00	2013-07-29
336964	SB-16 0-1'	soil	2013-07-26	00:00	2013-07-29
336965	SB-16 2-3'	soil	2013-07-26	00:00	2013-07-29
336966	SB-16 4-5'	soil	2013-07-26	00:00	2013-07-29
336967	SB-16 6-7'	soil	2013-07-26	00:00	2013-07-29
336968	SB-16 9-10'	soil	2013-07-26	00:00	2013-07-29
336969	SB-17 0-1'	soil	2013-07-26	00:00	2013-07-29
336970	SB-17 2-3'	soil	2013-07-26	00:00	2013-07-29
336971	SB-17 4-5'	soil	2013-07-26	00:00	2013-07-29
336972	SB-17 6-7'	soil	2013-07-26	00:00	2013-07-29
336973	SB-17 9-10'	soil	2013-07-26	00:00	2013-07-29
336974	SB-17 14-15'	soil	2013-07-26	00:00	2013-07-29
336975	SB-17 19-20'	soil	2013-07-26	00:00	2013-07-29
336976	SB-18 0-1'	soil	2013-07-26	00:00	2013-07-29
336977	SB-18 2-3'	soil	2013-07-26	00:00	2013-07-29
336978	SB-18 4-5'	soil	2013-07-26	00:00	2013-07-29
336979	SB-18 6-7'	soil	2013-07-26	00:00	2013-07-29
336980	SB-18 9-10'	soil	2013-07-26	00:00	2013-07-29
336981	SB-18 14-15'	soil	2013-07-26	00:00	2013-07-29
336982	SB-18 19-20'	soil	2013-07-26	00:00	2013-07-29

Sample - Field Code	BTEX				TPH DRO - NEW	TPH GRO
	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	DRO (mg/Kg)	GRO (mg/Kg)
336874 - SB-1 0-1'	<0.0200 Qr	<0.0200 Qr	<0.0200 Qr, Qn	<0.0200 Qr, Qn	<50.0	4.27 Qn
336883 - SB-2 0-1'	<0.0200 Qr	<0.0200 Qr	<0.0200 Qr, Qn	<0.0200 Qr, Qn	<50.0	4.80 Qn
336888 - SB-3 0-1'	<0.0200 Qr	<0.0200 Qr	<0.0200 Qr, Qn	<0.0200 Qr, Qn	<50.0	4.26 Qn
336894 - SB-4 0-1'	<0.0200 Qr	<0.0200 Qr	<0.0200 Qr, Qn	<0.0200 Qr, Qn	<50.0	4.33 Qn
336900 - SB-5 0-1'	<0.0200 Qr	<0.0200 Qr	<0.0200 Qr, Qn	<0.0200 Qr, Qn	<50.0	4.58 Qn
336904 - SB-6 0-1'	<0.0200 Qr	<0.0200 Qr	<0.0200 Qr, Qn	<0.0200 Qr, Qn	<50.0	4.38 Qn
336910 - SB-7 0-1'	<0.0200 Qr	<0.0200 Qr	<0.0200 Qr, Qn	<0.0200 Qr, Qn	<50.0	4.26 Qn
336914 - SB-8 0-1'	<0.0200 Qr	<0.0200 Qr	<0.0200 Qr, Qn	<0.0200 Qr, Qn	<50.0	4.39 Qn
336920 - SB-9 0-1'	<0.0200 Qr	<0.0200 Qr	<0.0200 Qr, Qn	<0.0200 Qr, Qn	<50.0	4.37 Qn
336925 - SB-10 0-1'	<0.0200 Qr	<0.0200 Qr	<0.0200 Qr, Qn	<0.0200 Qr, Qn	<50.0	4.62 Qn
336930 - SB-11 0-1'	<0.0200 Qr	<0.0200 Qr	<0.0200 Qr, Qn	<0.0200 Qr, Qn	<50.0	4.34 Qn
336934 - SB-12 0-1'	<0.0200 Qr	<0.0200 Qr	<0.0200 Qr, Qn	<0.0200 Qr, Qn	<50.0	4.07 Qn
336943 - SB-13 0-1'	<0.0200 Qr	<0.0200 Qr	<0.0200 Qr, Qn	<0.0200 Qr, Qn	<50.0	4.16 Qn

continued ...

... continued

Sample - Field Code	BTEX				TPH DRO - NEW DRO	TPH GRO GRO
	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)		
336949 - SB-14 0-1'	<0.0200 Q _r	<0.0200 Q _r	<0.0200 Q _r , Q _s	<0.0200 Q _r , Q _s	<50.0	4.34 Q _s
336956 - SB-15 0-1'	<0.0200 Q _r	<0.0200 Q _r	<0.0200 Q _r , Q _s	<0.0200 Q _r , Q _s	<50.0	4.25 Q _s
336964 - SB-16 0-1'	<0.0200 Q _r	<0.0200 Q _r	<0.0200 Q _r , Q _s	<0.0200 Q _r , Q _s	<50.0	4.20 Q _s
336969 - SB-17 0-1'	<0.0200 Q _r	<0.0200 Q _r	<0.0200 Q _r , Q _s	<0.0200 Q _r , Q _s	<50.0	4.10 Q _s
336976 - SB-18 0-1'	<0.0200 Q _r	<0.0200 Q _r	<0.0200 Q _r , Q _s	<0.0200 Q _r , Q _s	82.9	4.03 Q _s

Sample: 336874 - SB-1 0-1'

Param	Flag	Result	Units	RL
Chloride		6210	mg/Kg	4

Sample: 336875 - SB-1 2-3'

Param	Flag	Result	Units	RL
Chloride		3370	mg/Kg	4

Sample: 336876 - SB-1 4-5'

Param	Flag	Result	Units	RL
Chloride		329	mg/Kg	4

Sample: 336877 - SB-1 6-7'

Param	Flag	Result	Units	RL
Chloride		881	mg/Kg	4

Sample: 336878 - SB-1 9-10'

Param	Flag	Result	Units	RL
Chloride		1920	mg/Kg	4

Sample: 336879 - SB-1 14-15'

Param	Flag	Result	Units	RL
Chloride		2670	mg/Kg	4

Sample: 336880 - SB-1 19-20'

Param	Flag	Result	Units	RL
Chloride		1310	mg/Kg	4

Sample: 336881 - SB-1 24-25'

Param	Flag	Result	Units	RL
Chloride		197	mg/Kg	4

Sample: 336882 - SB-1 29-30'

Param	Flag	Result	Units	RL
Chloride		236	mg/Kg	4

Sample: 336883 - SB-2 0-1'

Param	Flag	Result	Units	RL
Chloride		6290	mg/Kg	4

Sample: 336884 - SB-2 2-3'

Param	Flag	Result	Units	RL
Chloride		3190	mg/Kg	4

Sample: 336885 - SB-2 4-5'

Param	Flag	Result	Units	RL
Chloride		62.5	mg/Kg	4

Sample: 336886 - SB-2 6-7'

Param	Flag	Result	Units	RL
Chloride		861	mg/Kg	4

Sample: 336887 - SB-2 9-10'

Param	Flag	Result	Units	RL
Chloride		254	mg/Kg	4

Sample: 336888 - SB-3 0-1'

Param	Flag	Result	Units	RL
Chloride		7780	mg/Kg	4

Sample: 336889 - SB-4 2-3'

Param	Flag	Result	Units	RL
Chloride		1460	mg/Kg	4

Sample: 336890 - SB-3 4-5'

Param	Flag	Result	Units	RL
Chloride		1850	mg/Kg	4

Sample: 336891 - SB-3 6-7'

Param	Flag	Result	Units	RL
Chloride		3530	mg/Kg	4

Sample: 336892 - SB-3 9-10'

Param	Flag	Result	Units	RL
Chloride		385	mg/Kg	4

Sample: 336893 - SB-3 14-15'

Param	Flag	Result	Units	RL
Chloride		317	mg/Kg	4

Sample: 336894 - SB-4 0-1'

Param	Flag	Result	Units	RL
Chloride		3560	mg/Kg	4

Sample: 336895 - SB-3 2-3'

Param	Flag	Result	Units	RL
Chloride		2650	mg/Kg	4

Sample: 336896 - SB-4 4-5'

Param	Flag	Result	Units	RL
Chloride		1080	mg/Kg	4

Sample: 336897 - SB-4 6-7'

Param	Flag	Result	Units	RL
Chloride		2880	mg/Kg	4

Sample: 336898 - SB-4 9-10'

Param	Flag	Result	Units	RL
Chloride		230	mg/Kg	4

Sample: 336899 - SB-4 14-15'

Param	Flag	Result	Units	RL
Chloride		320	mg/Kg	4

Sample: 336900 - SB-5 0-1'

Param	Flag	Result	Units	RL
Chloride		4150	mg/Kg	4

Sample: 336901 - SB-5 2-3'

Param	Flag	Result	Units	RL
Chloride		3050	mg/Kg	4

Sample: 336902 - SB-5 4-5'

Param	Flag	Result	Units	RL
Chloride		545	mg/Kg	4

Sample: 336903 - SB-5 6-7'

Param	Flag	Result	Units	RL
Chloride		255	mg/Kg	4

Sample: 336904 - SB-6 0-1'

Param	Flag	Result	Units	RL
Chloride		8910	mg/Kg	4

Sample: 336905 - SB-6 2-3'

Param	Flag	Result	Units	RL
Chloride		700	mg/Kg	4

Sample: 336906 - SB-6 4-5'

Param	Flag	Result	Units	RL
Chloride		740	mg/Kg	4

Sample: 336907 - SB-6 6-7'

Param	Flag	Result	Units	RL
Chloride		2310	mg/Kg	4

Sample: 336908 - SB-6 9-10'

Param	Flag	Result	Units	RL
Chloride		404	mg/Kg	4

Sample: 336909 - SB-6 14-15'

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

Sample: 336910 - SB-7 0-1'

Param	Flag	Result	Units	RL
Chloride		250	mg/Kg	4

Sample: 336911 - SB-7 2-3'

Param	Flag	Result	Units	RL
Chloride		1170	mg/Kg	4

Sample: 336912 - SB-7 4-5'

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

Sample: 336913 - SB-7 6-7'

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

Sample: 336914 - SB-8 0-1'

Param	Flag	Result	Units	RL
Chloride		155	mg/Kg	4

Sample: 336915 - SB-8 2-3'

Param	Flag	Result	Units	RL
Chloride		305	mg/Kg	4

Sample: 336916 - SB-8 4-5'

Param	Flag	Result	Units	RL
Chloride		499	mg/Kg	4

Sample: 336917 - SB-8 6-7'

Param	Flag	Result	Units	RL
Chloride		9140	mg/Kg	4

Sample: 336918 - SB-8 9-10'

Param	Flag	Result	Units	RL
Chloride		8270	mg/Kg	4

Sample: 336919 - SS-8 14-15'

Param	Flag	Result	Units	RL
Chloride		140	mg/Kg	4

Sample: 336920 - SB-9 0-1'

Param	Flag	Result	Units	RL
Chloride		80.0	mg/Kg	4

Sample: 336921 - SB-9 2-3'

Param	Flag	Result	Units	RL
Chloride		135	mg/Kg	4

Sample: 336922 - SB-9 4-5'

Param	Flag	Result	Units	RL
Chloride		6370	mg/Kg	4

Sample: 336923 - SB-9 6-7'

Param	Flag	Result	Units	RL
Chloride		315	mg/Kg	4

Sample: 336924 - SB-9 9-10'

Param	Flag	Result	Units	RL
Chloride		105	mg/Kg	4

Sample: 336925 - SB-10 0-1'

Param	Flag	Result	Units	RL
Chloride		1170	mg/Kg	4

Sample: 336926 - SB-10 2-3'

Param	Flag	Result	Units	RL
Chloride		1620	mg/Kg	4

Sample: 336927 - SB-10 4-5'

Param	Flag	Result	Units	RL
Chloride		9580	mg/Kg	4

Sample: 336928 - SB-10 6-7'

Param	Flag	Result	Units	RL
Chloride		165	mg/Kg	4

Sample: 336929 - SB-10 9-10'

Param	Flag	Result	Units	RL
Chloride		120	mg/Kg	4

Sample: 336930 - SB-11 0-1'

Param	Flag	Result	Units	RL
Chloride		35.0	mg/Kg	4

Sample: 336931 - SB-11 2-3'

Param	Flag	Result	Units	RL
Chloride		925	mg/Kg	4

Sample: 336932 - SB-11 4-5'

Param	Flag	Result	Units	RL
Chloride		85.0	mg/Kg	4

Sample: 336933 - SB-11 6-7'

Param	Flag	Result	Units	RL
Chloride		145	mg/Kg	4

Sample: 336934 - SB-12 0-1'

Param	Flag	Result	Units	RL
Chloride		3410	mg/Kg	4

Sample: 336935 - SB-12 2-3'

Param	Flag	Result	Units	RL
Chloride		1080	mg/Kg	4

Sample: 336936 - SB-12 4-5'

Param	Flag	Result	Units	RL
Chloride		25.0	mg/Kg	4

Sample: 336937 - SB-12 6-7'

Param	Flag	Result	Units	RL
Chloride		3060	mg/Kg	4

Sample: 336938 - SB-12 9-10'

Param	Flag	Result	Units	RL
Chloride		7410	mg/Kg	4

Sample: 336939 - SB-12 14-15'

Param	Flag	Result	Units	RL
Chloride		6780	mg/Kg	4

Sample: 336940 - SB-12 19-20'

Param	Flag	Result	Units	RL
Chloride		1810	mg/Kg	4

Sample: 336941 - SB-12 24-25'

Param	Flag	Result	Units	RL
Chloride		615	mg/Kg	4

Sample: 336942 - SB-12 29-30'

Param	Flag	Result	Units	RL
Chloride		734	mg/Kg	4

Sample: 336943 - SB-13 0-1'

Param	Flag	Result	Units	RL
Chloride		7410	mg/Kg	4

Sample: 336944 - SB-13 2-3'

Param	Flag	Result	Units	RL
Chloride		13200	mg/Kg	4

Sample: 336945 - SB-13 4-5'

Param	Flag	Result	Units	RL
Chloride		362	mg/Kg	4

Sample: 336946 - SB-13 6-7'

Param	Flag	Result	Units	RL
Chloride		1670	mg/Kg	4

Sample: 336947 - SB-13 9-10'

Param	Flag	Result	Units	RL
Chloride		1530	mg/Kg	4

Sample: 336948 - SB-13 14-15'

Param	Flag	Result	Units	RL
Chloride		264	mg/Kg	4

Sample: 336949 - SB-14 0-1'

Param	Flag	Result	Units	RL
Chloride		159	mg/Kg	4

Sample: 336950 - SB-14 2-3'

Param	Flag	Result	Units	RL
Chloride		125	mg/Kg	4

Sample: 336951 - SB-14 4-5'

Param	Flag	Result	Units	RL
Chloride		735	mg/Kg	4

Sample: 336952 - SB-14 6-7'

Param	Flag	Result	Units	RL
Chloride		2400	mg/Kg	4

Sample: 336953 - SB-14 9-10'

Param	Flag	Result	Units	RL
Chloride		3540	mg/Kg	4

Sample: 336954 - SB-14 14-15'

Param	Flag	Result	Units	RL
Chloride		101	mg/Kg	4

Sample: 336955 - SB-14 19-20'

Param	Flag	Result	Units	RL
Chloride		72.1	mg/Kg	4

Sample: 336956 - SB-15 0-1'

Param	Flag	Result	Units	RL
Chloride		130	mg/Kg	4

Sample: 336957 - SB-15 2-3'

Param	Flag	Result	Units	RL
Chloride		306	mg/Kg	4

Sample: 336958 - SB-15 4-5'

Param	Flag	Result	Units	RL
Chloride		188	mg/Kg	4

Sample: 336959 - SB-15 6-7'

Param	Flag	Result	Units	RL
Chloride		1800	mg/Kg	4

Sample: 336960 - SB-15 9-10'

Param	Flag	Result	Units	RL
Chloride		1960	mg/Kg	4

Sample: 336961 - SB-15 14-15'

Param	Flag	Result	Units	RL
Chloride		948	mg/Kg	4

Sample: 336962 - SB-15 19-20'

Param	Flag	Result	Units	RL
Chloride		262	mg/Kg	4

Sample: 336963 - SB-15 24-25'

Param	Flag	Result	Units	RL
Chloride		88.9	mg/Kg	4

Sample: 336964 - SB-16 0-1'

Param	Flag	Result	Units	RL
Chloride		18200	mg/Kg	4

Sample: 336965 - SB-16 2-3'

Param	Flag	Result	Units	RL
Chloride		14000	mg/Kg	4

Sample: 336966 - SB-16 4-5'

Param	Flag	Result	Units	RL
Chloride		5020	mg/Kg	4

Sample: 336967 - SB-16 6-7'

Param	Flag	Result	Units	RL
Chloride		29.7	mg/Kg	4

Sample: 336968 - SB-16 9-10'

Param	Flag	Result	Units	RL
Chloride		307	mg/Kg	4

Sample: 336969 - SB-17 0-1'

Param	Flag	Result	Units	RL
Chloride		15700	mg/Kg	4

Sample: 336970 - SB-17 2-3'

Param	Flag	Result	Units	RL
Chloride		15400	mg/Kg	4

Sample: 336971 - SB-17 4-5'

Param	Flag	Result	Units	RL
Chloride		10200	mg/Kg	4

Sample: 336972 - SB-17 6-7'

Param	Flag	Result	Units	RL
Chloride		5640	mg/Kg	4

Sample: 336973 - SB-17 9-10'

Param	Flag	Result	Units	RL
Chloride		2840	mg/Kg	4

Sample: 336974 - SB-17 14-15'

Param	Flag	Result	Units	RL
Chloride		510	mg/Kg	4

Sample: 336975 - SB-17 19-20'

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

Sample: 336976 - SB-18 0-1'

Param	Flag	Result	Units	RL
Chloride		8040	mg/Kg	4

Sample: 336977 - SB-18 2-3'

Param	Flag	Result	Units	RL
Chloride		10400	mg/Kg	4

Sample: 336978 - SB-18 4-5'

Param	Flag	Result	Units	RL
Chloride		7270	mg/Kg	4

Sample: 336979 - SB-18 6-7'

Param	Flag	Result	Units	RL
Chloride		12800	mg/Kg	4

Sample: 336980 - SB-18 9-10'

Param	Flag	Result	Units	RL
Chloride		3420	mg/Kg	4

Sample: 336981 - SB-18 14-15'

Param	Flag	Result	Units	RL
Chloride		765	mg/Kg	4

Sample: 336982 - SB-18 19-20'

Param	Flag	Result	Units	RL
Chloride		219	mg/Kg	4