SITE INFORMATION

Report Type: Closure Report

General Site Information:						
Site:	**Loco Hills Water System**					
Company:	**COG Operating LLC**					
Section, Township and Range	**Unit H**	**Sec 30**	**T17S**	**R29E**		
Lease Number:	**API-30-015-30032**					
County:	**Eddy County**					
GPS:	**32.80846° N**			**104.10786° W**		
Surface Owner:	Federal					
Mineral Owner:						
Directions:	In Loco Hilss at the intersection of CR 217 and Hwy 82, travel west on Hwy 82 for 7.0 miles, turn left (south) and travel 0.15 miles, turn right (west) and travel 0.15 miles, turn right (north) and travel 0.10 miles to location.					

Release Data:	
Date Released:	6/22/2012
Type Release:	Produced Water/Skim oil
Source of Contamination:	6" Main Line
Fluid Released:	275 bbls
Fluids Recovered:	260 bbls

Official Communication:			
Name:	Robert McNeil		Ike Tavarez
Company:	COG Operating, LLC		Tetra Tech
Address:	550 W. Texas Ave. Ste. 1300		4000 N. Big Spring
P.O. Box			Suite 401
City:	Midland Texas, 79701		Midland, Texas
Phone number:	(432) 686-3023		(432) 682-4559
Fax:	(432) 684-7137		(432) 682-3946
Email:	rmcneill@conchoresources.com		ike.tavarez@tetratech.com

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

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

TETRA TECH

January 17, 2014

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

Re: Closure Report for the COG Operating LLC., Loco Hills Water System, Unit H, Section 30, Township 17 South, Range 29 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 Water System, 6" main line leak located in Unit H, Section 30, Township 17 South, Range 29 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.80846°, W 104.10786°. 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 22, 2012, and released approximately two hundred and seventy five (275) barrels of produced fluid from a 6" main line. COG recovered approximately two hundred and sixty (260) barrels of standing fluids. The spill initiated in the pasture affecting an area approximately 50' X 120' and 110' X 165'. The initial C-141 form is enclosed in Appendix A.

Groundwater

No water wells were listed within Section 30. According to the NMOCD groundwater map, the average depth to groundwater in this area is approximately 150' below surface. The groundwater data is shown in Figure B.

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

Regulatory

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

Soil Assessment and Analytical Results

On July 11, 2012, Tetra Tech personnel inspected and sampled the spill area. A total of eight (8) auger holes (AH-1 through AH-8) were installed using a stainless steel hand auger to assess the impacted soils. The auger holes were installed to a depth of 3.0' to 8.0' below surface. Deeper samples were not collected due to a dense caliche formation. 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 auger hole locations are shown on Figure 3.

Referring to Table 1, none of the samples exceeded the RRAL for TPH and BTEX. Elevated chloride concentrations were detected in all of the auger hole locations, with concentrations ranging from 2,000 mg/kg to 17,000 mg/kg. The auger holes locations were not vertically defined.

On August 21, 2012, Tetra Tech supervised the installation of nine (9) boreholes (BH-1 through BH-9) using an air rotary drilling rig to assess the soils. The boreholes were installed to a maximum depth of 50' below surface. Copies of laboratory analysis and chain of custody documentation are included in Appendix C. The borehole results are summarized in Table 2.

Referring to Table 2, the chloride impact was vertically defined from depths ranging from 4.0' to 40.0' below surface. Elevated chlorides were detected in the upper soils ranging from 1,500 mg/kg to 16,000 mg/kg. The deepest impact was detected in the areas of BH-1, BH-3, BH-4 and BH-5, with chloride concentrations significantly declining at 40.0' below surface.

TETRA TECH

Site Remediation and Conclusion

On September 27, 2013, Tetra Tech personnel supervised the excavation of the impacted soils. Due to the multiple active lines within the excavation area, all auger hole areas were excavated to 4.0' below surface. An additional 2.0' (total depth of 6.0' below surface) of impacted material was removed around an active Holly steel pipeline.

Approximately 2,340 cubic yards^3 of soil were removed and transported to R360 facility for proper disposal. Referring to Table 3, confirmation samples were collected and several sidewalls samples showed elevated chlorides due to impacted soil left around several pipelines. This material was left to maintain the structural integrity of the fiberglass or poly pipelines; however the impacted material around the steel line was completely removed. Once approved by the BLM, a 40 mil liner was installed; backfill was placed with clean material to surface grade, ripped and seeded.

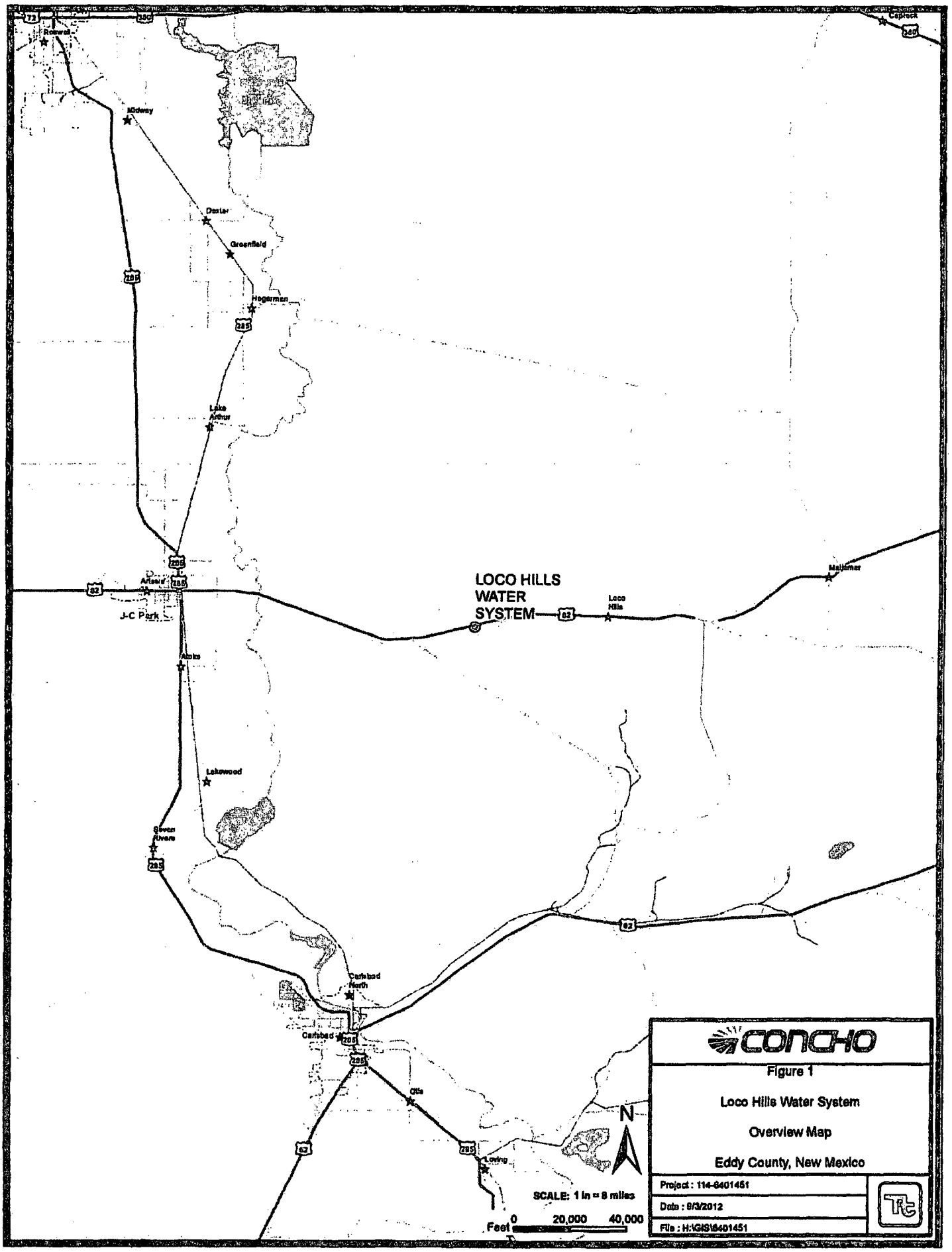
Based on the remediation activities performed at this location, COG requests closure for this site. The C-141 (Final) is included in Appendix A. If you have any questions or comments concerning the assessment or the remediation activities performed at the site, please call me at (432) 682-4559.

Respectfully submitted,
TETRA TECH

Marcus Kujawski
Technician IV

cc: Robert McNeil – COG
cc: Mike Burton – BLM

Figures



CONCHO

Figure 1

Loco Hills Water System

Overview Map

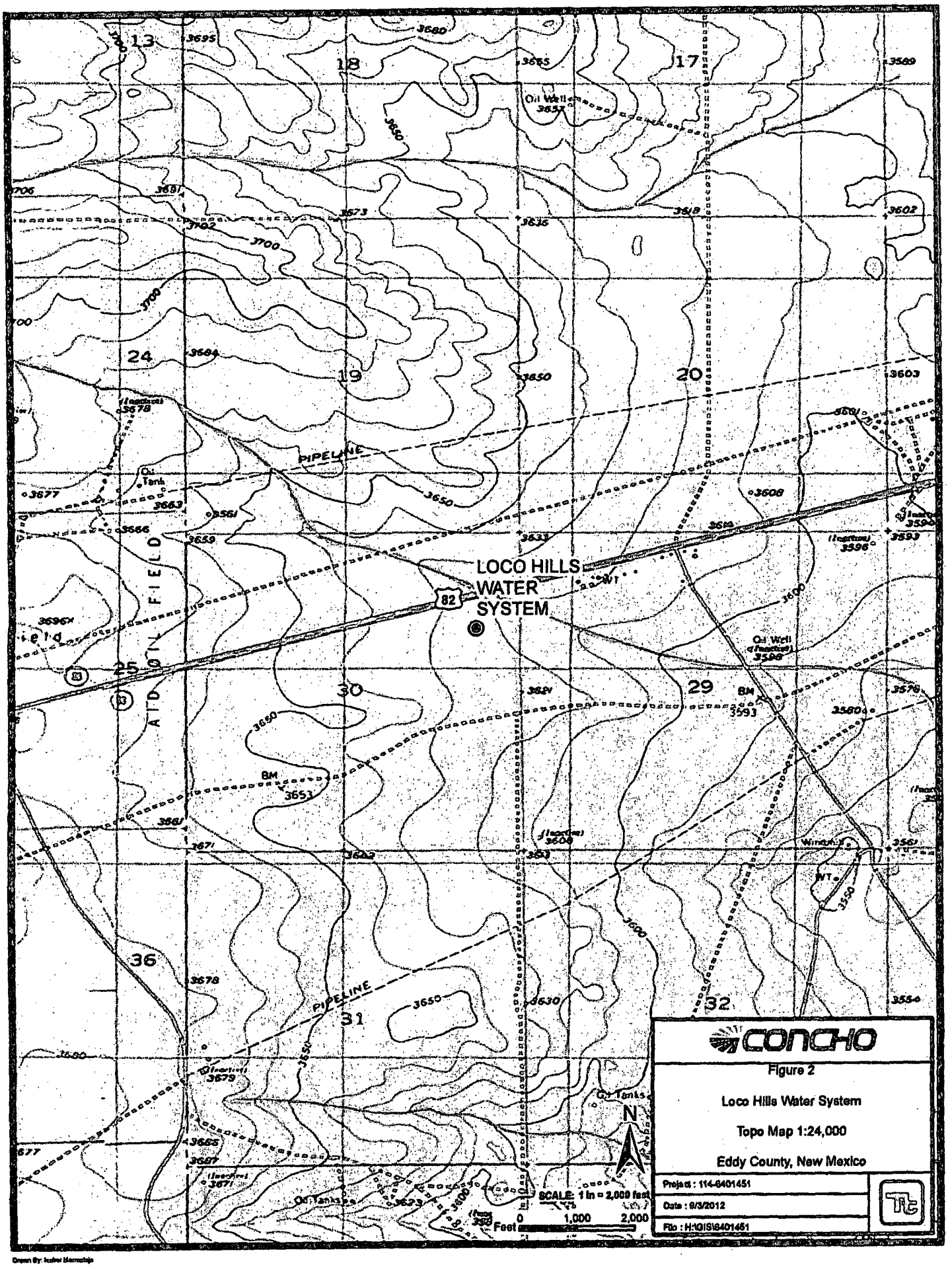
Eddy County, New Mexico

Project : 114-6401451

Date : 8/3/2012

File : H:\GIS\6401451

Drawn By: Isabel Manrique



CONCHO

Figure 2

Loco Hills Water System

Topo Map 1:24,000

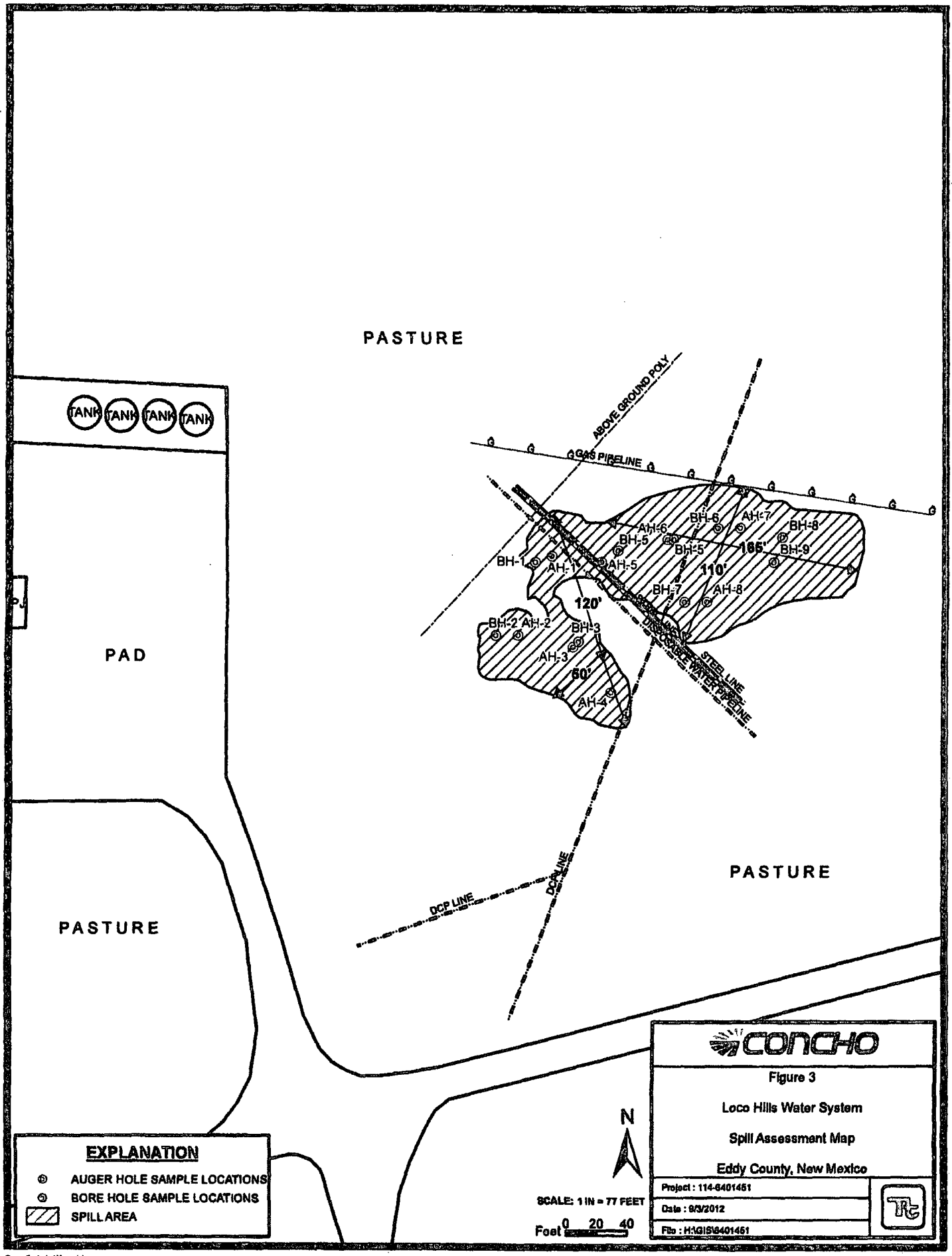
Eddy County, New Mexico

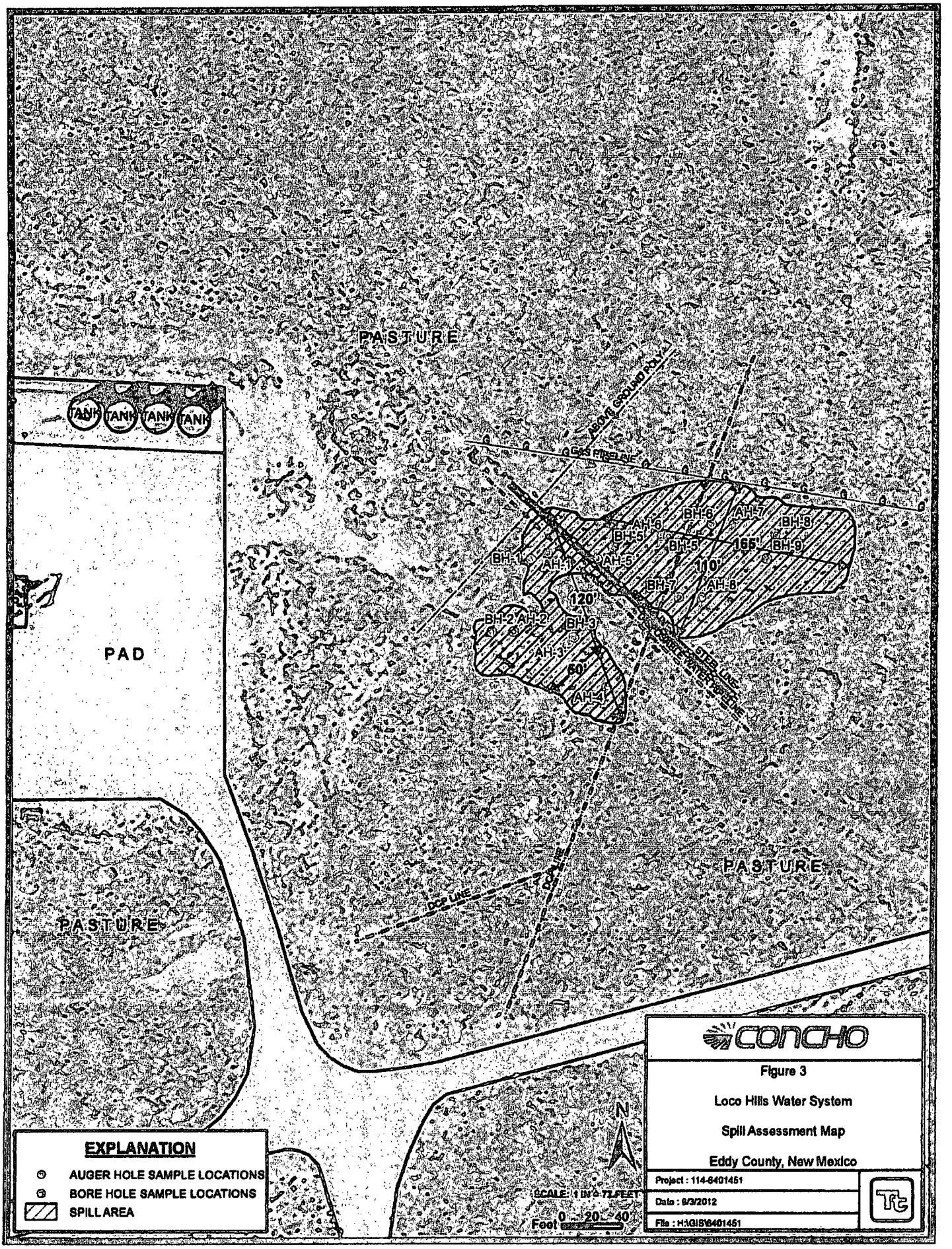
Project : 114-6401451

Date : 9/3/2012

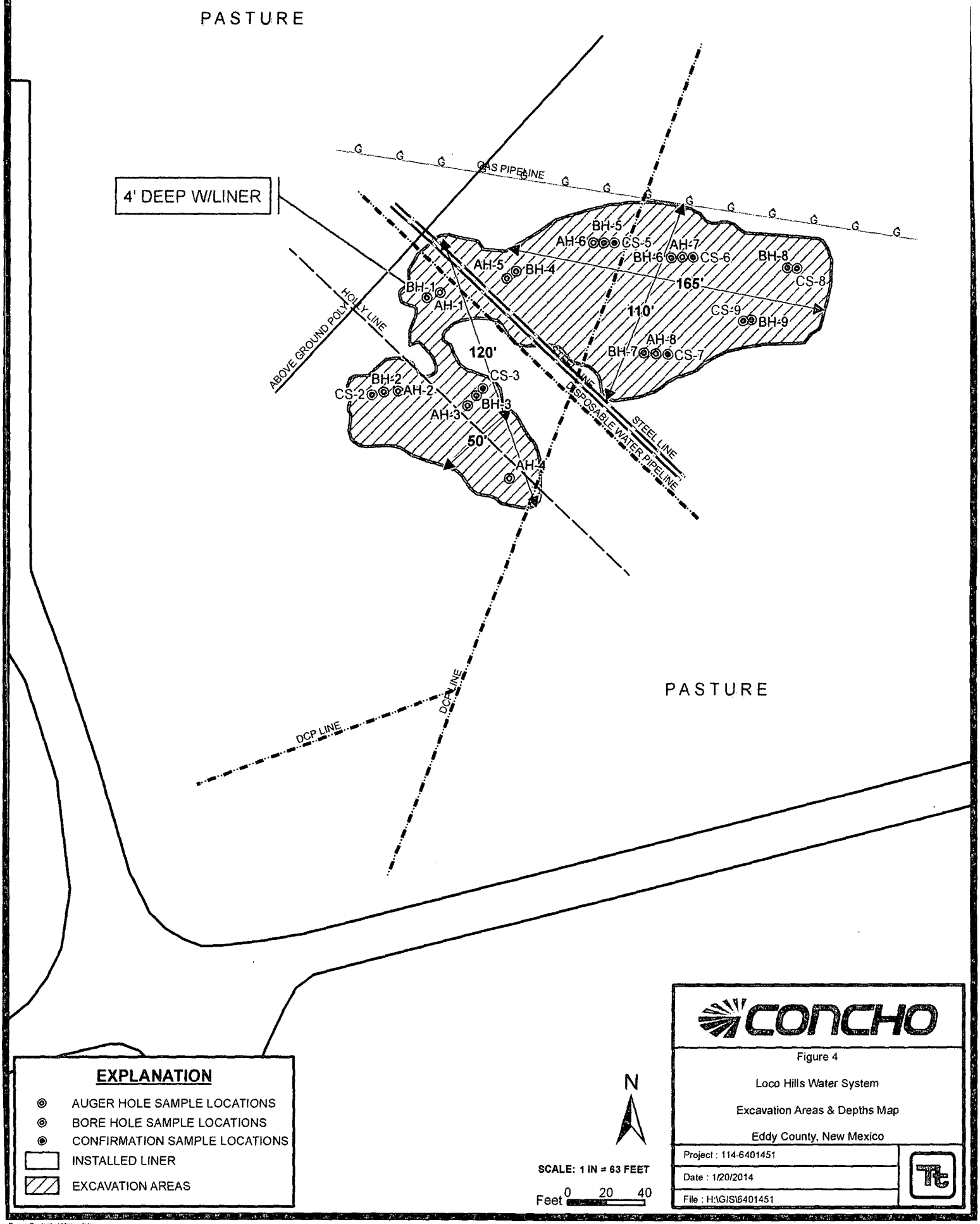
File : H:\GIS\6401451

Drawn By: Isabel Marmolejo


PASTURE
TANK
TANK
TANK
TANK
PAD
PASTURE
PASTURE
ABOVE GROUND POLY
GAS PIPELINE
BH-1
AH-1
BH-2
AH-2
BH-3
AH-3
AH-4
BH-5
AH-5
BH-6
AH-6
BH-7
AH-7
BH-8
AH-8
BH-9
120'
60'
110'
185'
STEEL LINE
DISCHARGE WATER PIPELINE
DCP LINE
DCP LINE
EXPLANATION
AUGER HOLE SAMPLE LOCATIONS
BORE HOLE SAMPLE LOCATIONS
SPILL AREA
N
SCALE: 1 IN = 77 FEET
Feet 0 20 40
CONCHO
Figure 3
Loco Hills Water System
Spill Assessment Map
Eddy County, New Mexico
Project : 114-6401451
Date : 9/3/2012
File : H:\GIS\6401451



Drawn By: Isabel Manriquez



Drawn By: Isabel Marmolejo

Tables

Table 1
COG Operating
Loco Hills Water System
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	BEB Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total						
AH-1	7/11/2012	0-1	-		X	28.8	1,230	1,259	<0.100	<0.100	<0.100	<0.100	<0.100	12,700
	"	1-1.5	-		X	-	-	-	-	-	-	-	-	14,300
	"	2-2.5	-		X	-	-	-	-	-	-	-	-	4,810
	"	3-3.5	-		X	-	-	-	-	-	-	-	-	11,300
	"	4-4.5	-	X		-	-	-	-	-	-	-	-	7,140
	"	5-5.5	-	X		-	-	-	-	-	-	-	-	5,790
	"	6-6.5	-	X		-	-	-	-	-	-	-	-	7,870
AH-2	7/11/2012	0-1	-		X	2.74	<50.0	2.74	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	16,300
	"	1-1.5	-		X	-	-	-	-	-	-	-	-	14,100
	"	2-2.5	-		X	-	-	-	-	-	-	-	-	10,100
	"	3-3.5	-		X	-	-	-	-	-	-	-	-	2,940
AH-3	7/11/2012	0-1	-		X	<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	9,730
	"	1-1.5	-		X	-	-	-	-	-	-	-	-	9,010
	"	2-2.5	-		X	-	-	-	-	-	-	-	-	6,850
	"	3-3.5	-		X	-	-	-	-	-	-	-	-	8,260
	"	4-4.5	-	X		-	-	-	-	-	-	-	-	17,000

Table 1
COG Operating
Loco Hills Water System
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	BEB Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total						
AH-4	7/11/2012	0-1	-		X	2.20	<50.0	2.20	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	9,530
	"	1-1.5	-		X	-	-	-	-	-	-	-	-	11,200
	"	2-2.5	-		X	-	-	-	-	-	-	-	-	8,380
	"	3-3.5	-		X	-	-	-	-	-	-	-	-	7,660
	"	4-4.5	-	X		-	-	-	-	-	-	-	-	12,200
AH-5	7/11/2012	0-1	-		X	<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	10,800
	"	1-1.5	-		X	-	-	-	-	-	-	-	-	12,700
	"	2-2.5	-		X	-	-	-	-	-	-	-	-	7,230
	"	3-3.5	-		X	-	-	-	-	-	-	-	-	10,200
	"	4-4.5	-	X		-	-	-	-	-	-	-	-	8,940
	"	5-5.5	-	X		-	-	-	-	-	-	-	-	5,520

Table 1
COG Operating
Loco Hills Water System
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	BEB Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total						
AH-6	7/11/2012	0-1	-		X	<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	9,230
	"	1-1.5	-		X	-	-	-	-	-	-	-	-	8,750
	"	2-2.5	-		X	-	-	-	-	-	-	-	-	6,510
	"	3-3.5	-		X	-	-	-	-	-	-	-	-	5,350
	"	4-4.5	-	X		-	-	-	-	-	-	-	-	11,100
	"	5-5.5	-	X		-	-	-	-	-	-	-	-	7,590
	"	6-6.5	-	X		-	-	-	-	-	-	-	-	12,100
	"	7-7.5	-	X		-	-	-	-	-	-	-	-	13,100
AH-7	7/11/2012	0-1	-		X	<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	8,480
	"	1-1.5	-		X	-	-	-	-	-	-	-	-	7,600
	"	2-2.5	-		X	-	-	-	-	-	-	-	-	5,420
	"	3-3.5	-		X	-	-	-	-	-	-	-	-	8,710
	"	4-4.5	-	X		-	-	-	-	-	-	-	-	9,230
	"	5-5.5	-	X		-	-	-	-	-	-	-	-	14,400

Table 1
COG Operating
Loco Hills Water System
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	BEB Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total						
AH-8	7/11/2012	0-1	-		X	<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	11,400
	"	1-1.5	-		X	-	-	-	-	-			-	10,400
	"	2-2.5	-		X	-	-	-	-	-	-	-	-	10,300
	"	3-3.5	-		X	-	-	-	-	-	-	-	-	11,800
	"	4-4.5	-	X		-	-	-	-	-	-	-	-	7,980
	"	5-5.5	-	X		-	-	-	-	-	-	-	-	8,390
	"	6-6.5	-	X		-	-	-	-	-	-	-	-	10,300
	"	7-7.5	-	X		-	-	-	-	-	-	-	-	9,890
	"	8-8.5	-	X		-	-	-	-	-	-	-	-	4,810

BEB Below Excavation Bottom

(--) Not Analyzed

Excavation Depths

Liner Installed

Table 2
COG Operating LLC.
Loco Hills Water System
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		Chloride (mg/kg)
			In-Situ	Removed	
BH-1	8/21/2012	0-1		X	6,910
	"	2-3		X	8,970
liner	"	4-5		X	8,110
	"	6-7	X		12,400
	"	9-10	X		11,500
	"	14-15	X		10,400
	"	19-20	X		10,700
	"	24-25	X		9,220
	"	29-30	X		5,550
	"	39-40	X		557
	"	49-50	X		341
BH-2	8/22/2012	0-1		X	1,360
	"	2-3		X	1,550
liner	"	4-5		X	1,530
	"	6-7	X		1,400
	"	9-10	X		888
	"	14-15	X		139
	"	19-20	X		648
	"	24-25	X		226
	"	29-30	X		173

Table 2
COG Operating LLC.
Loco Hills Water System
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		Chloride (mg/kg)
			In-Situ	Removed	
BH-3	8/22/2012	0-1		X	1,370
	"	2-3		X	926
liner	"	4-5		X	8,460
	"	6-7	X		15,300
	"	9-10	X		11,200
	"	14-15	X		8,440
	"	19-20	X		6,800
	"	24-25	X		664
	"	29-30	X		2,370
	"	39-40	X		522
	"	49-50	X		128
BH-4	8/21/2012	0-1		X	11,600
	"	2-3		X	8,700
liner	"	4-5		X	7,850
	"	6-7	X		16,300
	"	9-10	X		13,200
	"	14-15	X		10,700
	"	19-20	X		13,700
	"	24-25	X		1,900
	"	29-30	X		2,430
	"	39-40	X		258
BH-4 Bottom Hole	9/25/2013	4'	X		12,000
B-4 NSW	9/25/2013	-	X		6,430
BH-4 SSW	9/25/2013	-	X		273
BH-4 WSW	9/25/2013	-	X		4,640

Table 2
COG Operating LLC.
Loco Hills Water System
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		Chloride (mg/kg)
			In-Situ	Removed	
BH-5	8/21/2012	0-1		X	6,640
	"	2-3		X	8,800
liner	"	4-5		X	7,190
	"	6-7	X		10,400
	"	9-10	X		10,000
	"	14-15	X		8,300
	"	19-20	X		9,810
	"	24-25	X		8,990
	"	29-30	X		2,020
	"	39-40	X		270
BH-5 Bottom Hole	9/25/2013	4'	X		<20.0
BH-5 NSW	9/25/2013	-	X		<20.0
BH-5 WSW	9/25/2013	-	X		1,370
BH-6	8/20/2012	0-1		X	5,740
	"	2-3		X	5,630
liner	"	4-5		X	1,330
	"	6-7	X		7,910
	"	9-10	X		5,150
	"	14-15	X		257
	"	19-20	X		189
BH-6 Bottom Hole	9/25/2013	4'	X		1,370
BH-6 NSW	9/25/2013	-	X		4,480
BH-6 ESW	9/25/2013	-	X		<20.0

Table 2
COG Operating LLC.
Loco Hills Water System
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		Chloride (mg/kg)
			In-Situ	Removed	
BH-7	8/21/2012	0-1		X	8,100
	"	2-3		X	7,380
liner	"	4-5		X	10,000
	"	6-7	X		6,930
	"	9-10	X		10,900
	"	14-15	X		8,930
	"	19-20	X		3,490
	"	24-25	X		530
	"	29-30	X		660
	"	39-40	X		386
	"	49-50	X		82
BH-8	8/20/2012	0-1		X	616
	"	2-3		X	7,200
liner	"	4-5		X	10,800
	"	6-7	X		2,790
	"	9-10	X		354
	"	14-15	X		82.5
BH-8 Bottom Hole	9/25/2013	4'	X		8,680
BH-8 NSW	9/25/2013	-	X		<20.0
BH-8 ESW	9/25/2013	-	X		358

Table 2
COG Operating LLC.
Loco Hills Water System
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		Chloride (mg/kg)
			In-Situ	Removed	
BH-9	8/20/2012	0-1		X	2,230
	"	2-3		X	8,070
liner	"	4-5		X	247
	"	6-7	X		146
BH-9 Bottom Hole	9/25/2013	4'	X		3,680
BH-9 NSW	9/25/2013	-	X		62.9
BH-9 ESW	9/25/2013	-	X		1,310

(-) Not Analyzed
Excavation Depths
40 mil liner

Table 3
COG Operating LLC.
Loco Hills Water System
Eddy County, New Mexico

Sample ID	Sample Date	BEB Sample Depth (ft)	Excavation Bottom Depth (ft)	Soil Status		Chloride (mg/kg)
				In-Situ	Removed	
CS-2	9/25/2013	Bottom Hole	-	X		387
	"	SSW	-	X		29.8
	"	WSW	-	X		**1,920**
CS-3	9/25/2013	Bottom Hole	-	X		**1,160**
	"	SSW	-	X		**3,850**
	"	NSW	-	X		546
CS-4	9/25/2013	Bottom Hole	-	X		**12,000**
	"	NSW	-	X		**6,430**
	"	SSW	-	X		273
CS-5	9/25/2013	Bottom Hole	-	X		**4,640**
	"	NSW	-	X		<20.0
	"	WSW	-	X		<20.0
CS-6	9/25/2013	Bottom Hole	-	X		**4,880**
	"	NSW	-	X		<20.0
	"	ESW	-	X		126
CS-7	9/25/2013	Bottom Hole	-	X		**4,510**
	"	SSW	-	X		**7,670**
	"	WSW	-	X		**2,090**
CS-8	9/25/2013	Bottom Hole	-	X		**8,680**
	"	ESW	-	X		<20.0
	"	NSW	-	X		358
CS-9	9/25/2013	Bottom Hole	-	X		**3,680**
	"	ESW	-	X		62.9
	"	SSW	-	X		**1,310**

(-) Not Analyzed

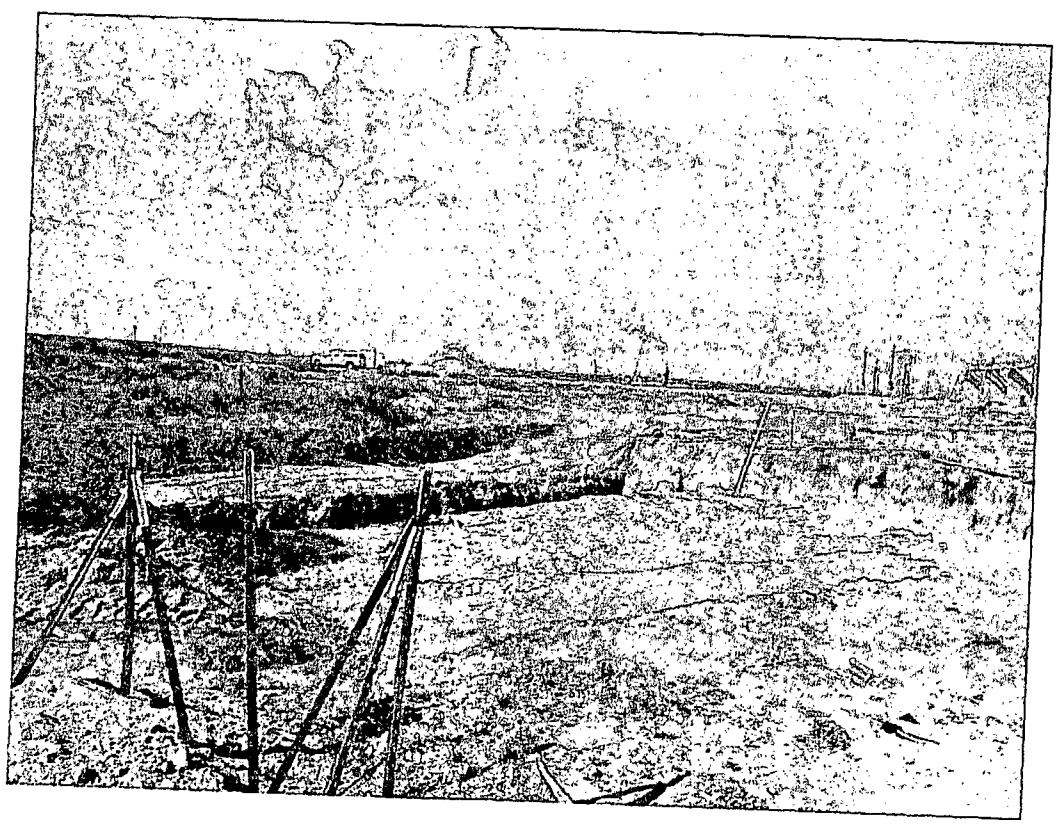
(BEB) Below Excavation Bottom

Photos

COG Operating LLC
Loco Hills Water System
Eddy County, New Mexico

TETRA TECH

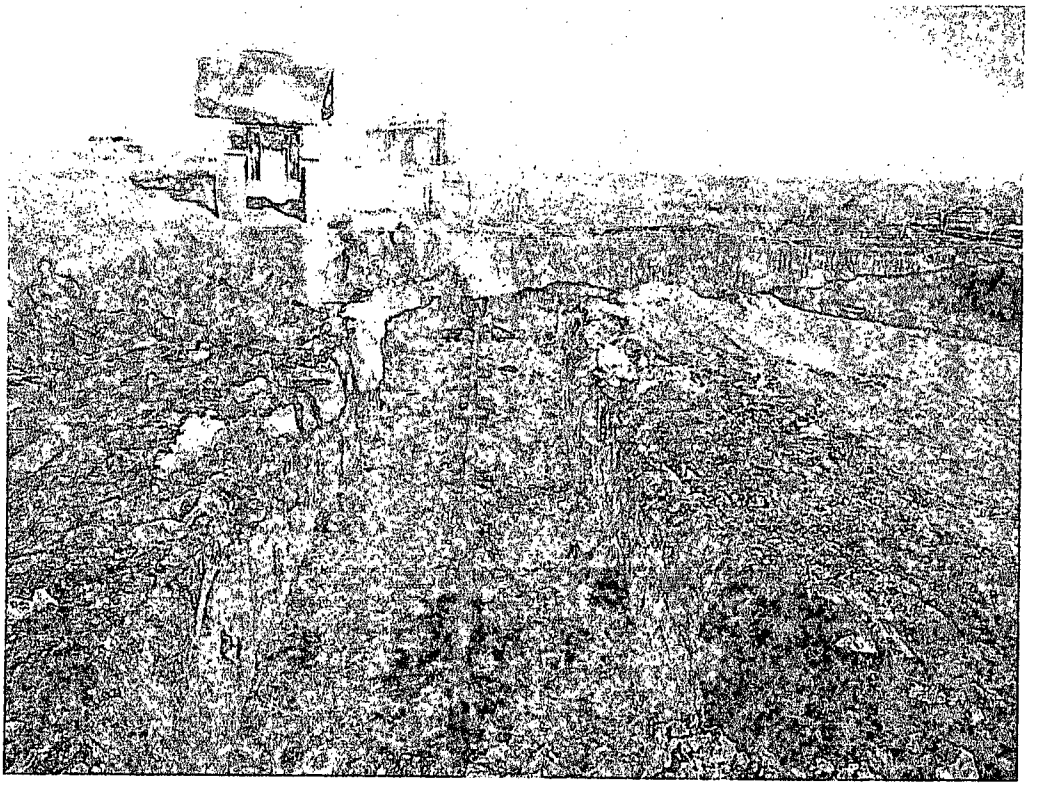
View North – Area of AH-1 and BH-1



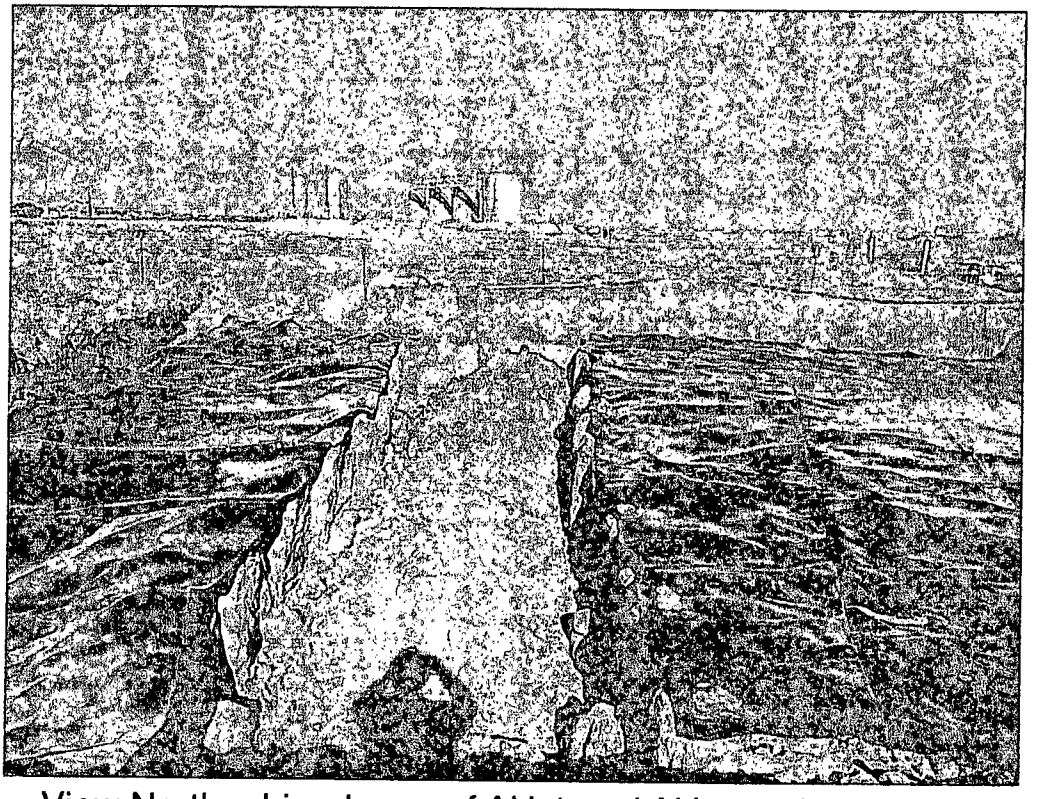
View West – Excavated area of AH-6, AH-7 and AH-8.

COG Operating LLC
Loco Hills Water System
Eddy County, New Mexico

TETRA TECH



View North – Excavated area of AH-1 and AH-5 around a steel pipeline.



View North – Lined area of AH-1 and AH-5 and backfill of steel pipeline.

COG Operating LLC
Loco Hills Water System
Eddy County, New Mexico

TETRA TECH

View North – Lined area of AH-1, AH-5 and AH-6.

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

RECEIVED
MAR 05 2014
NMOCD ARTESIA

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 Water System**	Facility Type	**6'' Main Line**

Surface Owner: Federal	Mineral Owner	Lease No. (API#)30-015-30032 Western Federal #1 Closest Well

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
H	30	17S	29E					Eddy

Latitude N32 48.514° **Longitude** W104. 06.509°

NATURE OF RELEASE

Type of Release: Produced Water / Skim Oil	Volume of Release 275 bbls	Volume Recovered 260 bbls
Source of Release: 6'' Main Line	Date and Hour of Occurrence 6/22/2012	Date and Hour of Discovery 6/22/2012 10:30 a.m.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? **Mike Batcher-OCD** **Jim Amos-BLM** **Terry Gregston-BLM**	
By Whom? Michelle Mullins	Date and Hour 6/22/2012 4:43 p.m.	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

A weld failed at the 4'' poly swedge on the 6'' main line causing a release of fluids. The swedge has been repaired and the line has been returned to service.

Describe Area Affected and Cleanup Action Taken.*

Tetra Tech personnel inspected the site and collected samples to define the spill extents. Soil that exceeded the RRAL was removed and hauled away for proper disposal. The site was then brought up to surface grade with clean backfill material. Tetra Tech prepared a closure report and submitted it to NMOCD for review.

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

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Ike Tavarez (agent for COG)	Approved by District Supervisor:	
Title: Project Manager	Approval Date:	Expiration Date:
E-mail Address: Ike Tavarez@tetratech.com	Conditions of Approval:	Attached ☐
Date: 3-17-14 Phone: (432) 682-4559		

* 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	Pat Ellis
Address	550 W. Texas, Suite 100, Midland, TX 79701	Telephone No.	432-230-0077
Facility Name	Loco Hills Water System	Facility Type	6" Main Line

Surface Owner Federal	Mineral Owner	Lease No. (API#) 30-015-30032 Western Federal #1 – closest well

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
H	30	17S	29E					Eddy

Latitude 32 48.514 **Longitude** 104 06.509

NATURE OF RELEASE

Type of Release Produced water / Skim oil	Volume of Release 275bbls	Volume Recovered 260bbls
Source of Release 6" Main line	Date and Hour of Occurrence 06/22/2012	Date and Hour of Discovery 06/22/2012 10:30 a.m.
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher-OCD, Jim Amos-BLM, Terry Gregston-BLM	
By Whom? Michelle Mullins	Date and Hour 06/22/2012 4:43 p.m.	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

A weld failed at a 4" poly swedge on the 6" main line causing a release of fluid. The swedge has been repaired and the line has been returned to service.

Describe Area Affected and Cleanup Action Taken.*

Initially 275bbls were released from the 6" main line and we were able to recover 260bbls with a vacuum truck. The spill area measured roughly 150' x 150' in the pasture east of the Western Federal #1 well location. All free fluid has been recovered and the spill area has been marked with pin flags. Tetra Tech will sample the spill site area to delineate any possible contamination from the release and we will present a remediation work plan to the NMOCD/BLM for approval prior to any significant remediation work.

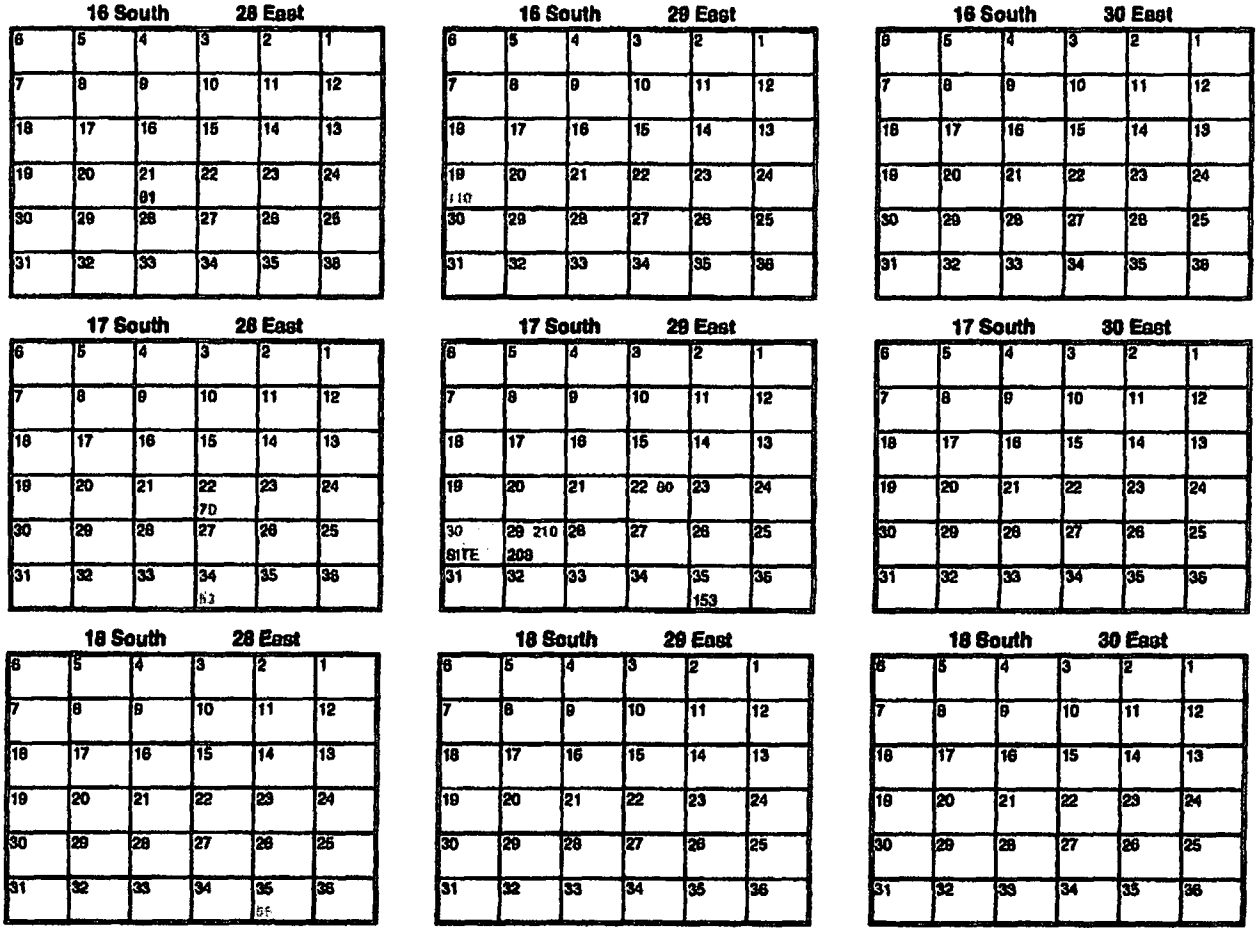
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger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

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Josh Russo	Approved by District Supervisor:	
Title: HSE Coordinator	Approval Date:	Expiration Date:
E-mail Address: jrusso@conchoresources.com	Conditions of Approval:	Attached ☐
Date: 06/29/2012 Phone: 432-212-2399		

* Attach Additional Sheets If Necessary

Appendix B

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



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

Appendix C

Summary Report

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

Report Date: September 8, 2012

Work Order: 12082609

Project Location: Eddy Co., NM
Project Name: Loco Hills Water System
Project Number: 114-6401451

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
307811	Bore Hole 8 0-1'	soil	2012-08-20	00:00	2012-08-20
307812	Bore Hole 8 2'-3'	soil	2012-08-20	00:00	2012-08-20
307813	Bore Hole 8 4'-5'	soil	2012-08-20	00:00	2012-08-20
307814	Bore Hole 8 6-7'	soil	2012-08-20	00:00	2012-08-20
307815	Bore Hole 8 9'-10'	soil	2012-08-20	00:00	2012-08-20
307816	Bore Hole 8 14'-15'	soil	2012-08-20	00:00	2012-08-20
307818	Bore Hole 9 0-1'	soil	2012-08-20	00:00	2012-08-20
307819	Bore Hole 9 2'-3'	soil	2012-08-20	00:00	2012-08-20
307820	Bore Hole 9 4-5'	soil	2012-08-20	00:00	2012-08-20
307821	Bore Hole 9 6-7'	soil	2012-08-20	00:00	2012-08-20
307825	Bore Hole 6 0-1'	soil	2012-08-20	00:00	2012-08-20
307826	Bore Hole 6 2-3'	soil	2012-08-20	00:00	2012-08-20
307827	Bore Hole 6 4'-5'	soil	2012-08-20	00:00	2012-08-20
307828	Bore Hole 6 6'-7'	soil	2012-08-20	00:00	2012-08-20
307829	Bore Hole 6 9-10'	soil	2012-08-20	00:00	2012-08-20
307830	Bore Hole 6 14'-15'	soil	2012-08-20	00:00	2012-08-20
307831	Bore Hole 6 19'-20'	soil	2012-08-20	00:00	2012-08-20
307834	Bore Hole 4 0-1'	soil	2012-08-21	00:00	2012-08-20
307835	Bore Hole 4 2'-3"	soil	2012-08-21	00:00	2012-08-20
307836	Bore Hole 4 4'-5'	soil	2012-08-21	00:00	2012-08-20
307837	Bore Hole 4 6'-7'	soil	2012-08-21	00:00	2012-08-20
307838	Bore Hole 4 9'-10'	soil	2012-08-21	00:00	2012-08-20
307839	Bore Hole 4 14'-15'	soil	2012-08-21	00:00	2012-08-20
307840	Bore Hole 4 19'-20'	soil	2012-08-21	00:00	2012-08-20
307841	Bore Hole 4 24'-25'	soil	2012-08-21	00:00	2012-08-20
307842	Bore Hole 4 29'-30'	soil	2012-08-21	00:00	2012-08-20
307843	Bore Hole 4 39'-40'	soil	2012-08-21	00:00	2012-08-20
307845	Bore Hole 5 0-1'	soil	2012-08-21	00:00	2012-08-20
307846	Bore Hole 5 2-3'	soil	2012-08-21	00:00	2012-08-20
307847	Bore Hole 5 4'-5'	soil	2012-08-21	00:00	2012-08-20

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
307848	Bore Hole 5 6'-7'	soil	2012-08-21	00:00	2012-08-20
307849	Bore Hole 5 9'-10'	soil	2012-08-21	00:00	2012-08-20
307850	Bore Hole 5 14'-15'	soil	2012-08-21	00:00	2012-08-20
307851	Bore Hole 5 19'-20'	soil	2012-08-21	00:00	2012-08-20
307852	Bore Hole 5 24'-25'	soil	2012-08-21	00:00	2012-08-20
307853	Bore Hole 5 29'-30'	soil	2012-08-21	00:00	2012-08-20
307854	Bore Hole 5 39'-40'	soil	2012-08-21	00:00	2012-08-20
307856	Bore Hole 7 0-1'	soil	2012-08-21	00:00	2012-08-20
307857	Bore Hole 7 2'-3'	soil	2012-08-21	00:00	2012-08-20
307858	Bore Hole 7 4'-5'	soil	2012-08-21	00:00	2012-08-20
307859	Bore Hole 7 6'-7'	soil	2012-08-21	00:00	2012-08-20
307860	Bore Hole 7 9'-10'	soil	2012-08-21	00:00	2012-08-20
307861	Bore Hole 7 14'-15'	soil	2012-08-21	00:00	2012-08-20
307862	Bore Hole 7 19'-20'	soil	2012-08-21	00:00	2012-08-20
307863	Bore Hole 7 24'-25'	soil	2012-08-21	00:00	2012-08-20
307864	Bore Hole 7 29'-30'	soil	2012-08-21	00:00	2012-08-20
307865	Bore Hole 7 39'-40'	soil	2012-08-21	00:00	2012-08-20
307866	Bore Hole 7 49'-50'	soil	2012-08-21	00:00	2012-08-20
307867	Bore Hole 1 0-1'	soil	2012-08-21	00:00	2012-08-20
307868	Bore Hole 1 2'-3'	soil	2012-08-21	00:00	2012-08-20
307869	Bore Hole 1 4'-5'	soil	2012-08-21	00:00	2012-08-20
307870	Bore Hole 1 6-7'	soil	2012-08-21	00:00	2012-08-20
307871	Bore Hole 1 9'-10'	soil	2012-08-21	00:00	2012-08-20
307872	Bore Hole 1 14'-15'	soil	2012-08-21	00:00	2012-08-20
307873	Bore Hole 1 19'-20'	soil	2012-08-21	00:00	2012-08-20
307874	Bore Hole 1 24'-25'	soil	2012-08-21	00:00	2012-08-20
307875	Bore Hole 1 29'-30'	soil	2012-08-21	00:00	2012-08-20
307876	Bore Hole 1 39'-40'	soil	2012-08-21	00:00	2012-08-20
307877	Bore Hole 1 49'-50'	soil	2012-08-21	00:00	2012-08-20
307878	Bore Hole 2 0-1'	soil	2012-08-22	00:00	2012-08-20
307879	Bore Hole 2 2-3'	soil	2012-08-22	00:00	2012-08-20
307880	Bore Hole 2 4-5'	soil	2012-08-22	00:00	2012-08-20
307881	Bore Hole 2 6'-7'	soil	2012-08-22	00:00	2012-08-20
307882	Bore Hole 2 9'-10'	soil	2012-08-22	00:00	2012-08-20
307883	Bore Hole 2 14'-15'	soil	2012-08-22	00:00	2012-08-20
307884	Bore Hole 2 19'-20'	soil	2012-08-22	00:00	2012-08-20
307885	Bore Hole 2 24'-25'	soil	2012-08-22	00:00	2012-08-20
307886	Bore Hole 2 29'-30'	soil	2012-08-22	00:00	2012-08-20
307888	Bore Hole 3 0-1'	soil	2012-08-22	00:00	2012-08-20
307889	Bore Hole 3 2'-3'	soil	2012-08-22	00:00	2012-08-20
307890	Bore Hole 3 4'-5'	soil	2012-08-22	00:00	2012-08-20
307891	Bore Hole 3 6'-7'	soil	2012-08-22	00:00	2012-08-20
307892	Bore Hole 3 9'-10'	soil	2012-08-22	00:00	2012-08-20
307893	Bore Hole 3 14'-15'	soil	2012-08-22	00:00	2012-08-20
307894	Bore Hole 3 19'-20'	soil	2012-08-22	00:00	2012-08-20
307895	Bore Hole 3 24'-25'	soil	2012-08-22	00:00	2012-08-20
307896	Bore Hole 3 29'-30'	soil	2012-08-22	00:00	2012-08-20
307897	Bore Hole 3 39'-40'	soil	2012-08-22	00:00	2012-08-20
307898	Bore Hole 3 49'-50'	soil	2012-08-22	00:00	2012-08-20

Sample: 307811 - Bore Hole 8 0-1'

Param	Flag	Result	Units	RL
Chloride		616	mg/Kg	4

Sample: 307812 - Bore Hole 8 2'-3'

Param	Flag	Result	Units	RL
Chloride		7200	mg/Kg	4

Sample: 307813 - Bore Hole 8 4'-5'

Param	Flag	Result	Units	RL
Chloride		10800	mg/Kg	4

Sample: 307814 - Bore Hole 8 6-7'

Param	Flag	Result	Units	RL
Chloride		2790	mg/Kg	4

Sample: 307815 - Bore Hole 8 9'-10'

Param	Flag	Result	Units	RL
Chloride		354	mg/Kg	4

Sample: 307816 - Bore Hole 8 14'-15'

Param	Flag	Result	Units	RL
Chloride		82.5	mg/Kg	4

Sample: 307818 - Bore Hole 9 0-1'

Param	Flag	Result	Units	RL
Chloride		2230	mg/Kg	4

Sample: 307819 - Bore Hole 9 2'-3'

Param	Flag	Result	Units	RL
Chloride		8070	mg/Kg	4

Sample: 307820 - Bore Hole 9 4-5'

Param	Flag	Result	Units	RL
Chloride		247	mg/Kg	4

Sample: 307821 - Bore Hole 9 6-7'

Param	Flag	Result	Units	RL
Chloride		146	mg/Kg	4

Sample: 307825 - Bore Hole 6 0-1'

Param	Flag	Result	Units	RL
Chloride		5740	mg/Kg	4

Sample: 307826 - Bore Hole 6 2-3'

Param	Flag	Result	Units	RL
Chloride		5630	mg/Kg	4

Sample: 307827 - Bore Hole 6 4'-5'

Param	Flag	Result	Units	RL
Chloride		1330	mg/Kg	4

Sample: 307828 - Bore Hole 6 6'-7'

Param	Flag	Result	Units	RL
Chloride		7910	mg/Kg	4

Sample: 307829 - Bore Hole 6 9-10'

Param	Flag	Result	Units	RL
Chloride		5150	mg/Kg	4

Sample: 307830 - Bore Hole 6 14'-15'

Param	Flag	Result	Units	RL
Chloride		257	mg/Kg	4

Sample: 307831 - Bore Hole 6 19'-20'

Param	Flag	Result	Units	RL
Chloride		189	mg/Kg	4

Sample: 307834 - Bore Hole 4 0-1'

Param	Flag	Result	Units	RL
Chloride		11600	mg/Kg	4

Sample: 307835 - Bore Hole 4 2'-3"

Param	Flag	Result	Units	RL
Chloride		8700	mg/Kg	4

Sample: 307836 - Bore Hole 4 4'-5'

Param	Flag	Result	Units	RL
Chloride		7850	mg/Kg	4

Sample: 307837 - Bore Hole 4 6'-7'

Param	Flag	Result	Units	RL
Chloride		16300	mg/Kg	4

Sample: 307838 - Bore Hole 4 9'-10'

Param	Flag	Result	Units	RL
Chloride		13200	mg/Kg	4

Sample: 307839 - Bore Hole 4 14'-15'

Param	Flag	Result	Units	RL
Chloride		10700	mg/Kg	4

Sample: 307840 - Bore Hole 4 19'-20'

Param	Flag	Result	Units	RL
Chloride		13700	mg/Kg	4

Sample: 307841 - Bore Hole 4 24'-25'

Param	Flag	Result	Units	RL
Chloride		1900	mg/Kg	4

Sample: 307842 - Bore Hole 4 29'-30'

Param	Flag	Result	Units	RL
Chloride		2430	mg/Kg	4

Sample: 307843 - Bore Hole 4 39'-40'

Param	Flag	Result	Units	RL
Chloride		258	mg/Kg	4

Sample: 307845 - Bore Hole 5 0-1'

Param	Flag	Result	Units	RL
Chloride		6640	mg/Kg	4

Sample: 307846 - Bore Hole 5 2-3'

Param	Flag	Result	Units	RL
Chloride		8800	mg/Kg	4

Sample: 307847 - Bore Hole 5 4'-5'

Param	Flag	Result	Units	RL
Chloride		7190	mg/Kg	4

Sample: 307848 - Bore Hole 5 6'-7'

Param	Flag	Result	Units	RL
Chloride		10400	mg/Kg	4

Sample: 307849 - Bore Hole 5 9'-10'

Param	Flag	Result	Units	RL
Chloride		10000	mg/Kg	4

Sample: 307850 - Bore Hole 5 14'-15'

Param	Flag	Result	Units	RL
Chloride		8300	mg/Kg	4

Sample: 307851 - Bore Hole 5 19'-20'

Param	Flag	Result	Units	RL
Chloride		9810	mg/Kg	4

Sample: 307852 - Bore Hole 5 24'-25'

Param	Flag	Result	Units	RL
Chloride		8990	mg/Kg	4

Sample: 307853 - Bore Hole 5 29'-30'

Param	Flag	Result	Units	RL
Chloride		2020	mg/Kg	4

Sample: 307854 - Bore Hole 5 39'-40'

Param	Flag	Result	Units	RL
Chloride		270	mg/Kg	4

Sample: 307856 - Bore Hole 7 0-1'

Param	Flag	Result	Units	RL
Chloride		8100	mg/Kg	4

Sample: 307857 - Bore Hole 7 2'-3'

Param	Flag	Result	Units	RL
Chloride		7380	mg/Kg	4

Sample: 307858 - Bore Hole 7 4'-5'

Param	Flag	Result	Units	RL
Chloride		10000	mg/Kg	4

Sample: 307859 - Bore Hole 7 6'-7'

Param	Flag	Result	Units	RL
Chloride		6930	mg/Kg	4

Sample: 307860 - Bore Hole 7 9'-10'

Param	Flag	Result	Units	RL
Chloride		10900	mg/Kg	4

Sample: 307861 - Bore Hole 7 14'-15'

Param	Flag	Result	Units	RL
Chloride		8930	mg/Kg	4

Sample: 307862 - Bore Hole 7 19'-20'

Param	Flag	Result	Units	RL
Chloride		3490	mg/Kg	4

Sample: 307863 - Bore Hole 7 24'-25'

Param	Flag	Result	Units	RL
Chloride		530	mg/Kg	4

Sample: 307864 - Bore Hole 7 29'-30'

Param	Flag	Result	Units	RL
Chloride		660	mg/Kg	4

Sample: 307865 - Bore Hole 7 39'-40'

Param	Flag	Result	Units	RL
Chloride		386	mg/Kg	4

Sample: 307866 - Bore Hole 7 49'-50'

Param	Flag	Result	Units	RL
Chloride		81.9	mg/Kg	4

Sample: 307867 - Bore Hole 1 0-1'

Param	Flag	Result	Units	RL
Chloride		6910	mg/Kg	4

Sample: 307868 - Bore Hole 1 2'-3'

Param	Flag	Result	Units	RL
Chloride		8970	mg/Kg	4

Sample: 307869 - Bore Hole 1 4'-5'

Param	Flag	Result	Units	RL
Chloride		8110	mg/Kg	4

Sample: 307870 - Bore Hole 1 6-7'

Param	Flag	Result	Units	RL
Chloride		12400	mg/Kg	4

Sample: 307871 - Bore Hole 1 9'-10'

Param	Flag	Result	Units	RL
Chloride		11500	mg/Kg	4

Sample: 307872 - Bore Hole 1 14'-15'

Param	Flag	Result	Units	RL
Chloride		10400	mg/Kg	4

Sample: 307873 - Bore Hole 1 19'-20'

Param	Flag	Result	Units	RL
Chloride		10700	mg/Kg	4

Sample: 307874 - Bore Hole 1 24'-25'

Param	Flag	Result	Units	RL
Chloride		9220	mg/Kg	4

Sample: 307875 - Bore Hole 1 29'-30'

Param	Flag	Result	Units	RL
Chloride		5550	mg/Kg	4

Sample: 307876 - Bore Hole 1 39'-40'

Param	Flag	Result	Units	RL
Chloride		557	mg/Kg	4

Sample: 307877 - Bore Hole 1 49'-50'

Param	Flag	Result	Units	RL
Chloride		341	mg/Kg	4

Sample: 307878 - Bore Hole 2 0-1'

Param	Flag	Result	Units	RL
Chloride		1360	mg/Kg	4

Sample: 307879 - Bore Hole 2 2-3'

Param	Flag	Result	Units	RL
Chloride		1550	mg/Kg	4

Sample: 307880 - Bore Hole 2 4-5'

Param	Flag	Result	Units	RL
Chloride		1530	mg/Kg	4

Sample: 307881 - Bore Hole 2 6'-7'

Param	Flag	Result	Units	RL
Chloride		1400	mg/Kg	4

Sample: 307882 - Bore Hole 2 9'-10'

Param	Flag	Result	Units	RL
Chloride		888	mg/Kg	4

Sample: 307883 - Bore Hole 2 14'-15'

Param	Flag	Result	Units	RL
Chloride		139	mg/Kg	4

Sample: 307884 - Bore Hole 2 19'-20'

Param	Flag	Result	Units	RL
Chloride		648	mg/Kg	4

Sample: 307885 - Bore Hole 2 24'-25'

Param	Flag	Result	Units	RL
Chloride		226	mg/Kg	4

Sample: 307886 - Bore Hole 2 29'-30'

Param	Flag	Result	Units	RL
Chloride		173	mg/Kg	4

Sample: 307888 - Bore Hole 3 0-1'

Param	Flag	Result	Units	RL
Chloride		1370	mg/Kg	4

Sample: 307889 - Bore Hole 3 2'-3'

Param	Flag	Result	Units	RL
Chloride		926	mg/Kg	4

Sample: 307890 - Bore Hole 3 4'-5'

Param	Flag	Result	Units	RL
Chloride		8460	mg/Kg	4

Sample: 307891 - Bore Hole 3 6'-7'

Param	Flag	Result	Units	RL
Chloride		15300	mg/Kg	4

Sample: 307892 - Bore Hole 3 9'-10'

Param	Flag	Result	Units	RL
Chloride		11200	mg/Kg	4

Sample: 307893 - Bore Hole 3 14'-15'

Param	Flag	Result	Units	RL
Chloride		8440	mg/Kg	4

Sample: 307894 - Bore Hole 3 19'-20'

Param	Flag	Result	Units	RL
Chloride		6800	mg/Kg	4

Sample: 307895 - Bore Hole 3 24'-25'

Param	Flag	Result	Units	RL
Chloride		664	mg/Kg	4

Sample: 307896 - Bore Hole 3 29'-30'

Param	Flag	Result	Units	RL
Chloride		2370	mg/Kg	4

Sample: 307897 - Bore Hole 3 39'-40'

Param	Flag	Result	Units	RL
Chloride		522	mg/Kg	4

Sample: 307898 - Bore Hole 3 49'-50'

Param	Flag	Result	Units	RL
Chloride		128	mg/Kg	4

Summary Report

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

Report Date: July 25, 2012

Work Order: 12071603

Project Name: Loco Hills Water System
Project Number: 114-6401451

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
303777	AH-1 0-1'	soil	2012-07-11	00:00	2012-07-13
303778	AH-1 1-1.5'	soil	2012-07-11	00:00	2012-07-13
303779	AH-1 2-2.5'	soil	2012-07-11	00:00	2012-07-13
303780	AH-1 3-3.5'	soil	2012-07-11	00:00	2012-07-13
303781	AH-1 4-4.5'	soil	2012-07-11	00:00	2012-07-13
303782	AH-1 5-5.5'	soil	2012-07-11	00:00	2012-07-13
303783	AH-1 6-6.5'	soil	2012-07-11	00:00	2012-07-13
303784	AH-2 0-1'	soil	2012-07-11	00:00	2012-07-13
303785	AH-2 1-1.5'	soil	2012-07-11	00:00	2012-07-13
303786	AH-2 2-2.5'	soil	2012-07-11	00:00	2012-07-13
303787	AH-2 3-3.5'	soil	2012-07-11	00:00	2012-07-13
303788	AH-3 0-1'	soil	2012-07-11	00:00	2012-07-13
303789	AH-3 1-1.5'	soil	2012-07-11	00:00	2012-07-13
303790	AH-3 2-2.5'	soil	2012-07-11	00:00	2012-07-13
303791	AH-3 3-3.5'	soil	2012-07-11	00:00	2012-07-13
303792	AH-3 4-4.5'	soil	2012-07-11	00:00	2012-07-13
303793	AH-4 0-1'	soil	2012-07-11	00:00	2012-07-13
303794	AH-4 1-1.5'	soil	2012-07-11	00:00	2012-07-13
303795	AH-4 2-2.5'	soil	2012-07-11	00:00	2012-07-13
303796	AH-4 3-3.5'	soil	2012-07-11	00:00	2012-07-13
303797	AH-4 4-4.5'	soil	2012-07-11	00:00	2012-07-13
303798	AH-5 0-1'	soil	2012-07-11	00:00	2012-07-13
303799	AH-5 1-1.5'	soil	2012-07-11	00:00	2012-07-13
303800	AH-5 2-2.5'	soil	2012-07-11	00:00	2012-07-13
303801	AH-5 3-3.5'	soil	2012-07-11	00:00	2012-07-13
303802	AH-5 4-4.5'	soil	2012-07-11	00:00	2012-07-13
303803	AH-5 5-5.5'	soil	2012-07-11	00:00	2012-07-13
303804	AH-6 0-1'	soil	2012-07-11	00:00	2012-07-13
303805	AH-6 1-1.5'	soil	2012-07-11	00:00	2012-07-13
303806	AH-6 2-2.5'	soil	2012-07-11	00:00	2012-07-13
303807	AH-6 3-3.5'	soil	2012-07-11	00:00	2012-07-13

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
303808	AH-6 4-4.5'	soil	2012-07-11	00:00	2012-07-13
303809	AH-6 5-5.5'	soil	2012-07-11	00:00	2012-07-13
303810	AH-6 6-6.5'	soil	2012-07-11	00:00	2012-07-13
303811	AH-6 7-7.5'	soil	2012-07-11	00:00	2012-07-13
303812	AH-7 0-1'	soil	2012-07-11	00:00	2012-07-13
303813	AH-7 1-1.5'	soil	2012-07-11	00:00	2012-07-13
303814	AH-7 2-2.5'	soil	2012-07-11	00:00	2012-07-13
303815	AH-7 3-3.5'	soil	2012-07-11	00:00	2012-07-13
303816	AH-7 4-4.5'	soil	2012-07-11	00:00	2012-07-13
303817	AH-7 5-5.5'	soil	2012-07-11	00:00	2012-07-13
303818	AH-8 0-1'	soil	2012-07-11	00:00	2012-07-13
303819	AH-8 1-1.5'	soil	2012-07-11	00:00	2012-07-13
303820	AH-8 2-2.5'	soil	2012-07-11	00:00	2012-07-13
303821	AH-8 3-3.5'	soil	2012-07-11	00:00	2012-07-13
303822	AH-8 4-4.5'	soil	2012-07-11	00:00	2012-07-13
303823	AH-8 5-5.5'	soil	2012-07-11	00:00	2012-07-13
303824	AH-8 6-6.5'	soil	2012-07-11	00:00	2012-07-13
303825	AH-8 7-7.5'	soil	2012-07-11	00:00	2012-07-13
303826	AH-8 8-8.5'	soil	2012-07-11	00:00	2012-07-13

	BTEX				TPH DRO - NEW	TPH GRO
Sample - Field Code	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	DRO (mg/Kg)	GRO (mg/Kg)
303777 - AH-1 0-1'	<0.100 [1]	<0.100	<0.100	<0.100	**1230**	**28.8**
303784 - AH-2 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	**2.74**
303788 - AH-3 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
303793 - AH-4 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	**2.20**
303798 - AH-5 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
303804 - AH-6 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
303812 - AH-7 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
303818 - AH-8 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00

Sample: 303777 - AH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		**12700**	mg/Kg	4

Sample: 303778 - AH-1 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**14300**	mg/Kg	4

Sample: 303779 - AH-1 2-2.5'

[1]Dilution due to turbidity.

Param	Flag	Result	Units	RL
Chloride		4810	mg/Kg	4

Sample: 303780 - AH-1 3-3.5'

Param	Flag	Result	Units	RL
Chloride		11300	mg/Kg	4

Sample: 303781 - AH-1 4-4.5'

Param	Flag	Result	Units	RL
Chloride		7140	mg/Kg	4

Sample: 303782 - AH-1 5-5.5'

Param	Flag	Result	Units	RL
Chloride		5790	mg/Kg	4

Sample: 303783 - AH-1 6-6.5'

Param	Flag	Result	Units	RL
Chloride		7870	mg/Kg	4

Sample: 303784 - AH-2 0-1'

Param	Flag	Result	Units	RL
Chloride		16300	mg/Kg	4

Sample: 303785 - AH-2 1-1.5'

Param	Flag	Result	Units	RL
Chloride		14100	mg/Kg	4

Sample: 303786 - AH-2 2-2.5'

Param	Flag	Result	Units	RL
Chloride		10100	mg/Kg	4

Sample: 303787 - AH-2 3-3.5'

Param	Flag	Result	Units	RL
Chloride		2940	mg/Kg	4

Sample: 303788 - AH-3 0-1'

Param	Flag	Result	Units	RL
Chloride		9730	mg/Kg	4

Sample: 303789 - AH-3 1-1.5'

Param	Flag	Result	Units	RL
Chloride		9010	mg/Kg	4

Sample: 303790 - AH-3 2-2.5'

Param	Flag	Result	Units	RL
Chloride		6850	mg/Kg	4

Sample: 303791 - AH-3 3-3.5'

Param	Flag	Result	Units	RL
Chloride		8260	mg/Kg	4

Sample: 303792 - AH-3 4-4.5'

Param	Flag	Result	Units	RL
Chloride		17000	mg/Kg	4

Sample: 303793 - AH-4 0-1'

Param	Flag	Result	Units	RL
Chloride		9530	mg/Kg	4

Sample: 303794 - AH-4 1-1.5'

Param	Flag	Result	Units	RL
Chloride		11200	mg/Kg	4

Sample: 303795 - AH-4 2-2.5'

Param	Flag	Result	Units	RL
Chloride		8380	mg/Kg	4

Sample: 303796 - AH-4 3-3.5'

Param	Flag	Result	Units	RL
Chloride		7660	mg/Kg	4

Sample: 303797 - AH-4 4-4.5'

Param	Flag	Result	Units	RL
Chloride		12200	mg/Kg	4

Sample: 303798 - AH-5 0-1'

Param	Flag	Result	Units	RL
Chloride		10800	mg/Kg	4

Sample: 303799 - AH-5 1-1.5'

Param	Flag	Result	Units	RL
Chloride		12700	mg/Kg	4

Sample: 303800 - AH-5 2-2.5'

Param	Flag	Result	Units	RL
Chloride		7230	mg/Kg	4

Sample: 303801 - AH-5 3-3.5'

Param	Flag	Result	Units	RL
Chloride		10200	mg/Kg	4

Sample: 303802 - AH-5 4-4.5'

Param	Flag	Result	Units	RL
Chloride		8940	mg/Kg	4

Sample: 303803 - AH-5 5-5.5'

Param	Flag	Result	Units	RL
Chloride		5520	mg/Kg	4

Sample: 303804 - AH-6 0-1'

Param	Flag	Result	Units	RL
Chloride		9230	mg/Kg	4

Sample: 303805 - AH-6 1-1.5'

Param	Flag	Result	Units	RL
Chloride		8750	mg/Kg	4

Sample: 303806 - AH-6 2-2.5'

Param	Flag	Result	Units	RL
Chloride		6510	mg/Kg	4

Sample: 303807 - AH-6 3-3.5'

Param	Flag	Result	Units	RL
Chloride		5350	mg/Kg	4

Sample: 303808 - AH-6 4-4.5'

Param	Flag	Result	Units	RL
Chloride		11100	mg/Kg	4

Sample: 303809 - AH-6 5-5.5'

Param	Flag	Result	Units	RL
Chloride		7590	mg/Kg	4

Sample: 303810 - AH-6 6-6.5'

Param	Flag	Result	Units	RL
Chloride		12100	mg/Kg	4

Sample: 303811 - AH-6 7-7.5'

Param	Flag	Result	Units	RL
Chloride		13100	mg/Kg	4

Sample: 303812 - AH-7 0-1'

Param	Flag	Result	Units	RL
Chloride		8480	mg/Kg	4

Sample: 303813 - AH-7 1-1.5'

Param	Flag	Result	Units	RL
Chloride		7600	mg/Kg	4

Sample: 303814 - AH-7 2-2.5'

Param	Flag	Result	Units	RL
Chloride		5420	mg/Kg	4

Sample: 303815 - AH-7 3-3.5'

Param	Flag	Result	Units	RL
Chloride		8710	mg/Kg	4

Sample: 303816 - AH-7 4-4.5'

Param	Flag	Result	Units	RL
Chloride		9230	mg/Kg	4

Sample: 303817 - AH-7 5-5.5'

Param	Flag	Result	Units	RL
Chloride		14400	mg/Kg	4

Sample: 303818 - AH-8 0-1'

Param	Flag	Result	Units	RL
Chloride		11400	mg/Kg	4

Sample: 303819 - AH-8 1-1.5'

Param	Flag	Result	Units	RL
Chloride		10400	mg/Kg	4

Sample: 303820 - AH-8 2-2.5'

Param	Flag	Result	Units	RL
Chloride		10300	mg/Kg	4

Sample: 303821 - AH-8 3-3.5'

Param	Flag	Result	Units	RL
Chloride		11800	mg/Kg	4

Sample: 303822 - AH-8 4-4.5'

Param	Flag	Result	Units	RL
Chloride		7980	mg/Kg	4

Sample: 303823 - AH-8 5-5.5'

Param	Flag	Result	Units	RL
Chloride		8390	mg/Kg	4

Sample: 303824 - AH-8 6-6.5'

Param	Flag	Result	Units	RL
Chloride		10300	mg/Kg	4

Sample: 303825 - AH-8 7-7.5'

Param	Flag	Result	Units	RL
Chloride		9890	mg/Kg	4

Sample: 303826 - AH-8 8-8.5'

Param	Flag	Result	Units	RL
Chloride		4810	mg/Kg	4

Summary Report

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

Report Date: November 14, 2013

Work Order: 13110127

Project Location: Eddy Co., NM
Project Name: COG/Loco Hills Water System
Project Number: 114-6401451

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
345644	BH 4 Bottom Hole	soil	2013-09-25	00:00	2013-11-01
345645	BH 4 NSW	soil	2013-09-25	00:00	2013-11-01
345646	BH 4 SSW	soil	2013-09-25	00:00	2013-11-01
345647	BH 4 WSW	soil	2013-09-25	00:00	2013-11-01
345648	BH 5 Bottom Hole	soil	2013-09-25	00:00	2013-11-01
345649	BH 5 NSW	soil	2013-09-25	00:00	2013-11-01
345650	BH 5 WSW	soil	2013-09-25	00:00	2013-11-01
345651	BH 6 Bottom Hole	soil	2013-09-25	00:00	2013-11-01
345652	BH 6 NSW	soil	2013-09-25	00:00	2013-11-01
345653	BH 6 ESW	soil	2013-09-25	00:00	2013-11-01
345654	BH 8 Bottom Hole	soil	2013-09-25	00:00	2013-11-01
345655	BH 8 ESW	soil	2013-09-25	00:00	2013-11-01
345656	BH 8 NSW	soil	2013-09-25	00:00	2013-11-01
345657	BH 9 Bottom Hole	soil	2013-09-25	00:00	2013-11-01
345658	BH 9 ESW	soil	2013-09-25	00:00	2013-11-01
345659	BH 9 SSW	soil	2013-09-25	00:00	2013-11-01
345660	BH 7 Bottom Hole	soil	2013-09-25	00:00	2013-11-01
345661	BH 7 SSW	soil	2013-09-25	00:00	2013-11-01
345662	BH 7 WSW	soil	2013-09-25	00:00	2013-11-01
345663	BH 2 Bottom Hole	soil	2013-09-25	00:00	2013-11-01
345664	BH 2 SSW	soil	2013-09-25	00:00	2013-11-01
345665	BH 2 ESW	soil	2013-09-25	00:00	2013-11-01
345666	BH 3 Bottom Hole	soil	2013-09-25	00:00	2013-11-01
345667	BH 3 SSW	soil	2013-09-25	00:00	2013-11-01
345668	BH 3 NSW	soil	2013-09-25	00:00	2013-11-01

Sample: 345644 - BH 4 Bottom Hole

Param	Flag	Result	Units	RL
Chloride		**12000**	mg/Kg	4

Sample: 345645 - BH 4 NSW

Param	Flag	Result	Units	RL
Chloride		**6430**	mg/Kg	4

Sample: 345646 - BH 4 SSW

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

Sample: 345647 - BH 4 WSW

Param	Flag	Result	Units	RL
Chloride		**4640**	mg/Kg	4

Sample: 345648 - BH 5 Bottom Hole

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

Sample: 345649 - BH 5 NSW

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

Sample: 345650 - BH 5 WSW

Param	Flag	Result	Units	RL
Chloride		**1370**	mg/Kg	4

Sample: 345651 - BH 6 Bottom Hole

Param	Flag	Result	Units	RL
Chloride		**4880**	mg/Kg	4

Sample: 345652 - BH 6 NSW

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

Sample: 345653 - BH 6 ESW

Param	Flag	Result	Units	RL
Chloride		**126**	mg/Kg	4

Sample: 345654 - BH 8 Bottom Hole

Param	Flag	Result	Units	RL
Chloride		**8680**	mg/Kg	4

Sample: 345655 - BH 8 ESW

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

Sample: 345656 - BH 8 NSW

Param	Flag	Result	Units	RL
Chloride		**358**	mg/Kg	4

Sample: 345657 - BH 9 Bottom Hole

Param	Flag	Result	Units	RL
Chloride		**3680**	mg/Kg	4

Sample: 345658 - BH 9 ESW

Param	Flag	Result	Units	RL
Chloride		**62.9**	mg/Kg	4

Sample: 345659 - BH 9 SSW

Param	Flag	Result	Units	RL
Chloride		**1310**	mg/Kg	4

Sample: 345660 - BH 7 Bottom Hole

Param	Flag	Result	Units	RL
Chloride		**4510**	mg/Kg	4

Sample: 345661 - BH 7 SSW

Param	Flag	Result	Units	RL
Chloride		**7670**	mg/Kg	4

Sample: 345662 - BH 7 WSW

Param	Flag	Result	Units	RL
Chloride	Qs	**2090**	mg/Kg	4

Sample: 345663 - BH 2 Bottom Hole

Param	Flag	Result	Units	RL
Chloride	Qs	**387**	mg/Kg	4

Sample: 345664 - BH 2 SSW

Param	Flag	Result	Units	RL
Chloride	Qs	**29.8**	mg/Kg	4

Sample: 345665 - BH 2 ESW

Param	Flag	Result	Units	RL
Chloride	Qs	**1920**	mg/Kg	4

Sample: 345666 - BH 3 Bottom Hole

Param	Flag	Result	Units	RL
Chloride	Qs	**1160**	mg/Kg	4

Sample: 345667 - BH 3 SSW

Param	Flag	Result	Units	RL
Chloride	Qs	**3850**	mg/Kg	4

Sample: 345668 - BH 3 NSW

Param	Flag	Result	Units	RL
Chloride	Qs	**546**	mg/Kg	4

TRACEANALYSIS, INC.

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

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report

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

Report Date: November 14, 2013

Work Order: 13110127

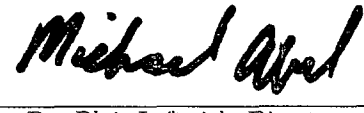
Project Location: Eddy Co., NM
Project Name: COG/Loco Hills Water System
Project Number: 114-6401451

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

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
345644	BH 4 Bottom Hole	soil	2013-09-25	00:00	2013-11-01
345645	BH 4 NSW	soil	2013-09-25	00:00	2013-11-01
345646	BH 4 SSW	soil	2013-09-25	00:00	2013-11-01
345647	BH 4 WSW	soil	2013-09-25	00:00	2013-11-01
345648	BH 5 Bottom Hole	soil	2013-09-25	00:00	2013-11-01
345649	BH 5 NSW	soil	2013-09-25	00:00	2013-11-01
345650	BH 5 WSW	soil	2013-09-25	00:00	2013-11-01
345651	BH 6 Bottom Hole	soil	2013-09-25	00:00	2013-11-01
345652	BH 6 NSW	soil	2013-09-25	00:00	2013-11-01
345653	BH 6 ESW	soil	2013-09-25	00:00	2013-11-01
345654	BH 8 Bottom Hole	soil	2013-09-25	00:00	2013-11-01
345655	BH 8 ESW	soil	2013-09-25	00:00	2013-11-01
345656	BH 8 NSW	soil	2013-09-25	00:00	2013-11-01
345657	BH 9 Bottom Hole	soil	2013-09-25	00:00	2013-11-01
345658	BH 9 ESW	soil	2013-09-25	00:00	2013-11-01
345659	BH 9 SSW	soil	2013-09-25	00:00	2013-11-01
345660	BH 7 Bottom Hole	soil	2013-09-25	00:00	2013-11-01
345661	BH 7 SSW	soil	2013-09-25	00:00	2013-11-01

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
345662	BH 7 WSW	soil	2013-09-25	00:00	2013-11-01
345663	BH 2 Bottom Hole	soil	2013-09-25	00:00	2013-11-01
345664	BH 2 SSW	soil	2013-09-25	00:00	2013-11-01
345665	BH 2 ESW	soil	2013-09-25	00:00	2013-11-01
345666	BH 3 Bottom Hole	soil	2013-09-25	00:00	2013-11-01
345667	BH 3 SSW	soil	2013-09-25	00:00	2013-11-01
345668	BH 3 NSW	soil	2013-09-25	00:00	2013-11-01

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



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

Report Contents

Case Narrative

Samples for project COG/Loco Hills Water System were received by TraceAnalysis, Inc. on 2013-11-01 and assigned to work order 13110127. Samples for work order 13110127 were received intact at a temperature of 22.6 C. Samples not on ice. Out of hold time... run as is.

Samples were analyzed for the following tests using their respective methods.

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
Chloride (Titration)	SM 4500-Cl B	90323	2013-11-08 at 10:48	106747	2013-11-13 at 14:31
Chloride (Titration)	SM 4500-Cl B	90323	2013-11-08 at 10:48	106750	2013-11-13 at 15:18
Chloride (Titration)	SM 4500-Cl B	90323	2013-11-08 at 10:48	106752	2013-11-13 at 15:26

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 13110127 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Analytical Report

Sample: 345644 - BH 4 Bottom Hole

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106747	Date Analyzed:	2013-11-13	Analyzed By:	AR
Prep Batch:	90323	Sample Preparation:	2013-11-08	Prepared By:	AR

Parameter	Flag	Cert	Result	RL	Units	Dilution	RL
Chloride			**12000**		mg/Kg	10	4.00

Sample: 345645 - BH 4 NSW

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106747	Date Analyzed:	2013-11-13	Analyzed By:	AR
Prep Batch:	90323	Sample Preparation:	2013-11-08	Prepared By:	AR

Parameter	Flag	Cert	Result	RL	Units	Dilution	RL
Chloride			**6430**		mg/Kg	10	4.00

Sample: 345646 - BH 4 SSW

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106747	Date Analyzed:	2013-11-13	Analyzed By:	AR
Prep Batch:	90323	Sample Preparation:	2013-11-08	Prepared By:	AR

Parameter	Flag	Cert	Result	RL	Units	Dilution	RL
Chloride			**273**		mg/Kg	5	4.00

Sample: 345647 - BH 4 WSW

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106747	Date Analyzed:	2013-11-13	Analyzed By:	AR
Prep Batch:	90323	Sample Preparation:	2013-11-08	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**4640**	mg/Kg	10	4.00

Sample: 345648 - BH 5 Bottom Hole

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106747	Date Analyzed:	2013-11-13	Analyzed By:	AR
Prep Batch:	90323	Sample Preparation:	2013-11-08	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride	U		<20.0	mg/Kg	5	4.00

Sample: 345649 - BH 5 NSW

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106747	Date Analyzed:	2013-11-13	Analyzed By:	AR
Prep Batch:	90323	Sample Preparation:	2013-11-08	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride	U		<20.0	mg/Kg	5	4.00

Sample: 345650 - BH 5 WSW

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106747	Date Analyzed:	2013-11-13	Analyzed By:	AR
Prep Batch:	90323	Sample Preparation:	2013-11-08	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**1370**	mg/Kg	5	4.00

Sample: 345651 - BH 6 Bottom Hole

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106747	Date Analyzed:	2013-11-13	Analyzed By:	AR
Prep Batch:	90323	Sample Preparation:	2013-11-08	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**4880**	mg/Kg	10	4.00

Sample: 345652 - BH 6 NSW

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106750	Date Analyzed:	2013-11-13	Analyzed By:	AR
Prep Batch:	90323	Sample Preparation:	2013-11-08	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	U		<20.0	mg/Kg	5	4.00

Sample: 345653 - BH 6 ESW

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106750	Date Analyzed:	2013-11-13	Analyzed By:	AR
Prep Batch:	90323	Sample Preparation:	2013-11-08	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**126**	mg/Kg	5	4.00

Sample: 345654 - BH 8 Bottom Hole

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106750	Date Analyzed:	2013-11-13	Analyzed By:	AR
Prep Batch:	90323	Sample Preparation:	2013-11-08	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**8680**	mg/Kg	10	4.00

Sample: 345655 - BH 8 ESW

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106750	Date Analyzed:	2013-11-13	Analyzed By:	AR
Prep Batch:	90323	Sample Preparation:	2013-11-08	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride	U		<20.0	mg/Kg	5	4.00

Sample: 345656 - BH 8 NSW

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106750	Date Analyzed:	2013-11-13	Analyzed By:	AR
Prep Batch:	90323	Sample Preparation:	2013-11-08	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**358**	mg/Kg	5	4.00

Sample: 345657 - BH 9 Bottom Hole

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106750	Date Analyzed:	2013-11-13	Analyzed By:	AR
Prep Batch:	90323	Sample Preparation:	2013-11-08	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**3680**	mg/Kg	5	4.00

Sample: 345658 - BH 9 ESW

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106750	Date Analyzed:	2013-11-13	Analyzed By:	AR
Prep Batch:	90323	Sample Preparation:	2013-11-08	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**62.9**	mg/Kg	5	4.00

Sample: 345659 - BH 9 SSW

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106750	Date Analyzed:	2013-11-13	Analyzed By:	AR
Prep Batch:	90323	Sample Preparation:	2013-11-08	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**1310**	mg/Kg	5	4.00

Sample: 345660 - BH 7 Bottom Hole

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106750	Date Analyzed:	2013-11-13	Analyzed By:	AR
Prep Batch:	90323	Sample Preparation:	2013-11-08	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride			**4510**	mg/Kg	10	4.00

Sample: 345661 - BH 7 SSW

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106750	Date Analyzed:	2013-11-13	Analyzed By:	AR
Prep Batch:	90323	Sample Preparation:	2013-11-08	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride			**7670**	mg/Kg	10	4.00

Sample: 345662 - BH 7 WSW

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106752	Date Analyzed:	2013-11-13	Analyzed By:	AR
Prep Batch:	90323	Sample Preparation:	2013-11-08	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride	Q8		**2090**	mg/Kg	10	4.00

Sample: 345663 - BH 2 Bottom Hole

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106752	Date Analyzed:	2013-11-13	Analyzed By:	AR
Prep Batch:	90323	Sample Preparation:	2013-11-08	Prepared By:	AR

Parameter	Flag	Cert	Result	RL Units	Dilution	RL
Chloride	Q8		**387**	mg/Kg	5	4.00

Sample: 345664 - BH 2 SSW

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106752	Date Analyzed:	2013-11-13	Analyzed By:	AR
Prep Batch:	90323	Sample Preparation:	2013-11-08	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	Qs		**29.8**	mg/Kg	5	4.00

Sample: 345665 - BH 2 ESW

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106752	Date Analyzed:	2013-11-13	Analyzed By:	AR
Prep Batch:	90323	Sample Preparation:	2013-11-08	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	Qs		**1920**	mg/Kg	10	4.00

Sample: 345666 - BH 3 Bottom Hole

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106752	Date Analyzed:	2013-11-13	Analyzed By:	AR
Prep Batch:	90323	Sample Preparation:	2013-11-08	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	Qs		**1160**	mg/Kg	10	4.00

Sample: 345667 - BH 3 SSW

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106752	Date Analyzed:	2013-11-13	Analyzed By:	AR
Prep Batch:	90323	Sample Preparation:	2013-11-08	Prepared By:	AR

Parameter	Flag	Cert	RL Result	Units	Dilution	RL
Chloride	Qs		**3850**	mg/Kg	10	4.00

Sample: 345668 - BH 3 NSW

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	106752	Date Analyzed:	2013-11-13	Analyzed By:	AR
Prep Batch:	90323	Sample Preparation:	2013-11-08	Prepared By:	AR

Parameter	Flag	Cert	Result	RL	Units	Dilution	RL
Chloride	Qs		**546**		mg/Kg	5	4.00

Method Blanks

Method Blank (1) QC Batch: 106747

QC Batch: 106747 | Date Analyzed: 2013-11-13 | Analyzed By: AR
Prep Batch: 90323 | QC Preparation: 2013-11-08 | Prepared By: AR

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride			<3.85	mg/Kg	4

Method Blank (1) QC Batch: 106750

QC Batch: 106750 | Date Analyzed: 2013-11-13 | Analyzed By: AR
Prep Batch: 90323 | QC Preparation: 2013-11-08 | Prepared By: AR

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride			<3.85	mg/Kg	4

Method Blank (1) QC Batch: 106752

QC Batch: 106752 | Date Analyzed: 2013-11-13 | Analyzed By: AR
Prep Batch: 90323 | QC Preparation: 2013-11-08 | Prepared By: AR

Parameter	Flag	Cert	MDL Result	Units	RL
Chloride			<3.85	mg/Kg	4

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 106747 | Date Analyzed: 2013-11-13 | Analyzed By: AR
Prep Batch: 90323 | QC Preparation: 2013-11-08 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2550	mg/Kg	1	2500	<3.85	102	89.7 - 115.9

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			2400	mg/Kg	1	2500	<3.85	96	89.7 - 115.9	6	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 106750 | Date Analyzed: 2013-11-13 | Analyzed By: AR
Prep Batch: 90323 | QC Preparation: 2013-11-08 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2330	mg/Kg	1	2500	<3.85	93	89.7 - 115.9

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			2440	mg/Kg	1	2500	<3.85	98	89.7 - 115.9	5	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 106752 | Date Analyzed: 2013-11-13 | Analyzed By: AR
Prep Batch: 90323 | QC Preparation: 2013-11-08 | Prepared By: AR

Param	F	C	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			2620	mg/Kg	1	2500	<3.85	105	89.7 - 115.9

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			2450	mg/Kg	1	2500	<3.85	98	89.7 - 115.9	7	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 345651

QC Batch: 106747 | Date Analyzed: 2013-11-13 | Analyzed By: AR
Prep Batch: 90323 | QC Preparation: 2013-11-08 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			7090	mg/Kg	10	2500	4880	88	78.9 - 121

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			7460	mg/Kg	10	2500	4880	103	78.9 - 121	5	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 345661

QC Batch: 106750 | Date Analyzed: 2013-11-13 | Analyzed By: AR
Prep Batch: 90323 | QC Preparation: 2013-11-08 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride			10300	mg/Kg	10	2500	7670	105	78.9 - 121

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			9900	mg/Kg	10	2500	7670	89	78.9 - 121	4	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1) Spiked Sample: 345668

QC Batch: 106752 | Date Analyzed: 2013-11-13 | Analyzed By: AR
Prep Batch: 90323 | QC Preparation: 2013-11-08 | Prepared By: AR

Param	F	C	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	Qs	Qs	3580	mg/Kg	5	2500	546	121	78.9 - 121

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	F	C	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride			3550	mg/Kg	5	2500	546	120	78.9 - 121	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Calibration Standards

Standard (CCV-1)

QC Batch: 106747 | Date Analyzed: 2013-11-13 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.0	99	85 - 115	2013-11-13

Standard (CCV-2)

QC Batch: 106747 | Date Analyzed: 2013-11-13 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	101	101	85 - 115	2013-11-13

Standard (CCV-1)

QC Batch: 106750 | Date Analyzed: 2013-11-13 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	100	100	85 - 115	2013-11-13

Standard (CCV-2)

QC Batch: 106750 | Date Analyzed: 2013-11-13 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	99.6	100	85 - 115	2013-11-13

Standard (CCV-1)

QC Batch: 106752 | Date Analyzed: 2013-11-13 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	102	102	85 - 115	2013-11-13

Standard (CCV-2)

QC Batch: 106752 | Date Analyzed: 2013-11-13 | Analyzed By: AR

Param	Flag	Cert	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride			mg/Kg	100	98.4	98	85 - 115	2013-11-13

Appendix

Report Definitions

Name	Definition
MDL	Method Detection Limit
MQL	Minimum Quantitation Limit
SDL	Sample Detection Limit

Laboratory Certifications

C	Certifying Authority	Certification Number	Laboratory Location
-	NCTRCA	WFWB384444Y0909	TraceAnalysis
-	DBE	VN 20657	TraceAnalysis
-	HUB	1752439743100-86536	TraceAnalysis
-	WBE	237019	TraceAnalysis

Standard Flags

F	Description
B	Analyte detected in the corresponding method blank above the method detection limit
H	Analyzed out of hold time
J	Estimated concentration
Jb	The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
Je	Estimated concentration exceeding calibration range.
MI1	Split peak or shoulder peak
MI2	Instrument software did not integrate
MI3	Instrument software misidentified the peak
MI4	Instrument software integrated improperly
MI5	Baseline correction
Qc	Calibration check outside of laboratory limits.
Qr	RPD outside of laboratory limits
Qs	Spike recovery outside of laboratory limits.
Qsr	Surrogate recovery outside of laboratory limits.
U	The analyte is not detected above the SDL

Attachments

The scanned attachments will follow this page.
Please note, each attachment may consist of more than one page.

1311 0127

Analysis Request of Chain of Custody Record

PAGE: 1 OF: 3

TETRA TECH
1910 N. Big Spring St.
Midland, Texas 79705
(432) 682-4559 • Fax (432) 682-3946

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-640 1451

PROJECT NAME: (COG) Loco Hills Water System Eddy Co, NM

LAB I.D. NUMBER	DATE 2013	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD. TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Vr Pd Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
345644	9/25/13		S		X	BH 4 Bottom Hole	1																	X				
645			S		X	NSW	1																	X				
646			S		X	SSW	1																	X				
647			S		X	WSW	1																	X				
648			S		X	BH 5 Bottom Hole	1																	X				
649			S		X	NSW	1																	X				
650			S		X	WSW	1																	X				
651			S		X	BH 6 Bottom Hole	1																	X				
652			S		X	NSW	1																	X				
653			S		X	ESW	1																	X				

ANALYSIS REQUEST (Circle or Specify Method No.)

RELINQUISHED BY: (Signature)	Date: 11/1/13 Time: 1430	RECEIVED BY: (Signature)	Date: 11.1.13 Time: 14'30
SAMPLED BY: (Print & Initial) PBC HP	Date: 11/1/13 Time: 1430		
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:
SAMPLE SHIPPED BY: (Circle) FEDEX BUS HAND DELIVERED UPS	AIRBILL #: OTHER:		
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:
TETRA TECH CONTACT PERSON: Ike	Results by: RUSH Charges Authorized: Yes No		

RECEIVING LABORATORY: Trace
ADDRESS:
CITY: Midland STATE: ZIP:
CONTACT: PHONE: DATE: TIME:
RECEIVED BY: (Signature)

SAMPLE CONDITION WHEN RECEIVED: 226°

REMARKS: out of hold - run as is

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

13110127

Analysis Request of Chain of Custody Record

PAGE: 2 OF: 3

TETRA TECH
1910 N. Big Spring St.
Midland, Texas 79705
(432) 682-4559 • Fax (432) 682-3946

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114640 1451

PROJECT NAME: COG/Lea Hills Water System Eddy Co, NM

LAB I.D. NUMBER	DATE 2013	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH 8015 MOD. TX1005 (Ext. to C35)	PAH 8270	RCRA Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC.MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
654	9/05/13		S		X	BH8 Bottom Hole	1																	X				
655			S		X	ESW	1																	X				
656			S		X	NSW	1																	X				
657			S		X	BH9 Bottom Hole	1																	X				
658			S		X	ESW	1																	X				
659			S		X	SSW	1																	X				
660			S		X	BH7 Bottom Hole	1																	X				
661			S		X	SSW	1																	X				
662			S		X	WSW	1																	X				
663	9/5		S		X	BH12 Bottom Hole	1																	X				

ANALYSIS REQUEST (Circle or Specify Method No.)

RELINQUISHED BY: (Signature)	Date: 11/1/13 Time: 1455	RECEIVED BY: (Signature)	Date: 11/1/13 Time: 14:30
SAMPLED BY: (Print & Initial) BK HP	Date: 9/11/13 Time: 1430		
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:
SAMPLE SHIPPED BY: (Circle) FEDEX HAND DELIVERED BUS UPS	AIRBILL #: OTHER:		
RELINQUISHED BY: (Signature)	Date: Time:	RECEIVED BY: (Signature)	Date: Time:
TETRA TECH CONTACT PERSON: IKE	Results by:		
RECEIVING LABORATORY: Trace ADDRESS: CITY: Midland STATE: ZIP: CONTACT: PHONE:	RECEIVED BY: (Signature) DATE: TIME:		RUSH Charges Authorized: Yes No
SAMPLE CONDITION WHEN RECEIVED: 22.6°	REMARKS:		

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

LAB Order ID # 13110127

Page _____ of _____

TraceAnalysis, Inc.

email: lab@traceanalysis.com

6701 Aberdeen Avenue, Suite 9
Lubbock, Texas 79424
Tel (806) 794-1296
Fax (806) 794-1298
1 (800) 378-1296

5002 Basin Street, Suite A1
Midland, Texas 79703
Tel (432) 689-6301
Fax (432) 689-6313

200 East Sunset Rd., Suite E
El Paso, Texas 79922
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

BioAquatic Testing
2501 Mayes Rd., Ste 100
Carrollton, Texas 75006
Tel (972) 242-7750

Brandon & Clark
3403 Industrial Blvd.
Hobbs, NM 88240
Tel (575) 392-7561
Fax (575) 392-4508

Company Name: COG **Phone #:**

Address: (Street, City, Zip) **Fax #:**

Contact Person: Ike Tavarez **E-mail:**

Invoice to:
(If different from above)

Project #: 112-6401451 **Project Name:** Loco Hills Water System

Project Location (including state): Eddy Co, NM **Sampler Signature:**

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume / Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCl	HNO_3	H_2SO_4	NaOH	ICE	NONE	SAMPLING: DATE	TIME
664	BH2 SSW				X									9/25/13	
665	ESW				X										
666	BH3 Bottom Hole				X										
667	SSW				X										
668	NSW				X										

ANALYSIS REQUEST
(Circle or Specify Method No.)

MTBE 8021 / 602 / 8260 / 624	BTEX 8021 / 602 / 8260 / 624	TPH 418.1 / TX1005 / TX1005 Ext(C35)	TPH 8015 GRO / DRO / TVHC	PAH 8270 / 625	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol. 8260 / 624	GC/MS Semi. Vol. 8270 / 625	PCB's 8082 / 608	Pesticides 8081 / 608	BOD, TSS, pH	Moisture Content	Cl, F, SO_4, NO_3-N, NO_2-N, PO_4-P, Alkalinity	Na, Ca, Mg, K, TDS, EC	chloride				Turn Around Time if different from standard	Hold
																			X				
																			X				
																			X				
																			X				
																			X				

Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	
	TT	11/1/13	1430		TA	11/1/13	14:30	INST IR-1
								OBS 22.7 °C
								COR 22.6 °C
Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	INST ____ °C
								OBS ____ °C
								COR ____ °C
Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:	INST ____ °C
								OBS ____ °C
								COR ____ °C

LAB USE ONLY

Intact Y / N
Headspace Y / N (NA)
Log-in-Review

REMARKS:

- [ ] Dry Weight Basis Required
- [ ] TRRP Report Required
- [ ] Check If Special Reporting Limits Are Needed

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C. O. C.

ORIGINAL COPY

Carrier # Carrizo