SITE INFORMATION

2RP-452 Report Type: Closure Report

General Site Information:						
Site:	Skelly Unit #611					
Company:	COG Operating LLC					
Section, Township and Range	Unit I	Sec 22	T17S	R31E		
Lease Number:	API-30-015-36887					
County:	Eddy County					
GPS:	32.81944° N			103.85217° W		
Surface Owner:	Federal					
Mineral Owner:						
Directions:	From the intersection of Hwy 529 and Hwy 82 travel west on Hwy 82 for 1.5 miles, turn left and travel 400' to location.					

Release Data:	
Date Released:	7/20/2010
Type Release:	Produced Fluid
Source of Contamination:	Wellhead
Fluid Released:	15 bbls
Fluids Recovered:	13 bbls

Official Communication:			
Name:	Pat Ellis		Ike Tavarez
Company:	COG Operating, LLC		Tetra Tech
Address:	550 W. Texas Ave. Ste. 1300		1910 N. Big Spring
P.O. Box			
City:	Midland Texas, 79701		Midland, Texas
Phone number:	(432) 686-3023		(432) 662-4559
Fax:	(432) 684-7137		
Email:	pellis@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

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TETRA TECH

January 25, 2010

Mr. Mike Bratcher
Environmental Engineer Specialist
Oil Conservation Division, District 2
1301 West Grand Avenue
Artesia, New Mexico 88210

Re: Closure Report for the COG Operating LLC., Skelly Unit #611, Unit I, Section 22, Township 17 South, Range 31 East, Eddy County, New Mexico. 2RP-452

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC. (COG) to assess a spill from the Skelly Unit #611, Unit I, Section 22, Township 17 South, Range 31 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.81944°, W 103.85217°. 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 July 20, 2010, and released approximately fifteen (15) barrels of produced fluids from a faulty nipple off the pumping tee. To alleviate the problem, COG personnel replaced the nipple. Thirteen (13) barrels of standing fluids were recovered. The spill initiated from the well's pumping tee and migrated west approximately 120', ranging in width from 35' to approximately 60'. The majority of the spill remained on the caliche pad. The initial C-141 form is enclosed in Appendix A.

Groundwater

No water wells were listed within Section 22. According to the NMOCD groundwater map, the average depth to groundwater in this area is greater than 300' below surface. The water well data is shown in Appendix B.

Tetra Tech
1910 North Big Spring, 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 August 11, 2010, Tetra Tech personnel inspected and sampled the spill area. A total of three (3) auger holes (AH-1 through AH-3) were installed using a stainless steel hand auger to assess the impacted soils. Select samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The results of the sampling are summarized in Table 1. The auger hole locations are shown on Figure 3.

Referring to Table 1, all of the submitted samples were below the RRAL for TPH and BTEX. A shallow chloride impact was detected at each of the three auger holes to a depth of 0-1' below surface and significantly declined with depth at 1-1.5' below surface.

Closure Activities

On November 9, 2010, Tetra Tech supervised removal of the impacted soils. Based upon the limited chloride impact, the spill was excavated to a depth of approximately 1.0' below surface. Approximately 280 cubic yards of soil were excavated and transported to CRI Inc. for proper disposal. Once excavated, four (4) confirmation samples were collected from the bottom of the excavation. The sample locations are shown on Figure 4. The confirmation sample results are shown in Table 2. Referring to Table 2, all the samples showed chloride concentrations of <200 mg/kg. Based on the results, the excavated areas have been backfilled with clean soil to grade. The final C-141 form is enclosed in Appendix A.

TETRA TECH

Based on the results and closure activities, COG request closure of the site. If you have any questions or comments concerning the corrective activities performed at the site, please call me at (432) 682-4559.

Respectfully submitted,
TETRA TECH

Ike Tavarez
Project Manager

cc: Pat Ellis – COG
cc: Terry Gregston – BLM

FIGURES

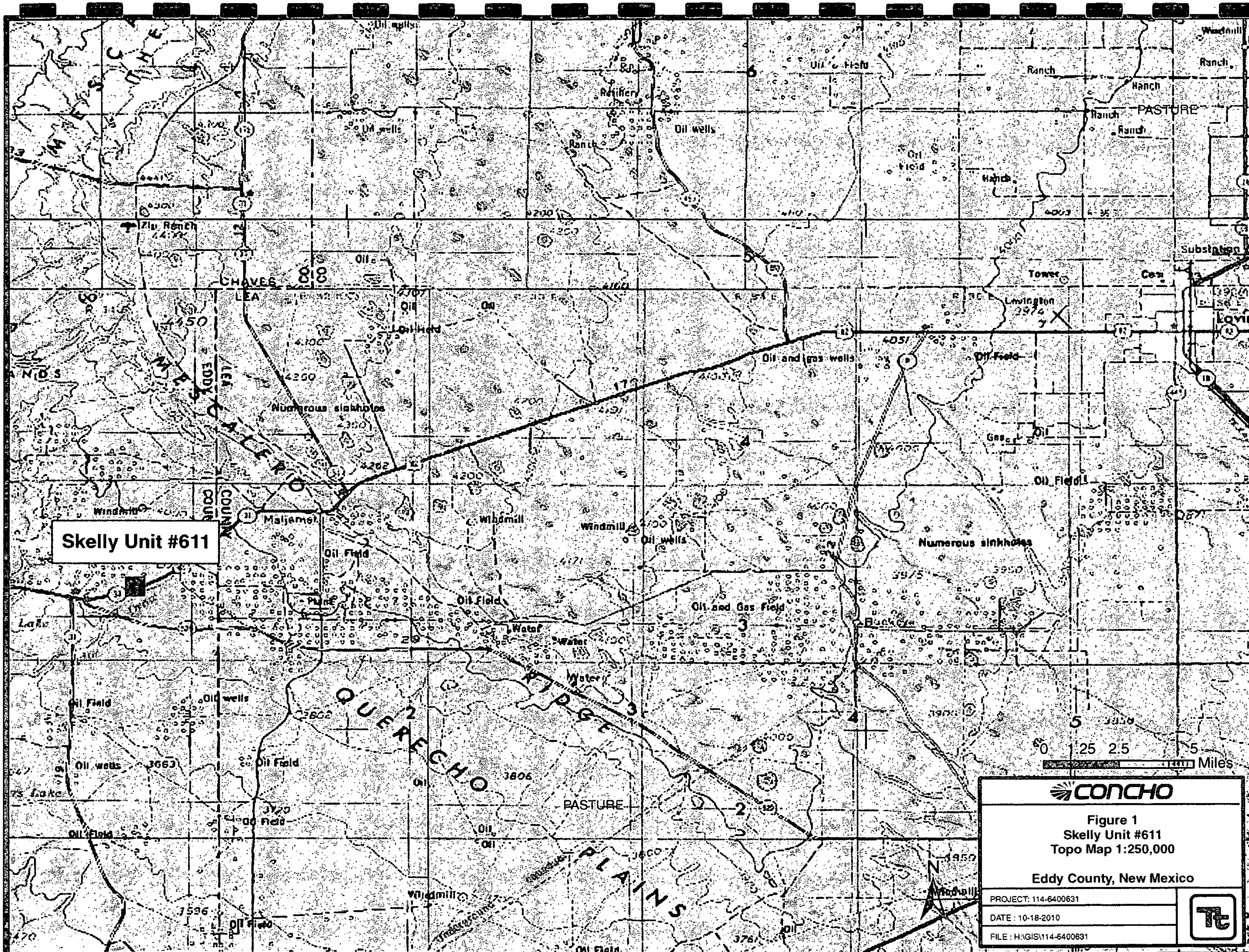
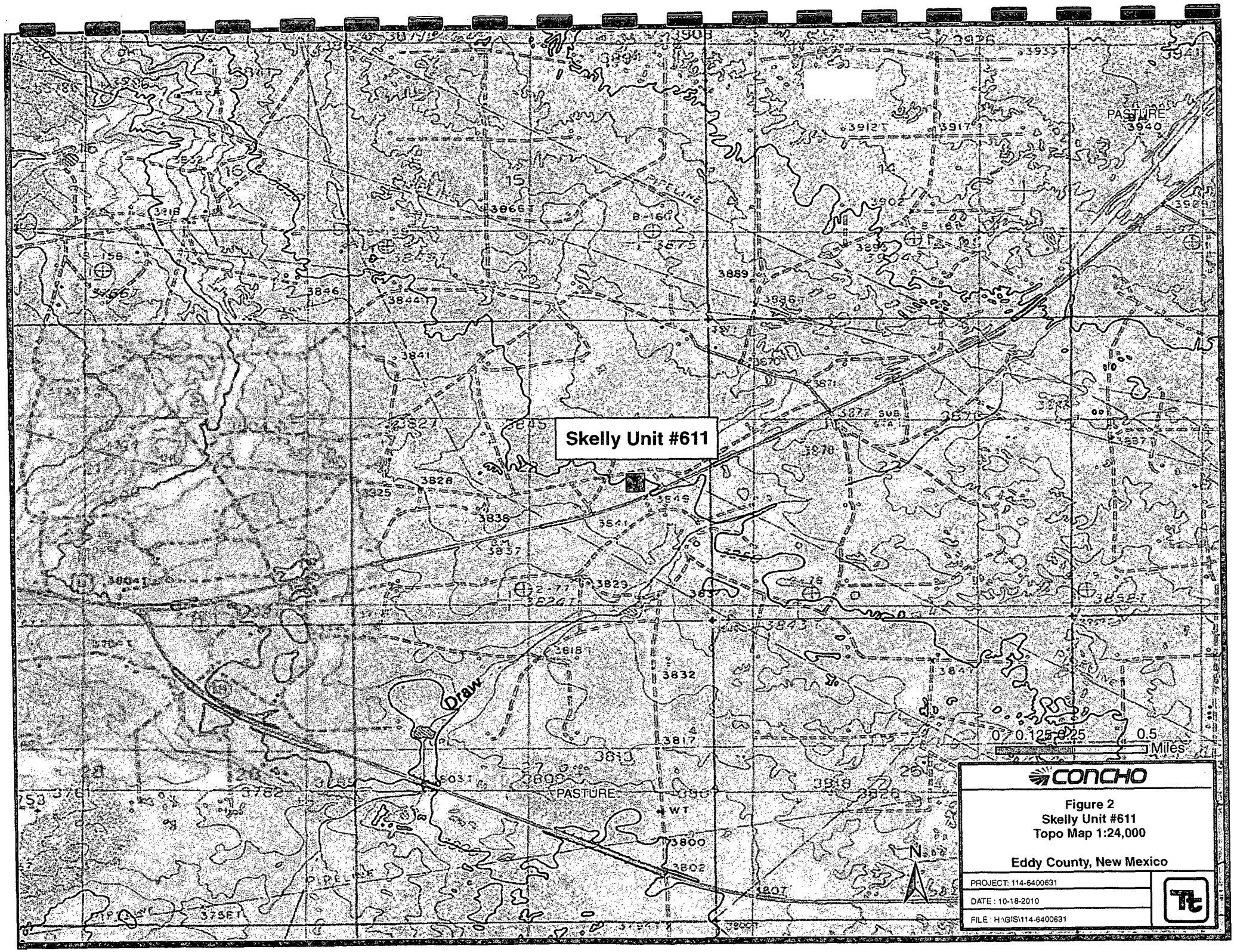


Figure 1
Skelly Unit #611
Topo Map 1:250,000

Eddy County, New Mexico



CONCHO

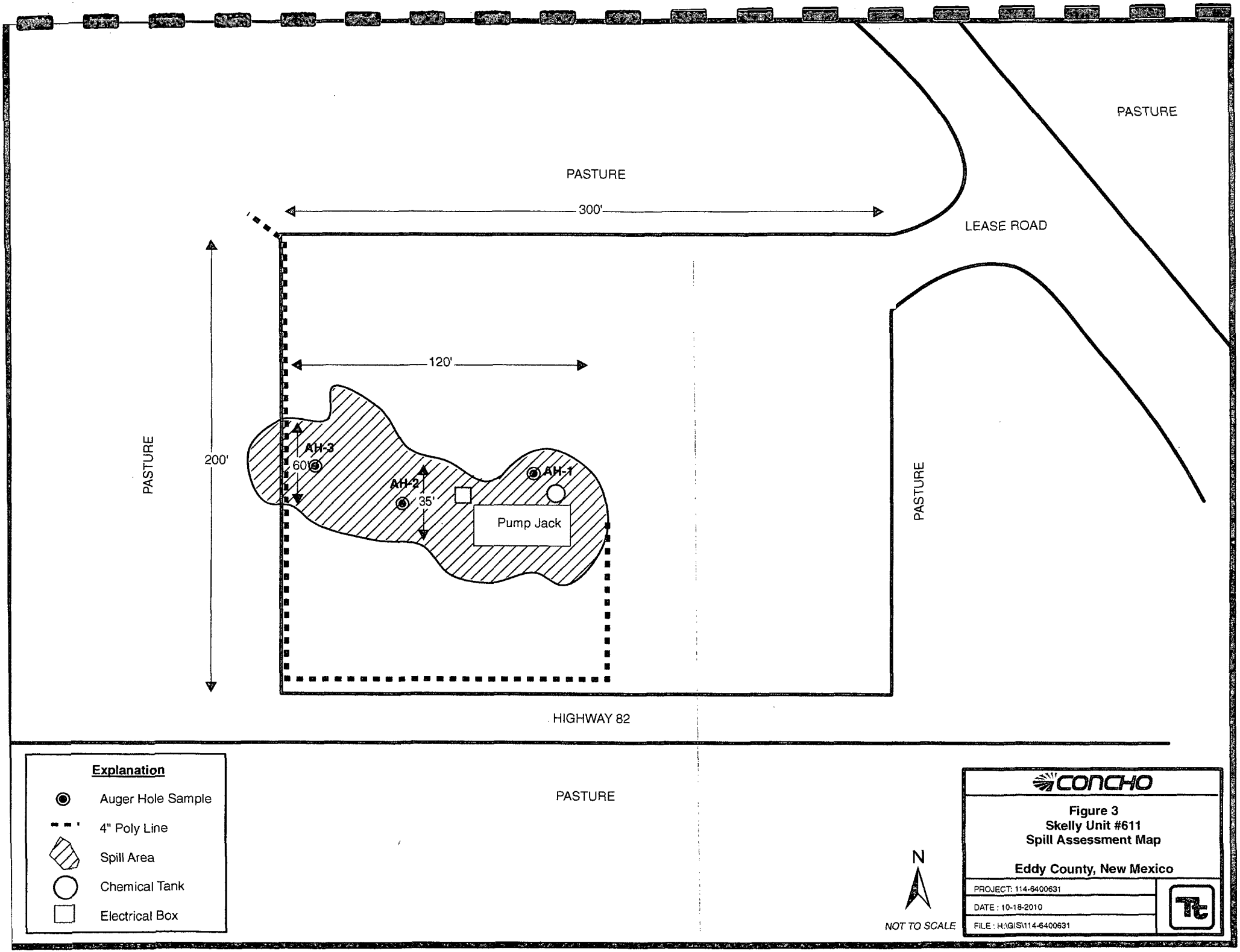
Figure 2
Skelly Unit #611
Topo Map 1:24,000

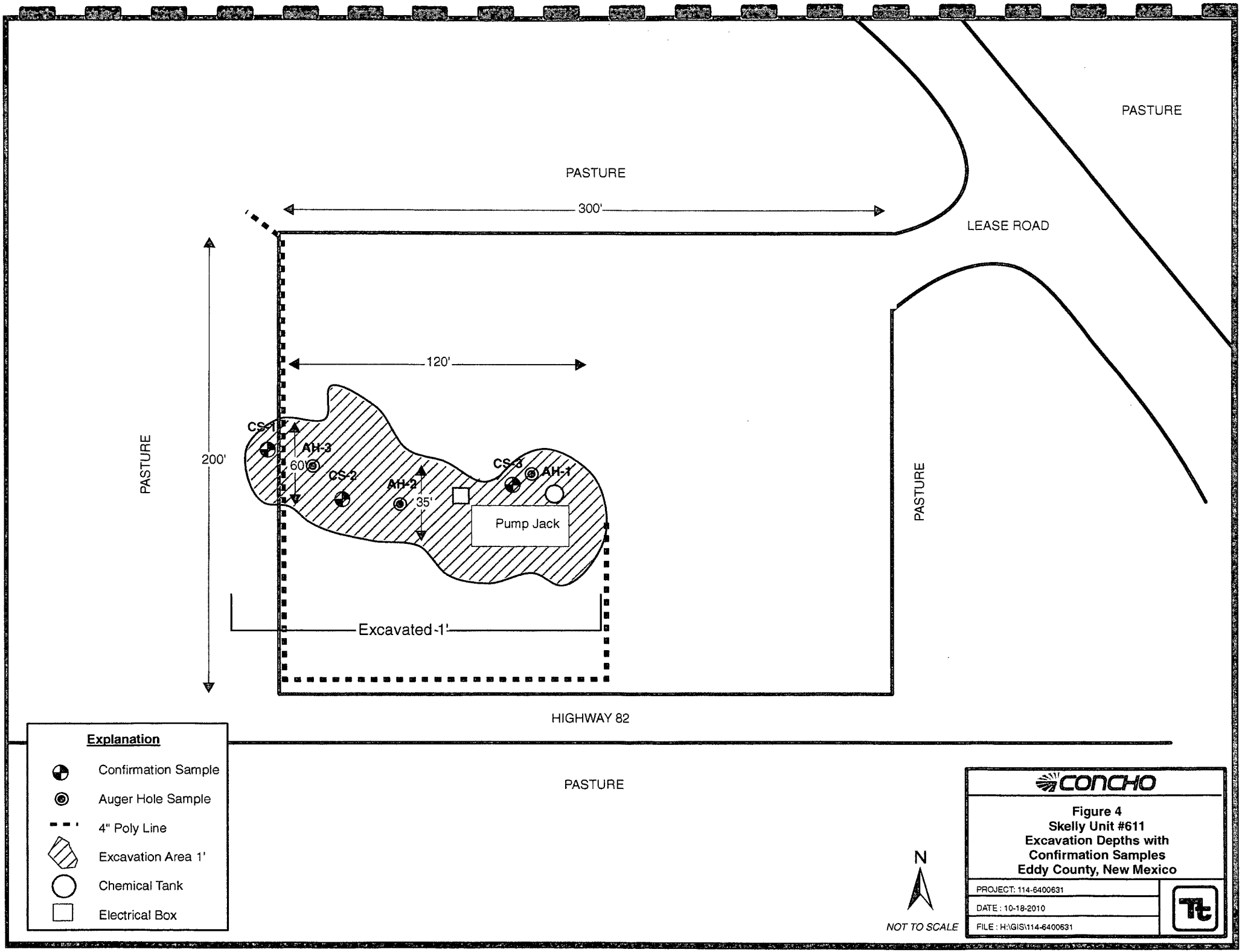
Eddy County, New Mexico

PROJECT: 114-6400631

DATE : 10-18-2010

FILE : H:\GIS\114-6400631


PASTURE
PASTURE
300'
LEASE ROAD
120'
200'
PASTURE
AH-3
60'
AH-2
35'
AH-1
Pump Jack
PASTURE
HIGHWAY 82
PASTURE
Explanation
Auger Hole Sample
4" Poly Line
Spill Area
Chemical Tank
Electrical Box
N
NOT TO SCALE
CONCHO
Figure 3
Skelly Unit #611
Spill Assessment Map
Eddy County, New Mexico
PROJECT: 114-6400631
DATE : 10-18-2010
FILE : H:\GIS\114-6400631


PASTURE
PASTURE
300'
LEASE ROAD
120'
200'
PASTURE
PASTURE
CS-1
AH-3
60'
CS-2
AH-2
35'
CS-3
AH-1
Pump Jack
Excavated-1'
HIGHWAY 82
PASTURE
Explanation
Confirmation Sample
Auger Hole Sample
4" Poly Line
Excavation Area 1'
Chemical Tank
Electrical Box
N
NOT TO SCALE
CONCHO
Figure 4
Skelly Unit #611
Excavation Depths with
Confirmation Samples
Eddy County, New Mexico
PROJECT: 114-6400631
DATE : 10-18-2010
FILE : H:\GIS\114-6400631

TABLES

Table 1
COG Operating LLC.
SKELLY UNIT #611
EDDY COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth (ft)	Depth (BEB)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethlybenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
				In-Situ	Removed	GRO	DRO	Total					
AH-1	8/11/2010	0-1'			X	<2.00	<50.0	<50.0	<0.0200	<0.0200	<0.0200	<0.0200	5590
	"	1-1.5'		X		-	-	-	-	-	-	-	297
	"	2-2.5'		X		-	-	-	-	-	-	-	<200
	"	3-3.5'		X		-	-	-	-	-	-	-	208
	"	4-4.5'		X		-	-	-	-	-	-	-	<200
AH-2	8/11/2010	0-1'			X	6.92	156	162.92	<0.0200	<0.0200	<0.0200	<0.0200	8,160
	"	1-1.5'		X		-	-	-	-	-	-	-	251
	"	2-2.5'		X		-	-	-	-	-	-	-	<200
	"	3-3.5'		X		-	-	-	-	-	-	-	236
	"	4-4.5'		X		-	-	-	-	-	-	-	<200
	"	5-5.5'		X		-	-	-	-	-	-	-	220
AH-3	8/11/2010	0-1'			X	<2.00	<50.0	<50.0	-	-	-	-	6,630
	"	1-1.5'		X		-	-	-	-	-	-	-	487
	"	2-2.5'		X		-	-	-	-	-	-	-	<200
	"	3-3.5'		X		-	-	-	-	-	-	-	<200
	"	4-4.5'		X		-	-	-	-	-	-	-	230

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

Table 2
COG Operating LLC.
SKELLY UNIT #611
EDDY COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth (ft)	Depth (BEB)	Soil Status		Chloride (mg/kg)
				In-Situ	Removed	
CS-1	11/9/2010	0-1'	1' BEB	X		<200
CS-2	11/9/2010	0-1'	1' BEB	X		<200
CS-3	11/9/2010	0-1'	1' BEB	X		<200
CS-4	11/9/2010	0-1'	1' BEB	X		<200

BEB Below Excavation Bottom

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

325-350
(GW)

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	Skelly Unit #611	Facility Type	Well

Surface Owner Federal	Mineral Owner	Lease No. (API#) 30-015-36887

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
I	22	17S	31E	2380	SOUTH	990	EAST	Eddy

Latitude 32 49.165 Longitude 103 51.129

NATURE OF RELEASE

Type of Release Produced Fluid	Volume of Release 15bbls	Volume Recovered 13bbls
Source of Release Wellhead	Date and Hour of Occurrence 07/20/2010	Date and Hour of Discovery 07/20/2010 5:00 a.m.
Was Immediate Notice Given? ☐ Yes ☒ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

There was a small hole in the 1x4 inch nipple coming off of the pumping tee. The defective nipple has been replaced with a new stainless steel nipple.

Describe Area Affected and Cleanup Action Taken.*

Initially the small pinhole in the 1x4 inch nipple released 15bbls of produced fluid around the well. All fluid stayed on the pad location and we were able to recover 13bbls with a vacuum truck. The dimensions of the spill area were 20 yards x 30 yards. 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: 08/01/2010 Phone: 432-212-2399		

* 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

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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 1300 Midland, Texas 79701**	Telephone No. **(432) 230-0077**
Facility Name **Skelly Unit #611**	Facility Type **Well**

Surface Owner: Federal	Mineral Owner	Lease No. (API#) 30-015-36887

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
I	22	17S	31E	2380	SOUTH	990	EAST	Eddy

Latitude N 32.853001° **Longitude** W 103.959150°

NATURE OF RELEASE

Type of Release: Produced Fluid	Volume of Release 15 bbls	Volume Recovered 13 bbls
Source of Release: Wellhead	Date and Hour of Occurrence 07/20/2010	Date and Hour of Discovery 07/20/2010 5:00a.m.
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom?	
By Whom? Josh Russo	Date and Hour 3/15/10 4:59 p.m.	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*

N/A

Describe Cause of Problem and Remedial Action Taken.*

There was a small hole in the ¼ inch nipple coming off the pumping tee. The defective nipple has been replaced with a new stainless steel nipple.

Describe Area Affected and Cleanup Action Taken.*

Majority of the spill stayed on the pad location and measured approximately 60' x 110' yards. Tetra Tech collected soil samples to delineate the spill area and submitted a work plan for approval. Tetra Tech supervised the remediation of the site and hauled the impacted soil to proper disposal. The open excavations have been backfilled with clean soil. A closure report was prepared and submitted to the NMOCD and BLM 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: 2-25-11 Phone: (432) 682-4559		

* Attach Additional Sheets If Necessary

APPENDIX B

Water Well Data
Average Depth to Groundwater (ft)
COG - Skelly Unit #611
Eddy County, New Mexico

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

16 South 32 East

6	5	4	3 **65**	2 **265**
7	8	9	10	11
18	17	16 **221**	15	14
19 **220**	20	21 **210**	22	23 **210**
30	29	28	27	26 **243**
31	32	33	34	35

17 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

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 **271**	35	36

17 South 32 East

6	5	4 **82** Maljamar	3 **75**	2 **60**
7	8	9	10	11 **70** **88**
18	17	16	15	14
19	20	21	22	23
30 180 dry	29	28	27	26
31	32	33	34	35

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 **400**
18	17	16	15	14 **317**	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35 **261**	36

18 South 32 East

6	5	4 **65**	3	2
7 **460** **82**	8	9	10	11
18	17	16 **84**	15	14
19	20 **164**	21	22 **429**	23
30	29	28	27	26
31	32	33	34 **117**	35

New Mexico State Engineers Well Reports

USGS Well Reports

Geology and Groundwater Conditions in Southern Eddy, County, NM

NMOCD - Groundwater Data

APPENDIX C

Summary Report

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

Report Date: August 24, 2010

Work Order: 10081647

Project Location: Eddy County, NM
Project Name: COG/Skelly Unit #611
Project Number: 114-6400631

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
241366	AH-1 0-1'	soil	2010-08-11	00:00	2010-08-13
241367	AH-1 1-1.5'	soil	2010-08-11	00:00	2010-08-13
241368	AH-1 2-2.5'	soil	2010-08-11	00:00	2010-08-13
241369	AH-1 3-3.5'	soil	2010-08-11	00:00	2010-08-13
241370	AH-1 4-4.5'	soil	2010-08-11	00:00	2010-08-13
241371	AH-2 0-1'	soil	2010-08-11	00:00	2010-08-13
241372	AH-2 1-1.5'	soil	2010-08-11	00:00	2010-08-13
241373	AH-2 2-2.5'	soil	2010-08-11	00:00	2010-08-13
241374	AH-2 3-3.5'	soil	2010-08-11	00:00	2010-08-13
241375	AH-3 0-1'	soil	2010-08-11	00:00	2010-08-13
241376	AH-3 1-1.5'	soil	2010-08-11	00:00	2010-08-13
241377	AH-3 2-2.5'	soil	2010-08-11	00:00	2010-08-13
241378	AH-3 3-3.5'	soil	2010-08-11	00:00	2010-08-13
241379	AH-2 4-4.5'	soil	2010-08-11	00:00	2010-08-13
241380	AH-2 5-5.5'	soil	2010-08-11	00:00	2010-08-13
241381	AH-3 4-4.5'	soil	2010-08-11	00:00	2010-08-13

	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)
241366 - AH-1 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00
241371 - AH-2 0-1'	<0.0200	<0.0200	<0.0200	<0.0200	**156**	**6.92**
241375 - AH-3 0-1'					<50.0	<2.00

Sample: 241366 - AH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		**5590**	mg/Kg	4.00

Sample: 241367 - AH-1 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**297**	mg/Kg	4.00

Sample: 241368 - AH-1 2-2.5'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 241369 - AH-1 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**208**	mg/Kg	4.00

Sample: 241370 - AH-1 4-4.5'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 241371 - AH-2 0-1'

Param	Flag	Result	Units	RL
Chloride		**8160**	mg/Kg	4.00

Sample: 241372 - AH-2 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**251**	mg/Kg	4.00

Sample: 241373 - AH-2 2-2.5'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 241374 - AH-2 3-3.5'

Param	Flag	Result	Units	RL
Chloride		**236**	mg/Kg	4.00

Sample: 241375 - AH-3 0-1'

Param	Flag	Result	Units	RL
Chloride		**6630**	mg/Kg	4.00

Sample: 241376 - AH-3 1-1.5'

Param	Flag	Result	Units	RL
Chloride		**487**	mg/Kg	4.00

Sample: 241377 - AH-3 2-2.5'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 241378 - AH-3 3-3.5'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 241379 - AH-2 4-4.5'

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 241380 - AH-2 5-5.5'

Param	Flag	Result	Units	RL
Chloride		**220**	mg/Kg	4.00

Sample: 241381 - AH-3 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**230**	mg/Kg	4.00

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1296
200 East Sunset Road, Suite E El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
5002 Basin Street, Suite A1 Midland, Texas 79703 432•689•6301 FAX 432•689•6313
6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132 817•201•5260
E-Mail: lab@traceanalysis.com

Certifications

WBENC: 237019 **HUB:** 1752439743100-86536 **DBE:** VN 20657
NCTRCA WFWB38444Y0909

NELAP Certifications

Lubbock: T104704219-08-TX LELAP-02003 Kansas E-10317 **El Paso:** T104704221-08-TX LELAP-02002 **Midland:** T104704392-08-TX

Analytical and Quality Control Report

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Report Date: August 24, 2010

Work Order: 10081647

Project Location: Eddy County, NM
Project Name: COG/Skelly Unit #611
Project Number: 114-6400631

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
241366	AH-1 0-1'	soil	2010-08-11	00:00	2010-08-13
241367	AH-1 1-1.5'	soil	2010-08-11	00:00	2010-08-13
241368	AH-1 2-2.5'	soil	2010-08-11	00:00	2010-08-13
241369	AH-1 3-3.5'	soil	2010-08-11	00:00	2010-08-13
241370	AH-1 4-4.5'	soil	2010-08-11	00:00	2010-08-13
241371	AH-2 0-1'	soil	2010-08-11	00:00	2010-08-13
241372	AH-2 1-1.5'	soil	2010-08-11	00:00	2010-08-13
241373	AH-2 2-2.5'	soil	2010-08-11	00:00	2010-08-13
241374	AH-2 3-3.5'	soil	2010-08-11	00:00	2010-08-13
241375	AH-3 0-1'	soil	2010-08-11	00:00	2010-08-13

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
241376	AH-3 1-1.5'	soil	2010-08-11	00:00	2010-08-13
241377	AH-3 2-2.5'	soil	2010-08-11	00:00	2010-08-13
241378	AH-3 3-3.5'	soil	2010-08-11	00:00	2010-08-13
241379	AH-2 4-4.5'	soil	2010-08-11	00:00	2010-08-13
241380	AH-2 5-5.5'	soil	2010-08-11	00:00	2010-08-13
241381	AH-3 4-4.5'	soil	2010-08-11	00:00	2010-08-13

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

Standard Flags

B - The sample contains less than ten times the concentration found in the method blank.

Case Narrative

Samples for project COG/Skelly Unit #611 were received by TraceAnalysis, Inc. on 2010-08-13 and assigned to work order 10081647. Samples for work order 10081647 were received intact at a temperature of 18.0 C.

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

Test	Method	Prep Batch	Prep Date	QC Batch	Analysis Date
BTEX	S 8021B	62422	2010-08-20 at 12:00	72835	2010-08-21 at 17:17
Chloride (Titration)	SM 4500-Cl B	62339	2010-08-18 at 08:51	72750	2010-08-19 at 15:56
Chloride (Titration)	SM 4500-Cl B	62374	2010-08-19 at 08:52	72751	2010-08-19 at 15:57
Chloride (Titration)	SM 4500-Cl B	62375	2010-08-19 at 08:53	72752	2010-08-19 at 15:57
TPH DRO - NEW	S 8015 D	62398	2010-08-19 at 10:46	72775	2010-08-19 at 10:46
TPH GRO	S 8015 D	62422	2010-08-20 at 12:00	72808	2010-08-21 at 17:46

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 10081647 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.

Samples received on ice.

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: 241366 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	72835	Date Analyzed:	2010-08-21	Analyzed By:	AG
Prep Batch:	62422	Sample Preparation:	2010-08-20	Prepared By:	AG

Parameter	Flag	Result	RL	Units	Dilution	RL
Benzene		<0.0200		mg/Kg	1	0.0200
Toluene		<0.0200		mg/Kg	1	0.0200
Ethylbenzene		<0.0200		mg/Kg	1	0.0200
Xylene		<0.0200		mg/Kg	1	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.26	mg/Kg	1	2.00	63	52.8 - 137
4-Bromofluorobenzene (4-BFB)		1.12	mg/Kg	1	2.00	56	38.4 - 157

Sample: 241366 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72750	Date Analyzed:	2010-08-19	Analyzed By:	AR
Prep Batch:	62339	Sample Preparation:	2010-08-19	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**5590**		mg/Kg	100	4.00

Sample: 241366 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	72775	Date Analyzed:	2010-08-19	Analyzed By:	kg
Prep Batch:	62398	Sample Preparation:	2010-08-19	Prepared By:	kg

Parameter	Flag	Result	RL	Units	Dilution	RL
DRO		<50.0		mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		98.6	mg/Kg	1	100	99	70 - 130

Sample: 241366 - AH-1 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	72808	Date Analyzed:	2010-08-21	Analyzed By:	AG
Prep Batch:	62422	Sample Preparation:	2010-08-20	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		<2.00	mg/Kg	1	2.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.40	mg/Kg	1	2.00	70	48.5 - 152
4-Bromofluorobenzene (4-BFB)		1.22	mg/Kg	1	2.00	61	42 - 159

Sample: 241367 - AH-1 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72750	Date Analyzed:	2010-08-19	Analyzed By:	AR
Prep Batch:	62339	Sample Preparation:	2010-08-19	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**297**	mg/Kg	50	4.00

Sample: 241368 - AH-1 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72750	Date Analyzed:	2010-08-19	Analyzed By:	AR
Prep Batch:	62339	Sample Preparation:	2010-08-19	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		<200	mg/Kg	50	4.00

Sample: 241369 - AH-1 3-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72750	Date Analyzed:	2010-08-19	Analyzed By:	AR
Prep Batch:	62339	Sample Preparation:	2010-08-19	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**208**	mg/Kg	50	4.00

Sample: 241370 - AH-1 4-4.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72751	Date Analyzed:	2010-08-19	Analyzed By:	AR
Prep Batch:	62374	Sample Preparation:	2010-08-19	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		<200	mg/Kg	50	4.00

Sample: 241371 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	72835	Date Analyzed:	2010-08-21	Analyzed By:	AG
Prep Batch:	62422	Sample Preparation:	2010-08-20	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0200	mg/Kg	1	0.0200
Toluene		<0.0200	mg/Kg	1	0.0200
Ethylbenzene		<0.0200	mg/Kg	1	0.0200
Xylene		<0.0200	mg/Kg	1	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.07	mg/Kg	1	2.00	54	52.8 - 137
4-Bromofluorobenzene (4-BFB)		0.947	mg/Kg	1	2.00	47	38.4 - 157

Sample: 241371 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72751	Date Analyzed:	2010-08-19	Analyzed By:	AR
Prep Batch:	62374	Sample Preparation:	2010-08-19	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**8160**	mg/Kg	100	4.00

Sample: 241371 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	72775	Date Analyzed:	2010-08-19	Analyzed By:	kg
Prep Batch:	62398	Sample Preparation:	2010-08-19	Prepared By:	kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		**156**	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		109	mg/Kg	1	100	109	70 - 130

Sample: 241371 - AH-2 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	72808	Date Analyzed:	2010-08-21	Analyzed By:	AG
Prep Batch:	62422	Sample Preparation:	2010-08-20	Prepared By:	AG

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		**6.92**	mg/Kg	1	2.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.15	mg/Kg	1	2.00	58	48.5 - 152
4-Bromofluorobenzene (4-BFB)		1.39	mg/Kg	1	2.00	70	42 - 159

Sample: 241372 - AH-2 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72751	Date Analyzed:	2010-08-19	Analyzed By:	AR
Prep Batch:	62374	Sample Preparation:	2010-08-19	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**251**	mg/Kg	50	4.00

Sample: 241373 - AH-2 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72751	Date Analyzed:	2010-08-19	Analyzed By:	AR
Prep Batch:	62374	Sample Preparation:	2010-08-19	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		<200	mg/Kg	50	4.00

Sample: 241374 - AH-2 3-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72751	Date Analyzed:	2010-08-19	Analyzed By:	AR
Prep Batch:	62374	Sample Preparation:	2010-08-19	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**236**	mg/Kg	50	4.00

Sample: 241375 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72751	Date Analyzed:	2010-08-19	Analyzed By:	AR
Prep Batch:	62374	Sample Preparation:	2010-08-19	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**6630**	mg/Kg	100	4.00

Sample: 241375 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	72775	Date Analyzed:	2010-08-19	Analyzed By:	kg
Prep Batch:	62398	Sample Preparation:	2010-08-19	Prepared By:	kg

Parameter	Flag	Result	RL	Units	Dilution	RL
DRO		<50.0		mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		99.4	mg/Kg	1	100	99	70 - 130

Sample: 241375 - AH-3 0-1'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	72808	Date Analyzed:	2010-08-21	Analyzed By:	AG
Prep Batch:	62422	Sample Preparation:	2010-08-20	Prepared By:	AG

Parameter	Flag	Result	RL	Units	Dilution	RL
GRO		<2.00		mg/Kg	1	2.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.17	mg/Kg	1	2.00	108	48.5 - 152
4-Bromofluorobenzene (4-BFB)		1.87	mg/Kg	1	2.00	94	42 - 159

Sample: 241376 - AH-3 1-1.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72751	Date Analyzed:	2010-08-19	Analyzed By:	AR
Prep Batch:	62374	Sample Preparation:	2010-08-19	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**487**		mg/Kg	50	4.00

Sample: 241377 - AH-3 2-2.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72751	Date Analyzed:	2010-08-19	Analyzed By:	AR
Prep Batch:	62374	Sample Preparation:	2010-08-19	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		<200	mg/Kg	50	4.00

Sample: 241378 - AH-3 3-3.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72751	Date Analyzed:	2010-08-19	Analyzed By:	AR
Prep Batch:	62374	Sample Preparation:	2010-08-19	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		<200	mg/Kg	50	4.00

Sample: 241379 - AH-2 4-4.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72751	Date Analyzed:	2010-08-19	Analyzed By:	AR
Prep Batch:	62374	Sample Preparation:	2010-08-19	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		<200	mg/Kg	50	4.00

Sample: 241380 - AH-2 5-5.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72752	Date Analyzed:	2010-08-19	Analyzed By:	AR
Prep Batch:	62375	Sample Preparation:	2010-08-19	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**220**	mg/Kg	50	4.00

Sample: 241381 - AH-3 4-4.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72752	Date Analyzed:	2010-08-19	Analyzed By:	AR
Prep Batch:	62375	Sample Preparation:	2010-08-19	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**230**	mg/Kg	50	4.00

Method Blank (1) QC Batch: 72750

QC Batch:	72750	Date Analyzed:	2010-08-19	Analyzed By:	AR
Prep Batch:	62339	QC Preparation:	2010-08-18	Prepared By:	AR

Parameter	Flag	MDL Result	Units	RL
Chloride		<2.18	mg/Kg	4

Method Blank (1) QC Batch: 72751

QC Batch:	72751	Date Analyzed:	2010-08-19	Analyzed By:	AR
Prep Batch:	62374	QC Preparation:	2010-08-19	Prepared By:	AR

Parameter	Flag	MDL Result	Units	RL
Chloride		<2.18	mg/Kg	4

Method Blank (1) QC Batch: 72752

QC Batch:	72752	Date Analyzed:	2010-08-19	Analyzed By:	AR
Prep Batch:	62375	QC Preparation:	2010-08-19	Prepared By:	AR

Parameter	Flag	MDL Result	Units	RL
Chloride		<2.18	mg/Kg	4

Method Blank (1) QC Batch: 72775

QC Batch: 72775 | Date Analyzed: 2010-08-19 | Analyzed By: kg
Prep Batch: 62398 | QC Preparation: 2010-08-19 | Prepared By: kg

Parameter	Flag	MDL Result	Units	RL
DRO		<14.5	mg/Kg	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		96.4	mg/Kg	1	100	96	70 - 130

Method Blank (1) QC Batch: 72808

QC Batch: 72808 | Date Analyzed: 2010-08-21 | Analyzed By: AG
Prep Batch: 62422 | QC Preparation: 2010-08-20 | Prepared By: AG

Parameter	Flag	MDL Result	Units	RL
GRO		<1.65	mg/Kg	2

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.00	mg/Kg	1	2.00	100	67.6 - 150
4-Bromofluorobenzene (4-BFB)		1.70	mg/Kg	1	2.00	85	52.4 - 130

Method Blank (1) QC Batch: 72835

QC Batch: 72835 | Date Analyzed: 2010-08-21 | Analyzed By: AG
Prep Batch: 62422 | QC Preparation: 2010-08-20 | Prepared By: AG

Parameter	Flag	MDL Result	Units	RL
Benzene		<0.0150	mg/Kg	0.02
Toluene		<0.00950	mg/Kg	0.02
Ethylbenzene		<0.0106	mg/Kg	0.02
Xylene		<0.00930	mg/Kg	0.02

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.74	mg/Kg	1	2.00	87	66.6 - 122
4-Bromofluorobenzene (4-BFB)		1.50	mg/Kg	1	2.00	75	55.4 - 132

Laboratory Control Spike (LCS-1)

QC Batch: 72750 | Date Analyzed: 2010-08-19 | Analyzed By: AR
Prep Batch: 62339 | QC Preparation: 2010-08-18 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	93.4	mg/Kg	1	100	<2.18	93	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	102	mg/Kg	1	100	<2.18	102	85 - 115	9	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: 72751 | Date Analyzed: 2010-08-19 | Analyzed By: AR
Prep Batch: 62374 | QC Preparation: 2010-08-19 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	97.2	mg/Kg	1	100	<2.18	97	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	102	mg/Kg	1	100	<2.18	102	85 - 115	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: 72752 | Date Analyzed: 2010-08-19 | Analyzed By: AR
Prep Batch: 62375 | QC Preparation: 2010-08-19 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	96.6	mg/Kg	1	100	<2.18	97	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	104	mg/Kg	1	100	<2.18	104	85 - 115	7	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: 72775 | Date Analyzed: 2010-08-19 | Analyzed By: kg
Prep Batch: 62398 | QC Preparation: 2010-08-19 | Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	261	mg/Kg	1	250	<14.5	104	57.4 - 133.4

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	281	mg/Kg	1	250	<14.5	112	57.4 - 133.4	7	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Tricosane	116	125	mg/Kg	1	100	116	125	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 72808 | Date Analyzed: 2010-08-21 | Analyzed By: AG
Prep Batch: 62422 | QC Preparation: 2010-08-20 | Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	16.0	mg/Kg	1	20.0	<1.65	80	69.9 - 95.4

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	16.7	mg/Kg	1	20.0	<1.65	84	69.9 - 95.4	4	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.05	2.01	mg/Kg	1	2.00	102	100	61.9 - 142
4-Bromofluorobenzene (4-BFB)	1.80	1.75	mg/Kg	1	2.00	90	88	68.2 - 132

Laboratory Control Spike (LCS-1)

QC Batch: 72835 | Date Analyzed: 2010-08-21 | Analyzed By: AG
Prep Batch: 62422 | QC Preparation: 2010-08-20 | Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	2.15	mg/Kg	1	2.00	<0.0150	108	81.9 - 108
Toluene	2.06	mg/Kg	1	2.00	<0.00950	103	81.9 - 107
Ethylbenzene	1.90	mg/Kg	1	2.00	<0.0106	95	78.4 - 107
Xylene	5.73	mg/Kg	1	6.00	<0.00930	96	79.1 - 107

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Benzene	2.12	mg/Kg	1	2.00	<0.0150	106	81.9 - 108	1	20
Toluene	2.02	mg/Kg	1	2.00	<0.00950	101	81.9 - 107	2	20
Ethylbenzene	1.87	mg/Kg	1	2.00	<0.0106	94	78.4 - 107	2	20
Xylene	5.67	mg/Kg	1	6.00	<0.00930	94	79.1 - 107	1	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.00	1.76	mg/Kg	1	2.00	100	88	70.2 - 114
4-Bromofluorobenzene (4-BFB)	1.90	1.66	mg/Kg	1	2.00	95	83	69.8 - 121

Matrix Spike (MS-1) Spiked Sample: 241369

QC Batch: 72750 | Date Analyzed: 2010-08-19 | Analyzed By: AR
Prep Batch: 62339 | QC Preparation: 2010-08-18 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	9430	mg/Kg	100	10000	<218	92	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	9710	mg/Kg	100	10000	<218	95	85 - 115	3	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: 241379

QC Batch: 72751 | Date Analyzed: 2010-08-19 | Analyzed By: AR
Prep Batch: 62374 | QC Preparation: 2010-08-19 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	10200	mg/Kg	100	10000	<218	100	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	10400	mg/Kg	100	10000	<218	102	85 - 115	2	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: 241390

QC Batch: 72752 | Date Analyzed: 2010-08-19 | Analyzed By: AR
Prep Batch: 62375 | QC Preparation: 2010-08-19 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	10200	mg/Kg	100	10000	398	98	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	10400	mg/Kg	100	10000	398	100	85 - 115	2	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: 241299

QC Batch: 72775 | Date Analyzed: 2010-08-19 | Analyzed By: kg
Prep Batch: 62398 | QC Preparation: 2010-08-19 | Prepared By: kg

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	205	mg/Kg	1	250	<14.5	82	35.2 - 167.1

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRO	212	mg/Kg	1	250	<14.5	85	35.2 - 167.1	3	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
n-Tricosane	95.4	96.1	mg/Kg	1	100	95	96	70 - 130

Matrix Spike (MS-1) Spiked Sample: 241371

QC Batch: 72808 | Date Analyzed: 2010-08-21 | Analyzed By: AG
Prep Batch: 62422 | QC Preparation: 2010-08-20 | Prepared By: AG

Param		MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	[1]	50.3	mg/Kg	1	20.0	6.92	217	61.8 - 114

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

Param		MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	[2]	35.9	mg/Kg	1	20.0	6.92	145	61.8 - 114	33	20

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

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.70	1.86	mg/Kg	1	2	85	93	50 - 162
4-Bromofluorobenzene (4-BFB)	1.69	1.72	mg/Kg	1	2	84	86	50 - 162

Standard (ICV-1)

QC Batch: 72750 | Date Analyzed: 2010-08-19 | Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	105	105	85 - 115	2010-08-19

Standard (CCV-1)

QC Batch: 72750 | Date Analyzed: 2010-08-19 | Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	95.1	95	85 - 115	2010-08-19

Standard (ICV-1)

QC Batch: 72751 | Date Analyzed: 2010-08-19 | Analyzed By: AR

[1] Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.
[2] Matrix spike recovery out of control limits due to peak interference. Use LCS/LCSD to demonstrate analysis is under control.

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2010-08-19

Standard (CCV-1)

QC Batch: 72751 Date Analyzed: 2010-08-19 Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.3	99	85 - 115	2010-08-19

Standard (ICV-1)

QC Batch: 72752 Date Analyzed: 2010-08-19 Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.3	99	85 - 115	2010-08-19

Standard (CCV-1)

QC Batch: 72752 Date Analyzed: 2010-08-19 Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	101	101	85 - 115	2010-08-19

Standard (CCV-2)

QC Batch: 72775 Date Analyzed: 2010-08-19 Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	232	93	80 - 120	2010-08-19

Standard (CCV-3)

QC Batch: 72775 Date Analyzed: 2010-08-19 Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	239	96	80 - 120	2010-08-19

Standard (CCV-1)

QC Batch: 72808 Date Analyzed: 2010-08-21 Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.03	103	80 - 120	2010-08-21

Standard (CCV-2)

QC Batch: 72808 Date Analyzed: 2010-08-21 Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.988	99	80 - 120	2010-08-21

Standard (CCV-1)

QC Batch: 72835 Date Analyzed: 2010-08-21 Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.105	105	80 - 120	2010-08-21
Toluene		mg/Kg	0.100	0.101	101	80 - 120	2010-08-21
Ethylbenzene		mg/Kg	0.100	0.0927	93	80 - 120	2010-08-21
Xylene		mg/Kg	0.300	0.281	94	80 - 120	2010-08-21

Standard (CCV-2)

QC Batch: 72835 Date Analyzed: 2010-08-21 Analyzed By: AG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.102	102	80 - 120	2010-08-21
Toluene		mg/Kg	0.100	0.0973	97	80 - 120	2010-08-21
Ethylbenzene		mg/Kg	0.100	0.0901	90	80 - 120	2010-08-21

continued ...

standard continued ...

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Xylene		mg/Kg	0.300	0.270	90	80 - 120	2010-08-21

WO#: 10081647

Analysis Request of Chain of Custody Record

PAGE: 1 OF: 2

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.: 114-640063

PROJECT NAME: COG/Skelly unit #611 Eddy Co, NM

LAB I.D. NUMBER	DATE	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. 8081/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
241366	8-11-10		S		X	AH-1 0-1	1				X		X	X											X				
367						AH-1 1-1.5																							
368						AH-1 2-2.5																							
369						AH-1 3-3.5																							
370						AH-1 4-4.5																							
371						AH-2 0-1							X	X															
372						AH-2 1-1.5																							
373						AH-2 2-2.5																							
374						AH-2 3-3.5																							
375	8-11-10		S		X	AH-3 0-1							X	X											X				

RELINQUISHED BY: (Signature) Robert Love Jr. Date: 8-13-10 Time: 1545

RECEIVED BY: (Signature) Date: Time:

SAMPLED BY: (Print & Initial) Grant Pope Date: 8-11-10 Time:

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:

RECEIVING LABORATORY: Trace

ADDRESS:

CITY: Midland STATE: Tx ZIP:

CONTACT: Mario PHONE:

RECEIVED BY: (Signature)

DATE: 8-13-10 TIME: 15:45

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 18.0°C

REMARKS: If total TPH exceeds ~~5000~~ 4900 mg/kg run deeper Sample
If BTEX exceeds 50mg/kg or Benzene exceeds 10mg/kg Run deeper Sample

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

Run @ highest TPH for trace

WO #: 10081647

Analysis Request of Chain of Custody Record

PAGE: 2 OF: 2

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

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-6400631

PROJECT NAME: COG/Skelly unit #611 Eddy Co, NM

LAB I.D. NUMBER	DATE	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
241376	8-11-10		S		X	AH-3 1-1.5	1				X		X											X				
377	8-11-10		S		X	AH-3 2-2.5	1				X		X															
378	8-11-10		S		X	AH-3 3-3.5	1				X		X															
379			S		X	AH-2 4-4.5 (per Ike)	1				X																	
380			S		X	AH-2 5-5.5	1				X																	
381			S		X	AH-3 4-4.5	1				X																	

RELINQUISHED BY: (Signature) — Date: 8-13-10 Time: 1545
RECEIVED BY: (Signature) — Date: Time:
SAMPLED BY: (Print & Initial) Grant Rose — Date: 8-11-10 Time:

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 Tavarez — Results by:

RECEIVING LABORATORY: Trace
ADDRESS:
CITY: Midland STATE: Tx ZIP:
CONTACT: Monde PHONE:
RECEIVED BY: (Signature)
DATE: 8-13-10 TIME: 15:45
RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 18.0 C

REMARKS: If TRHal TPH exceeds 1000 mg/kg run deeper Sample
If BTEX exceeds 50 mg/kg or Benzene exceeds 10 mg/kg Run deeper Sample

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

Run @ highest TPH & BTEX

Summary Report

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

Report Date: November 23, 2010

Work Order: 10111927

Project Location: Eddy County, NM
Project Name: COG/Skelly Unit #611
Project Number: 114-6400631

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
251013	CS-1 0-1 (1' BEB)	soil	2010-11-09	00:00	2010-11-19
251014	CS-2 0-1 (1' BEB)	soil	2010-11-09	00:00	2010-11-19
251015	CS-3 0-1 (1' BEB)	soil	2010-11-09	00:00	2010-11-19
251016	CS-4 0-1 (1' BEB)	soil	2010-11-09	00:00	2010-11-19

Sample: 251013 - CS-1 0-1 (1' BEB)

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 251014 - CS-2 0-1 (1' BEB)

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 251015 - CS-3 0-1 (1' BEB)

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 251016 - CS-4 0-1 (1' BEB)

Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

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 888•588•3443 915•585•3443 FAX 915•585•4944
5002 Basin Street, Suite A1 Midland, Texas 79703 432•689•6301 FAX 432•689•6313
6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132 817•201•5260
E-Mail: lab@traceanalysis.com

Certifications

WBENC: 237019 **HUB:** 1752439743100-86536 **DBE:** VN 20657
NCTRCA WFWB38444Y0909

NELAP Certifications

Lubbock: T104704219-08-TX LELAP-02003 Kansas E-10317 **El Paso:** T104704221-08-TX LELAP-02002 **Midland:** T104704392-08-TX

Analytical and Quality Control Report

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

Report Date: November 23, 2010

Work Order: 10111927

Project Location: Eddy County, NM
Project Name: COG/Skelly Unit #611
Project Number: 114-6400631

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
251013	CS-1 0-1 (1' BEB)	soil	2010-11-09	00:00	2010-11-19
251014	CS-2 0-1 (1' BEB)	soil	2010-11-09	00:00	2010-11-19
251015	CS-3 0-1 (1' BEB)	soil	2010-11-09	00:00	2010-11-19
251016	CS-4 0-1 (1' BEB)	soil	2010-11-09	00:00	2010-11-19

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

Standard Flags

B - The sample contains less than ten times the concentration found in the method blank.

Case Narrative

Samples for project COG/Skelly Unit #611 were received by TraceAnalysis, Inc. on 2010-11-19 and assigned to work order 10111927. Samples for work order 10111927 were received intact at a temperature of 3.2 C.

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	64825	2010-11-22 at 09:23	75586	2010-11-23 at 09:16

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 10111927 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: 251013 - CS-1 0-1 (1' BEB)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	75586	Date Analyzed:	2010-11-23	Analyzed By:	AR
Prep Batch:	64825	Sample Preparation:	2010-11-22	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		<200	mg/Kg	50	4.00

Sample: 251014 - CS-2 0-1 (1' BEB)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	75586	Date Analyzed:	2010-11-23	Analyzed By:	AR
Prep Batch:	64825	Sample Preparation:	2010-11-22	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		<200	mg/Kg	50	4.00

Sample: 251015 - CS-3 0-1 (1' BEB)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	75586	Date Analyzed:	2010-11-23	Analyzed By:	AR
Prep Batch:	64825	Sample Preparation:	2010-11-22	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		<200	mg/Kg	50	4.00

Sample: 251016 - CS-4 0-1 (1' BEB)

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	75586	Date Analyzed:	2010-11-23	Analyzed By:	AR
Prep Batch:	64825	Sample Preparation:	2010-11-22	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		<200	mg/Kg	50	4.00

Method Blank (1) QC Batch: 75586

QC Batch: 75586 Date Analyzed: 2010-11-23 Analyzed By: AR
Prep Batch: 64825 QC Preparation: 2010-11-22 Prepared By: AR

Parameter	Flag	MDL Result	Units	RL
Chloride		<2.18	mg/Kg	4

Laboratory Control Spike (LCS-1)

QC Batch: 75586 Date Analyzed: 2010-11-23 Analyzed By: AR
Prep Batch: 64825 QC Preparation: 2010-11-22 Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	97.6	mg/Kg	1	100	<2.18	98	85 - 115

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	103	mg/Kg	1	100	<2.18	103	85 - 115	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: 251022

QC Batch: 75586 Date Analyzed: 2010-11-23 Analyzed By: AR
Prep Batch: 64825 QC Preparation: 2010-11-22 Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	10400	mg/Kg	100	10000	368	100	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	10700	mg/Kg	100	10000	368	103	85 - 115	3	20

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

Standard (ICV-1)

QC Batch: 75586 | Date Analyzed: 2010-11-23 | Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	102	102	85 - 115	2010-11-23

Standard (CCV-1)

QC Batch: 75586 | Date Analyzed: 2010-11-23 | Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	97.9	98	85 - 115	2010-11-23

XWO #: 1011927

Analysis Request of Chain of Custody Record

PAGE: 1 OF: 1

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-C4006631
PROJECT NAME: COG/ Skelly #611 Eddy Co, NM

LAB I.D. NUMBER	DATE 2010	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE
251013	11/9		S		X	CS-1 0-1 (1' BEB)	1				X	
014						CS-2 0-1 (1' BEB)						
015						CS-3 0-1 (1' BEB)						
016						CS-4 0-1 (1' BEB)						

ANALYSIS REQUEST (Circle or Specify Method No.)

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	Past. 808/608	Chloride	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
												X				
												X				
												X				
												X				

RELINQUISHED BY: (Signature) Date: 11-19-10 Time: 11:50
RECEIVED BY: (Signature) Date: Time:
SAMPLED BY: (Print & Initial) JT Date: 11/9/10 Time:

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 Tavarez
Results by:

RECEIVING LABORATORY: Tracy
ADDRESS:
CITY: Midland STATE: TX ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature)
DATE: 11-19-10 TIME: 11:50
RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 3.2°C intact
REMARKS: XAll tests Midland

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