SITE INFORMATION

Report Type: Work Plan

General Site Information:

Site:	**Berry A Federal #1**					
Company:	**COG Operating LLC**					
Section, Township and Range	**Unit C**	**Sec 21**	**17S**	**30E**		
Lease Number:	**54988**					
County:	**Eddy County**					
GPS:	**32.82643° N**			**103.980206° W**		
Surface Owner:	Federal					
Mineral Owner:						
Directions:	From the intersection of Hwy 82 and CR 219 travel 0.4m north on CR 219 turn left, travel 100' to site.					

Release Data:

Date Released:	5/18/2010
Type Release:	Produced Fluid
Source of Contamination:	Casing
Fluid Released:	550 bbls
Fluids Recovered:	520 bbls

RECEIVED
MAR 16 2011
NMOCD ARTESIA

Official Communication:

Name:	Pat Ellis		Kim Dorey
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) 631-0348
Fax:	(432) 684-7137		
Email:	pellis@conchoresources.com		kim.dorey@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:	10

Acceptable Soil RRAL (mg/kg)

Benzene	Total BTEX	TPH
10	50	5,000

TETRA TECH

February 25, 2011

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

Re: Work Plan for the COG Operating LLC., Berry A Federal #1 Well, Unit C, Section 21, Township 17 South, Range 30 East, Eddy County, New Mexico.

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC. (COG) to assess a spill from the Berry A Federal #1 Well, Unit C, Section 21, Township 17 South, Range 30 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.82643°, W 103.98020°. The site location is shown on Figures 1 and 2.

Background

On May 18, 2010, the leak was caused by a casing failure during the process of plugging the well and released approximately five hundred fifty (550) barrels of produced fluid. During the release, COG personnel immediately excavated an area 30' x 30' x 4' deep next to the well to contain the fluids. The fluids were pickup using vacuum trucks and recovered five hundred twenty (520) barrels of standing fluids. The initial C-141 form is enclosed in Appendix A.

According to the BLM inspection, the spill initiated from the well and contained in the 30' x 30' area near the well. However, some fluids did migrate on the well pad, which measured approximately 80' x 140'.

Groundwater

No water wells were listed within Section 21. According to the NMOCD groundwater map, the average depth to groundwater in this area is greater than 300' below surface. In discussions with the NMOCD and review of available data, groundwater may absent in this area. The water 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 or potential lack thereof, the proposed RRAL for TPH is 5,000 mg/kg.

Soil Assessment and Analytical Results

On August 11, 2010, Tetra Tech personnel sampled the spill area and installed one (1) auger hole (AH-1) using a stainless steel hand auger. The auger hole was installed in the backfilled containment area (30' x 30') near the well. 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 sampling results are summarized in Table 1. The auger hole locations are shown on Figure 3.

The sample was below the RRAL for BTEX and TPH. Elevated chloride concentrations were detected at AH-1 of 16,800 mg/kg at 4.0'-4.5' below surface. Deeper samples could not be collected due to a dense caliche formation. In order to delineate the chloride impact, deeper samples would need to be collected using an air rotary rig.

On November 15, 2010, Tetra Tech personnel were onsite to re-evaluate the area of AH-1. According to the BLM initial inspection, the spill had also migrated on the pad, which was not discussed on the C-141. Based on an impact map provided by the BLM, the impacted areas were shown east, west and south of the well pad. In addition, it appeared the fluids migrated west off the pad onto a closed reserve pit. A total of four (4) boreholes (BH-1 through BH-4) were installed to assess the spill area. Borehole results are summarized in Table 1.

Referring to Table 1, none of the selected samples exceeded the RRAL for TPH and BTEX. Boreholes (BH-2 and BH-3) did not show a significant chloride impact to the soils, with a chloride high of 504 mg/kg at BH-3 (0-1'). The area of borehole (BH-4) showed an elevated chloride

concentration of 19,800 mg/kg (0-1') which decline to <200 (5.0') below surface. In the area of BH-1, elevated chloride concentrations were detected at 5.0' (33,400 mg/kg) and declined with depth at 10.0' (9,540 mg/kg), 15.0' (4,100 mg/kg) and 30.0' (234 mg/kg). The borehole sample at 60.0' showed a chloride concentration spike of 3,030 mg/kg. The lithology of the borehole indicated that a dense dry clay barrier was encountered at 60.0'. It would appear that residual chloride impact from this spill was contained at the top of this seemingly impermeable barrier. The boring log for BH-1 is shown in Appendix D.

Work Plan

COG will remove impacted material as highlighted (green) in Table 1. Once the areas are excavated to the appropriate depths, the excavation will be backfilled with clean soil.

As discussed and approved by Mike Bratcher with the NMOCD, the area of BH-1 will be excavated to a depth of approximately 15.0' below surface to remove the elevated chloride concentrations. The proposed excavation depths may not be reached due to wall cave ins and safety concerns for onsite personnel. In addition, impacted soil around oil and gas equipment, structures or lines may not be feasible or practicable to be removed due to safely concerns. As such, Tetra Tech will excavate the soils to the maximum extent practicable. If the depths are not reached, a 40 mil liner will be installed at depth of 4' to 5' below surface to cap the impacted area. In addition, the area of BH-4 will be excavated down to approximately 3.0' to 5.0' below surface.

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

Respectfully submitted,
TETRA TECH

Tim Reed

Tim Reed, P.G.
Sr. Consultant

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

FIGURES

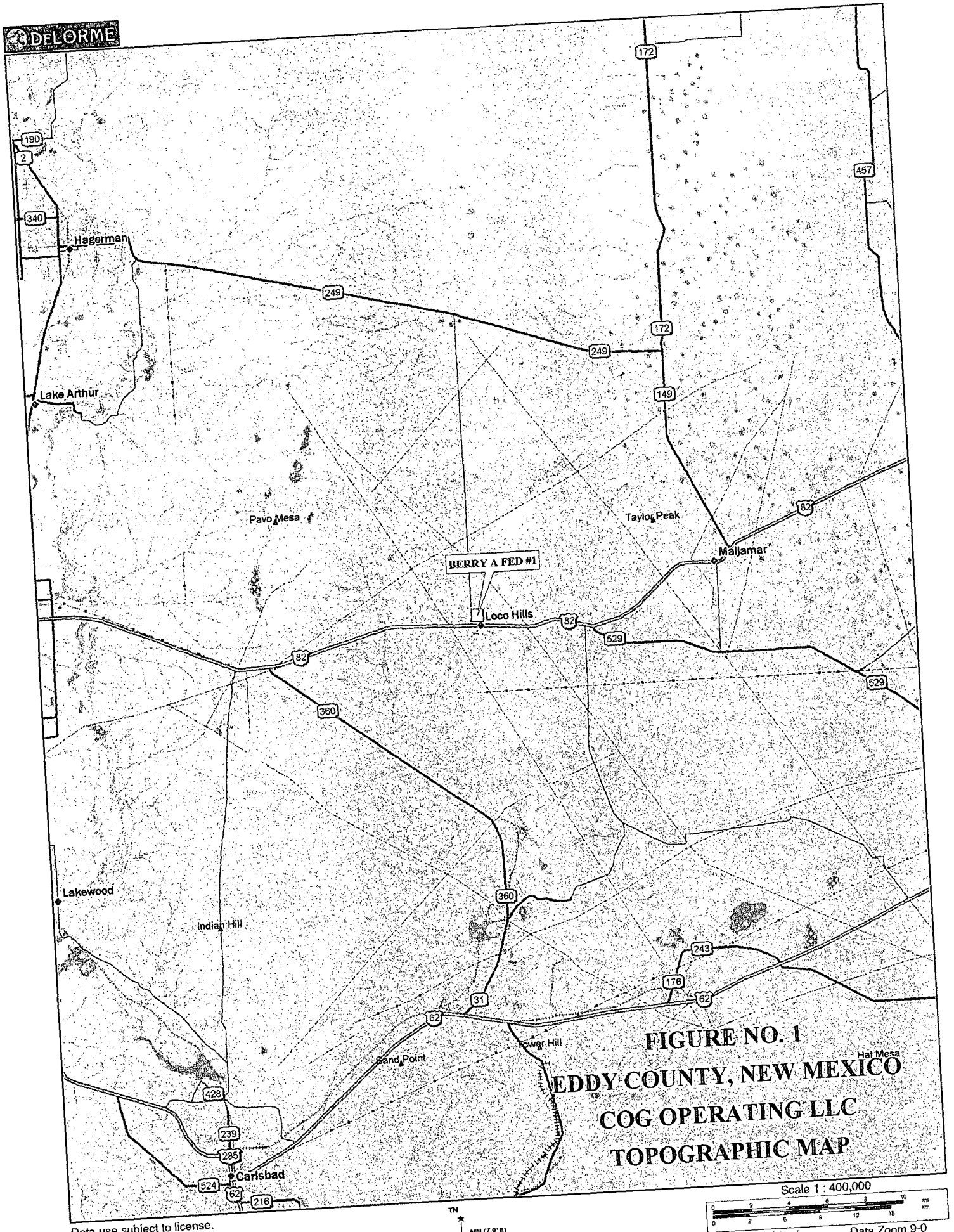


FIGURE NO. 1
EDDY COUNTY, NEW MEXICO
COG OPERATING LLC
TOPOGRAPHIC MAP

FIGURE NO. 2

EDDY COUNTY, NEW MEXICO

COG OPERATING LLC

TOPOGRAPHIC MAP

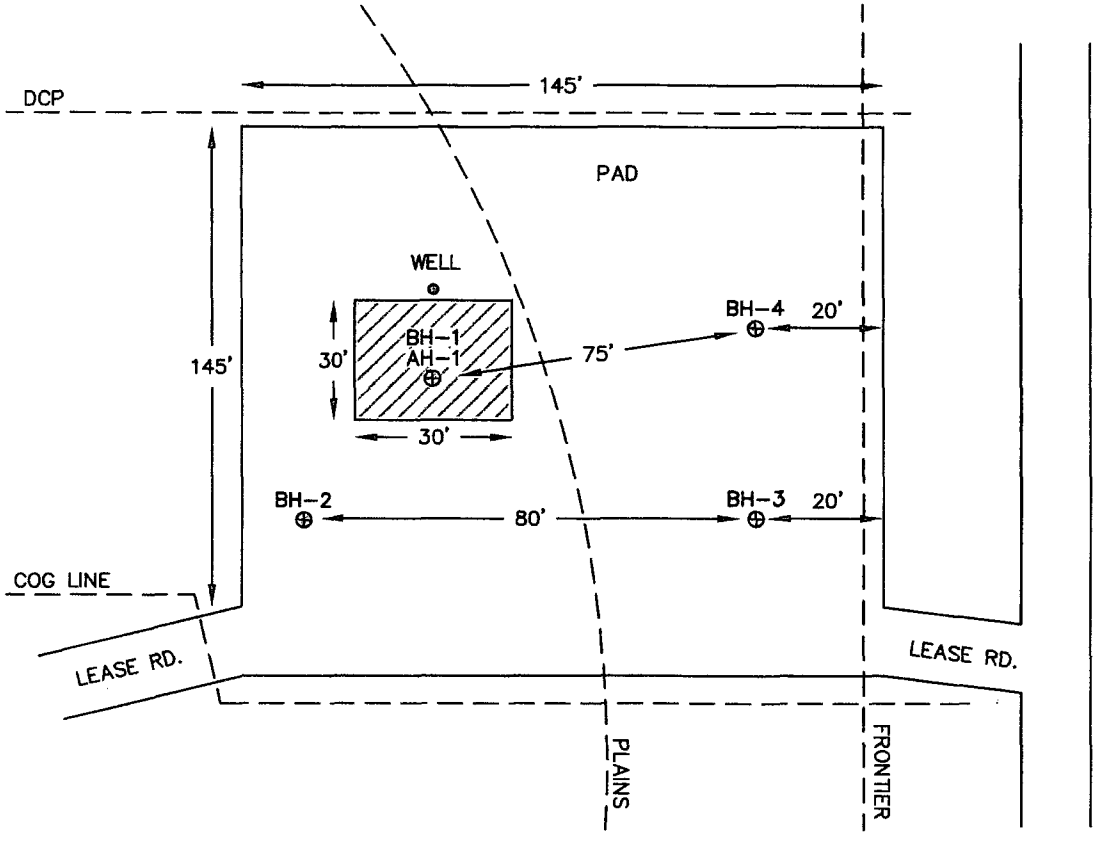
TN

MN (7.9°E)

Scale 1 : 24,000

1" = 2,000.0 ft

Data Zoom 13-0



SPILL AREA
AUGER HOLE LOCATIONS
BORE HOLE LOCATIONS

NOT TO SCALE

FIGURE NO. 3

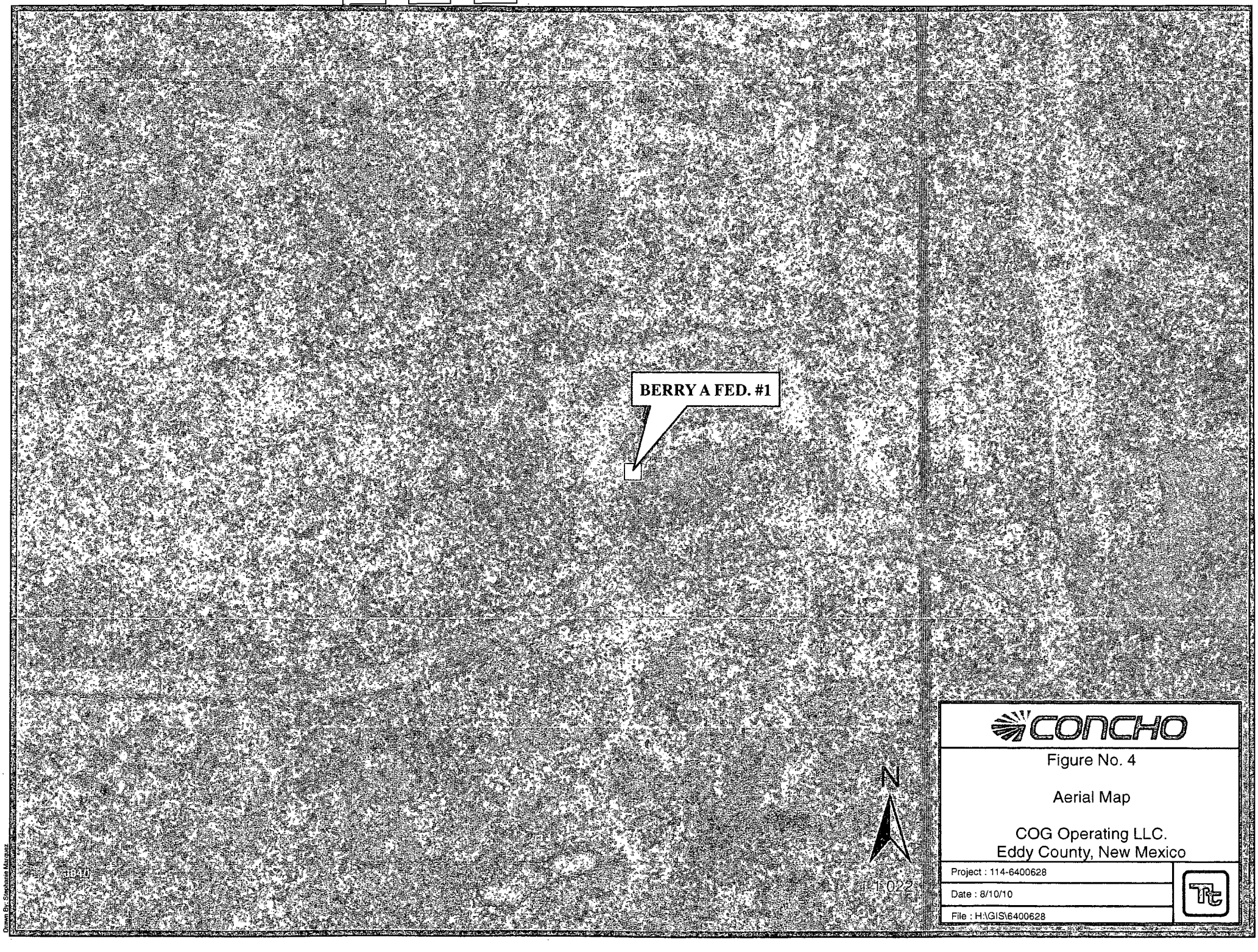
EDDY COUNTY, NEW MEXICO

COG OPERATING LLC

BERRY A FEDERAL #1

DATE: 10/15/10
DWN. BY: JJ
FILE: H:\COG\640028 BERRY A FED #1

TETRA TECH, INC.
MIDLAND, TEXAS



CONCHO

Figure No. 4

Aerial Map

COG Operating LLC.
Eddy County, New Mexico

Project : 114-6400628	
Date : 8/10/10	
File : H:\GIS\6400628	

Drawn By: Stephanie Marquez

TABLES

Table 1
COG Operating LLC.
BERRY A FEDERAL #1
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	4-4.5'		X		<2.00	**67.3**	**67.3**	<0.0200	<0.0200	<0.0200	<0.0200	**16,800**
BH-1	10/14/2010	0-1'		X		-	-	-	-	-	-	-	<200
	"	3'		X		-	-	-	-	-	-	-	<200
	"	5'		X		-	-	-	-	-	-	-	**33,400**
	"	7'		X		-	-	-	-	-	-	-	**15,000**
	"	10'		X		-	-	-	-	-	-	-	**9,540**
	"	15'		X		-	-	-	-	-	-	-	**4,100**
	"	20'		X		-	-	-	-	-	-	-	**1,370**
	"	25'		X		-	-	-	-	-	-	-	**1,230**
	"	30'		X		-	-	-	-	-	-	-	**234**
	"	40'		X		-	-	-	-	-	-	-	**513**
	"	50'		X		-	-	-	-	-	-	-	**371**
	"	60'		X		-	-	-	-	-	-	-	**3,030**

Table 1
COG Operating LLC.
BERRY A FEDERAL #1
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					
BH-2	10/14/2010	0-1'		X		-	-	-	-	-	-	-	<200
	"	3'		X		-	-	-	-	-	-	-	**204**
	"	5'		X		-	-	-	-	-	-	-	<200
	"	7'		X		-	-	-	-	-	-	-	<200
BH-3	10/14/2010	0-1'		X		-	-	-	-	-	-	-	**504**
	"	3'		X		-	-	-	-	-	-	-	**387**
	"	5'		X		-	-	-	-	-	-	-	**316**
	"	7'		X		-	-	-	-	-	-	-	<200
	"	10'		X		-	-	-	-	-	-	-	<200
BH-4	10/14/2010	0-1'		X		-	-	-	-	-	-	-	**19,800**
	"	3'		X		-	-	-	-	-	-	-	**9,280**
	"	5'		X		-	-	-	-	-	-	-	<200
	"	7'		X		-	-	-	-	-	-	-	<200
	"	10'		X		-	-	-	-	-	-	-	**229**

BEB Below Excavation Bottom
(--) Not Analyzed
Proposed Excavation Material

APPENDIX A

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company	COG OPERATING LLC	Contact	Pat Ellis
Address	550 W. Texas, Suite 100, Midland, TX 79701	Telephone No.	432-230-0077
Facility Name	Berry A Federal #1	Facility Type	Well

Surface Owner Federal	Mineral Owner	Lease No. 054988

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
C	21	17S	30E	330	NORTH	1650	WEST	Eddy

Latitude 32.82643 **Longitude** 103.980206

NATURE OF RELEASE

Type of Release Produced fluid	Volume of Release 550 BBLS	Volume Recovered 520 BBLS
Source of Release Casing	Date and Hour of Occurrence 5-18-10	Date and Hour of Discovery 5-18-10
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher-OCD Terry Gregston-BLM	
By Whom? Pat Ellis	Date and Hour 05/18/2010 4:15 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.*

The Berry A Federal #1 well had a casing leak while in the process of plugging and abandoning the well. A temporary pit around the well head area was immediately constructed to contain the water flow. The leak was stopped and the well has successfully plugged and abandoned.

Describe Area Affected and Cleanup Action Taken.*

Due to water flow during the plugging process an additional 3600 BBLS of water was released and taken to a disposal under a controlled recovery condition. The saturated soil was removed and the release site will be sampled by Tetra Tech Environmental to determine appropriate clean-up actions and work plan.

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: Patrick E. Ellis	OIL CONSERVATION DIVISION
Printed Name Patrick Ellis	Approved by District Supervisor:
Title: HSE Manager	Approval Date: / Expiration Date:
E-mail Address: pellis@conchoresources.com	Conditions of Approval: / Attached ☐
Date: 07/16/2010 Phone: 432-230-0077	

* Attach Additional Sheets If Necessary

APPENDIX B

Water Well Data
Average Depth to Groundwater (ft)
COG - Berry A Federal #1
Eddy County, New Mexico

16 South 29 East

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

16 South 30 East

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

16 South 31 East

6	5	4	3	2
7	8	9	10	11
18	17	16	15	14
19	20	21	22	23
30	29	28	27	26
31 **290**	32	33	34	35

17 South 29 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22 **80**	23	24
30	29 **210** **208'**	28	27	26	25
31	32	33	34	35 153	36

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
7	8	9	10	11
18	17	16	15	14
19	20	21	22 **SITE**	23
30	29	28	27	26
31	32	33	34 **271**	35

18 South 29 East

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

18 South 30 East

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

18 South 31 East

6	5	4	3	2
7	8	9	10	11
18	17	16	15	14 **317**
19	20	21	22	23
30	29	28	27	26
31	32	33	34	35 **261**

- 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 23, 2010

Work Order: 10081640

Project Location: Eddy County, NM
Project Name: COG/Berry A Fed. #1
Project Number: 114-6400628

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
241219	AH-1 4-4.5'	soil	2010-08-11	00:00	2010-08-13

Sample - Field Code	BTEX Benzene (mg/Kg)	BTEX Toluene (mg/Kg)	BTEX Ethylbenzene (mg/Kg)	BTEX Xylene (mg/Kg)	TPH DRO - NEW DRO (mg/Kg)	TPH GRO GRO (mg/Kg)
241219 - AH-1 4-4.5'	<0.0200	<0.0200	<0.0200	<0.0200	**67.3**	<2.00

Sample: 241219 - AH-1 4-4.5'

Param	Flag	Result	Units	RL
Chloride		**16800**	mg/Kg	4.00

Summary Report

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

Report Date: October 25, 2010

Work Order: 10102019

Project Location: Eddy County, NM
Project Name: COG/Berry A Fed. #1
Project Number: 114-6400628

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
248002	BH-1 0-1'	soil	2010-10-14	00:00	2010-10-20
248003	BH-1 3'	soil	2010-10-14	00:00	2010-10-20
248004	BH-1 5'	soil	2010-10-14	00:00	2010-10-20
248005	BH-1 7'	soil	2010-10-14	00:00	2010-10-20
248006	BH-1 10'	soil	2010-10-14	00:00	2010-10-20
248007	BH-1 15'	soil	2010-10-14	00:00	2010-10-20
248008	BH-1 20'	soil	2010-10-14	00:00	2010-10-20
248009	BH-1 25'	soil	2010-10-14	00:00	2010-10-20
248010	BH-1 30'	soil	2010-10-14	00:00	2010-10-20
248011	BH-1 40'	soil	2010-10-14	00:00	2010-10-20
248012	BH-1 50'	soil	2010-10-14	00:00	2010-10-20
248013	BH-1 60'	soil	2010-10-14	00:00	2010-10-20
248014	BH-2 0-1'	soil	2010-10-14	00:00	2010-10-20
248015	BH-2 3'	soil	2010-10-14	00:00	2010-10-20
248016	BH-2 5'	soil	2010-10-14	00:00	2010-10-20
248017	BH-2 7'	soil	2010-10-14	00:00	2010-10-20
248018	BH-3 0-1'	soil	2010-10-14	00:00	2010-10-20
248019	BH-3 3'	soil	2010-10-14	00:00	2010-10-20
248020	BH-3 5'	soil	2010-10-14	00:00	2010-10-20
248021	BH-3 7'	soil	2010-10-14	00:00	2010-10-20
248022	BH-3 10'	soil	2010-10-14	00:00	2010-10-20
248023	BH-4 0-1'	soil	2010-10-14	00:00	2010-10-20
248024	BH-4 3'	soil	2010-10-14	00:00	2010-10-20
248025	BH-4 5'	soil	2010-10-14	00:00	2010-10-20
248026	BH-4 7'	soil	2010-10-14	00:00	2010-10-20
248027	BH-4 10'	soil	2010-10-14	00:00	2010-10-20

Sample: 248002 - BH-1 0-1'

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

Sample: 248003 - BH-1 3'

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

Sample: 248004 - BH-1 5'

Param	Flag	Result	Units	RL
Chloride		**33400**	mg/Kg	4.00

Sample: 248005 - BH-1 7'

Param	Flag	Result	Units	RL
Chloride		**15000**	mg/Kg	4.00

Sample: 248006 - BH-1 10'

Param	Flag	Result	Units	RL
Chloride		**9540**	mg/Kg	4.00

Sample: 248007 - BH-1 15'

Param	Flag	Result	Units	RL
Chloride		**4100**	mg/Kg	4.00

Sample: 248008 - BH-1 20'

Param	Flag	Result	Units	RL
Chloride		**1370**	mg/Kg	4.00

Sample: 248009 - BH-1 25'

Param	Flag	Result	Units	RL
Chloride		**1230**	mg/Kg	4.00

Sample: 248010 - BH-1 30'

Param	Flag	Result	Units	RL
Chloride		**234**	mg/Kg	4.00

Sample: 248011 - BH-1 40'

Param	Flag	Result	Units	RL
Chloride		**513**	mg/Kg	4.00

Sample: 248012 - BH-1 50'

Param	Flag	Result	Units	RL
Chloride		**371**	mg/Kg	4.00

Sample: 248013 - BH-1 60'

Param	Flag	Result	Units	RL
Chloride		**3030**	mg/Kg	4.00

Sample: 248014 - BH-2 0-1'

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

Sample: 248015 - BH-2 3'

Param	Flag	Result	Units	RL
Chloride		**204**	mg/Kg	4.00

Sample: 248016 - BH-2 5'

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

Sample: 248017 - BH-2 7'

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

Sample: 248018 - BH-3 0-1'

Param	Flag	Result	Units	RL
Chloride		**504**	mg/Kg	4.00

Sample: 248019 - BH-3 3'

Param	Flag	Result	Units	RL
Chloride		**387**	mg/Kg	4.00

Sample: 248020 - BH-3 5'

Param	Flag	Result	Units	RL
Chloride		**316**	mg/Kg	4.00

Sample: 248021 - BH-3 7'

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

Sample: 248022 - BH-3 10'

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

Sample: 248023 - BH-4 0-1'

Param	Flag	Result	Units	RL
Chloride		**19800**	mg/Kg	4.00

Sample: 248024 - BH-4 3'

Param	Flag	Result	Units	RL
Chloride		**9280**	mg/Kg	4.00

Sample: 248025 - BH-4 5'

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

Sample: 248026 - BH-4 7'

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

Sample: 248027 - BH-4 10'

Param	Flag	Result	Units	RL
Chloride		**229**	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
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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: August 20, 2010

Work Order: 10081640

Project Location: Eddy County, NM
Project Name: COG/Berry A Fed. #1
Project Number: 114-6400628

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
241219	AH-1 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/Berry A Fed. #1 were received by TraceAnalysis, Inc. on 2010-08-13 and assigned to work order 10081640. Samples for work order 10081640 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	62330	2010-08-18 at 09:15	72769	2010-08-18 at 11:58
Chloride (Titration)	SM 4500-Cl B	62312	2010-08-17 at 11:03	72698	2010-08-17 at 16:18
TPH DRO - NEW	S 8015 D	62397	2010-08-19 at 10:46	72774	2010-08-19 at 10:46
TPH GRO	S 8015 D	62330	2010-08-18 at 09:15	72770	2010-08-18 at 12:25

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 10081640 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: 241219 - AH-1 4-4.5'

Laboratory:	Midland				
Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	72769	Date Analyzed:	2010-08-18	Analyzed By:	AG
Prep Batch:	62330	Sample Preparation:	2010-08-18	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]	0.863	mg/Kg	1	2.00	43	52.8 - 137
4-Bromofluorobenzene (4-BFB)		0.845	mg/Kg	1	2.00	42	38.4 - 157

Sample: 241219 - AH-1 4-4.5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	72698	Date Analyzed:	2010-08-17	Analyzed By:	AR
Prep Batch:	62312	Sample Preparation:	2010-08-17	Prepared By:	AR

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**16800**		mg/Kg	100	4.00

Sample: 241219 - AH-1 4-4.5'

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	72774	Date Analyzed:	2010-08-19	Analyzed By:	kg
Prep Batch:	62397	Sample Preparation:	2010-08-19	Prepared By:	kg

Parameter	Flag	Result	RL	Units	Dilution	RL
DRO		**67.3**		mg/Kg	1	50.0

[1] SPECIAL-TFT is out of control limits due to an unknown anomaly. However, 4-BFB is within control limits and shows the method to be in control. •

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		114	mg/Kg	1	100	114	70 - 130

Sample: 241219 - AH-1 4-4.5'

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	72770	Date Analyzed:	2010-08-18	Analyzed By:	AG
Prep Batch:	62330	Sample Preparation:	2010-08-18	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)		1.13	mg/Kg	1	2.00	56	48.5 - 152
4-Bromofluorobenzene (4-BFB)		0.983	mg/Kg	1	2.00	49	42 - 159

Method Blank (1) QC Batch: 72698

QC Batch:	72698	Date Analyzed:	2010-08-17	Analyzed By:	AR
Prep Batch:	62312	QC Preparation:	2010-08-17	Prepared By:	AR

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

Method Blank (1) QC Batch: 72769

QC Batch:	72769	Date Analyzed:	2010-08-18	Analyzed By:	AG
Prep Batch:	62330	QC Preparation:	2010-08-18	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)		1.78	mg/Kg	1	2.00	89	66.6 - 122
4-Bromofluorobenzene (4-BFB)		1.48	mg/Kg	1	2.00	74	55.4 - 132

Method Blank (1) QC Batch: 72770

QC Batch: 72770 | Date Analyzed: 2010-08-18 | Analyzed By: AG
Prep Batch: 62330 | QC Preparation: 2010-08-18 | 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)		1.99	mg/Kg	1	2.00	100	67.6 - 150
4-Bromofluorobenzene (4-BFB)		1.60	mg/Kg	1	2.00	80	52.4 - 130

Method Blank (1) QC Batch: 72774

QC Batch: 72774 | Date Analyzed: 2010-08-19 | Analyzed By: kg
Prep Batch: 62397 | 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		91.6	mg/Kg	1	100	92	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 72698 | Date Analyzed: 2010-08-17 | Analyzed By: AR
Prep Batch: 62312 | QC Preparation: 2010-08-17 | 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.

Laboratory Control Spike (LCS-1)

QC Batch: 72769 | Date Analyzed: 2010-08-18 | Analyzed By: AG
Prep Batch: 62330 | QC Preparation: 2010-08-18 | Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.96	mg/Kg	1	2.00	<0.0150	98	81.9 - 108
Toluene	1.89	mg/Kg	1	2.00	<0.00950	94	81.9 - 107
Ethylbenzene	1.76	mg/Kg	1	2.00	<0.0106	88	78.4 - 107
Xylene	5.34	mg/Kg	1	6.00	<0.00930	89	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	1.97	mg/Kg	1	2.00	<0.0150	98	81.9 - 108	0	20
Toluene	1.91	mg/Kg	1	2.00	<0.00950	96	81.9 - 107	1	20
Ethylbenzene	1.77	mg/Kg	1	2.00	<0.0106	88	78.4 - 107	1	20
Xylene	5.38	mg/Kg	1	6.00	<0.00930	90	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)	1.76	1.73	mg/Kg	1	2.00	88	86	70.2 - 114
4-Bromofluorobenzene (4-BFB)	1.65	1.64	mg/Kg	1	2.00	82	82	69.8 - 121

Laboratory Control Spike (LCS-1)

QC Batch: 72770 | Date Analyzed: 2010-08-18 | Analyzed By: AG
Prep Batch: 62330 | QC Preparation: 2010-08-18 | Prepared By: AG

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	15.2	mg/Kg	1	20.0	<1.65	76	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	14.4	mg/Kg	1	20.0	<1.65	72	69.9 - 95.4	5	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	1.64	mg/Kg	1	2.00	100	82	61.9 - 142
4-Bromofluorobenzene (4-BFB)	1.78	1.59	mg/Kg	1	2.00	89	80	68.2 - 132

Laboratory Control Spike (LCS-1)

QC Batch: 72774 | Date Analyzed: 2010-08-19 | Analyzed By: kg
Prep Batch: 62397 | QC Preparation: 2010-08-19 | Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	204	mg/Kg	1	250	<14.5	82	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	215	mg/Kg	1	250	<14.5	86	57.4 - 133.4	5	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	103	mg/Kg	1	100	116	103	70 - 130

Matrix Spike (MS-1) Spiked Sample: 241239

QC Batch: 72698 | Date Analyzed: 2010-08-17 | Analyzed By: AR
Prep Batch: 62312 | QC Preparation: 2010-08-17 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	10300	mg/Kg	100	10000	392	99	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	10500	mg/Kg	100	10000	392	101	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: 241219

QC Batch: 72769 | Date Analyzed: 2010-08-18 | Analyzed By: AG
Prep Batch: 62330 | QC Preparation: 2010-08-18 | Prepared By: AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	2.15	mg/Kg	1	2.00	<0.0150	108	80.5 - 112
Toluene	2.13	mg/Kg	1	2.00	<0.00950	106	82.4 - 113
Ethylbenzene	2.15	mg/Kg	1	2.00	<0.0106	108	83.9 - 114
Xylene	6.47	mg/Kg	1	6.00	<0.00930	108	84 - 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
Benzene	[2]	1.52	mg/Kg	1	2.00	<0.0150	76	80.5 - 112	34	20
Toluene	[3]	1.50	mg/Kg	1	2.00	<0.00950	75	82.4 - 113	35	20
Ethylbenzene	[4]	1.51	mg/Kg	1	2.00	<0.0106	76	83.9 - 114	35	20
Xylene	[5]	4.57	mg/Kg	1	6.00	<0.00930	76	84 - 114	34	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)	1.74	1.18	mg/Kg	1	2	87	59	41.3 - 117
4-Bromofluorobenzene (4-BFB)	1.67	1.14	mg/Kg	1	2	84	57	35.5 - 129

Matrix Spike (MS-1) Spiked Sample: 241299

QC Batch:	72770	Date Analyzed:	2010-08-18	Analyzed By:	AG
Prep Batch:	62330	QC Preparation:	2010-08-18	Prepared By:	AG

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	14.6	mg/Kg	1	20.0	<1.65	73	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	15.7	mg/Kg	1	20.0	<1.65	78	61.8 - 114	7	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)	1.12	1.23	mg/Kg	1	2	56	62	50 - 162
4-Bromofluorobenzene (4-BFB)	1.16	1.27	mg/Kg	1	2	58	64	50 - 162

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

Matrix Spike (MS-1) Spiked Sample: 241291

QC Batch: 72774 | Date Analyzed: 2010-08-19 | Analyzed By: kg
Prep Batch: 62397 | QC Preparation: 2010-08-19 | Prepared By: kg

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	220	mg/Kg	1	250	<14.5	88	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	228	mg/Kg	1	250	<14.5	91	35.2 - 167.1	4	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	107	106	mg/Kg	1	100	107	106	70 - 130

Standard (ICV-1)

QC Batch: 72698 | Date Analyzed: 2010-08-17 | Analyzed By: AR

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	2010-08-17

Standard (CCV-1)

QC Batch: 72698 | Date Analyzed: 2010-08-17 | Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.2	99	85 - 115	2010-08-17

Standard (CCV-1)

QC Batch: 72769 | Date Analyzed: 2010-08-18 | 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	0.0958	96	80 - 120	2010-08-18

continued ...

standard continued ...

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Toluene		mg/Kg	0.100	0.0921	92	80 - 120	2010-08-18
Ethylbenzene		mg/Kg	0.100	0.0853	85	80 - 120	2010-08-18
Xylene		mg/Kg	0.300	0.260	87	80 - 120	2010-08-18

Standard (CCV-2)

QC Batch: 72769 Date Analyzed: 2010-08-18 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	0.0980	98	80 - 120	2010-08-18
Toluene		mg/Kg	0.100	0.0947	95	80 - 120	2010-08-18
Ethylbenzene		mg/Kg	0.100	0.0888	89	80 - 120	2010-08-18
Xylene		mg/Kg	0.300	0.266	89	80 - 120	2010-08-18

Standard (CCV-1)

QC Batch: 72770 Date Analyzed: 2010-08-18 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	0.972	97	80 - 120	2010-08-18

Standard (CCV-2)

QC Batch: 72770 Date Analyzed: 2010-08-18 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	1.07	107	80 - 120	2010-08-18

Standard (CCV-2)

QC Batch: 72774 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	233	93	80 - 120	2010-08-19

Standard (CCV-3)

QC Batch: 72774 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	233	93	80 - 120	2010-08-19

WO#: 16281640

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

ANALYSIS REQUEST
(Circle or Specify Method No.)

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-6400628

PROJECT NAME: COG / Berry "A" Fed #1
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	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
24|25	8/11		S		X	AH-1 @ 0-1' (Backfill)	1				X																	
216						AH-1 1'-1.5' (Backfill)																							
217						2'-2.5' (Backfill)																							
218						3'-3.5' (Backfill																							
219						4'-4.5'							X	X										X					
220						5'-5.5'																							
221						6'-6.5'																							
222						7'-7.5'																							

RELINQUISHED BY: (Signature) — Date: 8/13/10 Time: 1545
RECEIVED BY: (Signature) — Date: 8/13/10 Time: 1545
SAMPLED BY: (Print & Initial) JT / JJ — 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: PHONE:
RECEIVED BY: (Signature)
DATE: TIME:
RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 18.0°C intact

REMARKS: If total TPH exceeds 5,000 mg/kg run deeper samples / If BTEX exceeds 50 mg/kg or ~~Benzene~~ exceeds 10 mg/kg run deeper samples

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

Hold additional Samples

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
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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: October 25, 2010

Work Order: 10102019

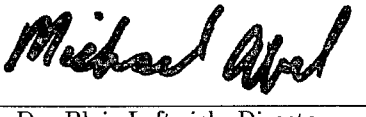
Project Location: Eddy County, NM
Project Name: COG/Berry A Fed. #1
Project Number: 114-6400628

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
248002	BH-1 0-1'	soil	2010-10-14	00:00	2010-10-20
248003	BH-1 3'	soil	2010-10-14	00:00	2010-10-20
248004	BH-1 5'	soil	2010-10-14	00:00	2010-10-20
248005	BH-1 7'	soil	2010-10-14	00:00	2010-10-20
248006	BH-1 10'	soil	2010-10-14	00:00	2010-10-20
248007	BH-1 15'	soil	2010-10-14	00:00	2010-10-20
248008	BH-1 20'	soil	2010-10-14	00:00	2010-10-20
248009	BH-1 25'	soil	2010-10-14	00:00	2010-10-20
248010	BH-1 30'	soil	2010-10-14	00:00	2010-10-20
248011	BH-1 40'	soil	2010-10-14	00:00	2010-10-20

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
248012	BH-1 50'	soil	2010-10-14	00:00	2010-10-20
248013	BH-1 60'	soil	2010-10-14	00:00	2010-10-20
248014	BH-2 0-1'	soil	2010-10-14	00:00	2010-10-20
248015	BH-2 3'	soil	2010-10-14	00:00	2010-10-20
248016	BH-2 5'	soil	2010-10-14	00:00	2010-10-20
248017	BH-2 7'	soil	2010-10-14	00:00	2010-10-20
248018	BH-3 0-1'	soil	2010-10-14	00:00	2010-10-20
248019	BH-3 3'	soil	2010-10-14	00:00	2010-10-20
248020	BH-3 5'	soil	2010-10-14	00:00	2010-10-20
248021	BH-3 7'	soil	2010-10-14	00:00	2010-10-20
248022	BH-3 10'	soil	2010-10-14	00:00	2010-10-20
248023	BH-4 0-1'	soil	2010-10-14	00:00	2010-10-20
248024	BH-4 3'	soil	2010-10-14	00:00	2010-10-20
248025	BH-4 5'	soil	2010-10-14	00:00	2010-10-20
248026	BH-4 7'	soil	2010-10-14	00:00	2010-10-20
248027	BH-4 10'	soil	2010-10-14	00:00	2010-10-20

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/Berry A Fed. #1 were received by TraceAnalysis, Inc. on 2010-10-20 and assigned to work order 10102019. Samples for work order 10102019 were received intact at a temperature of 4.0 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	64001	2010-10-21 at 09:44	74655	2010-10-22 at 14:33
Chloride (Titration)	SM 4500-Cl B	64001	2010-10-21 at 09:44	74656	2010-10-22 at 14:34
Chloride (Titration)	SM 4500-Cl B	64001	2010-10-21 at 09:44	74657	2010-10-22 at 14:35
Chloride (Titration)	SM 4500-Cl B	64001	2010-10-21 at 09:44	74658	2010-10-22 at 14:36

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 10102019 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: 248002 - BH-1 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	74655	Date Analyzed:	2010-10-22	Analyzed By:	AR
Prep Batch:	64001	Sample Preparation:	2010-10-21	Prepared By:	AR

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

Sample: 248003 - BH-1 3'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	74655	Date Analyzed:	2010-10-22	Analyzed By:	AR
Prep Batch:	64001	Sample Preparation:	2010-10-21	Prepared By:	AR

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

Sample: 248004 - BH-1 5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	74655	Date Analyzed:	2010-10-22	Analyzed By:	AR
Prep Batch:	64001	Sample Preparation:	2010-10-21	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**33400**	mg/Kg	100	4.00

Sample: 248005 - BH-1 7'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	74656	Date Analyzed:	2010-10-22	Analyzed By:	AR
Prep Batch:	64001	Sample Preparation:	2010-10-21	Prepared By:	AR

continued ...

sample 248005 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**15000**	mg/Kg	100	4.00

Sample: 248006 - BH-1 10'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	74656	Date Analyzed:	2010-10-22	Analyzed By:	AR
Prep Batch:	64001	Sample Preparation:	2010-10-21	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**9540**	mg/Kg	100	4.00

Sample: 248007 - BH-1 15'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	74656	Date Analyzed:	2010-10-22	Analyzed By:	AR
Prep Batch:	64001	Sample Preparation:	2010-10-21	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**4100**	mg/Kg	100	4.00

Sample: 248008 - BH-1 20'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	74656	Date Analyzed:	2010-10-22	Analyzed By:	AR
Prep Batch:	64001	Sample Preparation:	2010-10-21	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**1370**	mg/Kg	100	4.00

Sample: 248009 - BH-1 25'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	74656	Date Analyzed:	2010-10-22	Analyzed By:	AR
Prep Batch:	64001	Sample Preparation:	2010-10-21	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**1230**	mg/Kg	100	4.00

Sample: 248010 - BH-1 30'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	74656	Date Analyzed:	2010-10-22	Analyzed By:	AR
Prep Batch:	64001	Sample Preparation:	2010-10-21	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**234**	mg/Kg	50	4.00

Sample: 248011 - BH-1 40'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	74656	Date Analyzed:	2010-10-22	Analyzed By:	AR
Prep Batch:	64001	Sample Preparation:	2010-10-21	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**513**	mg/Kg	50	4.00

Sample: 248012 - BH-1 50'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	74656	Date Analyzed:	2010-10-22	Analyzed By:	AR
Prep Batch:	64001	Sample Preparation:	2010-10-21	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**371**	mg/Kg	50	4.00

Sample: 248013 - BH-1 60'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	74656	Date Analyzed:	2010-10-22	Analyzed By:	AR
Prep Batch:	64001	Sample Preparation:	2010-10-21	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**3030**	mg/Kg	100	4.00

Sample: 248014 - BH-2 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	74656	Date Analyzed:	2010-10-22	Analyzed By:	AR
Prep Batch:	64001	Sample Preparation:	2010-10-21	Prepared By:	AR

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

Sample: 248015 - BH-2 3'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	74657	Date Analyzed:	2010-10-22	Analyzed By:	AR
Prep Batch:	64001	Sample Preparation:	2010-10-21	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**204**	mg/Kg	50	4.00

Sample: 248016 - BH-2 5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	74657	Date Analyzed:	2010-10-22	Analyzed By:	AR
Prep Batch:	64001	Sample Preparation:	2010-10-21	Prepared By:	AR

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

Sample: 248017 - BH-2 7'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	74657	Date Analyzed:	2010-10-22	Analyzed By:	AR
Prep Batch:	64001	Sample Preparation:	2010-10-21	Prepared By:	AR

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

Sample: 248018 - BH-3 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	74657	Date Analyzed:	2010-10-22	Analyzed By:	AR
Prep Batch:	64001	Sample Preparation:	2010-10-21	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**504**	mg/Kg	50	4.00

Sample: 248019 - BH-3 3'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	74657	Date Analyzed:	2010-10-22	Analyzed By:	AR
Prep Batch:	64001	Sample Preparation:	2010-10-21	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**387**	mg/Kg	50	4.00

Sample: 248020 - BH-3 5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	74657	Date Analyzed:	2010-10-22	Analyzed By:	AR
Prep Batch:	64001	Sample Preparation:	2010-10-21	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**316**	mg/Kg	50	4.00

Sample: 248021 - BH-3 7'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	74657	Date Analyzed:	2010-10-22	Analyzed By:	AR
Prep Batch:	64001	Sample Preparation:	2010-10-21	Prepared By:	AR

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

Sample: 248022 - BH-3 10'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	74657	Date Analyzed:	2010-10-22	Analyzed By:	AR
Prep Batch:	64001	Sample Preparation:	2010-10-21	Prepared By:	AR

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

Sample: 248023 - BH-4 0-1'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	74657	Date Analyzed:	2010-10-22	Analyzed By:	AR
Prep Batch:	64001	Sample Preparation:	2010-10-21	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**19800**	mg/Kg	100	4.00

Sample: 248024 - BH-4 3'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	74657	Date Analyzed:	2010-10-22	Analyzed By:	AR
Prep Batch:	64001	Sample Preparation:	2010-10-21	Prepared By:	AR

Parameter	Flag	Result	RL Units	Dilution	RL
Chloride		**9280**	mg/Kg	100	4.00

Sample: 248025 - BH-4 5'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	74658	Date Analyzed:	2010-10-22	Analyzed By:	AR
Prep Batch:	64001	Sample Preparation:	2010-10-21	Prepared By:	AR

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

Sample: 248026 - BH-4 7'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	74658	Date Analyzed:	2010-10-22	Analyzed By:	AR
Prep Batch:	64001	Sample Preparation:	2010-10-21	Prepared By:	AR

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

Sample: 248027 - BH-4 10'

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	74658	Date Analyzed:	2010-10-22	Analyzed By:	AR
Prep Batch:	64001	Sample Preparation:	2010-10-21	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**229**	mg/Kg	50	4.00

Method Blank (1) QC Batch: 74655

QC Batch:	74655	Date Analyzed:	2010-10-22	Analyzed By:	AR
Prep Batch:	64001	QC Preparation:	2010-10-21	Prepared By:	AR

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

Method Blank (1) QC Batch: 74656

QC Batch:	74656	Date Analyzed:	2010-10-22	Analyzed By:	AR
Prep Batch:	64001	QC Preparation:	2010-10-21	Prepared By:	AR

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

Method Blank (1) QC Batch: 74657

QC Batch:	74657	Date Analyzed:	2010-10-22	Analyzed By:	AR
Prep Batch:	64001	QC Preparation:	2010-10-21	Prepared By:	AR

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

Method Blank (1) QC Batch: 74658

QC Batch:	74658	Date Analyzed:	2010-10-22	Analyzed By:	AR
Prep Batch:	64001	QC Preparation:	2010-10-21	Prepared By:	AR

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

Laboratory Control Spike (LCS-1)

QC Batch:	74655	Date Analyzed:	2010-10-22	Analyzed By:	AR
Prep Batch:	64001	QC Preparation:	2010-10-21	Prepared By:	AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	97.7	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	102	mg/Kg	1	100	<2.18	102	85 - 115	4	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: 74656 | Date Analyzed: 2010-10-22 | Analyzed By: AR
Prep Batch: 64001 | QC Preparation: 2010-10-21 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	96.7	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: 74657 | Date Analyzed: 2010-10-22 | Analyzed By: AR
Prep Batch: 64001 | QC Preparation: 2010-10-21 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	97.4	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: 74658 | Date Analyzed: 2010-10-22 | Analyzed By: AR
Prep Batch: 64001 | QC Preparation: 2010-10-21 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	98.4	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	102	mg/Kg	1	100	<2.18	102	85 - 115	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: 248004

QC Batch: 74655 | Date Analyzed: 2010-10-22 | Analyzed By: AR
Prep Batch: 64001 | QC Preparation: 2010-10-21 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	43700	mg/Kg	100	10000	33400	103	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	44000	mg/Kg	100	10000	33400	106	85 - 115	1	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: 248014

QC Batch: 74656 | Date Analyzed: 2010-10-22 | Analyzed By: AR
Prep Batch: 64001 | QC Preparation: 2010-10-21 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	10200	mg/Kg	100	10000	<218	101	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	103	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: 248024

QC Batch: 74657 | Date Analyzed: 2010-10-22 | Analyzed By: AR
Prep Batch: 64001 | QC Preparation: 2010-10-21 | Prepared By: AR

continued ...

matrix spikes continued ...

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	18800	mg/Kg	100	10000	9280	95	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	19400	mg/Kg	100	10000	9280	101	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: 248027

QC Batch: 74658 | Date Analyzed: 2010-10-22 | Analyzed By: AR
Prep Batch: 64001 | QC Preparation: 2010-10-21 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	10100	mg/Kg	100	10000	229	99	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	229	102	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: 74655 | Date Analyzed: 2010-10-22 | Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.5	100	85 - 115	2010-10-22

Standard (CCV-1)

QC Batch: 74655 | Date Analyzed: 2010-10-22 | 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	2010-10-22

Standard (ICV-1)

QC Batch: 74656 Date Analyzed: 2010-10-22 Analyzed By: AR

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	2010-10-22

Standard (CCV-1)

QC Batch: 74656 Date Analyzed: 2010-10-22 Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.5	100	85 - 115	2010-10-22

Standard (ICV-1)

QC Batch: 74657 Date Analyzed: 2010-10-22 Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.7	100	85 - 115	2010-10-22

Standard (CCV-1)

QC Batch: 74657 Date Analyzed: 2010-10-22 Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	100	100	85 - 115	2010-10-22

Standard (ICV-1)

QC Batch: 74658 Date Analyzed: 2010-10-22 Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	100	100	85 - 115	2010-10-22

Standard (CCV-1)

QC Batch: 74658 | Date Analyzed: 2010-10-22 | Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.8	100	85 - 115	2010-10-22

WO #: 10102019

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.: 114-6400628

PROJECT NAME: COG / Berry A Federal #1

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
248602	10/14		S		X	BH-1 0-1'	1				X	
003						BH-1 3'	1				X	
004						BH-1 5'	1				X	
005						BH-1 7'	1				X	
006						BH-1 10'	1				X	
007						BH-1 15'	1				X	
008						BH-1 20'	1				X	
009						BH-1 25'	1				X	
010						BH-1 30'	1				X	
011	↓		↓		↓	BH-1 40'	1				X	

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

RELINQUISHED BY: (Signature) Date: 10/20/10 Time: 1120

RECEIVED BY: (Signature) Date: 10/20/10 Time: 1120

SAMPLED BY: (Print & Initial) Kim Date: 10/13/10 Time:

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 Tavarez

Results by:

RUSH Charges Authorized: Yes No

RECEIVING LABORATORY:

ADDRESS:

CITY: STATE: ZIP:

CONTACT: PHONE:

RECEIVED BY: (Signature)

DATE: TIME:

SAMPLE CONDITION WHEN RECEIVED: 4.0 Intact

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.

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248012	10/14		S		X	BH-1 50'	1				X													X				
013						BH-1 60'	1				X													X				
014						BH-2 0-1'	1				X													X				
015						BH-2 3'	1				X													X				
016						BH-2 5'	1				X													X				
017						BH-2 7'	1				X													X				
018						BH-3 0-1'	1				X													X				
019						BH-3 3'	1				X													X				
020						BH-3 5'	1				X													X				
021						BH-3 7'	1				X													X				

RELINQUISHED BY: (Signature) Date: 10/20/10 Time: 11:20
RECEIVED BY: (Signature) Date: 10/20/10 Time: 11:20
SAMPLED BY: (Print & Initial) Kim Date: 10/15/10 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:
ADDRESS:
CITY: STATE: ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature)
DATE: TIME:

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 4.0 Intact

REMARKS:

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248022	10/14		S		X	BH-3 10'	1				X													X				
023						BH-4 0-1'	1				X													X				
024						BH-4 3'	1				X													X				
025						BH-4 5'	1				X													X				
026						BH-4 7'	1				X													X				
027	↓		↓		↓	BH-4 10'	1				X													X				

RELINQUISHED BY: (Signature)	Date: 10/20/10 Time: 11:20	RECEIVED BY: (Signature)	Date: 10/20/10 Time: 1120
SAMPLED BY: (Print & Initial) Kim	Date: 10/15/10 Time:		
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 Tavarez	Results by:		
RECEIVING LABORATORY: ADDRESS: CITY: STATE: ZIP: CONTACT: PHONE:	RECEIVED BY: (Signature) DATE: TIME:		RUSH Charges Authorized: Yes No
SAMPLE CONDITION WHEN RECEIVED: 4.0 Intact	REMARKS:		

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APPENDIX D

Soil Boring Log

Boring/Well: BH-1
Client: COG
Site Location: Berry A Federal #1
Location: Eddy County, New Mexico
Total Depth 60'
Date Installed: 10/14/10

DEPTH (Ft)	Ft.	OVM	SAMPLE DESCRIPTION
0-1'		--	Brown sand
3'		--	Brown sand
5'		--	Tan sandy caliche (stained)
7'		--	Tan sandy caliche
10'		--	Red clay sandy caliche mix
15'		--	Loose red sandy clay 50/50
20'		--	Loose red sandy clay 60/40
25'		--	Loose red sandy clay 60/40
30'		--	Loose red sandy clay 80/20
40'		--	Sandy clay with gravel mix
50'		--	Sandy clay <10% sand
60'		--	Dense rich red clay

Total Depth is 60 feet Groundwater was not encountered

BEB Below Excavation Bottom
(--) Not Analyzed