SITE INFORMATION

Report Type: Closure Report

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

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

October 4, 2011

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., 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.

Remediation Action and Closure

As approved by the NMOCD, Tetra Tech personnel supervised the excavation of the site from March 21-23, 2011. The excavation depths are highlighted in Table 1 and shown on Figure 4. The area of AH-1 (BH-1) was excavated to a depth of approximately 15.0' below surface then backfilled with clean material to approximately 4.0'. A 40 mil liner was then installed in the bottom and backfilled the excavation to grade with clean material. The area of AH-4 as excavated to a depth of approximately 3.0' below surface.

As requested by the BLM, additional excavation was performed around the well pad area. Confirmation samples (CS-1 through CS-7) were collected from the bottom of the excavation and the results are summarized on Table 2. Approximately 1300 yards^3 of impacted soil was hauled to CRI for proper disposal. Photos of the excavation and liner installation are attached.

Based upon the investigation and remediation performed at this site, COG requests closure of this site. The final C-141 is enclosed in Appendix A. If you require any additional information or have any questions, please call at (432) 682-4559.

Respectfully submitted,
TETRA TECH

Ike Tavarez
Project Manager

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

Figures

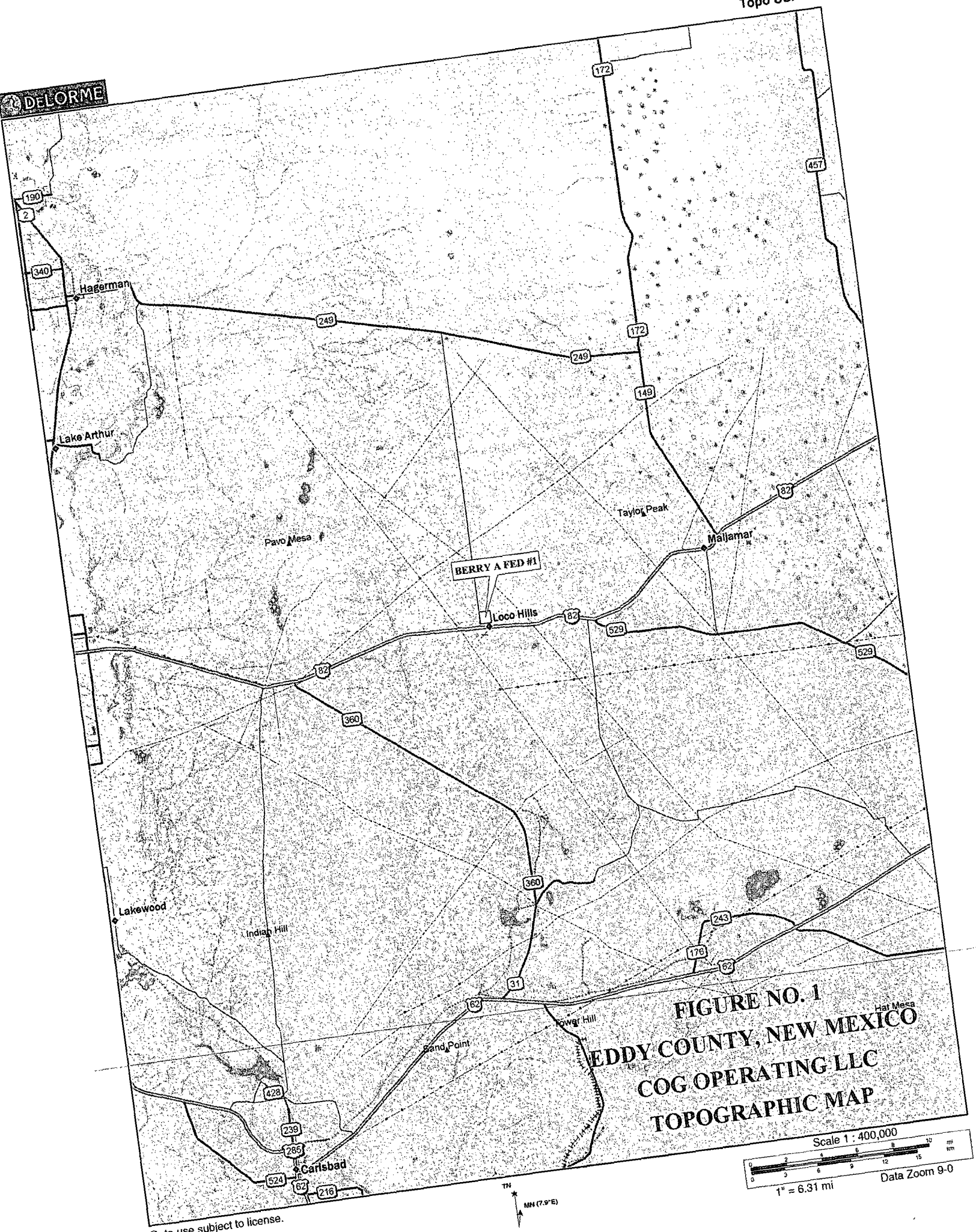


FIGURE NO. 1
EDDY COUNTY, NEW MEXICO
COG OPERATING LLC
TOPOGRAPHIC MAP

FIGURE NO. 2

EDDY COUNTY, NEW MEXICO

COG OPERATING LLC

TOPOGRAPHIC MAP

TN

MN (7.9°E)

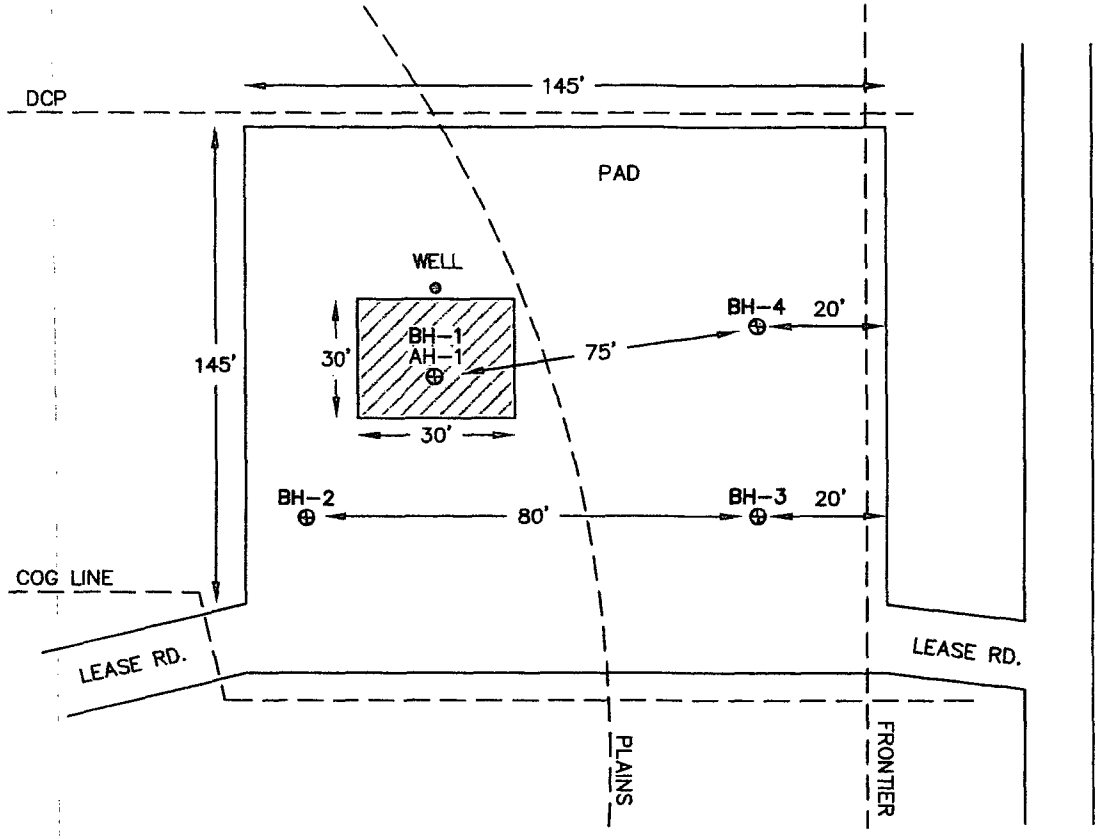
Scale 1 : 24,000

0 500 1200 1800 2400 3000 ft

0 200 400 600 800 1000 m

1" = 2,000.0 ft

Data Zoom 13-0



SPILL AREA
AUGER HOLE LOCATIONS
BORE HOLE LOCATIONS

NOT TO SCALE

FIGURE NO. 3

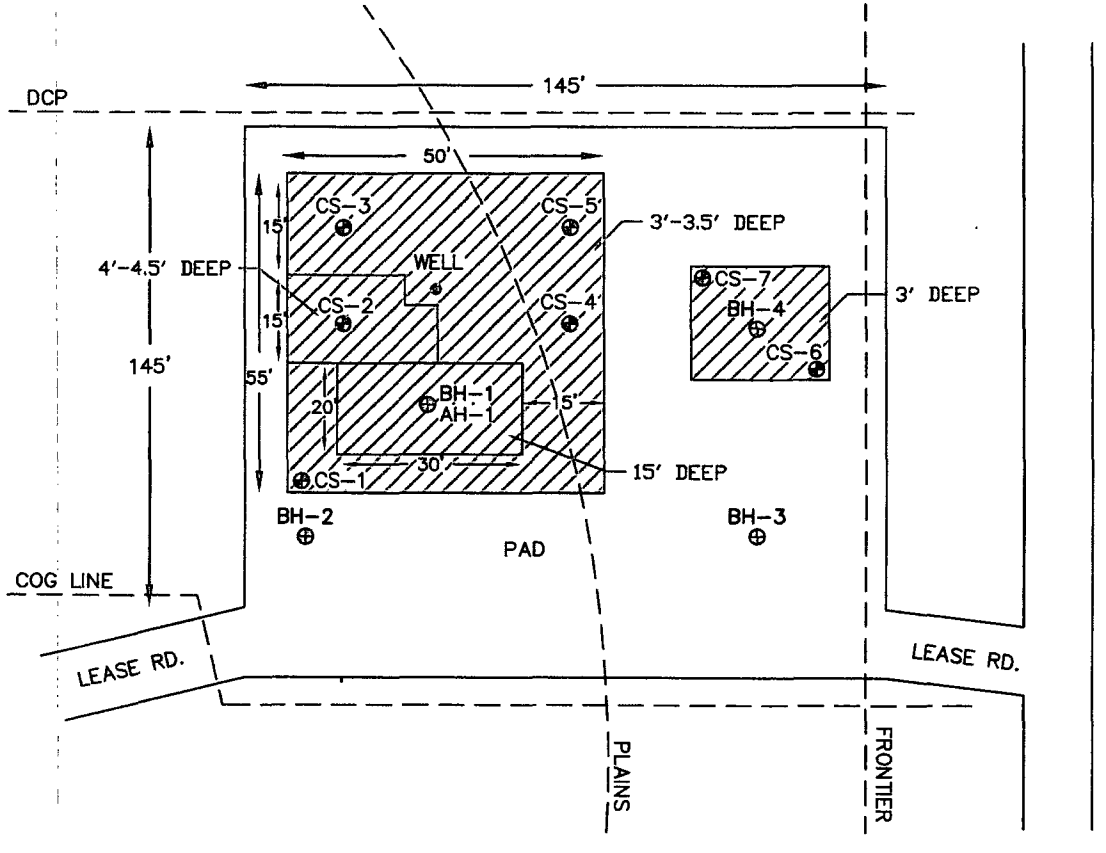
EDDY COUNTY, NEW MEXICO

COG OPERATING LLC

BERRY A FEDERAL #1

TETRA TECH, INC.
MIDLAND, TEXAS

DATE: 10/15/10
DWN. BY: JJ
FILE: H:\COG\5400228 BERRY A FED #1



SPILL AREA
AUGER HOLE SAMPLE LOCATIONS
BORE HOLE SAMPLE LOCATIONS
CONFIRMATION SAMPLE LOCATIONS

NOT TO SCALE

FIGURE NO. 4

EDDY COUNTY, NEW MEXICO

COG OPERATING LLC

BERRY A FEDERAL #1

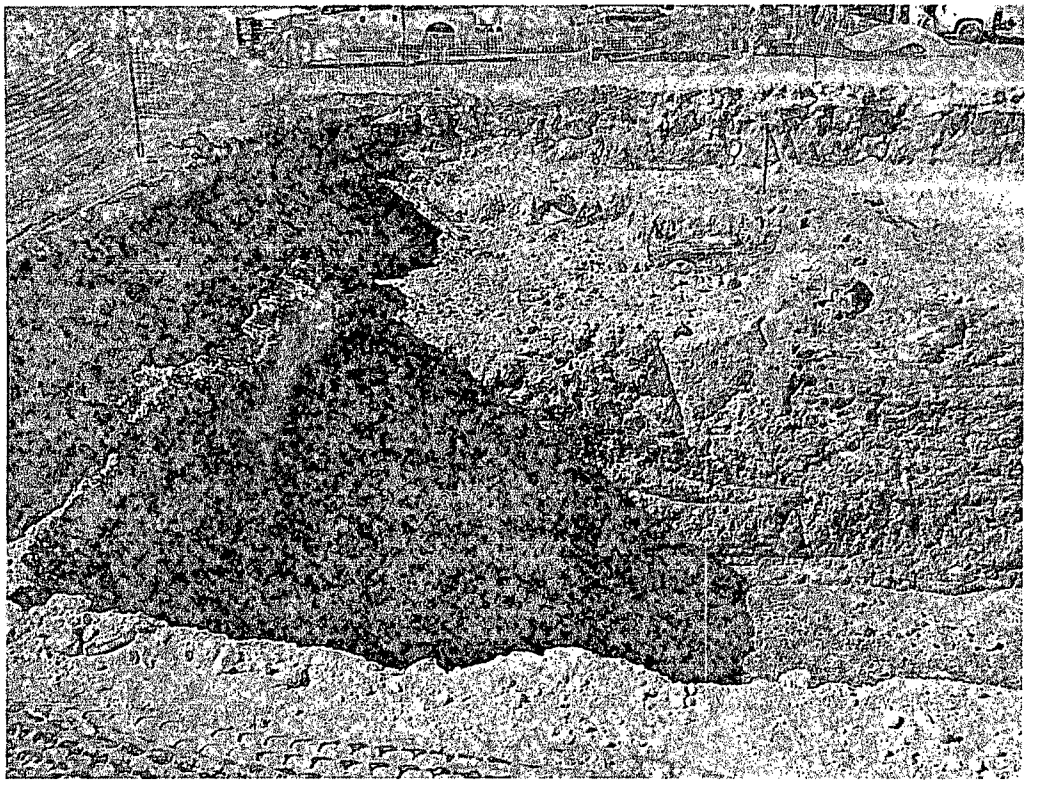
TETRA TECH, INC.
MIDLAND, TEXAS

DATE: 9/15/2011
DWN. BY: IM
FILE: H:\COG\640062S BERRY A FED #1

Photos

COG Operating LLC
Berry A Federal #1
Eddy County, NM
Site Excavation: March 21-23, 2011

TETRA TECH

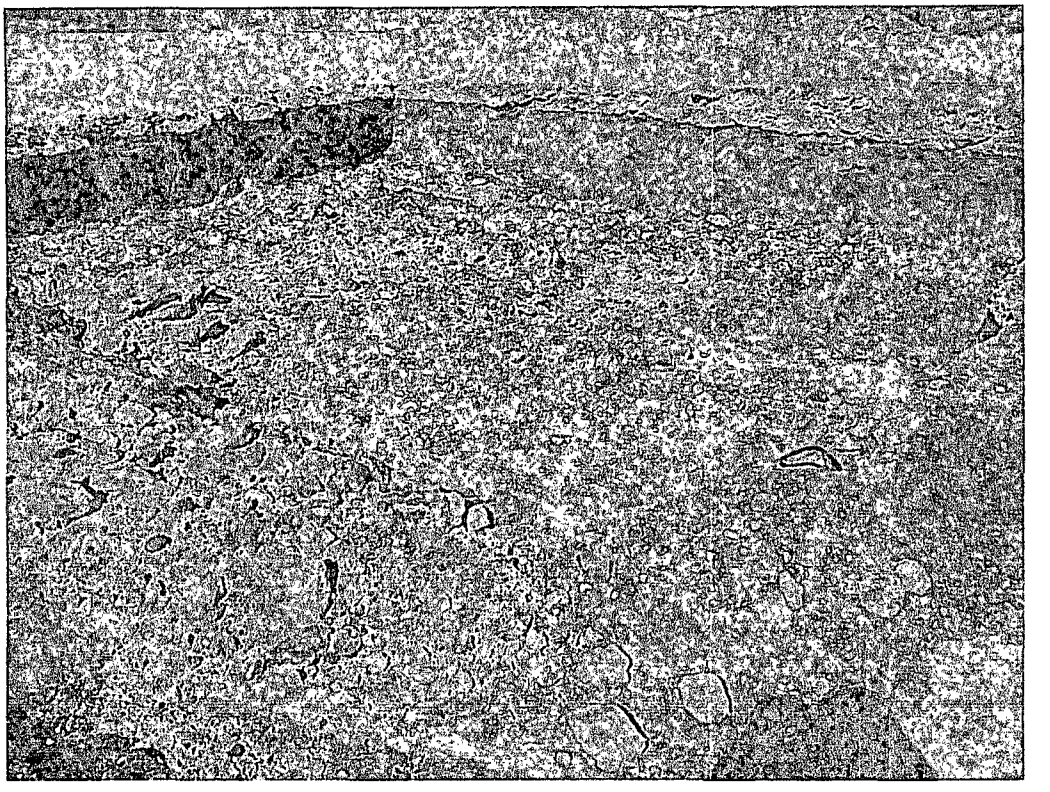


Final Depth near BH-1

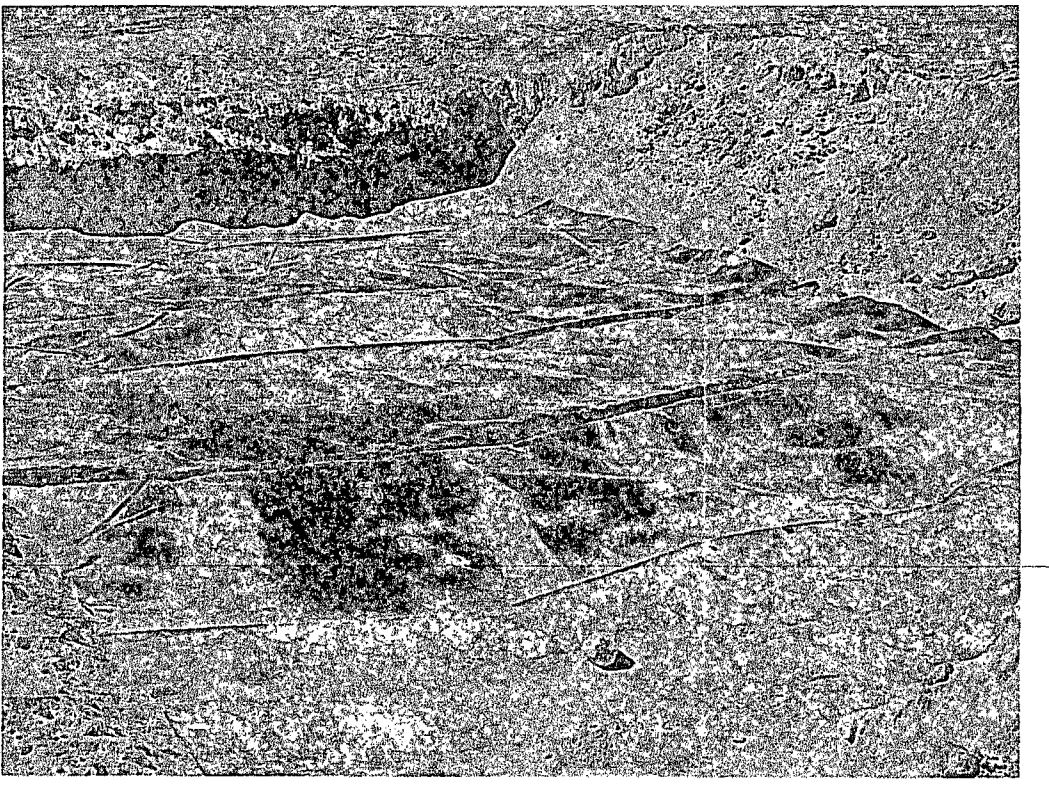
Surrounding area near BH-1

COG Operating LLC
Berry A Federal #1
Eddy County, NM
Site Excavation: March 21-23, 2011

TETRA TECH



Site backfilled with clean material



Liner installed over BH-1

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
Excavation depths
Liner installation depth

Table 2
COG Operating LLC.
BERRY A FEDERAL #1
EDDY COUNTY, NEW MEXICO

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	Total	
CS-1	3/23/2011		X		<2.00	215	215	<200
CS-2	"		X		-	-	-	203
CS-3	"		X		-	-	-	1,150
CS-4	"		X		-	-	-	1,140
CS-5	"		X		-	-	-	904
CS-6	"		X		-	-	-	<200
CS-7	"		X		-	-	-	<200

(--) Not Analyzed

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

RECEIVED
OCT 17 2011
NMOCD ARTESIA

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
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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) 685-4332**
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 N 32.82643° **Longitude** W 103.980206°

NATURE OF RELEASE

Type of Release: Produced Fluids	Volume of Release 550 bbls	Volume Recovered 520 bbls
Source of Release: Wellbore (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 5/18/10 4:15 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

RECEIVED
OCT 17 2011
NMOCD ARTESIA

Describe Cause of Problem and Remedial Action Taken.*

During plugging and abandoning the well the casing leaked. A temporary pit around the well head area was immediately constructed to contain the water flow. The leak stopped and the well has been successfully plugged and abandoned.

Describe Area Affected and Cleanup Action Taken.*

Tetra Tech inspected site and collected samples to define spills extent. Soil with elevated chloride concentrations was removed and hauled away for proper disposal. A 40 mil liner was installed and the site was then brought up to surface grade with clean backfill material. Tetra Tech prepared closure report and submitted to NMOCD for review.

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

Signature:	OIL CONSERVATION DIVISION
Printed Name: Ike Tavarez (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: 10-14-11 Phone: (432) 682-4559	

* 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

	BTEX				TPH DRO - NEW	TPH GRO
	Benzene	Toluene	Ethylbenzene	Xylene	DRO	GRO
Sample - Field Code	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(mg/Kg)	(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

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: 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.

WO#: 160816640

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|215	8/11		S		X	AH-1 S 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: 8/16/10 Time: 15:45
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

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.

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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	RL Result	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	RL Result	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	RL Result	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	RL Result	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
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: | OF: 3

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.: 114-6100628

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	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	Chlorids	Gamma Spec.	Alpha Beta (Air)	PLM (Asbestos)	Major Anions/Cations, pH, TDS
248602	10/14		S		X	BH-1 0-1'	1				X													X				
003						BH-1 3'	1				X													X				
004						BH-1 5'	1				X													X				
005						BH-1 7'	1				X													X				
006						BH-1 10'	1				X													X				
007						BH-1 15'	1				X													X				
008						BH-1 20'	1				X													X				
009						BH-1 25'	1				X													X				
010						BH-1 30'	1				X													X				
011	↓		↓		↓	BH-1 40'	1				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: 10/15/10 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:

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

WO #: 10102019

Analysis Request of Chain of Custody Record

PAGE: 2 OF: 3

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

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114G400628

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	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
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				

ANALYSIS REQUEST (Circle or Specify Method No.)

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:

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:

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

WO #: 1010219

Analysis Request of Chain of Custody Record

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	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
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:

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

Summary Report

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

Report Date: March 28, 2011

Work Order: 11032527

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

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
261798	CS-1	soil	2011-03-23	00:00	2011-03-25
261799	CS-2	soil	2011-03-23	00:00	2011-03-25
261800	CS-3	soil	2011-03-23	00:00	2011-03-25
261801	CS-4	soil	2011-03-23	00:00	2011-03-25
261802	CS-5	soil	2011-03-23	00:00	2011-03-25
261803	CS-6	soil	2011-03-23	00:00	2011-03-25
261804	CS-7	soil	2011-03-23	00:00	2011-03-25

Sample - Field Code	TPH DRO - NEW DRO (mg/Kg)	TPH GRO GRO (mg/Kg)
261798 - CS-1	**215**	<2.00

Sample: 261798 - CS-1

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

Sample: 261799 - CS-2

Param	Flag	Result	Units	RL
Chloride		**203**	mg/Kg	4.00

Sample: 261800 - CS-3

Param	Flag	Result	Units	RL
Chloride		**1150**	mg/Kg	4.00

Sample: 261801 - CS-4

Param	Flag	Result	Units	RL
Chloride		**1140**	mg/Kg	4.00

Sample: 261802 - CS-5

Param	Flag	Result	Units	RL
Chloride		**904**	mg/Kg	4.00

Sample: 261803 - CS-6

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

Sample: 261804 - CS-7

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

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

Report Date: March 28, 2011

Work Order: 11032527

Project Location: Eddy Co., 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
261798	CS-1	soil	2011-03-23	00:00	2011-03-25
261799	CS-2	soil	2011-03-23	00:00	2011-03-25
261800	CS-3	soil	2011-03-23	00:00	2011-03-25
261801	CS-4	soil	2011-03-23	00:00	2011-03-25
261802	CS-5	soil	2011-03-23	00:00	2011-03-25
261803	CS-6	soil	2011-03-23	00:00	2011-03-25
261804	CS-7	soil	2011-03-23	00:00	2011-03-25

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.

This report consists of a total of 11 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

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 2011-03-25 and assigned to work order 11032527. Samples for work order 11032527 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	67704	2011-03-25 at 15:31	79796	2011-03-28 at 10:03
TPH DRO - NEW	S 8015 D	67703	2011-03-25 at 14:35	79794	2011-03-25 at 14:35
TPH GRO	S 8015 D	67697	2011-03-25 at 16:03	79788	2011-03-26 at 02:07

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 11032527 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: 261798 - CS-1

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79796	Date Analyzed:	2011-03-28	Analyzed By:	AR
Prep Batch:	67704	Sample Preparation:	2011-03-25	Prepared By:	AR

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

Sample: 261798 - CS-1

Laboratory:	Midland				
Analysis:	TPH DRO - NEW	Analytical Method:	S 8015 D	Prep Method:	N/A
QC Batch:	79794	Date Analyzed:	2011-03-25	Analyzed By:	kg
Prep Batch:	67703	Sample Preparation:	2011-03-25	Prepared By:	kg

Parameter	Flag	Result	RL	Units	Dilution	RL
DRO		**215**		mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	[1]	134	mg/Kg	1	100	134	70 - 130

Sample: 261798 - CS-1

Laboratory:	Midland				
Analysis:	TPH GRO	Analytical Method:	S 8015 D	Prep Method:	S 5035
QC Batch:	79788	Date Analyzed:	2011-03-26	Analyzed By:	ME
Prep Batch:	67697	Sample Preparation:	2011-03-25	Prepared By:	ME

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)		2.59	mg/Kg	1	2.00	130	48.5 - 152
4-Bromofluorobenzene (4-BFB)		2.03	mg/Kg	1	2.00	102	42 - 159

[1]High surrogate recovery due to peak interference.

Sample: 261799 - CS-2

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79796	Date Analyzed:	2011-03-28	Analyzed By:	AR
Prep Batch:	67704	Sample Preparation:	2011-03-25	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**203**	mg/Kg	50	4.00

Sample: 261800 - CS-3

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79796	Date Analyzed:	2011-03-28	Analyzed By:	AR
Prep Batch:	67704	Sample Preparation:	2011-03-25	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**1150**	mg/Kg	100	4.00

Sample: 261801 - CS-4

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79796	Date Analyzed:	2011-03-28	Analyzed By:	AR
Prep Batch:	67704	Sample Preparation:	2011-03-25	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**1140**	mg/Kg	50	4.00

Sample: 261802 - CS-5

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79796	Date Analyzed:	2011-03-28	Analyzed By:	AR
Prep Batch:	67704	Sample Preparation:	2011-03-25	Prepared By:	AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**904**	mg/Kg	100	4.00

Sample: 261803 - CS-6

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79796	Date Analyzed:	2011-03-28	Analyzed By:	AR
Prep Batch:	67704	Sample Preparation:	2011-03-25	Prepared By:	AR

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

Sample: 261804 - CS-7

Laboratory:	Midland				
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
QC Batch:	79796	Date Analyzed:	2011-03-28	Analyzed By:	AR
Prep Batch:	67704	Sample Preparation:	2011-03-25	Prepared By:	AR

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

Method Blank (1) QC Batch: 79788

QC Batch:	79788	Date Analyzed:	2011-03-26	Analyzed By:	ME
Prep Batch:	67697	QC Preparation:	2011-03-25	Prepared By:	ME

Parameter	Flag	MDL Result	Units	RL
GRO		<0.753	mg/Kg	2

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.88	mg/Kg	1	2.00	94	67.6 - 150
4-Bromofluorobenzene (4-BFB)		1.48	mg/Kg	1	2.00	74	52.4 - 130

Method Blank (1) QC Batch: 79794

QC Batch:	79794	Date Analyzed:	2011-03-25	Analyzed By:	kg
Prep Batch:	67703	QC Preparation:	2011-03-25	Prepared By:	kg

Parameter	Flag	MDL Result	Units	RL
DRO		<15.7	mg/Kg	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		97.5	mg/Kg	1	100	98	70 - 130

Method Blank (1) QC Batch: 79796

QC Batch: 79796 | Date Analyzed: 2011-03-28 | Analyzed By: AR
Prep Batch: 67704 | QC Preparation: 2011-03-25 | Prepared By: AR

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

Laboratory Control Spike (LCS-1)

QC Batch: 79788 | Date Analyzed: 2011-03-26 | Analyzed By: ME
Prep Batch: 67697 | QC Preparation: 2011-03-25 | Prepared By: ME

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	18.0	mg/Kg	1	20.0	<0.753	90	60.9 - 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	18.1	mg/Kg	1	20.0	<0.753	90	60.9 - 95.4	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)	2.09	1.90	mg/Kg	1	2.00	104	95	61.9 - 142
4-Bromofluorobenzene (4-BFB)	1.75	1.67	mg/Kg	1	2.00	88	84	68.2 - 132

Laboratory Control Spike (LCS-1)

QC Batch: 79794 | Date Analyzed: 2011-03-25 | Analyzed By: kg
Prep Batch: 67703 | QC Preparation: 2011-03-25 | Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	262	mg/Kg	1	250	<15.7	105	47.5 - 144.1

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	275	mg/Kg	1	250	<15.7	110	47.5 - 144.1	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	110	118	mg/Kg	1	100	110	118	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 79796 | Date Analyzed: 2011-03-28 | Analyzed By: AR
Prep Batch: 67704 | QC Preparation: 2011-03-25 | Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	95.9	mg/Kg	1	100	<3.85	96	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	106	mg/Kg	1	100	<3.85	106	85 - 115	10	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: 261797

QC Batch: 79788 | Date Analyzed: 2011-03-26 | Analyzed By: ME
Prep Batch: 67697 | QC Preparation: 2011-03-25 | Prepared By: ME

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	20.7	mg/Kg	1	20.0	<0.753	104	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	20.8	mg/Kg	1	20.0	<0.753	104	61.8 - 114	0	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)	2.66	2.72	mg/Kg	1	2	133	136	50 - 162
4-Bromofluorobenzene (4-BFB)	2.25	2.27	mg/Kg	1	2	112	114	50 - 162

Matrix Spike (MS-1) Spiked Sample: 261797

QC Batch: 79794 | Date Analyzed: 2011-03-25 | Analyzed By: kg
Prep Batch: 67703 | QC Preparation: 2011-03-25 | Prepared By: kg

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	217	mg/Kg	1	250	<15.7	87	11.7 - 152.3

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	205	mg/Kg	1	250	<15.7	82	11.7 - 152.3	6	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	111	120	mg/Kg	1	100	111	120	70 - 130

Matrix Spike (MS-1) Spiked Sample: 261804

QC Batch: 79796 | Date Analyzed: 2011-03-28 | Analyzed By: AR
Prep Batch: 67704 | QC Preparation: 2011-03-25 | Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	9600	mg/Kg	100	10000	<385	96	80 - 120

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	10100	mg/Kg	100	10000	<385	101	80 - 120	5	20

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

Standard (CCV-1)

QC Batch: 79788 | Date Analyzed: 2011-03-26 | Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.06	106	80 - 120	2011-03-26

Standard (CCV-2)

QC Batch: 79788 Date Analyzed: 2011-03-26 Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	1.02	102	80 - 120	2011-03-26

Standard (CCV-1)

QC Batch: 79794 Date Analyzed: 2011-03-25 Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	284	114	80 - 120	2011-03-25

Standard (CCV-2)

QC Batch: 79794 Date Analyzed: 2011-03-25 Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	277	111	80 - 120	2011-03-25

Standard (ICV-1)

QC Batch: 79796 Date Analyzed: 2011-03-28 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	2011-03-28

Standard (CCV-1)

QC Batch: 79796 Date Analyzed: 2011-03-28 Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	98.9	99	85 - 115	2011-03-28

XWO#:1032527

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.: 114-4000628

PROJECT NAME: COG / Berry A Fed #1
Eddy Co, NM

LAB I.D. NUMBER	DATE 2011	TIME	MATRIX	COMP.	GRAB	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS	FILTERED (Y/N)	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	BTEX 8021B	TPH TX1005 (Ext. to C35)	TPH 8015 MOD	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
261798	3/23		S		X	CS-1	1				X			X												X				
799						CS-2																								
800						CS-3																								
801						CS-4																								
802						CS-5																								
803						CS-6																								
804						CS-7																								

RELINQUISHED BY: (Signature)	Date: 3/24/11 Time: 1545	RECEIVED BY: (Signature)	Date: 3/25/11 Time: 1525
SAMPLED BY: (Print & Initial) JT	Date: 3/23/11 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: Trace ADDRESS: CITY: Midland STATE: TX ZIP: CONTACT: PHONE:	RECEIVED BY: (Signature) DATE: TIME:		RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 3.2°C intact

REMARKS: *All 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.