

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

HOBBS OCD 4040

JAN 12 2012

RECEIVED

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company	COG Operating LLC	Contact	Pat Ellis
Address	550 W. Texas, Suite 1300 Midland, Texas 79701	Telephone No.	(432) 230-0077
Facility Name	JC Federal #2	Facility Type	Tank Battery

Surface Owner: Federal	Mineral Owner	Lease No. NMLC-029509B
------------------------	---------------	------------------------

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
F	22	17S	32E					Lea

Latitude 32 49.256 Longitude 103 45.315

NATURE OF RELEASE

Type of Release: Oil	Volume of Release 20bbls	Volume Recovered 15 bbls
Source of Release Heater Treater	Date and Hour of Occurrence 12/31/2010	Date and Hour of Discovery 12/31/2010 9:00a.m.
Was Immediate Notice Given? ☐ Yes ☒ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

If a Watercourse was Impacted, Describe Fully.*

N/A

Describe Cause of Problem and Remedial Action Taken.*

The temperature probe sleeve was inadvertently removed by roustabout while they were working on heater treater. The temperature sleeve and probe were inserted back into the heater treater.

Describe Area Affected and Cleanup Action Taken.*

Tetra Tech inspected the site and collected samples to define the spills extent. Soil that exceeded RRAL was removed and hauled away for proper disposal. Site was then brought up to surface grade with clean backfill material. Tetra Tech prepared closure report and submitted to NMOCD and BLM for review.

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

Signature: 	OIL CONSERVATION DIVISION		
Printed Name: Ike Tavarez (agent for COG)	Approved by District Supervisor:		
Title: Project Manager	Approval Date:	Expiration Date:	
E-mail Address: ike.tavarez@tetrattech.com	Conditions of Approval:		Attached ☐
Date: 12-14-11	Phone: (432) 686-3023		

* Attach Additional Sheets If Necessary

100-100000

100-100000

100-100000



JAN 12 2012

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

State of New Mexico
Energy Minerals and Natural Resources

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

RECEIVED

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	JC Federal #2	Facility Type	Tank Battery

Surface Owner	Federal	Mineral Owner		Lease No.	NMLC-029509B
---------------	---------	---------------	--	-----------	--------------

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
F	22	17S	32E					Lea

Latitude 32 49.256 Longitude 103 45.315

NATURE OF RELEASE

Type of Release	Oil	Volume of Release	20bbls	Volume Recovered	15bbls
Source of Release	Heater treater	Date and Hour of Occurrence	12/31/2010	Date and Hour of Discovery	12/31/2010 9:00 a.m.
Was Immediate Notice Given?	☐ Yes ☒ No ☒ Not Required				
By Whom?	If YES, To Whom?				
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 temperature probe sleeve was inadvertently removed by roustabout while they were working on heater treater. The temperature sleeve and probe were inserted back into the heater treater.

Describe Area Affected and Cleanup Action Taken.*

Initially 20bbls of oil was released from the heater treater and we were able to recover 15bbls with a vacuum truck. The spill area measured a 5' x 20' area inside the dike wall and a 50' x 100' area on the pad location. The closest well location to the release is the JC Federal #2, API#30-025-34772. Tetra Tech will sample the spill site area to delineate any possible contamination from the release and we will present a remediation work plan to the NMOCD/BLM for approval prior to any significant remediation.

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

Signature:				OIL CONSERVATION DIVISION	
Printed Name:	Josh Russo			Approved by District Supervisor:	
Title:	HSE Coordinator			Approval Date:	Expiration Date:
E-mail Address:	jrusso@conchoresources.com			Conditions of Approval:	Attached ☐
Date:	01/05/2011			Phone:	432-212-2399

* Attach Additional Sheets If Necessary

242

1917

1918

1919

1920

1921

1922

1923

1924

1925

1926

1927

1928

1929

1930

1931

1932

1933

1934

1935

1936

1937

1938

1939

SITE INFORMATION

Report Type: REVISED - Work Plan

General Site Information

Site:	JC Federal #2 Tank Battery		
Company:	COG Operating LLC		
Section, Township and Range	Unit F Sec. 22 T-17S R-32E		
Lease Number:	NMLC-029509B		
County:	Lea County		
GPS:	32.82081° N	103.75511° W	
Surface Owner:	Federal		
Mineral Owner:			
Directions:	From the intersection of 529 and CR-126, travel north on CR-126 2.1 miles, turn right 0.4 miles to location on right.		

Release Data:

Date Released:	12/31/2010
Type Release:	Oil
Source of Contamination:	Heater Treater
Fluid Released:	20 bbls
Fluids Recovered:	15 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@tetrattech.com

Ranking Criteria

Depth to Groundwater:	Ranking Score	Site Data
<50 ft	20	
50-99 ft	10	
>100 ft.	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

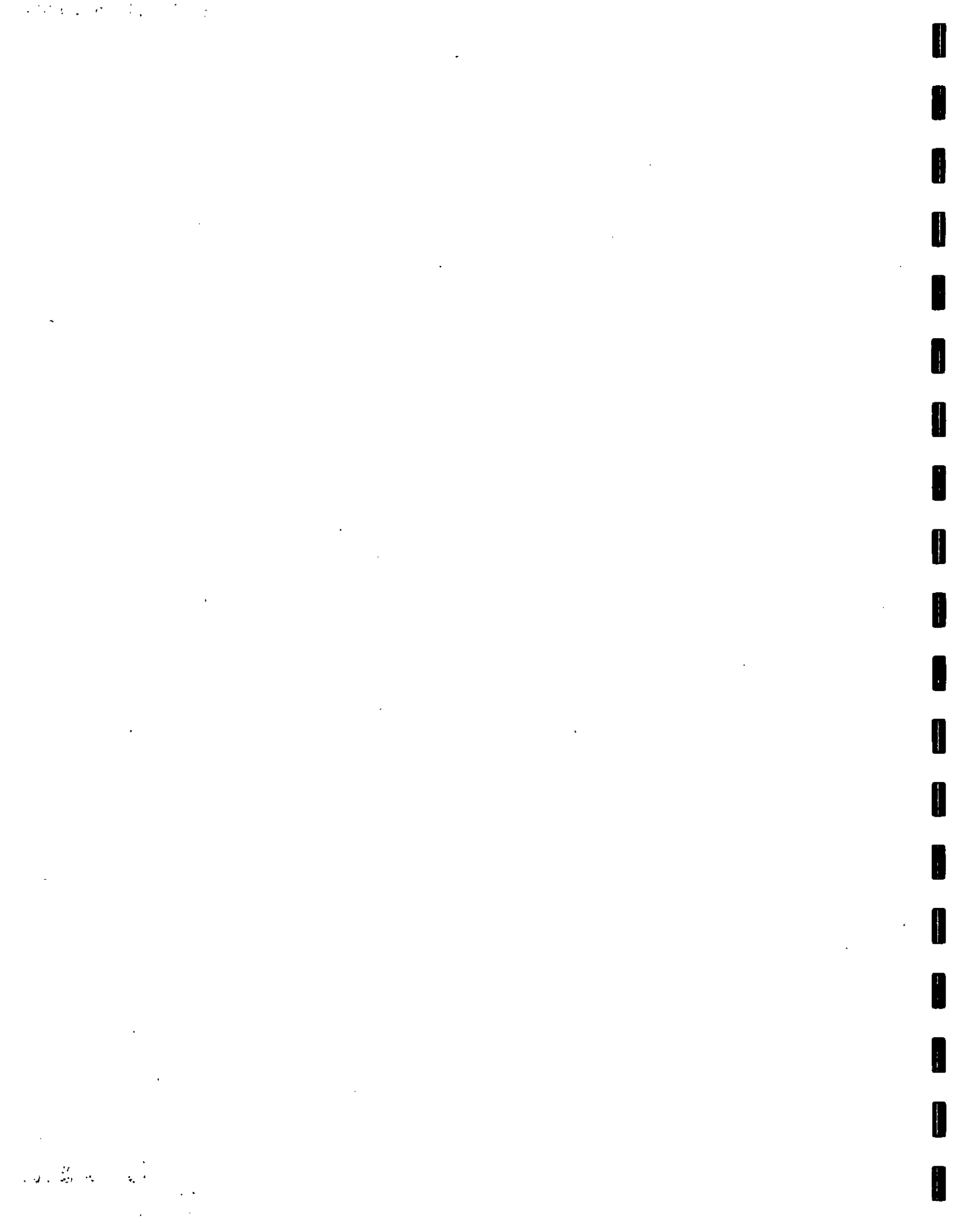
HOBBS OCD

SEP 12 2011

RECEIVED

Acceptable Soil IRRL (mg/kg)		
Benzene	Total BTEX	TPH
10	50	1,000

APPROVED
 [Signature]
 ENV. ENGR, NMCD, DIST 1
 DEC 22 2011





TETRA TECH

HOBBS OCD

SEP 12 2011

August 15, 2011

RECEIVED

Mr. Geoffrey Leking
Environmental Engineer Specialist
Oil Conservation Division, District 1
1625 North French Drive
Hobbs, New Mexico 88240

Re: REVISED - Work Plan for the COG Operating LLC, JC Federal #2 Tank Battery, Unit F, Section 22, Township 17 South, Range 32 East, Lea County, New Mexico.

Mr. Leking:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC (COG) to assess a spill from the JC Federal #2 Tank Battery, Unit F, Section 22, Township 17 South, Range 32 East, Lea County, New Mexico (Site). The spill site coordinates are N 32.82081°, W 103.75511°. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico C-141 Initial Release Report, the leak was discovered on December 31, 2010, and released approximately twenty (20) barrels of oil when a temperature probe was inadvertently removed during maintenance on the heater treater. To alleviate the problem, COG personnel replaced the probe. Fifteen (15) barrels were recovered. The spill initial from the heater treater and impacted an area approximately 10' x 40' inside the facility berm. The spill breached the berm and migrated onto the caliche tank battery pad impacting an area approximately 75' x 125'. The spill remained on the tank battery pad and did not impact any adjacent pasture area. The initial C-141 form is enclosed in Appendix C.

Groundwater

No water wells are shown in Section 22, Township 17 South, Range 32 East. According to the NMOCD groundwater map, the average depth to

Tetra Tech

1910 North Big Spring, Midland, TX 79705

Tel 432.682.4559 Fax 432.682.3946 www.tetrattech.com



groundwater in this area appears to be around 75' below surface. The depth groundwater map is shown in Appendix A.

Regulatory

A risk-based evaluation was performed for the Site in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases, dated August 13, 1993. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene). Based upon the depth to groundwater, the proposed RRAL for TPH is 1,000 mg/kg.

Soil Assessment and Analytical Results

On February 16, 2011, Tetra Tech personnel inspected and sampled the spill area. A total of six (6) auger holes (AH-1 through AH-6) were installed using a stainless steel hand auger to assess the impacted soils. Select samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix B. The sampling results are summarized in Table 1. The auger hole locations are shown on Figure 3.

Referring to Table 1, all of the submitted samples were below the RRAL for TPH and BTEX, with the exception of AH-2. Auger hole (AH-2) showed a total BTEX of 81.9 mg/kg at 0-1' and declined below the RRAL at 1-1.5' below surface. The chloride impact showed a shallow impact to the subsurface soils and the chloride concentrations ranging from 346 mg/kg to 2,010 mg/kg. The deeper samples showed chloride concentrations declining with depth to <200 mg/kg.

Work Plan

COG proposes to excavate the hydrocarbon and chloride impacted areas. The proposed excavation depths are shown in Table 1 (highlighted in green) and on Figure 4. The spill footprint will be excavated to approximately 1.0' bgs in the areas of auger holes (AH-1, AH-3, AH-4 and AH-5) and 1.5' bgs in the areas of AH-2 and AH-6. All of the excavated



TETRA TECH

soils will be hauled to proper disposal and excavations backfill with clean soil.

Once the remedial activities are completed, a closure report, including the final C-141, will be submitted for review. If you require any additional information or have any questions or comments concerning this work plan, please call at (432) 682-4559.

Respectfully submitted,
TETRA TECH

Ike Tavaréz
Project Manager

cc: Pat Ellis - COG
Jim Amos - BLM

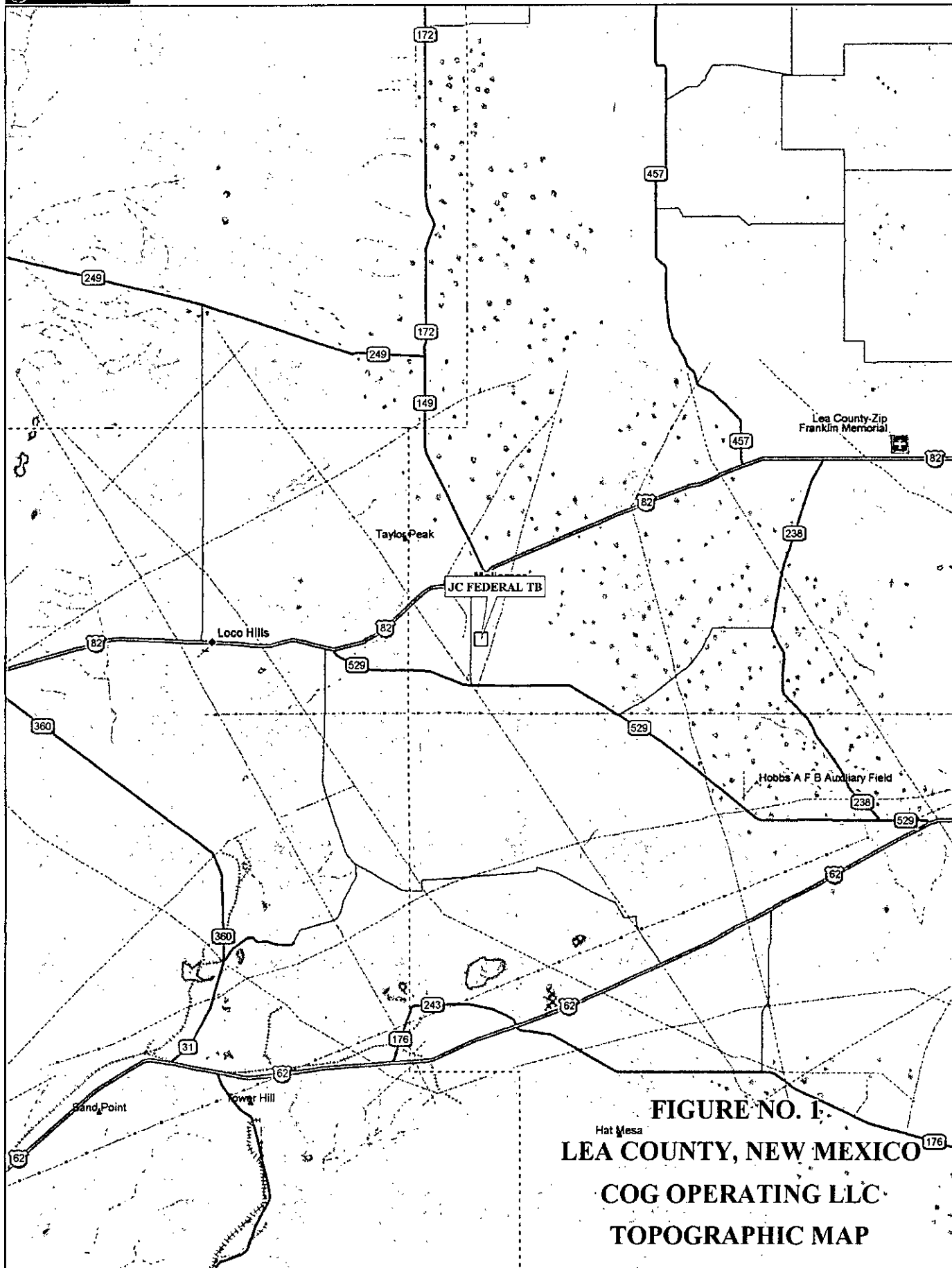
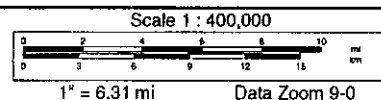


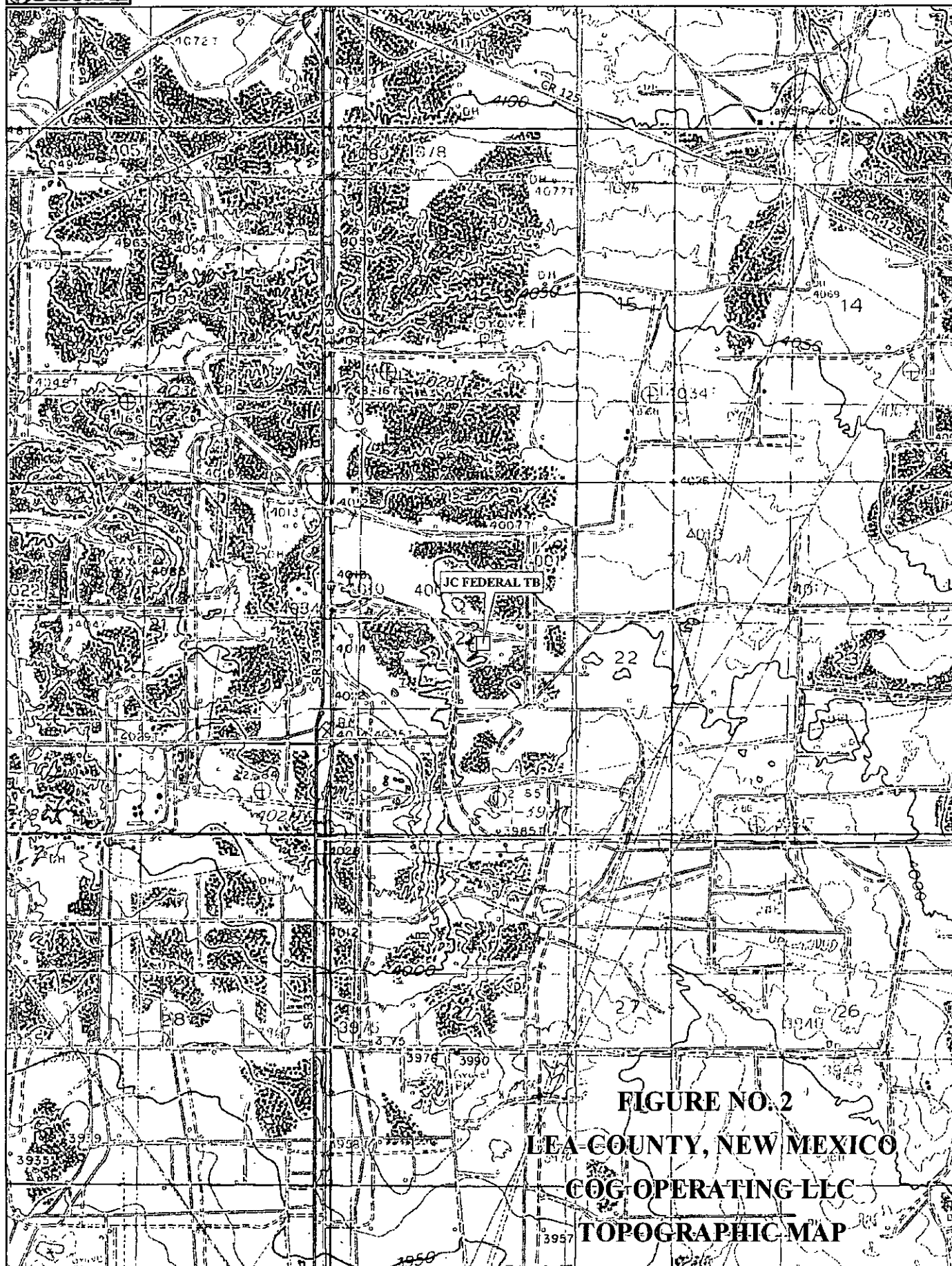
FIGURE NO. 1
LEA COUNTY, NEW MEXICO
COG OPERATING LLC
TOPOGRAPHIC MAP

Data use subject to license.

© DeLorme. Topo USA® 8.

www.delorme.com

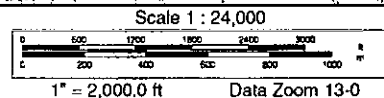




Data use subject to license.

© DeLorme, Topo USA® 8.

www.delorme.com



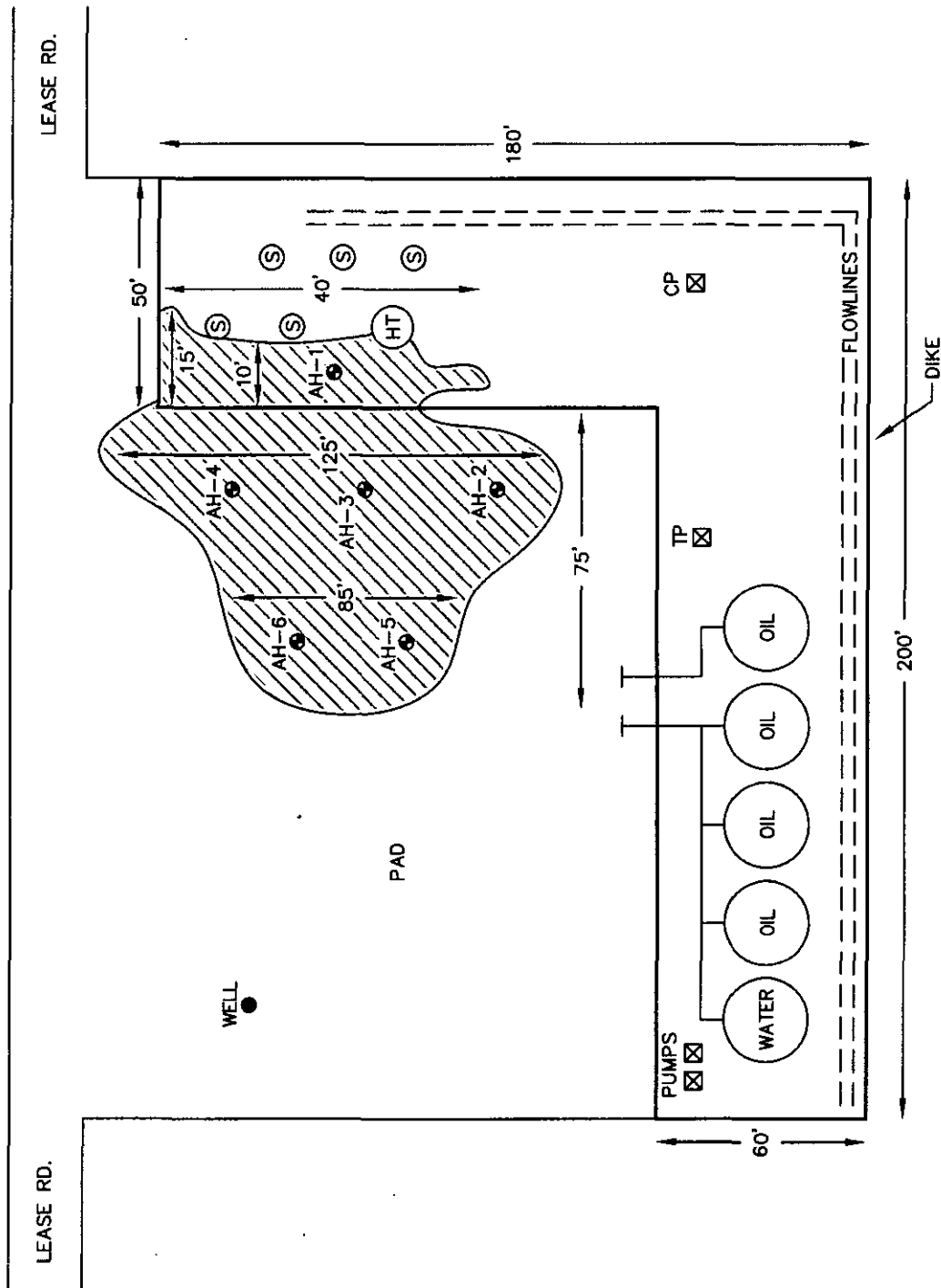


FIGURE NO. 3

LEA COUNTY, NEW MEXICO
COG OPERATING LLC
JC FED. TB
TETRA TECH, INC. MIDLAND, TEXAS

DATE: 2/16/11
DRAWN BY: IM
FILE: Tetra Tech JC Fed. TB

NOT TO SCALE

- SPILL AREA
- AUGER HOLE SAMPLE LOCATIONS



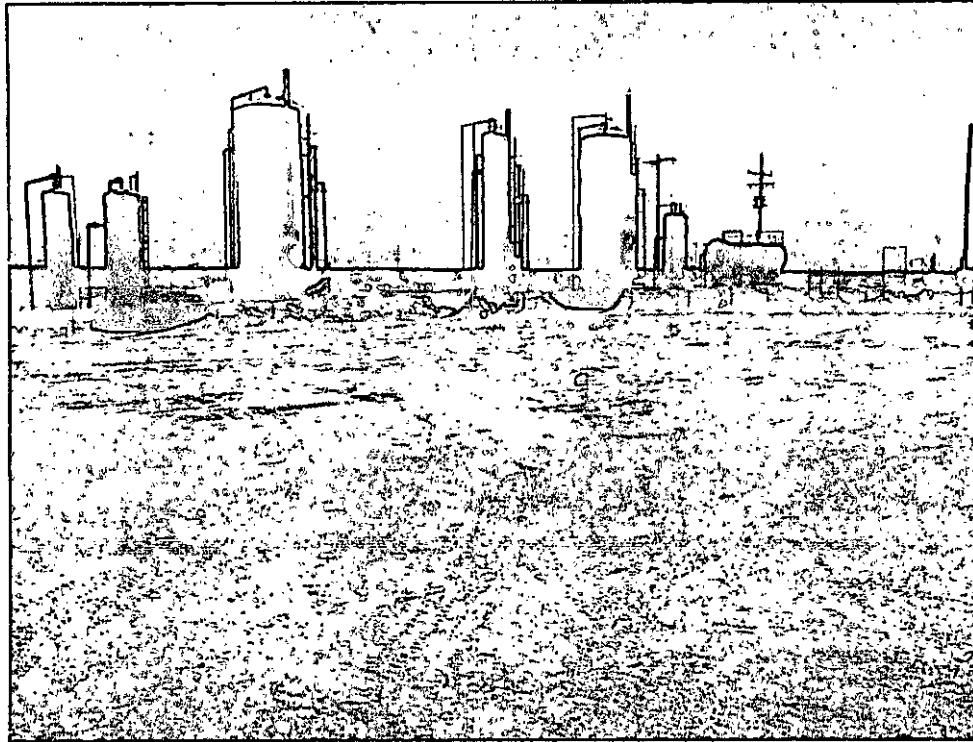
NOT TO SCALE

PROPOSED EXCAVATION DEPTHS
AUGER HOLE SAMPLE LOCATIONS

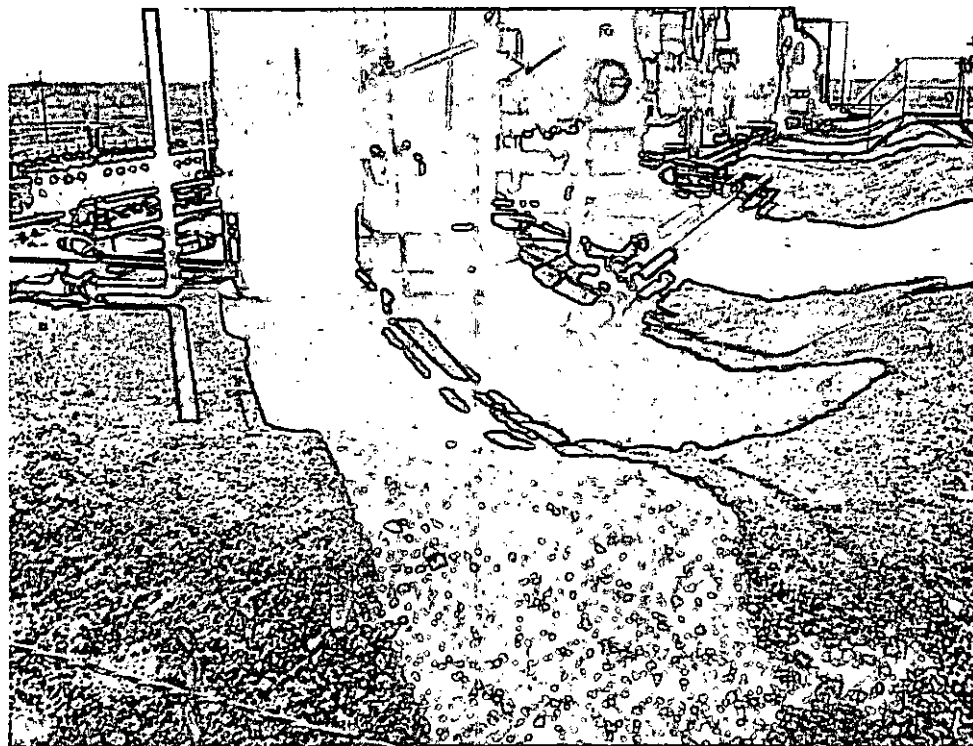
COG Operating LLC
JC Federal #2 Tank Battery
Lea County, New Mexico
Site inspected: February 16, 2011



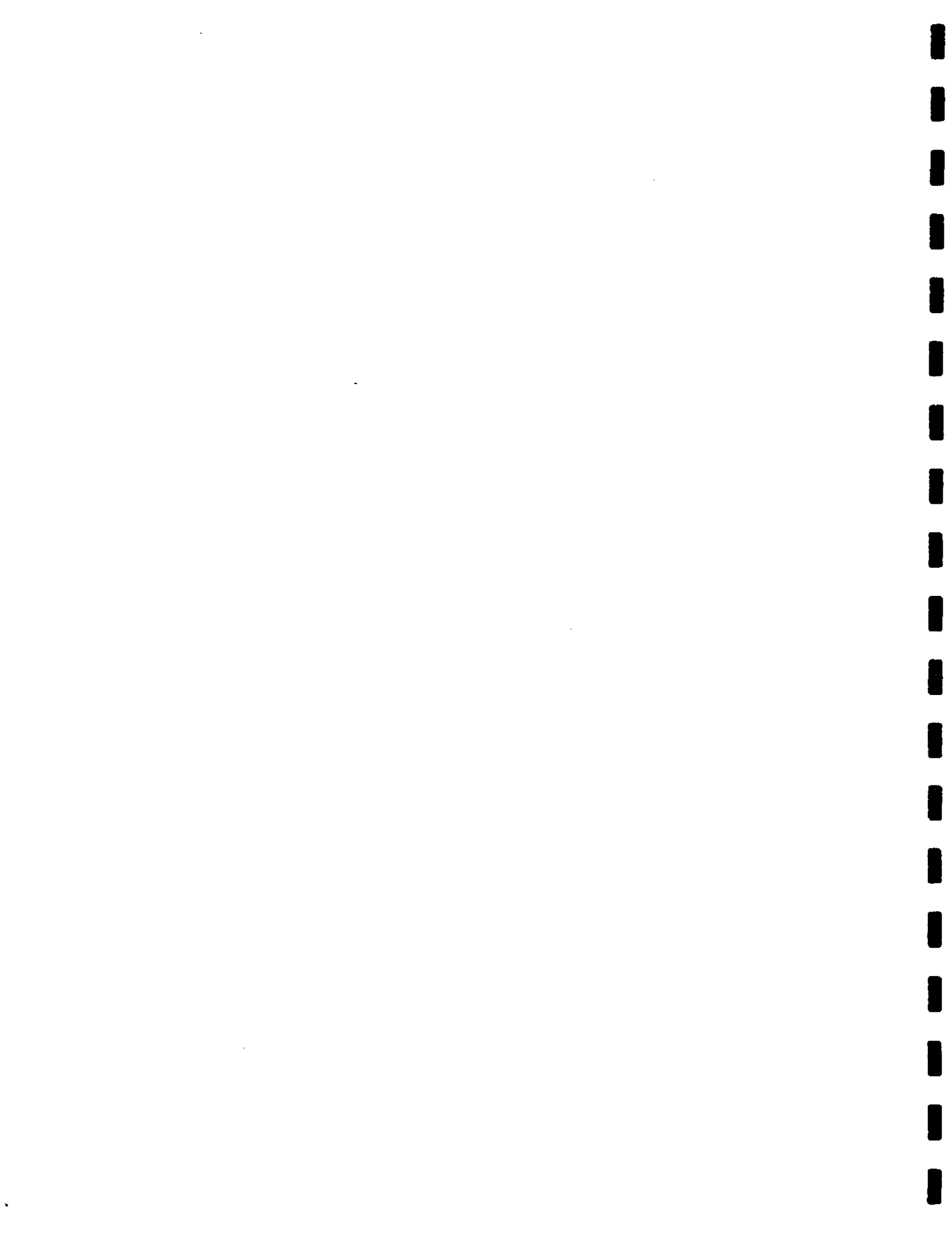
TETRA TECH



View east– Impacted pad near AH-2, AH-3, and AH-4



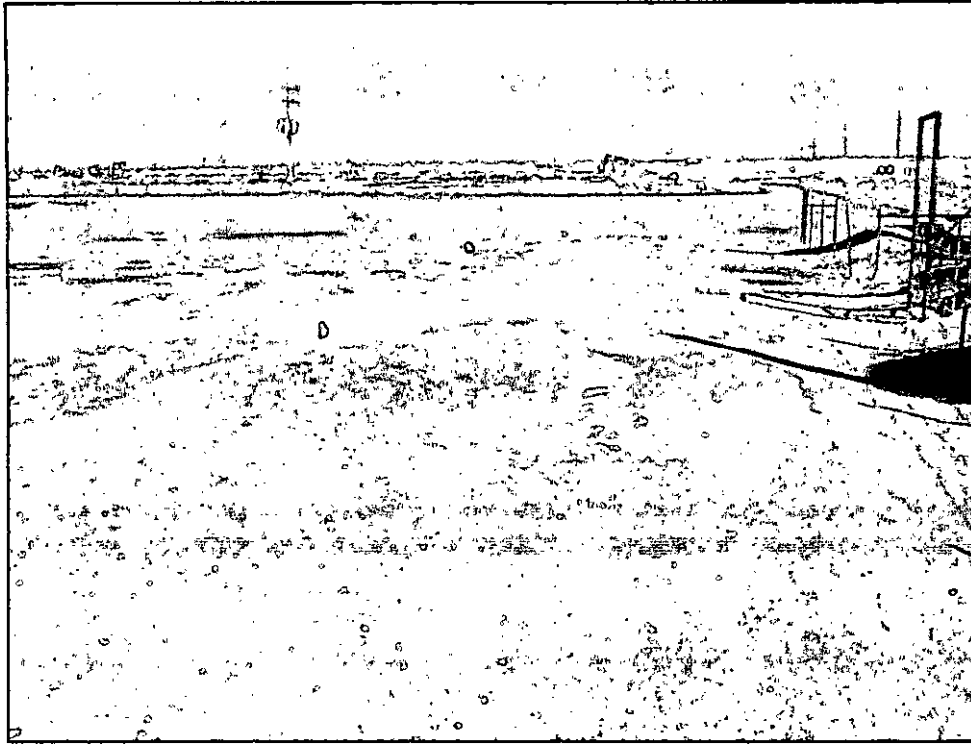
Inside facility berm – Source area and near AH-1



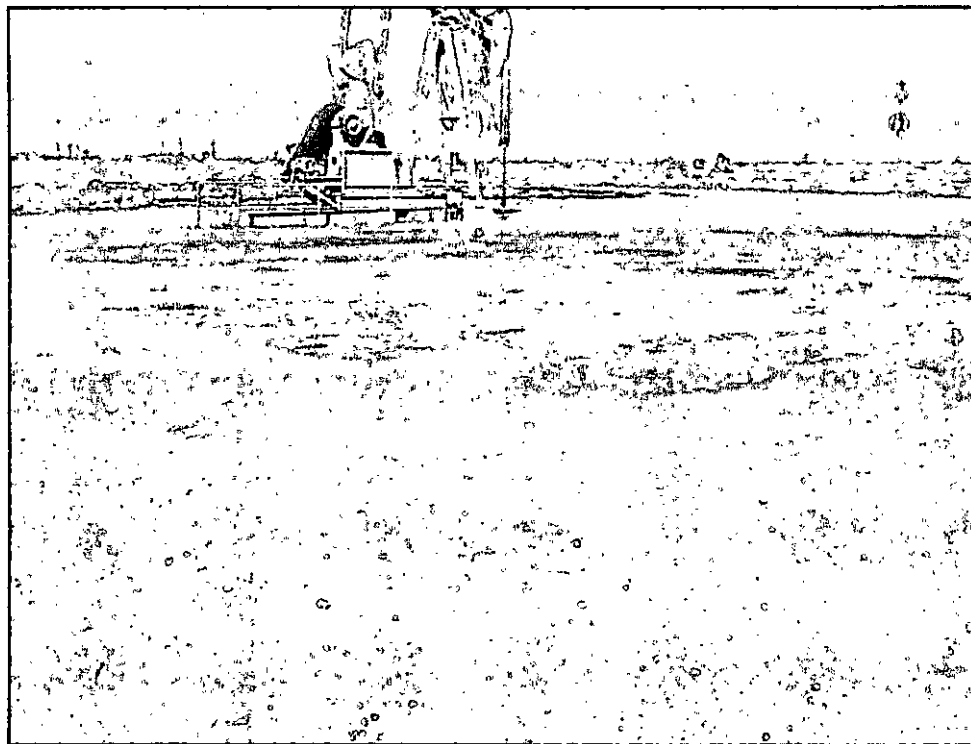
COG Operating LLC
JC Federal #2 Tank Battery
Lea County, New Mexico
Site inspected: February 16, 2011



TETRA TECH



View north – Pad area viewing AH-2, AH-3, and AH-4



View north west – Impacted pad area AH5 and AH-6
February 16, 2011



Table 1

[illegible]

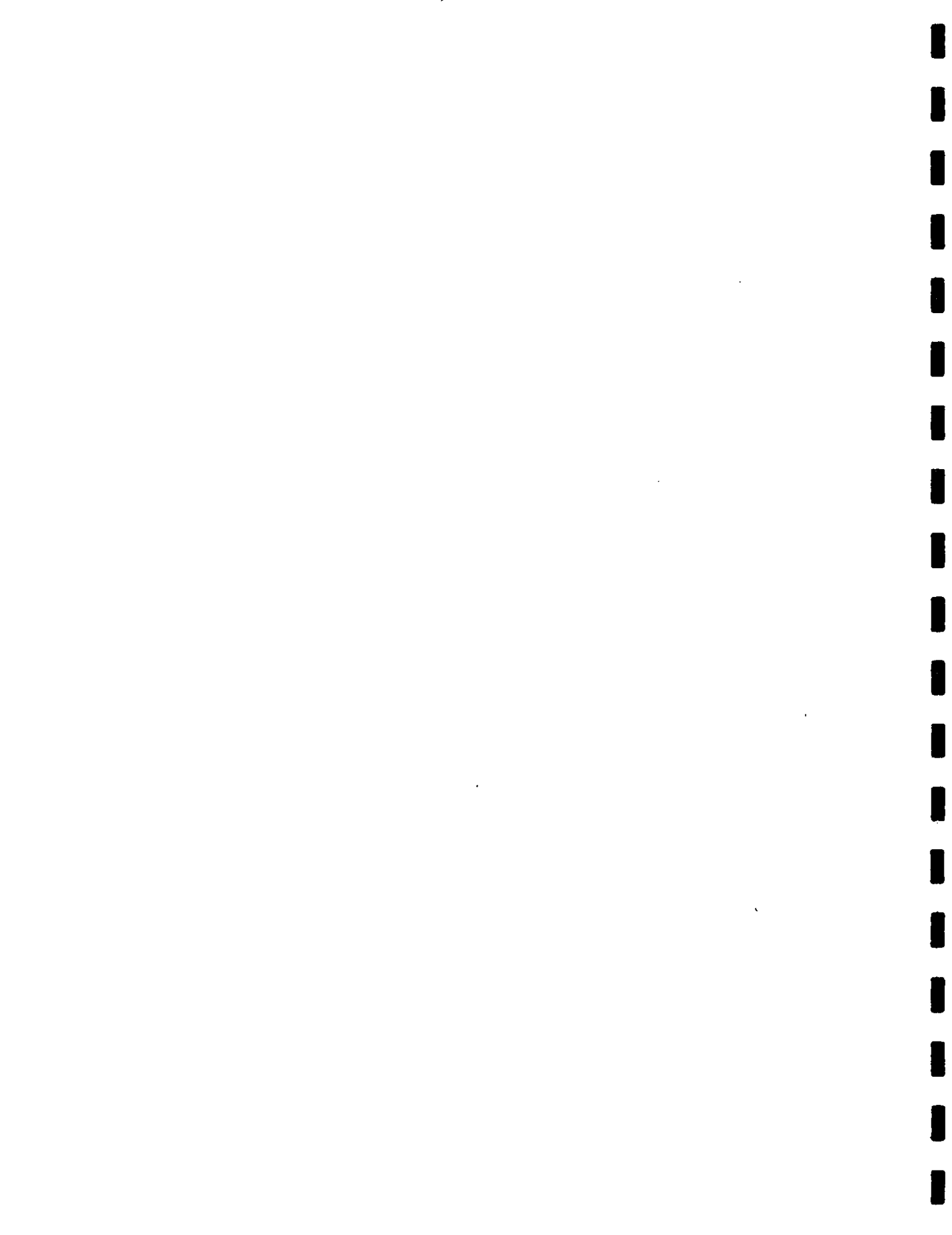


Table 1

[illegible]



Table 1
COG Operating LLC.
JC FEDERAL TANK BATTERY
Lea County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)	Total BTEX	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	Total						
AH-6	2/16/2011	0-1'	X		250	1,340	1,590	<0.200	0.989	1.58	3.72	6.3	2,010
	"	1-1.5'	X		<2.00	<50.0	<50.0	-	-	-	-		1,540
	"	2-2.5'	X		-	-	-	-	-	-	-		<200
	"	3-3.5'	X		-	-	-	-	-	-	-		<200
	"	4-4.5'	X		-	-	-	-	-	-	-		<200
	"	5-5.5'	X		-	-	-	-	-	-	-		<200
	"	6-6.5'	X		-	-	-	-	-	-	-		<200
	"	7-7.5'	X		-	-	-	-	-	-	-		<200

BEB Below Excavation Bottom

(--) Not Analyzed

 Proposed Excavation Depth

Water Well Data
Average Depth to Groundwater (ft)
COG - JC Federal #2
Lea County, New Mexico

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

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

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

16 South			32 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
					260

17 South			32 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			32 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			33 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
190	168		160		

17 South			33 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			33 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

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

Summary Report

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

Report Date: February 28, 2011

Work Order: 11021811



Project Location: Lea Co., NM
Project Name: COG/JC Federal Tank Battery
Project Number: 114-6400821

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
257866	AH-1 0-1'	soil	2011-02-16	00:00	2011-02-17
257867	AH-1 1-1.5'	soil	2011-02-16	00:00	2011-02-17
257868	AH-1 2-2.5'	soil	2011-02-16	00:00	2011-02-17
257869	AH-1 3-3.5'	soil	2011-02-16	00:00	2011-02-17
257870	AH-2 0-1'	soil	2011-02-16	00:00	2011-02-17
257871	AH-2 1-1.5'	soil	2011-02-16	00:00	2011-02-17
257872	AH-2 2-2.5'	soil	2011-02-16	00:00	2011-02-17
257873	AH-2 3-3.5'	soil	2011-02-16	00:00	2011-02-17
257874	AH-2 4-4.5'	soil	2011-02-16	00:00	2011-02-17
257875	AH-2 5-5.5'	soil	2011-02-16	00:00	2011-02-17
257876	AH-3 0-1'	soil	2011-02-16	00:00	2011-02-17
257877	AH-3 1-1.5'	soil	2011-02-16	00:00	2011-02-17
257878	AH-3 2-2.5'	soil	2011-02-16	00:00	2011-02-17
257879	AH-3 3-3.5'	soil	2011-02-16	00:00	2011-02-17
257880	AH-3 4-4.5'	soil	2011-02-16	00:00	2011-02-17
257881	AH-4 0-1'	soil	2011-02-16	00:00	2011-02-17
257882	AH-4 1-1.5'	soil	2011-02-16	00:00	2011-02-17
257883	AH-4 2-2.5'	soil	2011-02-16	00:00	2011-02-17
257884	AH-4 3-3.5'	soil	2011-02-16	00:00	2011-02-17
257885	AH-4 4-4.5'	soil	2011-02-16	00:00	2011-02-17
257886	AH-4 5-5.5'	soil	2011-02-16	00:00	2011-02-17
257887	AH-5 0-1'	soil	2011-02-16	00:00	2011-02-17
257888	AH-5 1-1.5'	soil	2011-02-16	00:00	2011-02-17
257889	AH-5 2-2.5'	soil	2011-02-16	00:00	2011-02-17
257890	AH-5 3-3.5'	soil	2011-02-16	00:00	2011-02-17
257891	AH-5 4-4.5'	soil	2011-02-16	00:00	2011-02-17
257892	AH-5 5-5.5'	soil	2011-02-16	00:00	2011-02-17
257893	AH-5 6-6.5'	soil	2011-02-16	00:00	2011-02-17
257894	AH-5 7-7.5'	soil	2011-02-16	00:00	2011-02-17
257895	AH-5 8-8.5'	soil	2011-02-16	00:00	2011-02-17

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
257896	AH-5 9-9.5'	soil	2011-02-16	00:00	2011-02-17
257897	AH-6 0-1'	soil	2011-02-16	00:00	2011-02-17
257898	AH-6 1-1.5'	soil	2011-02-16	00:00	2011-02-17
257899	AH-6 2-2.5'	soil	2011-02-16	00:00	2011-02-17
257900	AH-6 3-3.5'	soil	2011-02-16	00:00	2011-02-17
257901	AH-6 4-4.5'	soil	2011-02-16	00:00	2011-02-17
257902	AH-6 5-5.5'	soil	2011-02-16	00:00	2011-02-17
257903	AH-6 6-6.5'	soil	2011-02-16	00:00	2011-02-17
257904	AH-6 7-7.5'	soil	2011-02-16	00:00	2011-02-17

Sample - Field Code	BTEX				TPH DRO - NEW	TPH GRO
	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylene (mg/Kg)	DRO (mg/Kg)	GRO (mg/Kg)
257866 - AH-1 0-1'	<0.0200	<0.0200	0.156	0.474	95.9	29.2
257870 - AH-2 0-1'	0.757	21.9	24.5	34.7	518	559
257871 - AH-2 1-1.5'	<0.200	1.23	1.12	3.76	2810	231
257872 - AH-2 2-2.5'					<50.0	<2.00
257873 - AH-2 3-3.5'					<50.0	<2.00
257876 - AH-3 0-1'	<0.0200	0.373	1.60	3.00	251	112
257881 - AH-4 0-1'	<0.200	2.70	12.4	22.1	2000	438
257882 - AH-4 1-1.5'					<50.0	<2.00
257887 - AH-5 0-1'	<0.0200	0.475	0.917	1.77	1110	98.1
257888 - AH-5 1-1.5'					<50.0	<2.00
257897 - AH-6 0-1'	<0.200	0.989	1.58	3.72	1340	250
257898 - AH-6 1-1.5'					<50.0	<2.00

Sample: 257866 - AH-1 0-1'

Param	Flag	Result	Units	RL
Chloride		1800	mg/Kg	4.00

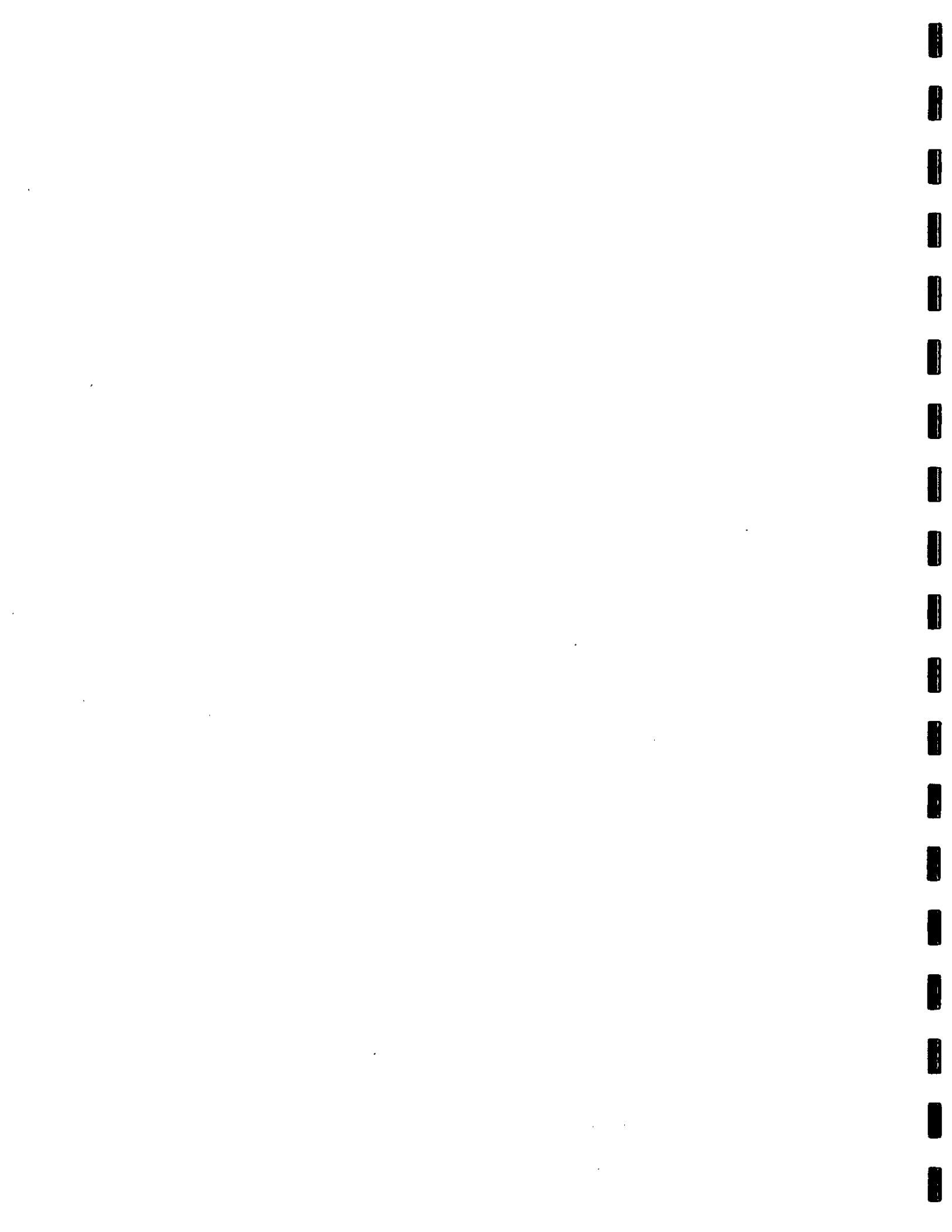
Sample: 257867 - AH-1 1-1.5'

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

Sample: 257868 - AH-1 2-2.5'

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

Sample: 257869 - AH-1 3-3.5'



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

Sample: 257870 - AH-2 0-1'

Param	Flag	Result	Units	RL
Chloride		1370	mg/Kg	4.00

Sample: 257871 - AH-2 1-1.5'

Param	Flag	Result	Units	RL
Chloride		961	mg/Kg	4.00

Sample: 257872 - AH-2 2-2.5'

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

Sample: 257873 - AH-2 3-3.5'

Param	Flag	Result	Units	RL
Chloride		207	mg/Kg	4.00

Sample: 257874 - AH-2 4-4.5'

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

Sample: 257875 - AH-2 5-5.5'

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

Sample: 257876 - AH-3 0-1'

Param	Flag	Result	Units	RL
Chloride		1600	mg/Kg	4.00

Sample: 257877 - AH-3 1-1.5'

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

Sample: 257878 - AH-3 2-2.5'

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

Sample: 257879 - AH-3 3-3.5'

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

Sample: 257880 - AH-3 4-4.5'

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

Sample: 257881 - AH-4 0-1'

Param	Flag	Result	Units	RL
Chloride		346	mg/Kg	4.00

Sample: 257882 - AH-4 1-1.5'

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

Sample: 257883 - AH-4 2-2.5'

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

Sample: 257884 - AH-4 3-3.5'

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

Sample: 257885 - AH-4 4-4.5'

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

Sample: 257886 - AH-4 5-5.5'

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

Sample: 257887 - AH-5 0-1'

Param	Flag	Result	Units	RL
Chloride		1620	mg/Kg	4.00

Sample: 257888 - AH-5 1-1.5'

Param	Flag	Result	Units	RL
Chloride		674	mg/Kg	4.00

Sample: 257889 - AH-5 2-2.5'

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

Sample: 257890 - AH-5 3-3.5'

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

Sample: 257891 - AH-5 4-4.5'

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

Sample: 257892 - AH-5 5-5.5'

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

Sample: 257893 - AH-5 6-6.5'

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

Sample: 257894 - AH-5 7-7.5'

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

Sample: 257895 - AH-5 8-8.5'

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

Sample: 257896 - AH-5 9-9.5'

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

Sample: 257897 - AH-6 0-1'

Param	Flag	Result	Units	RL
Chloride		2010	mg/Kg	4.00

Sample: 257898 - AH-6 1-1.5'

Param	Flag	Result	Units	RL
Chloride		1540	mg/Kg	4.00

Sample: 257899 - AH-6 2-2.5'

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

Sample: 257900 - AH-6 3-3.5'

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



Sample: 257901 - AH-6 4-4.5'

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

Sample: 257902 - AH-6 5-5.5'

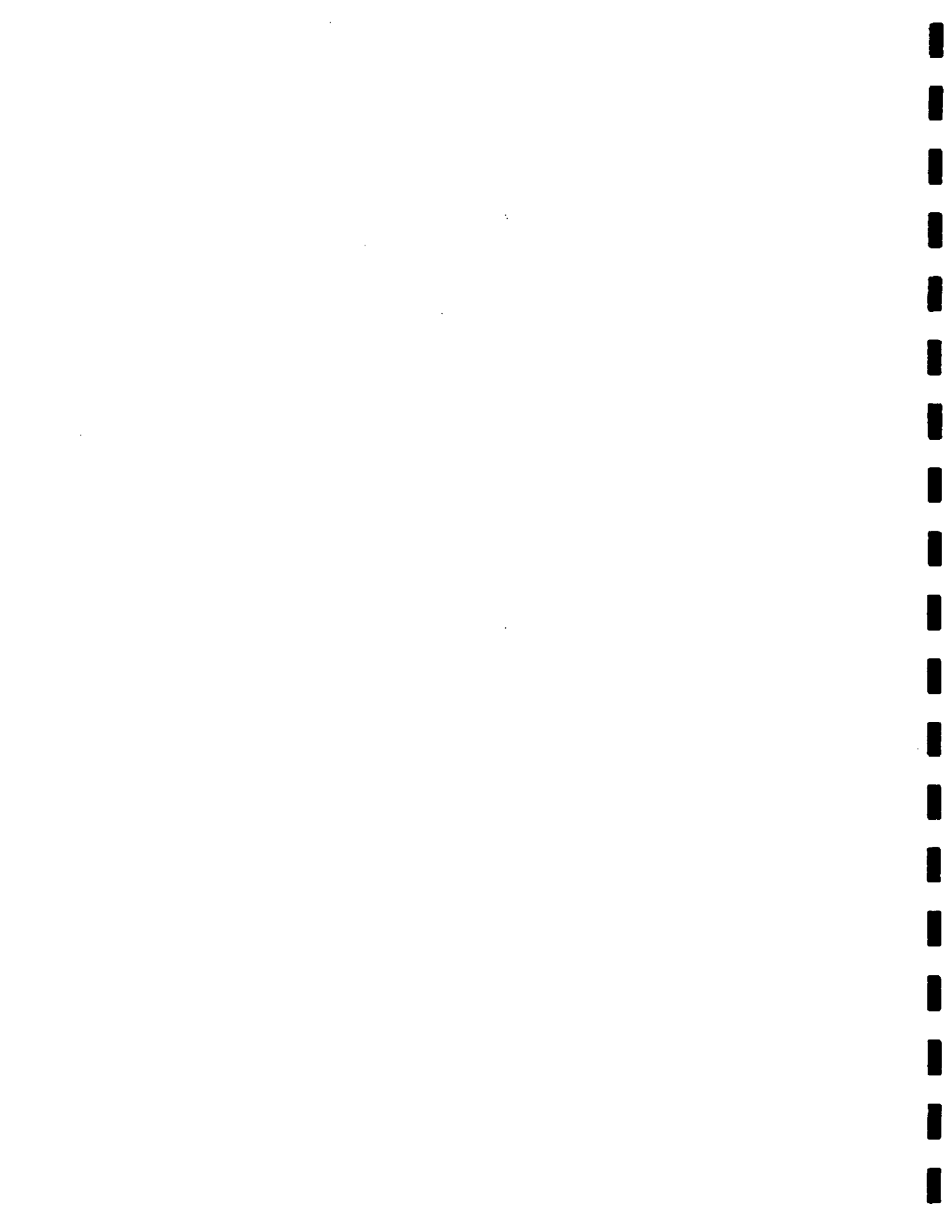
Param	Flag	Result	Units	RL
Chloride		<200	mg/Kg	4.00

Sample: 257903 - AH-6 6-6.5'

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

Sample: 257904 - AH-6 7-7.5'

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



AWO #: 11021811

Analysis Request of Chain of Custody Record



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

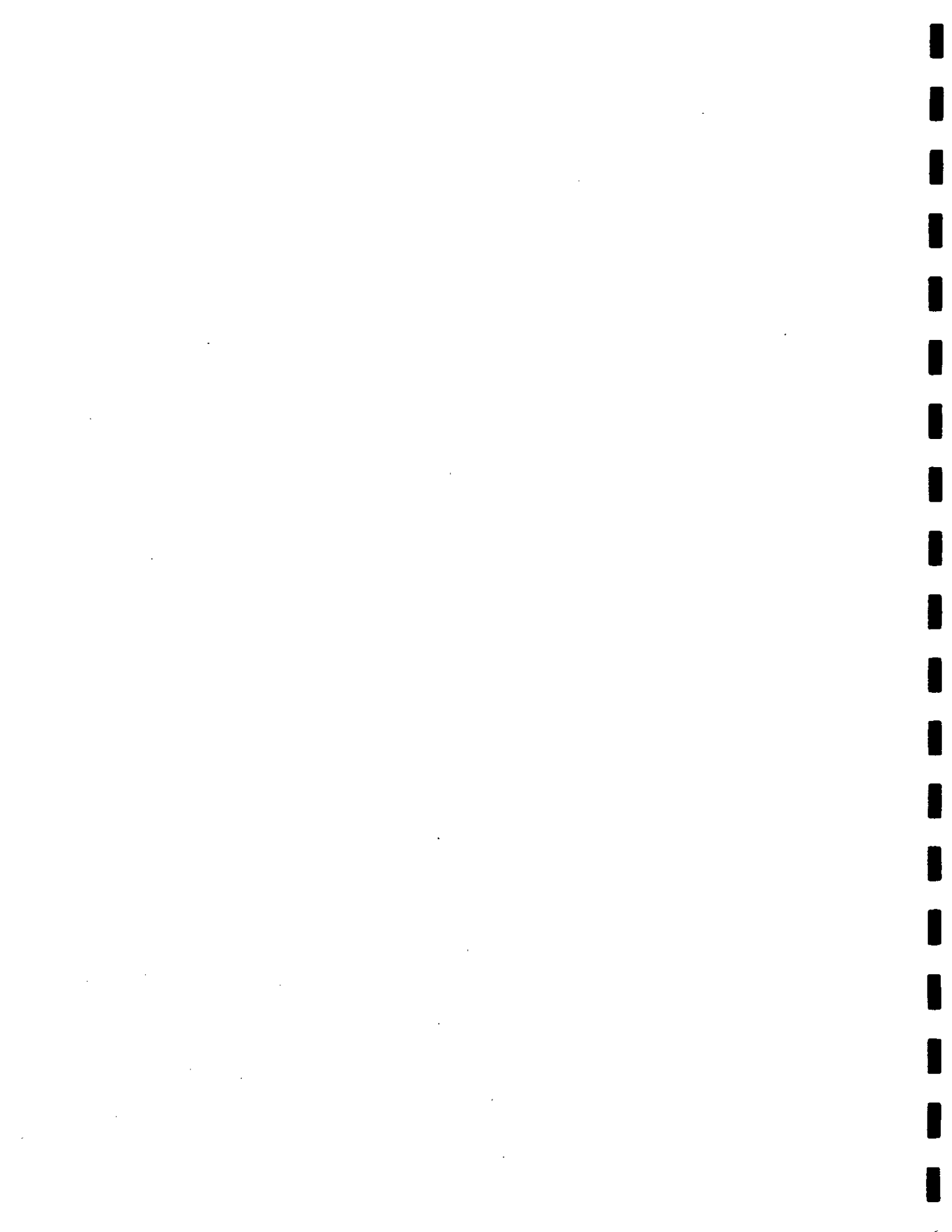
CLIENT NAME: COG		SITE MANAGER: Ive Tavaraz	
PROJECT NO.: 0921		PROJECT NAME: Mc Federal Tank Battery	
LAB I.D. NUMBER 114-6408550		SAMPLE IDENTIFICATION Lea Co NM	
DATE 2011	TIME	MATRIX	GRAB
21ue		S	X
887			5-5.5'
888			0-1'
889			1-1.5'
890			2-2.5'
891			3-3.5'
892			4-4.5'
893			5-5.5'
894			6-6.5'
895			7-7.5'
RELINQUISHED BY: (Signature) [Signature]		RECEIVED BY: (Signature) [Signature]	
RELINQUISHED BY: (Signature) [Signature]		RECEIVED BY: (Signature) [Signature]	
RELINQUISHED BY: (Signature) [Signature]		RECEIVED BY: (Signature) [Signature]	
RECEIVING LABORATORY: COG		RECEIVED BY: (Signature) [Signature]	
CITY: Midland STATE: TX ZIP: 79701		DATE: 2-17-11 TIME: 16:00	
CONTACT: [Signature]		DATE: 2-17-11 TIME: 16:00	
SAMPLE CONDITION WHEN RECEIVED: 7.2 c intact		REMARKS: 7.2 c intact	

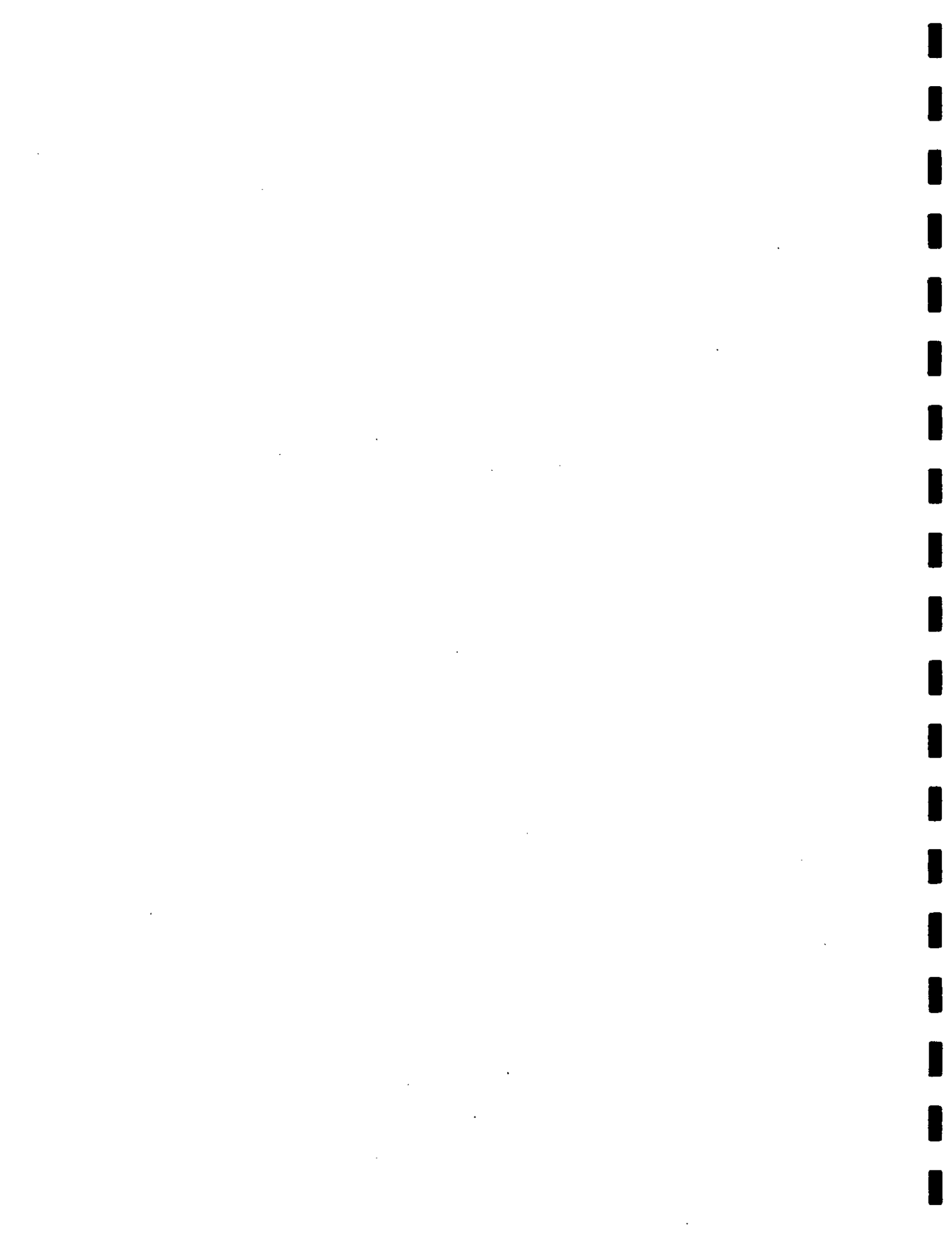
ANALYSIS REQUEST
(Circle or Specify Method No.)

PAGE: **3** OF: **4**

PCB's 8080/808	
GC/MS Vol. 8240/8260/824	
GC/MS Semi. Vol. 8270/825	
TCIP Semi Volatiles	
TCIP Volatiles	
TCIP Metals Ag As Ba Cd Cr Pb Hg Se	
TCIP Metals Ag As Ba Cd Cr Pb Hg Se	
PAH 8270	
TCIP Metals Ag As Ba Cd Cr Pb Hg Se	
TCIP Semi Volatiles	
GC/MS Vol. 8240/8260/824	
GC/MS Semi. Vol. 8270/825	
PCB's 8080/808	
Chlorides	
Gamm Spec.	
Alpha Beta (Air)	
PLM (Asbestos)	
Major Anions/Cations, pH, TDS	

SAMPLED BY: (Print & Initial) ST TF	Date: 2-16-11
SAMPLE SHIPPED BY: (Circle) BUS	AIRBILL #:
STANDARD DELIVERED	OTHER:
TETRA TECH CONTACT PERSON:	Results by:
Ive Tavaraz	RUSH Charges Authorized:
	Yes No





SITE INFORMATION

Report Type: Closure Report

General Site Information:

Site:	JC Federal #2 Tank Battery
Company:	COG Operating LLC
Section, Township and Range	Unit F Sec. 22 T-17S R-32E
Lease Number:	NMLC-029509B
County:	Lea County
GPS:	32.82081° N 103.75511° W
Surface Owner:	Federal
Mineral Owner:	
Directions:	From the intersection of 529 and CR-126, travel north on CR-126 2.1 miles, turn right 0.4 miles to location on right.

Release Data:

Date Released:	12/31/2010
Type Release:	Oil
Source of Contamination:	Heater Treater
Fluid Released:	20 bbls
Fluids Recovered:	15 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@tetrattech.com

Ranking Criteria

Depth to Groundwater:	Ranking Score	Site Data
<50 ft	20	
50-99 ft	10	10
>100 ft.	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	1,000

HOBBS OCD

JAN 12 2012

RECEIVED

12-000

12-000

12-000



TETRA TECH

December 6, 2011

HOBBS OCD

JAN 12 2012

Mr. Geoffrey Leking
Environmental Engineer Specialist
Oil Conservation Division, District 1
1625 North French Drive
Hobbs, New Mexico 88240

RECEIVED

Re: Closure Report for the COG Operating LLC, JC Federal #2 Tank Battery, Unit F, Section 22, Township 17 South, Range 32 East, Lea County, New Mexico.

Mr. Leking:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC (COG) to assess a spill from the JC Federal #2 Tank Battery, Unit F, Section 22, Township 17 South, Range 32 East, Lea County, New Mexico (Site). The spill site coordinates are N 32.82081°, W 103.75511°. The site location is shown on Figures 1 and 2.

Background

According to the State of New Mexico C-141 Initial Release Report, the leak was discovered on December 31, 2010, and released approximately twenty (20) barrels of oil when a temperature probe was inadvertently removed during maintenance on the heater treater. To alleviate the problem, COG personnel replaced the probe. Fifteen (15) barrels were recovered. The spill initial from the heater treater and impacted an area approximately 10' x 40' inside the facility berm. The spill breached the berm and migrated onto the caliche tank battery pad impacting an area approximately 75'x 125'. The spill remained on the tank battery pad and did not impact any adjacent pasture area. The initial C-141 form is enclosed in Appendix C.

Groundwater

No water wells are shown in Section 22, Township 17 South, Range 32 East. According to the NMOCD groundwater map, the average depth to

Tetra Tech

1910 North Big Spring, Midland, TX 79705

Tel 432.682.4559

Fax 432.682.3946

www.tetrattech.com

13. 10. 1944

14. 10. 1944

15. 10. 1944



groundwater in this area appears to be around 75' below surface. The depth groundwater map is shown in Appendix A.

Regulatory

A risk-based evaluation was performed for the Site in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases, dated August 13, 1993. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene). Based upon the depth to groundwater, the proposed RRAL for TPH is 1,000 mg/kg.

Soil Assessment and Analytical Results

On February 16, 2011, Tetra Tech personnel inspected and sampled the spill area. A total of six (6) auger holes (AH-1 through AH-6) were installed using a stainless steel hand auger to assess the impacted soils. Select samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix B. The sampling results are summarized in Table 1. The auger hole locations are shown on Figure 3.

Referring to Table 1, all of the submitted samples were below the RRAL for TPH and BTEX, with the exception of AH-2. Auger hole (AH-2) showed a total BTEX of 81.9 mg/kg at 0-1' and declined below the RRAL at 1-1.5' below surface. The chloride impact showed a shallow impact to the subsurface soils and the chloride concentrations ranging from 346 mg/kg to 2,010 mg/kg. The deeper samples showed chloride concentrations declining with depth to <200 mg/kg.

Closure Activities

Based on the approved work plan, Tetra Tech personnel supervised the excavation of the site from November 2, 2011, to November 9, 2011. The final excavation depths of the soil remediation were met or exceeded, as stated in the approved work plan. A total of 360 cubic yards of soil were excavated and hauled to proper disposal. The excavation depths are highlighted in Table 1 and shown on Figure 4. The NMOCD and





TETRA TECH

BLM were contacted to inspect the excavation. The NMOCD and BLM verbally approved the backfilling. The excavation was then backfilled with clean material to grade.

Based on the approved remedial activities performed, COG requests closure of the site. A copy of the C-141 (Final) is included in Appendix C. If you have any questions or comments concerning the remedial activities, please call me at (432) 682-4559.

Respectfully submitted,
TETRA TECH



Mike Tavaroz, PG
Senior Project Manager

cc: Pat Ellis – COG
Jim Amos - BLM



FIGURES



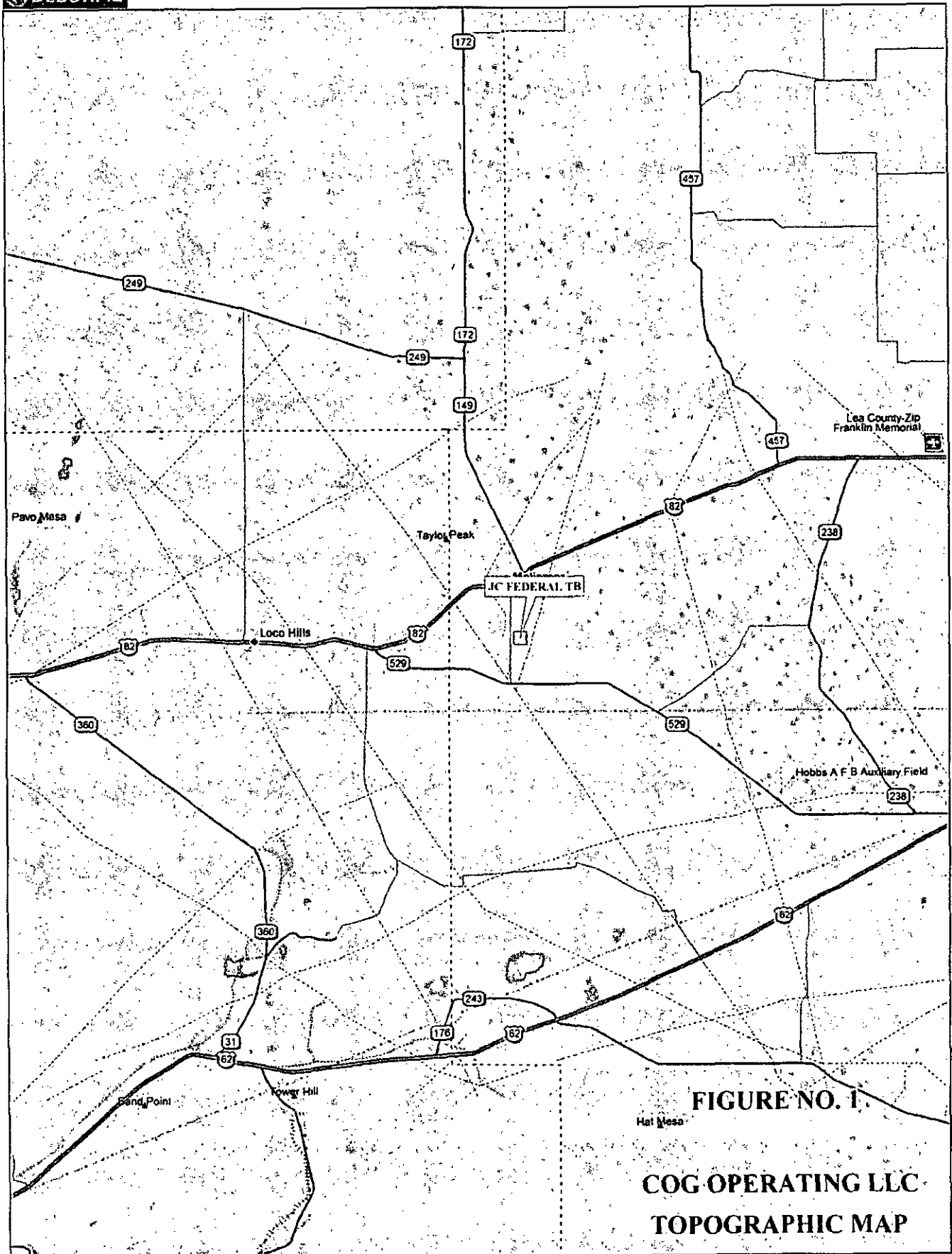


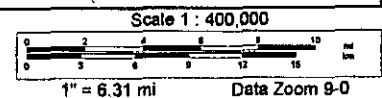
FIGURE NO. 1.

COG OPERATING LLC
TOPOGRAPHIC MAP

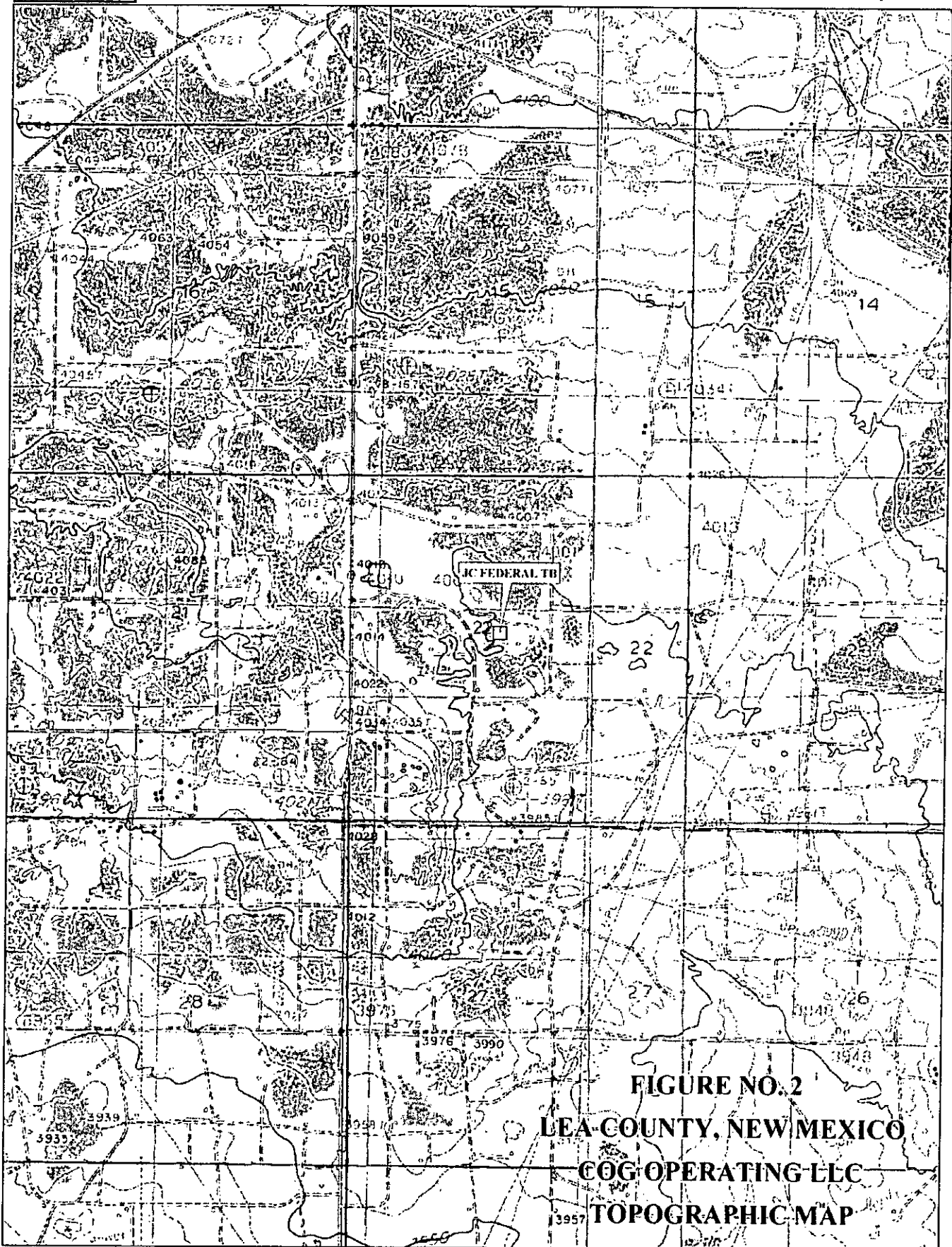
Data use subject to license.

© DeLorme, Topo USA® 8.

www.delorme.com



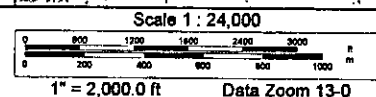




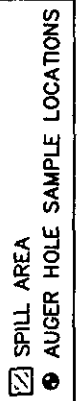
Data use subject to license.

© DeLorme, Topo USA® 8.

www.delorme.com









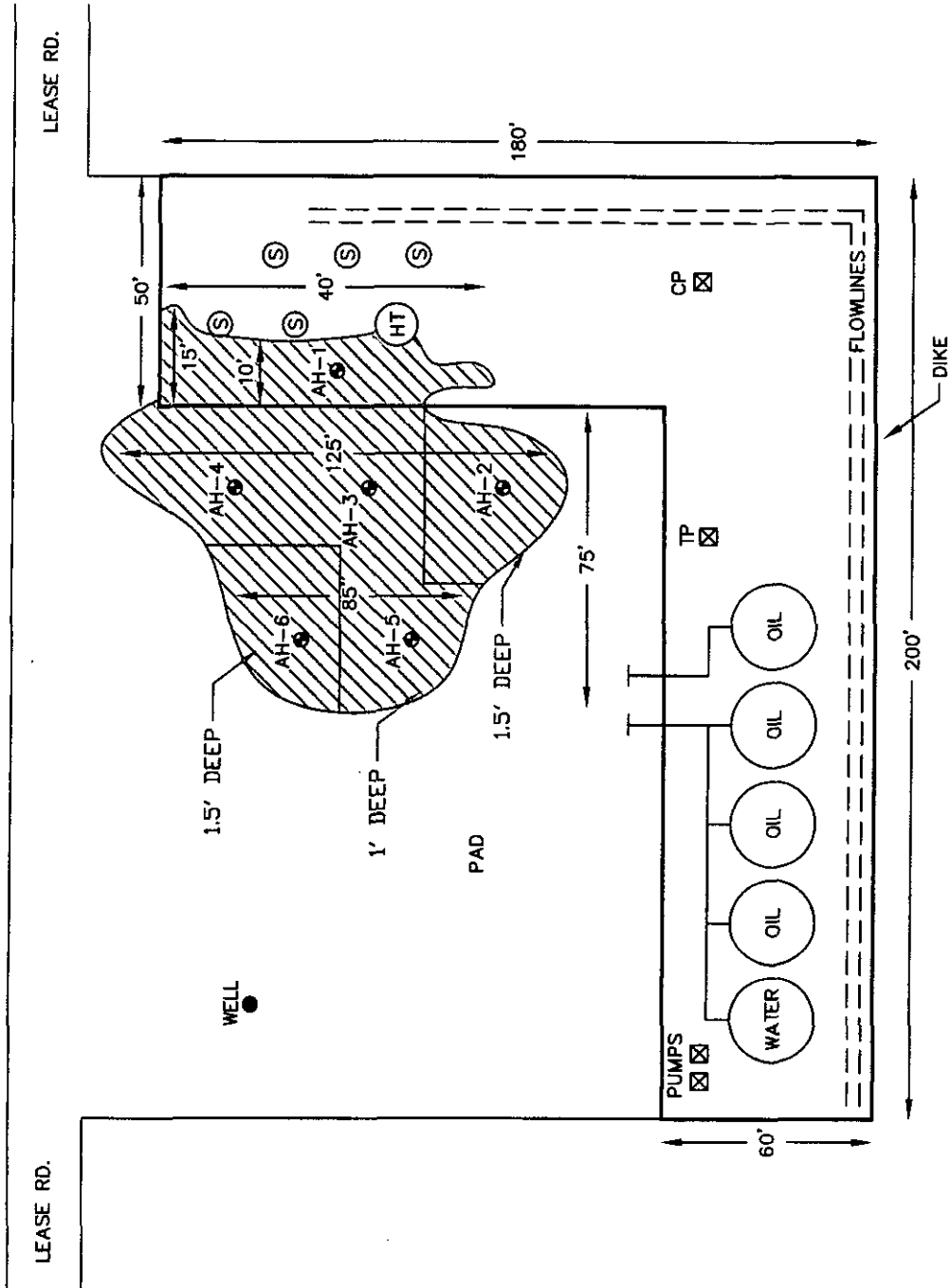
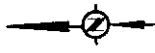


FIGURE NO. 4

LEA COUNTY, NEW MEXICO
COG OPERATING LLC
JC FED. TB
TETRA TECH, INC. MIDLAND, TEXAS

DATE: 7/29/2011
DRAWN BY: JM
FILE: 14\COG\6400221
AC No. 15

NOT TO SCALE

- ☒ EXCAVATED DEPTHS
- ☒ AUGER HOLE SAMPLE LOCATIONS



Table 1

[illegible]

Table 1

[illegible]

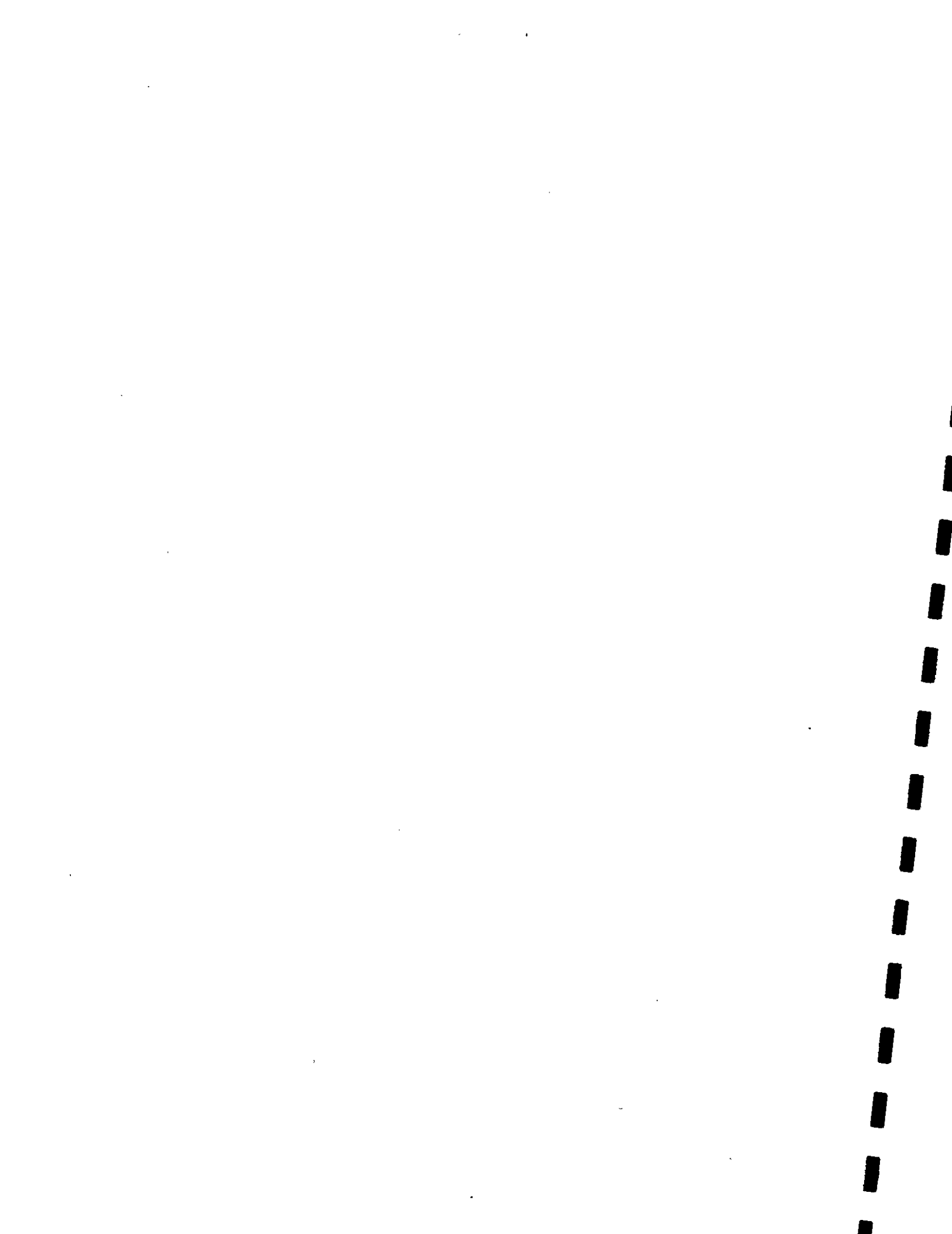


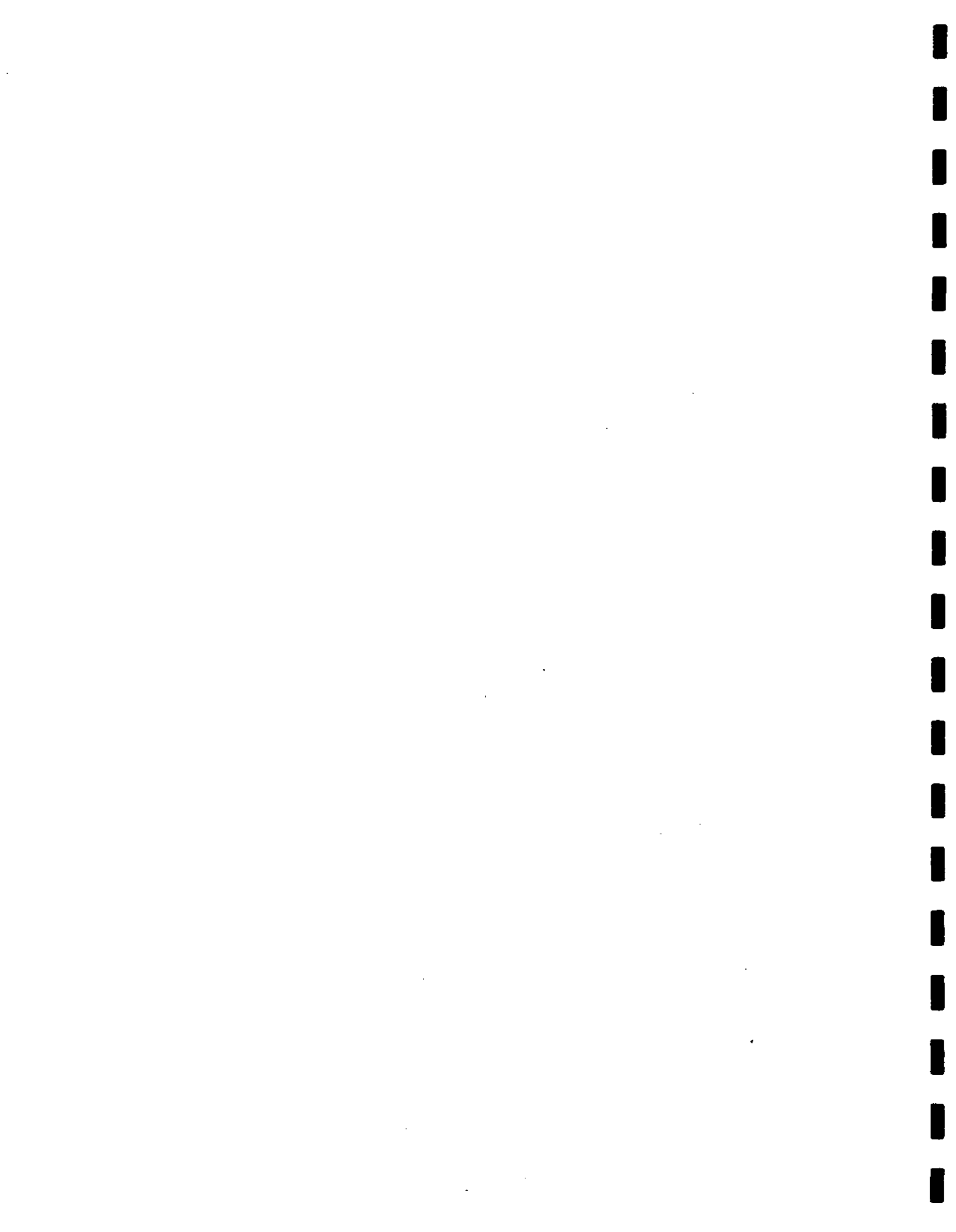
Table 1
COG Operating LLC.
JC FEDERAL TANK BATTERY
Lea County, New Mexico

Sample ID	Sample Date	Sample Depth (ft)	Soil Status		TPH (mg/kg)			Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylene (mg/kg)	Chloride (mg/kg)
			In-Situ	Removed	GRO	DRO	Total					
AH-6	2/16/2011	0-1'		X	250	1,340	1,590	<0.200	0.989	1.58	3.72	2,010
	"	1-1.5'		X	<2.00	<50.0	<50.0	-	-	-	-	1,540
	"	2-2.5'	X		-	-	-	-	-	-	-	<200
	"	3-3.5'	X		-	-	-	-	-	-	-	<200
	"	4-4.5'	X		-	-	-	-	-	-	-	<200
	"	5-5.5'	X		-	-	-	-	-	-	-	<200
	"	6-6.5'	X		-	-	-	-	-	-	-	<200
	"	7-7.5'	X		-	-	-	-	-	-	-	<200

BEB Below Excavation Bottom

(--) Not Analyzed

☐ Excavated Depths



Water Well Data
Average Depth to Groundwater (ft)
COG - JC Federal #2
Lea County, New Mexico

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

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

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

16 South			32 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
					280

17 South			32 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			32 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			33 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
190	168		160		

17 South			33 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			33 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

-  New Mexico State Engineers Well Reports
-  USGS Well Reports
-  Geology and Groundwater Conditions In Southern Eddy, County, NM
-  NMOCD - Groundwater Data
-  Field water level
-  New Mexico Water and Infrastructure Data System
-  Tetra Tech Temporary well (~135 feet - both TMW Dry)



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

Certifications

WBENC: 237019

HUB: 1752439743100-86536
NCTRCA WFWB38444Y0909

DBE: VN 20657

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

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

Report Date: February 28, 2011

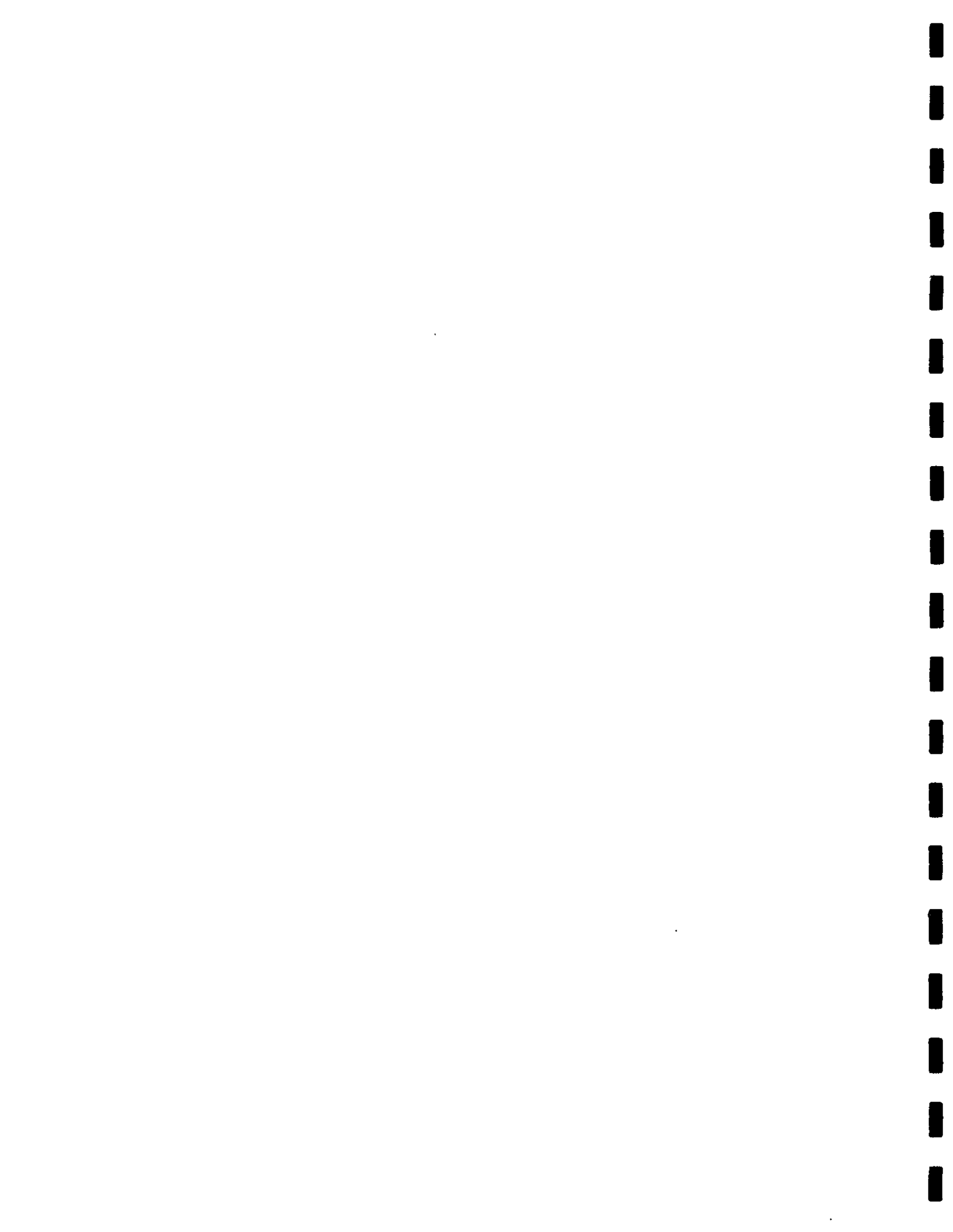
Work Order: 11021811



Project Location: Lea Co., NM
Project Name: COG/JC Federal Tank Battery
Project Number: 114-6400821

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
257866	AH-1 0-1'	soil	2011-02-16	00:00	2011-02-17
257867	AH-1 1-1.5'	soil	2011-02-16	00:00	2011-02-17
257868	AH-1 2-2.5'	soil	2011-02-16	00:00	2011-02-17
257869	AH-1 3-3.5'	soil	2011-02-16	00:00	2011-02-17
257870	AH-2 0-1'	soil	2011-02-16	00:00	2011-02-17
257871	AH-2 1-1.5'	soil	2011-02-16	00:00	2011-02-17
257872	AH-2 2-2.5'	soil	2011-02-16	00:00	2011-02-17
257873	AH-2 3-3.5'	soil	2011-02-16	00:00	2011-02-17
257874	AH-2 4-4.5'	soil	2011-02-16	00:00	2011-02-17
257875	AH-2 5-5.5'	soil	2011-02-16	00:00	2011-02-17



Sample	Description	Matrix	Date Taken	Time Taken	Date Received
257876	AH-3 0-1'	soil	2011-02-16	00:00	2011-02-17
257877	AH-3 1-1.5'	soil	2011-02-16	00:00	2011-02-17
257878	AH-3 2-2.5'	soil	2011-02-16	00:00	2011-02-17
257879	AH-3 3-3.5'	soil	2011-02-16	00:00	2011-02-17
257880	AH-3 4-4.5'	soil	2011-02-16	00:00	2011-02-17
257881	AH-4 0-1'	soil	2011-02-16	00:00	2011-02-17
257882	AH-4 1-1.5'	soil	2011-02-16	00:00	2011-02-17
257883	AH-4 2-2.5'	soil	2011-02-16	00:00	2011-02-17
257884	AH-4 3-3.5'	soil	2011-02-16	00:00	2011-02-17
257885	AH-4 4-4.5'	soil	2011-02-16	00:00	2011-02-17
257886	AH-4 5-5.5'	soil	2011-02-16	00:00	2011-02-17
257887	AH-5 0-1'	soil	2011-02-16	00:00	2011-02-17
257888	AH-5 1-1.5'	soil	2011-02-16	00:00	2011-02-17
257889	AH-5 2-2.5'	soil	2011-02-16	00:00	2011-02-17
257890	AH-5 3-3.5'	soil	2011-02-16	00:00	2011-02-17
257891	AH-5 4-4.5'	soil	2011-02-16	00:00	2011-02-17
257892	AH-5 5-5.5'	soil	2011-02-16	00:00	2011-02-17
257893	AH-5 6-6.5'	soil	2011-02-16	00:00	2011-02-17
257894	AH-5 7-7.5'	soil	2011-02-16	00:00	2011-02-17
257895	AH-5 8-8.5'	soil	2011-02-16	00:00	2011-02-17
257896	AH-5 9-9.5'	soil	2011-02-16	00:00	2011-02-17
257897	AH-6 0-1'	soil	2011-02-16	00:00	2011-02-17
257898	AH-6 1-1.5'	soil	2011-02-16	00:00	2011-02-17
257899	AH-6 2-2.5'	soil	2011-02-16	00:00	2011-02-17
257900	AH-6 3-3.5'	soil	2011-02-16	00:00	2011-02-17
257901	AH-6 4-4.5'	soil	2011-02-16	00:00	2011-02-17
257902	AH-6 5-5.5'	soil	2011-02-16	00:00	2011-02-17
257903	AH-6 6-6.5'	soil	2011-02-16	00:00	2011-02-17
257904	AH-6 7-7.5'	soil	2011-02-16	00:00	2011-02-17

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 49 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.

Samples for project COG/JC Federal Tank Battery were received by TraceAnalysis, Inc. on 2011-02-17 and assigned to work order 11021811. Samples for work order 11021811 were received intact at a temperature of 7.2 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	66705	2011-02-21 at 12:05	77804	2011-02-21 at 12:05
BTEX	S 8021B	66777	2011-02-23 at 10:44	77858	2011-02-23 at 10:44
BTEX	S 8021B	66842	2011-02-25 at 08:21	77928	2011-02-25 at 09:15
Chloride (Titration)	SM 4500-Cl B	66703	2011-02-21 at 10:36	77799	2011-02-21 at 13:22
Chloride (Titration)	SM 4500-Cl B	66703	2011-02-21 at 10:36	77800	2011-02-22 at 13:23
Chloride (Titration)	SM 4500-Cl B	66703	2011-02-21 at 10:36	77801	2011-02-22 at 13:23
Chloride (Titration)	SM 4500-Cl B	66703	2011-02-21 at 10:36	77802	2011-02-22 at 13:24
TPH DRO - NEW	S 8015 D	66718	2011-02-21 at 09:51	77781	2011-02-21 at 09:51
TPH DRO - NEW	S 8015 D	66796	2011-02-23 at 09:00	77882	2011-02-23 at 10:07
TPH DRO - NEW	S 8015 D	66844	2011-02-25 at 09:40	77932	2011-02-25 at 09:40
TPH GRO	S 8015 D	66705	2011-02-21 at 12:05	77805	2011-02-21 at 12:05
TPH GRO	S 8015 D	66777	2011-02-23 at 10:44	77859	2011-02-23 at 10:44
TPH GRO	S 8015 D	66842	2011-02-25 at 08:21	77929	2011-02-25 at 09:15
TPH GRO	S 8015 D	66843	2011-02-25 at 13:57	77931	2011-02-26 at 03:13

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 11021811 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.



Report Date: February 28, 2011
114-6400821

Work Order: 11021811
COG/JC Federal Tank Battery

Page Number: 4 of 49
Lea Co., NM

Analytical Report

Sample: 257866 - AH-1 0-1'

Laboratory: Midland
Analysis: BTEX
QC Batch: 77804
Prep Batch: 66705

Analytical Method: S 8021B
Date Analyzed: 2011-02-21
Sample Preparation: 2011-02-21

Prep Method: S 5035
Analyzed By: ME
Prepared By: ME

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0200	mg/Kg	1	0.0200
Toluene		<0.0200	mg/Kg	1	0.0200
Ethylbenzene		0.156	mg/Kg	1	0.0200
Xylene		0.474	mg/Kg	1	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.32	mg/Kg	1	2.00	116	51.6 - 149.2
4-Bromofluorobenzene (4-BFB)		2.79	mg/Kg	1	2.00	140	35.7 - 159.6

Sample: 257866 - AH-1 0-1'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 77799
Prep Batch: 66703

Analytical Method: SM 4500-Cl B
Date Analyzed: 2011-02-21
Sample Preparation: 2011-02-21

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		1800	mg/Kg	100	4.00

Sample: 257866 - AH-1 0-1'

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 77781
Prep Batch: 66718

Analytical Method: S 8015 D
Date Analyzed: 2011-02-21
Sample Preparation: 2011-02-21

Prep Method: N/A
Analyzed By: kg
Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		95.9	mg/Kg	1	50.0

Report Date: February 28, 2011
114-6400821

Work Order: 11021811
COG/JC Federal Tank Battery

Page Number: 5 of 49
Lea Co., NM

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		92.7	mg/Kg	1	100	93	70 - 130

Sample: 257866 - AH-1 0-1'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 77805
Prep Batch: 66705

Analytical Method: S 8015 D
Date Analyzed: 2011-02-21
Sample Preparation: 2011-02-21

Prep Method: S 5035
Analyzed By: ME
Prepared By: ME

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		29.2	mg/Kg	1	2.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.37	mg/Kg	1	2.00	118	36.3 - 158.9
4-Bromofluorobenzene (4-BFB)		2.66	mg/Kg	1	2.00	133	22.2 - 160.2

Sample: 257867 - AH-1 1-1.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 77799
Prep Batch: 66703

Analytical Method: SM 4500-Cl B
Date Analyzed: 2011-02-21
Sample Preparation: 2011-02-21

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

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

Sample: 257868 - AH-1 2-2.5'

Laboratory: Midland
Analysis: Chloride (Titration)
QC Batch: 77799
Prep Batch: 66703

Analytical Method: SM 4500-Cl B
Date Analyzed: 2011-02-21
Sample Preparation: 2011-02-21

Prep Method: N/A
Analyzed By: AR
Prepared By: AR

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



Report Date: February 28, 2011
114-6400821

Work Order: 11021811
COG/JC Federal Tank Battery

Page Number: 6 of 49
Lea Co., NM

Sample: 257869 - AH-1 3-3.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-02-21	Analyzed By:	AR
QC Batch:	77799	Sample Preparation:	2011-02-21	Prepared By:	AR
Prep Batch:	66703				

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

Sample: 257870 - AH-2 0-1'

Laboratory:	Midland	Analytical Method:	S 8021B	Prep Method:	S 5035
Analysis:	BTEX	Date Analyzed:	2011-02-21	Analyzed By:	ME
QC Batch:	77804	Sample Preparation:	2011-02-21	Prepared By:	ME
Prep Batch:	66705				

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		0.757	mg/Kg	10	0.0200
Toluene		21.9	mg/Kg	10	0.0200
Ethylbenzene		24.5	mg/Kg	10	0.0200
Xylene		34.7	mg/Kg	10	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		11.8	mg/Kg	10	10.0	118	51.6 - 149.2
4-Bromofluorobenzene (4-BFB)	¹	18.5	mg/Kg	10	10.0	185	35.7 - 159.6

Sample: 257870 - AH-2 0-1'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-02-21	Analyzed By:	AR
QC Batch:	77799	Sample Preparation:	2011-02-21	Prepared By:	AR
Prep Batch:	66703				

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

¹ High surrogate recovery due to peak interference.



Report Date: February 28, 2011
114-6400821

Work Order: 11021811
COG/JC Federal Tank Battery

Page Number: 7 of 49
Lea Co., NM

Sample: 257870 - AH-2 0-1'

Laboratory: Midland
Analysis: TPH DRO - NEW
QC Batch: 77781
Prep Batch: 66718

Analytical Method: S 8015 D
Date Analyzed: 2011-02-21
Sample Preparation: 2011-02-21

Prep Method: N/A
Analyzed By: kg
Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		518	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	2	136	mg/Kg	1	100	136	70 - 130

Sample: 257870 - AH-2 0-1'

Laboratory: Midland
Analysis: TPH GRO
QC Batch: 77805
Prep Batch: 66705

Analytical Method: S 8015 D
Date Analyzed: 2011-02-21
Sample Preparation: 2011-02-21

Prep Method: S 5035
Analyzed By: ME
Prepared By: ME

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		559	mg/Kg	10	2.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		12.0	mg/Kg	10	10.0	120	36.3 - 158.9
4-Bromofluorobenzene (4-BFB)	3	24.3	mg/Kg	10	10.0	243	22.2 - 160.2

Sample: 257871 - AH-2 1-1.5'

Laboratory: Midland
Analysis: BTEX
QC Batch: 77928
Prep Batch: 66842

Analytical Method: S 8021B
Date Analyzed: 2011-02-25
Sample Preparation: 2011-02-25

Prep Method: S 5035
Analyzed By: ME
Prepared By: ME

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.200	mg/Kg	10	0.0200
Toluene		1.23	mg/Kg	10	0.0200
Ethylbenzene		1.12	mg/Kg	10	0.0200
Xylene		3.76	mg/Kg	10	0.0200

²High surrogate recovery due to peak interference.

³High surrogate recovery due to peak interference.

Report Date: February 28, 2011
114-6400821

Work Order: 11021811
COG/JC Federal Tank Battery

Page Number: 8 of 49
Lea Co., NM

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		11.2	mg/Kg	10	10.0	112	51.6 - 149.2
4-Bromofluorobenzene (4-BFB)		14.5	mg/Kg	10	10.0	145	35.7 - 159.6

Sample: 257871 - AH-2 1-1.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 77799 Date Analyzed: 2011-02-21 Analyzed By: AR
Prep Batch: 66703 Sample Preparation: 2011-02-21 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		961	mg/Kg	100	4.00

Sample: 257871 - AH-2 1-1.5'

Laboratory: Midland
Analysis: TPH DRO - NEW Analytical Method: S 8015 D Prep Method: N/A
QC Batch: 77882 Date Analyzed: 2011-02-23 Analyzed By: kg
Prep Batch: 66796 Sample Preparation: 2011-02-23 Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		2810	mg/Kg	5	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	⁴	319	mg/Kg	5	100	319	70 - 130

Sample: 257871 - AH-2 1-1.5'

Laboratory: Midland
Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035
QC Batch: 77929 Date Analyzed: 2011-02-25 Analyzed By: ME
Prep Batch: 66842 Sample Preparation: 2011-02-25 Prepared By: ME

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		231	mg/Kg	10	2.00

⁴High surrogate recovery due to peak interference.



Report Date: February 28, 2011
114-6400821

Work Order: 11021811
COG/JC Federal Tank Battery

Page Number: 9 of 49
Lea Co., NM

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		11.2	mg/Kg	10	10.0	112	36.3 - 158.9
4-Bromofluorobenzene (4-BFB)		13.9	mg/Kg	10	10.0	139	22.2 - 160.2

Sample: 257872 - AH-2 2-2.5'

Laboratory: Midland	Analytical Method: SM 4500-Cl B	Prep Method: N/A
Analysis: Chloride (Titration)	Date Analyzed: 2011-02-21	Analyzed By: AR
QC Batch: 77799	Sample Preparation: 2011-02-21	Prepared By: AR
Prep Batch: 66703		

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

Sample: 257872 - AH-2 2-2.5'

Laboratory: Midland	Analytical Method: S 8015 D	Prep Method: N/A
Analysis: TPH DRO - NEW	Date Analyzed: 2011-02-25	Analyzed By: kg
QC Batch: 77932	Sample Preparation: 2011-02-25	Prepared By: kg
Prep Batch: 66844		

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		85.5	mg/Kg	1	100	86	70 - 130

Sample: 257872 - AH-2 2-2.5'

Laboratory: Midland	Analytical Method: S 8015 D	Prep Method: S 5035
Analysis: TPH GRO	Date Analyzed: 2011-02-26	Analyzed By: ME
QC Batch: 77931	Sample Preparation: 2011-02-25	Prepared By: ME
Prep Batch: 66843		

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

Report Date: February 28, 2011
114-6400821

Work Order: 11021811
COG/JC Federal Tank Battery

Page Number: 10 of 49
Lea Co., NM

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.52	mg/Kg	1	2.00	126	36.3 - 158.9
4-Bromofluorobenzene (4-BFB)		2.57	mg/Kg	1	2.00	128	22.2 - 160.2

Sample: 257873 - AH-2 3-3.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 77799 Date Analyzed: 2011-02-21 Analyzed By: AR
Prep Batch: 66703 Sample Preparation: 2011-02-21 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		207	mg/Kg	50	4.00

Sample: 257873 - AH-2 3-3.5'

Laboratory: Midland
Analysis: TPH DRO - NEW Analytical Method: S 8015 D Prep Method: N/A
QC Batch: 77932 Date Analyzed: 2011-02-25 Analyzed By: kg
Prep Batch: 66844 Sample Preparation: 2011-02-25 Prepared By: kg

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		84.5	mg/Kg	1	100	84	70 - 130

Sample: 257873 - AH-2 3-3.5'

Laboratory: Midland
Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035
QC Batch: 77931 Date Analyzed: 2011-02-26 Analyzed By: ME
Prep Batch: 66843 Sample Preparation: 2011-02-25 Prepared By: ME

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



Report Date: February 28, 2011
114-6400821

Work Order: 11021811
COG/JC Federal Tank Battery

Page Number: 11 of 49
Lea Co., NM

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.50	mg/Kg	1	2.00	125	36.3 - 158.9
4-Bromofluorobenzene (4-BFB)		2.54	mg/Kg	1	2.00	127	22.2 - 160.2

Sample: 257874 - AH-2 4-4.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 77799 Date Analyzed: 2011-02-21 Analyzed By: AR
Prep Batch: 66703 Sample Preparation: 2011-02-21 Prepared By: AR

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

Sample: 257875 - AH-2 5-5.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 77800 Date Analyzed: 2011-02-22 Analyzed By: AR
Prep Batch: 66703 Sample Preparation: 2011-02-21 Prepared By: AR

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

Sample: 257876 - AH-3 0-1'

Laboratory: Midland
Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035
QC Batch: 77804 Date Analyzed: 2011-02-21 Analyzed By: ME
Prep Batch: 66705 Sample Preparation: 2011-02-21 Prepared By: ME

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0200	mg/Kg	1	0.0200
Toluene		0.373	mg/Kg	1	0.0200
Ethylbenzene		1.60	mg/Kg	1	0.0200
Xylene		3.00	mg/Kg	1	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.50	mg/Kg	1	2.00	125	51.6 - 149.2

continued ...

Report Date: February 28, 2011
114-6400821

Work Order: 11021811
COG/JC Federal Tank Battery

Page Number: 12 of 49
Lea Co., NM

sample continued ...

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
4-Bromofluorobenzene (4-BFB)	⁵	3.72	mg/Kg	1	2.00	186	35.7 - 159.6

Sample: 257876 - AH-3 0-1'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 77800 Date Analyzed: 2011-02-22 Analyzed By: AR
Prep Batch: 66703 Sample Preparation: 2011-02-21 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		1600	mg/Kg	100	4.00

Sample: 257876 - AH-3 0-1'

Laboratory: Midland
Analysis: TPH DRO - NEW Analytical Method: S 8015 D Prep Method: N/A
QC Batch: 77781 Date Analyzed: 2011-02-21 Analyzed By: kg
Prep Batch: 66718 Sample Preparation: 2011-02-21 Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		251	mg/Kg	1	50.0

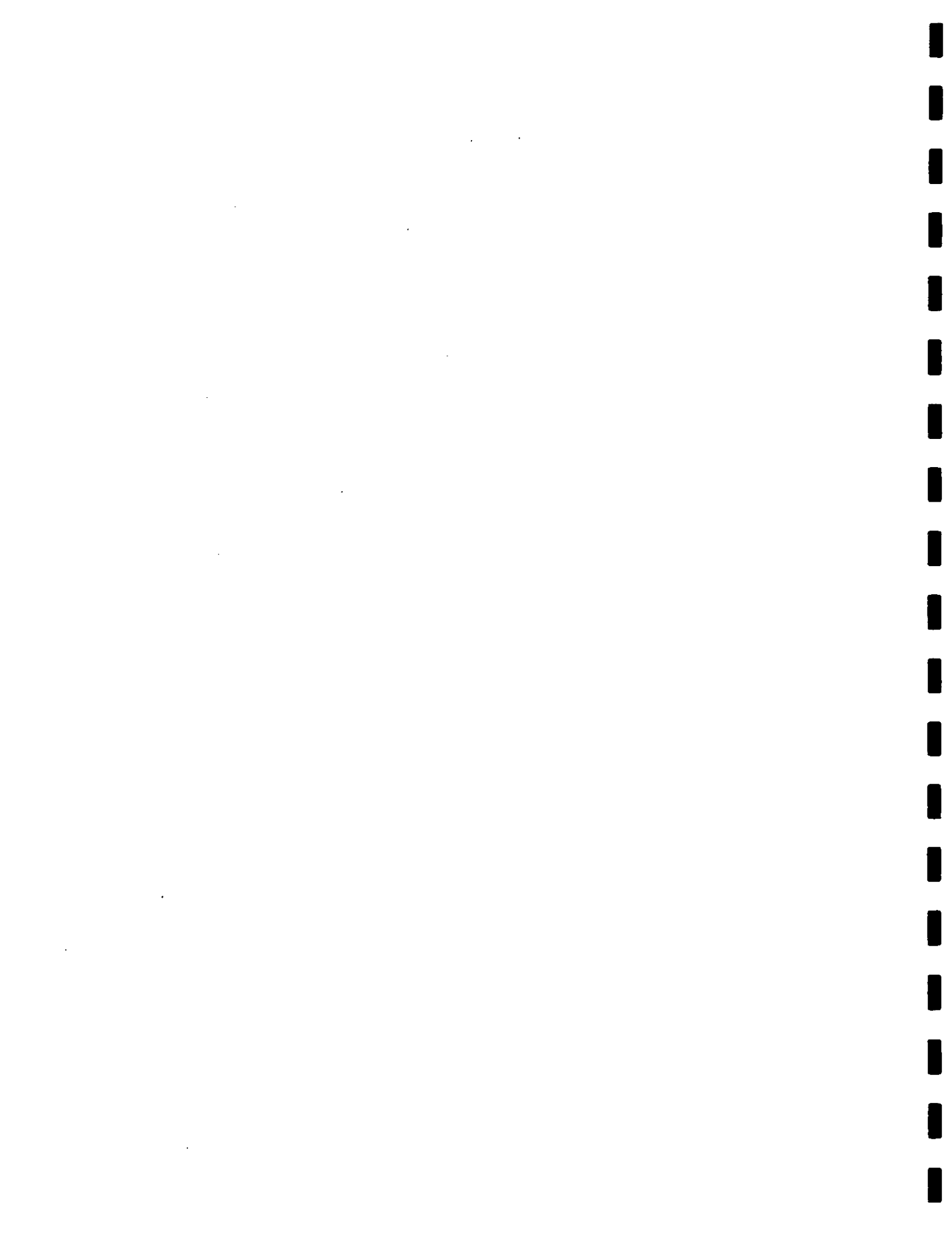
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		110	mg/Kg	1	100	110	70 - 130

Sample: 257876 - AH-3 0-1'

Laboratory: Midland
Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035
QC Batch: 77805 Date Analyzed: 2011-02-21 Analyzed By: ME
Prep Batch: 66705 Sample Preparation: 2011-02-21 Prepared By: ME

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		112	mg/Kg	1	2.00

⁵High surrogate recovery due to peak interference.



Report Date: February 28, 2011
114-6400821

Work Order: 11021811
COG/JC Federal Tank Battery

Page Number: 13 of 49
Lea Co., NM

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.52	mg/Kg	1	2.00	126	36.3 - 158.9
4-Bromofluorobenzene (4-BFB)	⁶	3.80	mg/Kg	1	2.00	190	22.2 - 160.2

Sample: 257877 - AH-3 1-1.5'

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	77800	Date Analyzed:	2011-02-22
Prep Batch:	66703	Sample Preparation:	2011-02-21
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

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

Sample: 257878 - AH-3 2-2.5'

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	77800	Date Analyzed:	2011-02-22
Prep Batch:	66703	Sample Preparation:	2011-02-21
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

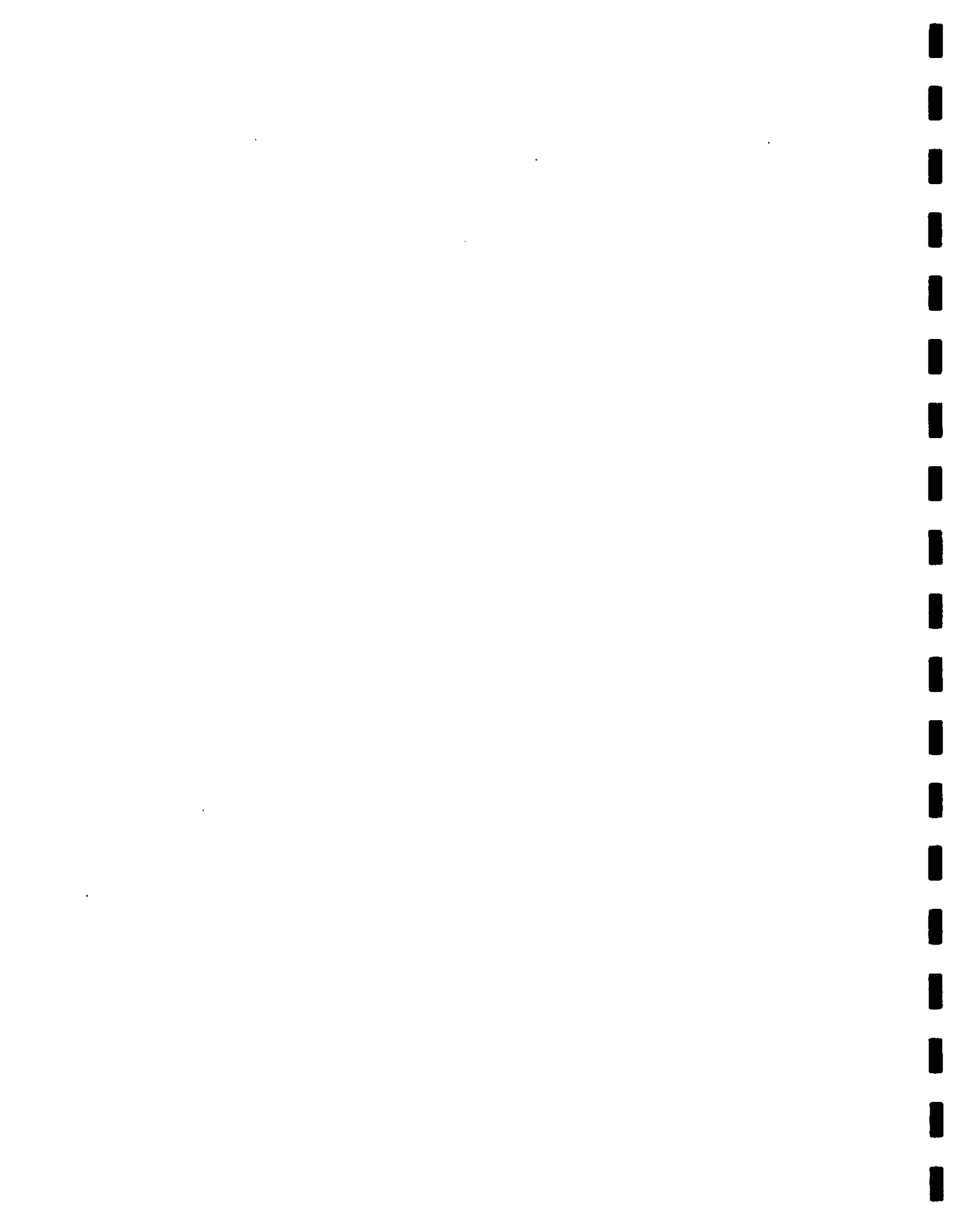
Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		<200	mg/Kg	50	4.00

Sample: 257879 - AH-3 3-3.5'

Laboratory:	Midland		
Analysis:	Chloride (Titration)	Analytical Method:	SM 4500-Cl B
QC Batch:	77800	Date Analyzed:	2011-02-22
Prep Batch:	66703	Sample Preparation:	2011-02-21
		Prep Method:	N/A
		Analyzed By:	AR
		Prepared By:	AR

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

⁶High surrogate recovery due to peak interference.



Report Date: February 28, 2011
114-6400821

Work Order: 11021811
COG/JC Federal Tank Battery

Page Number: 14 of 49
Lea Co., NM

Sample: 257880 - AH-3 4-4.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 77800 Date Analyzed: 2011-02-22 Analyzed By: AR
Prep Batch: 66703 Sample Preparation: 2011-02-21 Prepared By: AR

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

Sample: 257881 - AH-4 0-1'

Laboratory: Midland
Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035
QC Batch: 77804 Date Analyzed: 2011-02-21 Analyzed By: ME
Prep Batch: 66705 Sample Preparation: 2011-02-21 Prepared By: ME

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.200	mg/Kg	10	0.0200
Toluene		2.70	mg/Kg	10	0.0200
Ethylbenzene		12.4	mg/Kg	10	0.0200
Xylene		22.1	mg/Kg	10	0.0200

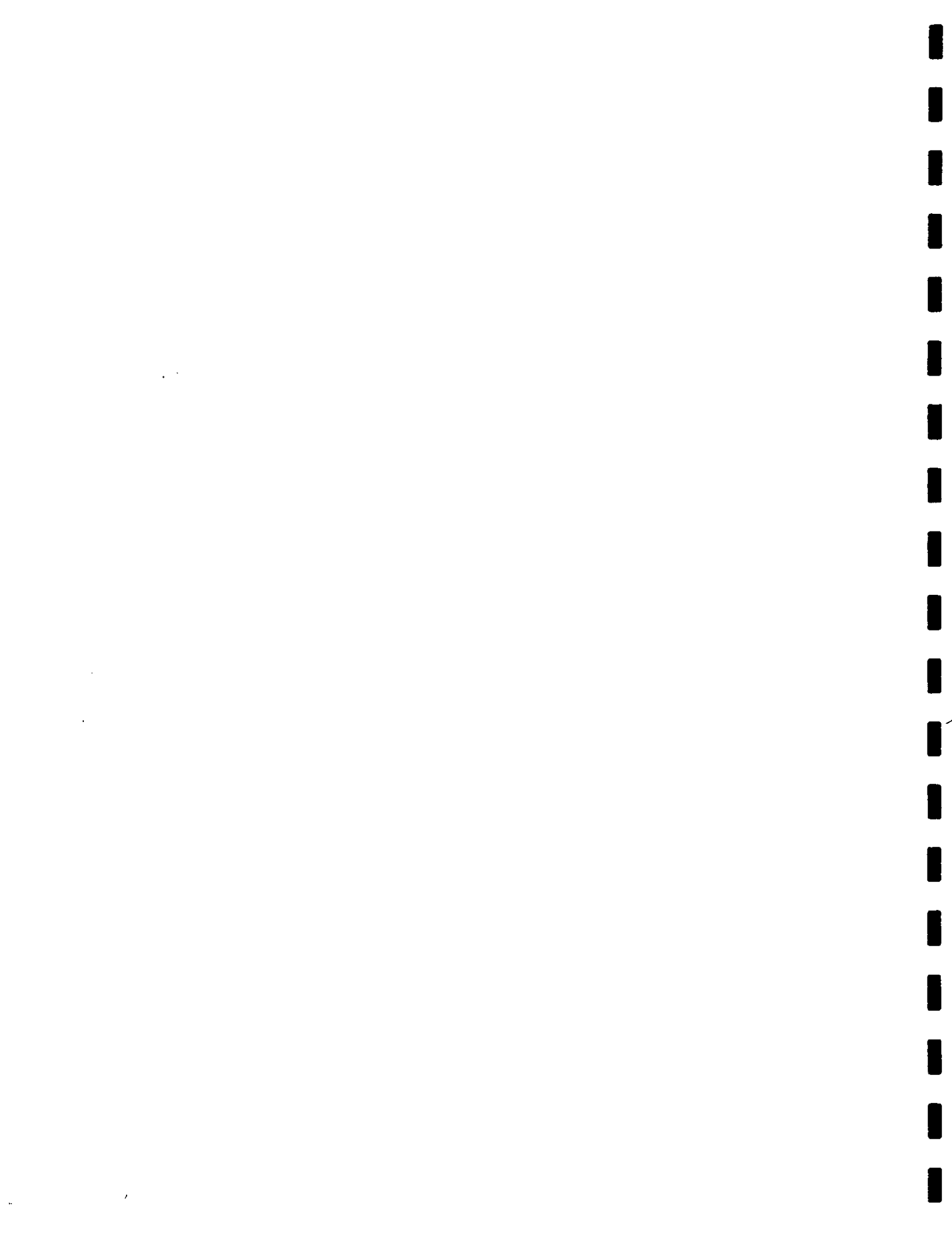
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		11.4	mg/Kg	10	10.0	114	51.6 - 149.2
4-Bromofluorobenzene (4-BFB)	⁷	17.3	mg/Kg	10	10.0	173	35.7 - 159.6

Sample: 257881 - AH-4 0-1'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 77800 Date Analyzed: 2011-02-22 Analyzed By: AR
Prep Batch: 66703 Sample Preparation: 2011-02-21 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		346	mg/Kg	50	4.00

⁷High surrogate recovery due to peak interference.



Report Date: February 28, 2011
114-6400821

Work Order: 11021811
COG/JC Federal Tank Battery

Page Number: 15 of 49
Lea Co., NM

Sample: 257881 - AH-4 0-1'

Laboratory:	Midland	Analytical Method:	S 8015 D	Prep Method:	N/A
Analysis:	TPH DRO - NEW	Date Analyzed:	2011-02-21	Analyzed By:	kg
QC Batch:	77781	Sample Preparation:	2011-02-21	Prepared By:	kg
Prep Batch:	66718				

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		2000	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	8	232	mg/Kg	1	100	232	70 - 130

Sample: 257881 - AH-4 0-1'

Laboratory:	Midland	Analytical Method:	S 8015 D	Prep Method:	S 5035
Analysis:	TPH GRO	Date Analyzed:	2011-02-21	Analyzed By:	ME
QC Batch:	77805	Sample Preparation:	2011-02-21	Prepared By:	ME
Prep Batch:	66705				

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		438	mg/Kg	10	2.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		11.7	mg/Kg	10	10.0	117	36.3 - 158.9
4-Bromofluorobenzene (4-BFB)	9	21.0	mg/Kg	10	10.0	210	22.2 - 160.2

Sample: 257882 - AH-4 1-1.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-02-22	Analyzed By:	AR
QC Batch:	77800	Sample Preparation:	2011-02-21	Prepared By:	AR
Prep Batch:	66703				

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

⁸High surrogate recovery due to peak interference.

⁹High surrogate recovery due to peak interference.



Report Date: February 28, 2011
114-6400821

Work Order: 11021811
COG/JC Federal Tank Battery

Page Number: 16 of 49
Lea Co., NM

Sample: 257882 - AH-4 1-1.5'

Laboratory:	Midland	Analytical Method:	S 8015 D	Prep Method:	N/A
Analysis:	TPH DRO - NEW	Date Analyzed:	2011-02-23	Analyzed By:	kg
QC Batch:	77882	Sample Preparation:	2011-02-23	Prepared By:	kg
Prep Batch:	66796				

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		89.2	mg/Kg	1	100	89	70 - 130

Sample: 257882 - AH-4 1-1.5'

Laboratory:	Midland	Analytical Method:	S 8015 D	Prep Method:	S 5035
Analysis:	TPH GRO	Date Analyzed:	2011-02-25	Analyzed By:	ME
QC Batch:	77929	Sample Preparation:	2011-02-25	Prepared By:	ME
Prep Batch:	66842				

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)		2.17	mg/Kg	1	2.00	108	36.3 - 158.9
4-Bromofluorobenzene (4-BFB)		2.48	mg/Kg	1	2.00	124	22.2 - 160.2

Sample: 257883 - AH-4 2-2.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-02-22	Analyzed By:	AR
QC Batch:	77800	Sample Preparation:	2011-02-21	Prepared By:	AR
Prep Batch:	66703				

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

Report Date: February 28, 2011
114-6400821

Work Order: 11021811
COG/JC Federal Tank Battery

Page Number: 17 of 49
Lea Co., NM

Sample: 257884 - AH-4 3-3.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-02-22	Analyzed By:	AR
QC Batch:	77800	Sample Preparation:	2011-02-21	Prepared By:	AR
Prep Batch:	66703				

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

Sample: 257885 - AH-4 4-4.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-02-22	Analyzed By:	AR
QC Batch:	77801	Sample Preparation:	2011-02-21	Prepared By:	AR
Prep Batch:	66703				

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

Sample: 257886 - AH-4 5-5.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-02-22	Analyzed By:	AR
QC Batch:	77801	Sample Preparation:	2011-02-21	Prepared By:	AR
Prep Batch:	66703				

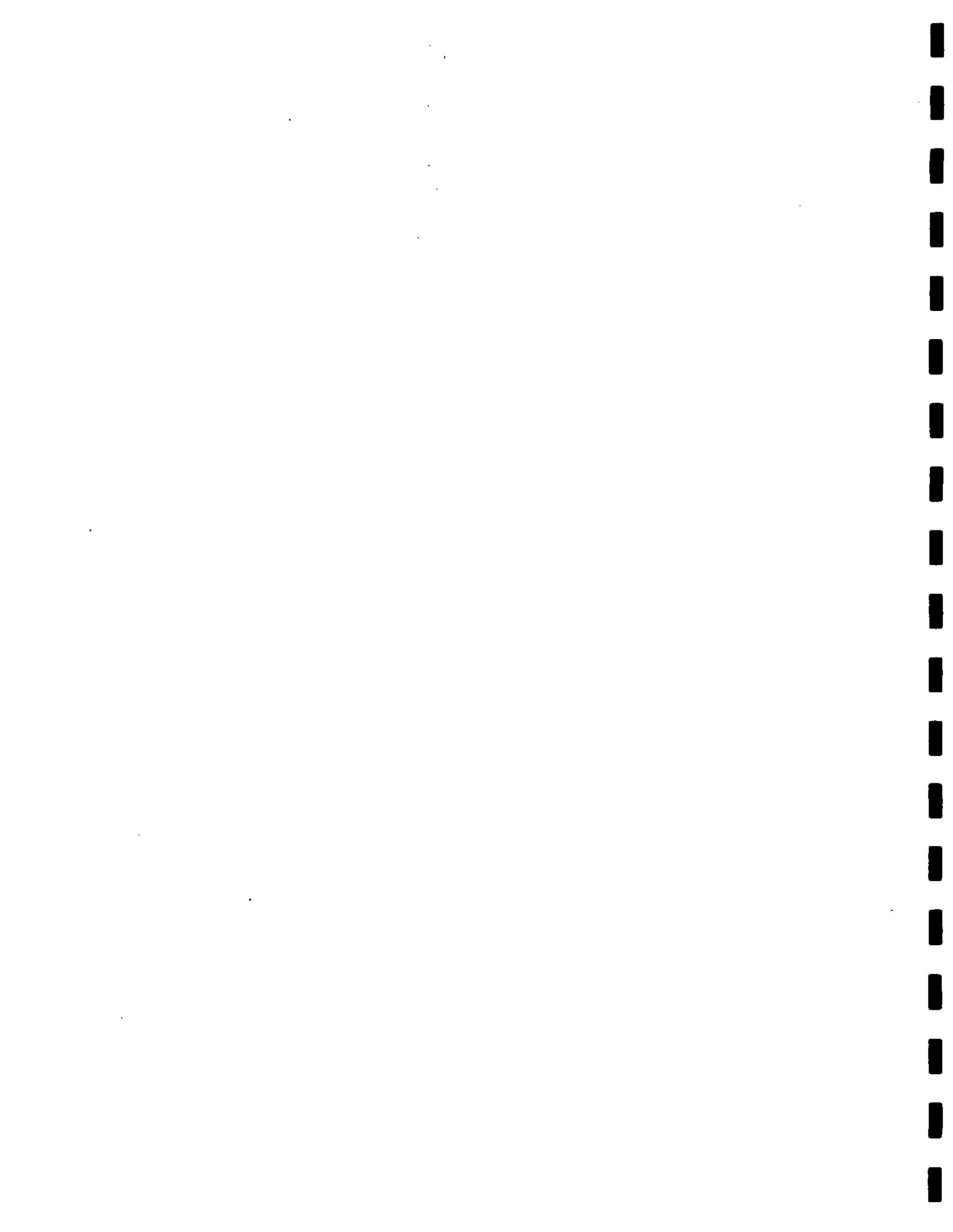
Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		<200	mg/Kg	50	4.00

Sample: 257887 - AH-5 0-1'

Laboratory:	Midland	Analytical Method:	S 8021B	Prep Method:	S 5035
Analysis:	BTEX	Date Analyzed:	2011-02-21	Analyzed By:	ME
QC Batch:	77804	Sample Preparation:	2011-02-21	Prepared By:	ME
Prep Batch:	66705				

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0200	mg/Kg	1	0.0200
Toluene		0.475	mg/Kg	1	0.0200

continued ...



sample 257887 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
Ethylbenzene		0.917	mg/Kg	1	0.0200
Xylene		1.77	mg/Kg	1	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.41	mg/Kg	1	2.00	120	51.6 - 149.2
4-Bromofluorobenzene (4-BFB)	¹⁰	3.23	mg/Kg	1	2.00	162	35.7 - 159.6

Sample: 257887 - AH-5 0-1'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 77801 Date Analyzed: 2011-02-22 Analyzed By: AR
Prep Batch: 66703 Sample Preparation: 2011-02-21 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		1620	mg/Kg	100	4.00

Sample: 257887 - AH-5 0-1'

Laboratory: Midland
Analysis: TPH DRO - NEW Analytical Method: S 8015 D Prep Method: N/A
QC Batch: 77781 Date Analyzed: 2011-02-21 Analyzed By: kg
Prep Batch: 66718 Sample Preparation: 2011-02-21 Prepared By: kg

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		1110	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	¹¹	178	mg/Kg	1	100	178	70 - 130

Sample: 257887 - AH-5 0-1'

Laboratory: Midland
Analysis: TPH GRO Analytical Method: S 8015 D Prep Method: S 5035
QC Batch: 77805 Date Analyzed: 2011-02-21 Analyzed By: ME
Prep Batch: 66705 Sample Preparation: 2011-02-21 Prepared By: ME

¹⁰High surrogate recovery due to peak interference.

¹¹High surrogate recovery due to peak interference.



Parameter	Flag	RL Result	Units	Dilution	RL
GRO		98.1	mg/Kg	1	2.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.45	mg/Kg	1	2.00	122	36.3 - 158.9
4-Bromofluorobenzene (4-BFB)	¹²	3.39	mg/Kg	1	2.00	170	22.2 - 160.2

Sample: 257888 - AH-5 1-1.5'

Laboratory: Midland	Analytical Method: SM 4500-Cl B	Prep Method: N/A
Analysis: Chloride (Titration)	Date Analyzed: 2011-02-22	Analyzed By: AR
QC Batch: 77801	Sample Preparation: 2011-02-21	Prepared By: AR
Prep Batch: 66703		

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		674	mg/Kg	50	4.00

Sample: 257888 - AH-5 1-1.5'

Laboratory: Midland	Analytical Method: S 8015 D	Prep Method: N/A
Analysis: TPH DRO - NEW	Date Analyzed: 2011-02-23	Analyzed By: kg
QC Batch: 77882	Sample Preparation: 2011-02-23	Prepared By: kg
Prep Batch: 66796		

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		91.9	mg/Kg	1	100	92	70 - 130

Sample: 257888 - AH-5 1-1.5'

Laboratory: Midland	Analytical Method: S 8015 D	Prep Method: S 5035
Analysis: TPH GRO	Date Analyzed: 2011-02-25	Analyzed By: ME
QC Batch: 77929	Sample Preparation: 2011-02-25	Prepared By: ME
Prep Batch: 66842		

continued ...

¹²High surrogate recovery due to peak interference.

Report Date: February 28, 2011
114-6400821

Work Order: 11021811
COG/JC Federal Tank Battery

Page Number: 20 of 49
Lea Co., NM

sample 257888 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
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)		2.20	mg/Kg	1	2.00	110	36.3 - 158.9
4-Bromofluorobenzene (4-BFB)		2.54	mg/Kg	1	2.00	127	22.2 - 160.2

Sample: 257889 - AH-5 2-2.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 77801 Date Analyzed: 2011-02-22 Analyzed By: AR
Prep Batch: 66703 Sample Preparation: 2011-02-21 Prepared By: AR

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

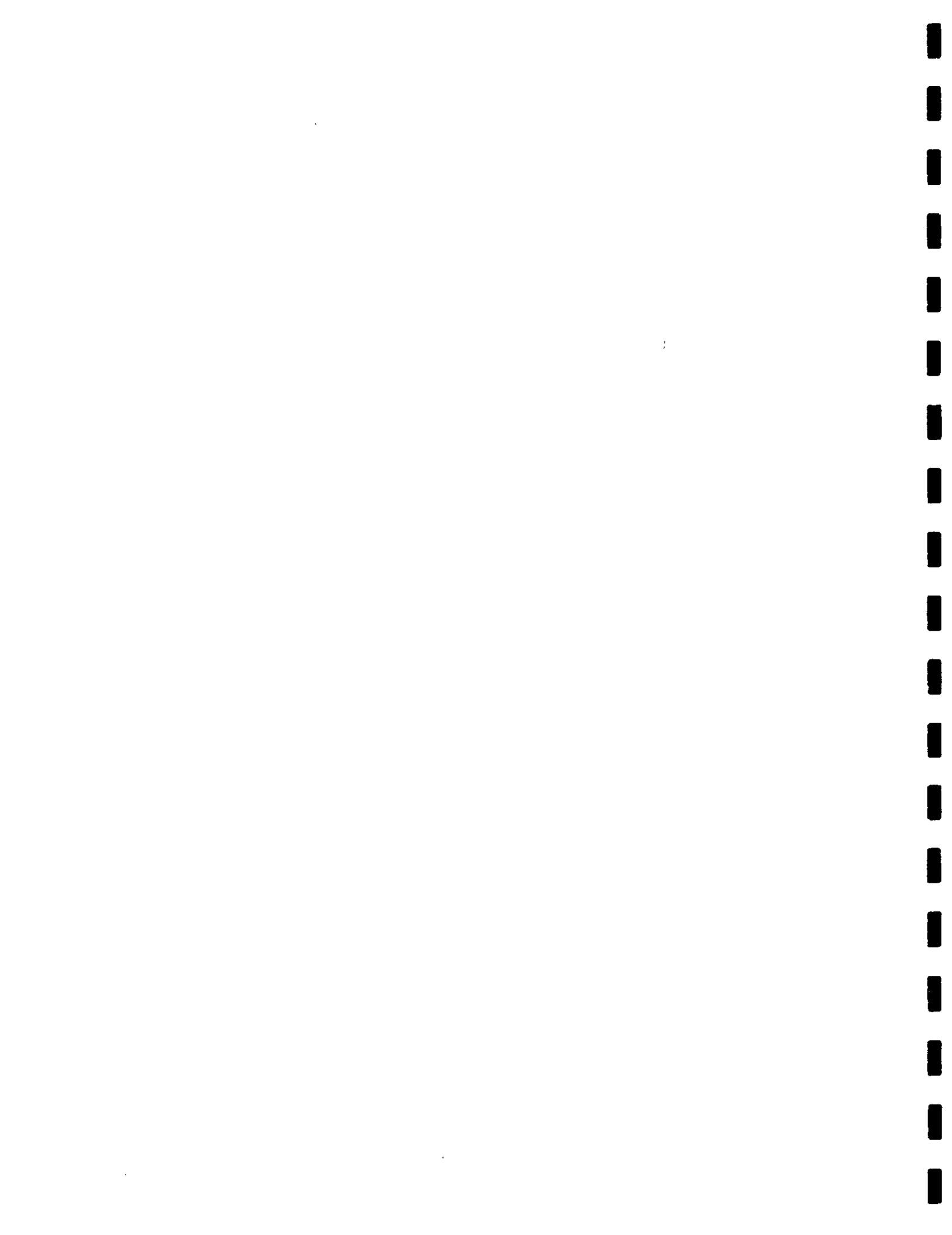
Sample: 257890 - AH-5 3-3.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 77801 Date Analyzed: 2011-02-22 Analyzed By: AR
Prep Batch: 66703 Sample Preparation: 2011-02-21 Prepared By: AR

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

Sample: 257891 - AH-5 4-4.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 77801 Date Analyzed: 2011-02-22 Analyzed By: AR
Prep Batch: 66703 Sample Preparation: 2011-02-21 Prepared By: AR



Report Date: February 28, 2011
114-6400821

Work Order: 11021811
COG/JC Federal Tank Battery

Page Number: 21 of 49
Lea Co., NM

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

Sample: 257892 - AH-5 5-5.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 77801 Date Analyzed: 2011-02-22 Analyzed By: AR
Prep Batch: 66703 Sample Preparation: 2011-02-21 Prepared By: AR

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

Sample: 257893 - AH-5 6-6.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 77801 Date Analyzed: 2011-02-22 Analyzed By: AR
Prep Batch: 66703 Sample Preparation: 2011-02-21 Prepared By: AR

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

Sample: 257894 - AH-5 7-7.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 77801 Date Analyzed: 2011-02-22 Analyzed By: AR
Prep Batch: 66703 Sample Preparation: 2011-02-21 Prepared By: AR

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

Sample: 257895 - AH-5 8-8.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 77802 Date Analyzed: 2011-02-22 Analyzed By: AR
Prep Batch: 66703 Sample Preparation: 2011-02-21 Prepared By: AR

Report Date: February 28, 2011
114-6400821

Work Order: 11021811
COG/JC Federal Tank Battery

Page Number: 22 of 49
Lea Co., NM

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

Sample: 257896 - AH-5 9-9.5'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 77802 Date Analyzed: 2011-02-22 Analyzed By: AR
Prep Batch: 66703 Sample Preparation: 2011-02-21 Prepared By: AR

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

Sample: 257897 - AH-6 0-1'

Laboratory: Midland
Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035
QC Batch: 77858 Date Analyzed: 2011-02-23 Analyzed By: ME
Prep Batch: 66777 Sample Preparation: 2011-02-23 Prepared By: ME

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.200	mg/Kg	10	0.0200
Toluene		0.989	mg/Kg	10	0.0200
Ethylbenzene		1.58	mg/Kg	10	0.0200
Xylene		3.72	mg/Kg	10	0.0200

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		11.3	mg/Kg	10	10.0	113	51.6 - 149.2
4-Bromofluorobenzene (4-BFB)		14.5	mg/Kg	10	10.0	145	35.7 - 159.6

Sample: 257897 - AH-6 0-1'

Laboratory: Midland
Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A
QC Batch: 77802 Date Analyzed: 2011-02-22 Analyzed By: AR
Prep Batch: 66703 Sample Preparation: 2011-02-21 Prepared By: AR

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		2010	mg/Kg	100	4.00



Report Date: February 28, 2011
114-6400821

Work Order: 11021811
COG/JC Federal Tank Battery

Page Number: 23 of 49
Lea Co., NM

Sample: 257897 - AH-6 0-1'

Laboratory:	Midland	Analytical Method:	S 8015 D	Prep Method:	N/A
Analysis:	TPH DRO - NEW	Date Analyzed:	2011-02-21	Analyzed By:	kg
QC Batch:	77781	Sample Preparation:	2011-02-21	Prepared By:	kg
Prep Batch:	66718				

Parameter	Flag	RL Result	Units	Dilution	RL
DRO		1340	mg/Kg	1	50.0

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane	¹³	207	mg/Kg	1	100	207	70 - 130

Sample: 257897 - AH-6 0-1'

Laboratory:	Midland	Analytical Method:	S 8015 D	Prep Method:	S 5035
Analysis:	TPH GRO	Date Analyzed:	2011-02-23	Analyzed By:	ME
QC Batch:	77859	Sample Preparation:	2011-02-23	Prepared By:	ME
Prep Batch:	66777				

Parameter	Flag	RL Result	Units	Dilution	RL
GRO		250	mg/Kg	10	2.00

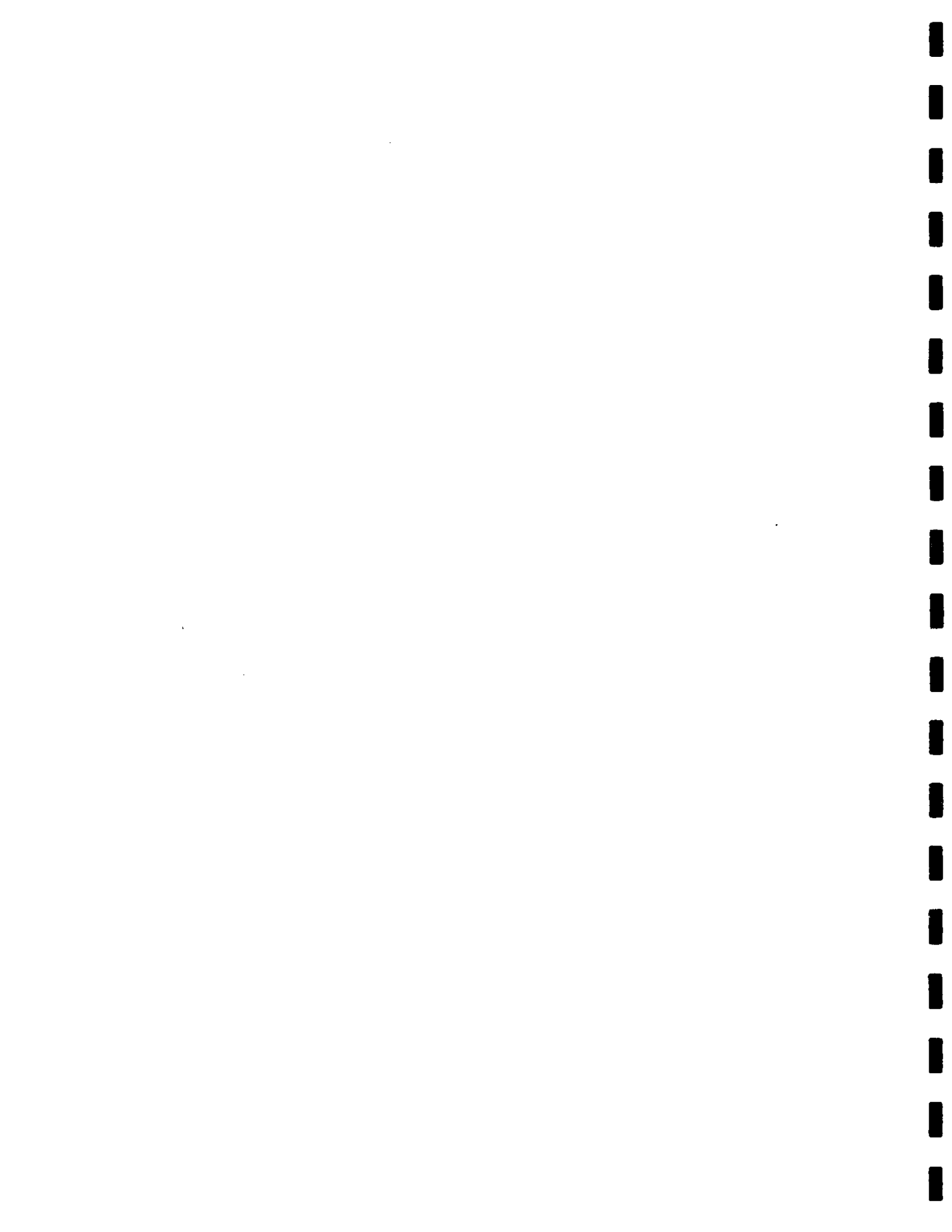
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		11.5	mg/Kg	10	10.0	115	36.3 - 158.9
4-Bromofluorobenzene (4-BFB)		13.4	mg/Kg	10	10.0	134	22.2 - 160.2

Sample: 257898 - AH-6 1-1.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-02-22	Analyzed By:	AR
QC Batch:	77802	Sample Preparation:	2011-02-21	Prepared By:	AR
Prep Batch:	66703				

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		1540	mg/Kg	100	4.00

¹³High surrogate recovery due to peak interference.



Report Date: February 28, 2011
114-6400821

Work Order: 11021811
COG/JC Federal Tank Battery

Page Number: 24 of 49
Lea Co., NM

Sample: 257898 - AH-6 1-1.5'

Laboratory:	Midland	Analytical Method:	S 8015 D	Prep Method:	N/A
Analysis:	TPH DRO - NEW	Date Analyzed:	2011-02-23	Analyzed By:	kg
QC Batch:	77882	Sample Preparation:	2011-02-23	Prepared By:	kg
Prep Batch:	66796				

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Tricosane		89.1	mg/Kg	1	100	89	70 - 130

Sample: 257898 - AH-6 1-1.5'

Laboratory:	Midland	Analytical Method:	S 8015 D	Prep Method:	S 5035
Analysis:	TPH GRO	Date Analyzed:	2011-02-25	Analyzed By:	ME
QC Batch:	77929	Sample Preparation:	2011-02-25	Prepared By:	ME
Prep Batch:	66842				

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)		2.45	mg/Kg	1	2.00	122	36.3 - 158.9
4-Bromofluorobenzene (4-BFB)		2.85	mg/Kg	1	2.00	142	22.2 - 160.2

Sample: 257899 - AH-6 2-2.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-02-22	Analyzed By:	AR
QC Batch:	77802	Sample Preparation:	2011-02-21	Prepared By:	AR
Prep Batch:	66703				

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

Report Date: February 28, 2011
114-6400821

Work Order: 11021811
COG/JC Federal Tank Battery

Page Number: 25 of 49
Lea Co., NM

Sample: 257900 - AH-6 3-3.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-02-22	Analyzed By:	AR
QC Batch:	77802	Sample Preparation:	2011-02-21	Prepared By:	AR
Prep Batch:	66703				

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

Sample: 257901 - AH-6 4-4.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-02-22	Analyzed By:	AR
QC Batch:	77802	Sample Preparation:	2011-02-21	Prepared By:	AR
Prep Batch:	66703				

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

Sample: 257902 - AH-6 5-5.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-02-22	Analyzed By:	AR
QC Batch:	77802	Sample Preparation:	2011-02-21	Prepared By:	AR
Prep Batch:	66703				

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

Sample: 257903 - AH-6 6-6.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-02-22	Analyzed By:	AR
QC Batch:	77802	Sample Preparation:	2011-02-21	Prepared By:	AR
Prep Batch:	66703				

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

Report Date: February 28, 2011
114-6400821

Work Order: 11021811
COG/JC Federal Tank Battery

Page Number: 26 of 49
Lea Co., NM

Sample: 257904 - AH-6 7-7.5'

Laboratory:	Midland	Analytical Method:	SM 4500-Cl B	Prep Method:	N/A
Analysis:	Chloride (Titration)	Date Analyzed:	2011-02-22	Analyzed By:	AR
QC Batch:	77802	Sample Preparation:	2011-02-21	Prepared By:	AR
Prep Batch:	66703				

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

Method Blank (1) QC Batch: 77781

QC Batch:	77781	Date Analyzed:	2011-02-21	Analyzed By:	kg
Prep Batch:	66718	QC Preparation:	2011-02-21	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		74.8	mg/Kg	1	100	75	70 - 130

Method Blank (1) QC Batch: 77799

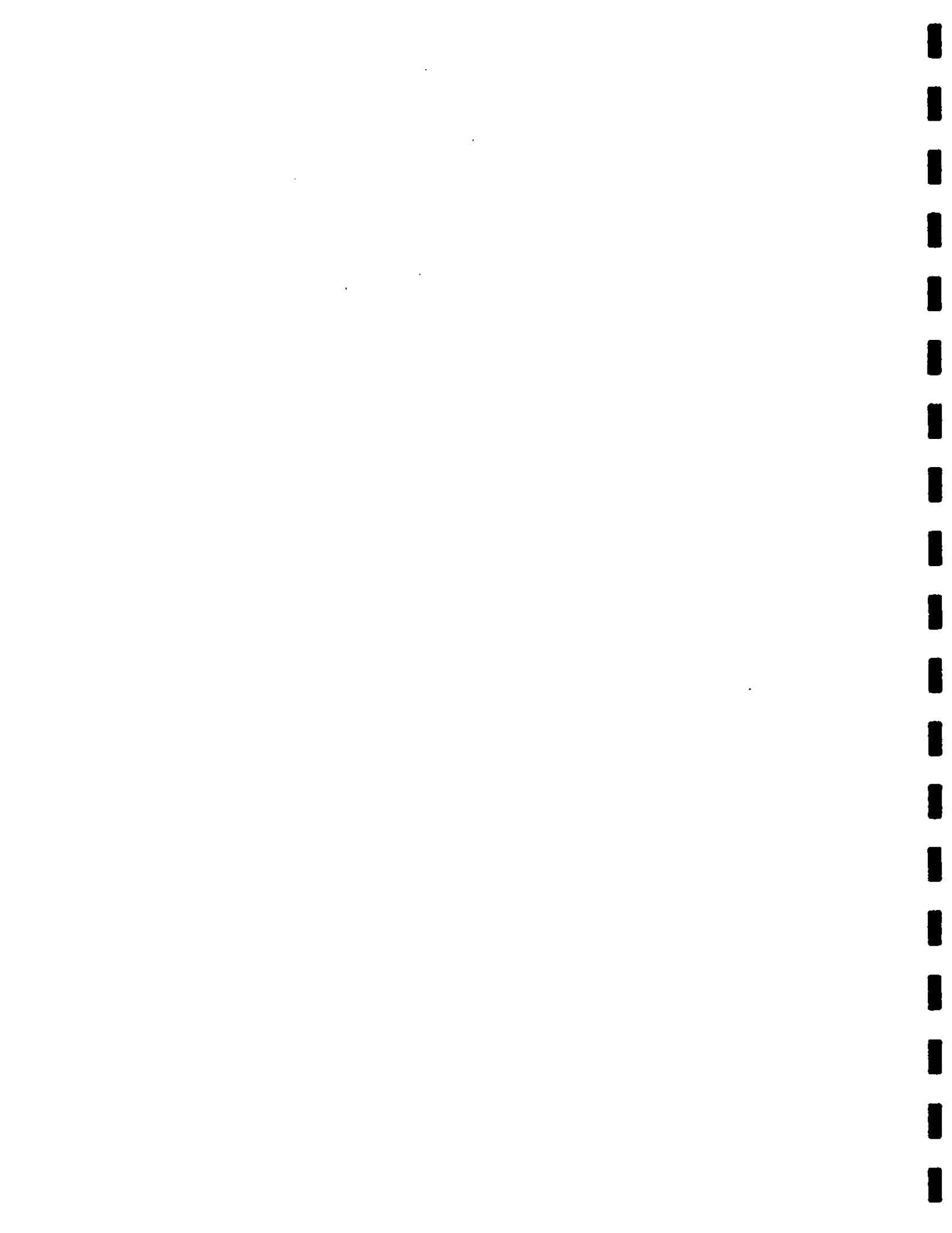
QC Batch:	77799	Date Analyzed:	2011-02-21	Analyzed By:	AR
Prep Batch:	66703	QC Preparation:	2011-02-21	Prepared By:	AR

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

Method Blank (1) QC Batch: 77800

QC Batch:	77800	Date Analyzed:	2011-02-22	Analyzed By:	AR
Prep Batch:	66703	QC Preparation:	2011-02-21	Prepared By:	AR

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



Report Date: February 28, 2011
114-6400821

Work Order: 11021811
COG/JC Federal Tank Battery

Page Number: 27 of 49
Lea Co., NM

Method Blank (1) QC Batch: 77801

QC Batch: 77801
Prep Batch: 66703

Date Analyzed: 2011-02-22
QC Preparation: 2011-02-21

Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 77802

QC Batch: 77802
Prep Batch: 66703

Date Analyzed: 2011-02-22
QC Preparation: 2011-02-21

Analyzed By: AR
Prepared By: AR

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

Method Blank (1) QC Batch: 77804

QC Batch: 77804
Prep Batch: 66705

Date Analyzed: 2011-02-21
QC Preparation: 2011-02-21

Analyzed By: ME
Prepared By: ME

Parameter	Flag	MDL Result	Units	RL
Benzene		<0.0118	mg/Kg	0.02
Toluene		<0.00600	mg/Kg	0.02
Ethylbenzene		<0.00850	mg/Kg	0.02
Xylene		<0.00613	mg/Kg	0.02

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.41	mg/Kg	1	2.00	120	70.8 - 123.5
4-Bromofluorobenzene (4-BFB)		2.56	mg/Kg	1	2.00	128	48.8 - 134

Method Blank (1) QC Batch: 77805

QC Batch: 77805
Prep Batch: 66705

Date Analyzed: 2011-02-21
QC Preparation: 2011-02-21

Analyzed By: ME
Prepared By: ME

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



Report Date: February 28, 2011
114-6400821

Work Order: 11021811
COG/JC Federal Tank Battery

Page Number: 28 of 49
Lea Co., NM

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		2.38	mg/Kg	1	2.00	119	74.6 - 127.8
4-Bromofluorobenzene (4-BFB)		2.50	mg/Kg	1	2.00	125	32.9 - 129.8

Method Blank (1) QC Batch: 77858

QC Batch: 77858
Prep Batch: 66777

Date Analyzed: 2011-02-23
QC Preparation: 2011-02-23

Analyzed By: ME
Prepared By: ME

Parameter	Flag	MDL Result	Units	RL
Benzene		<0.0118	mg/Kg	0.02
Toluene		<0.00600	mg/Kg	0.02
Ethylbenzene		<0.00850	mg/Kg	0.02
Xylene		<0.00613	mg/Kg	0.02

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.90	mg/Kg	1	2.00	95	70.8 - 123.5
4-Bromofluorobenzene (4-BFB)		2.26	mg/Kg	1	2.00	113	48.8 - 134

Method Blank (1) QC Batch: 77859

QC Batch: 77859
Prep Batch: 66777

Date Analyzed: 2011-02-23
QC Preparation: 2011-02-23

Analyzed By: ME
Prepared By: ME

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

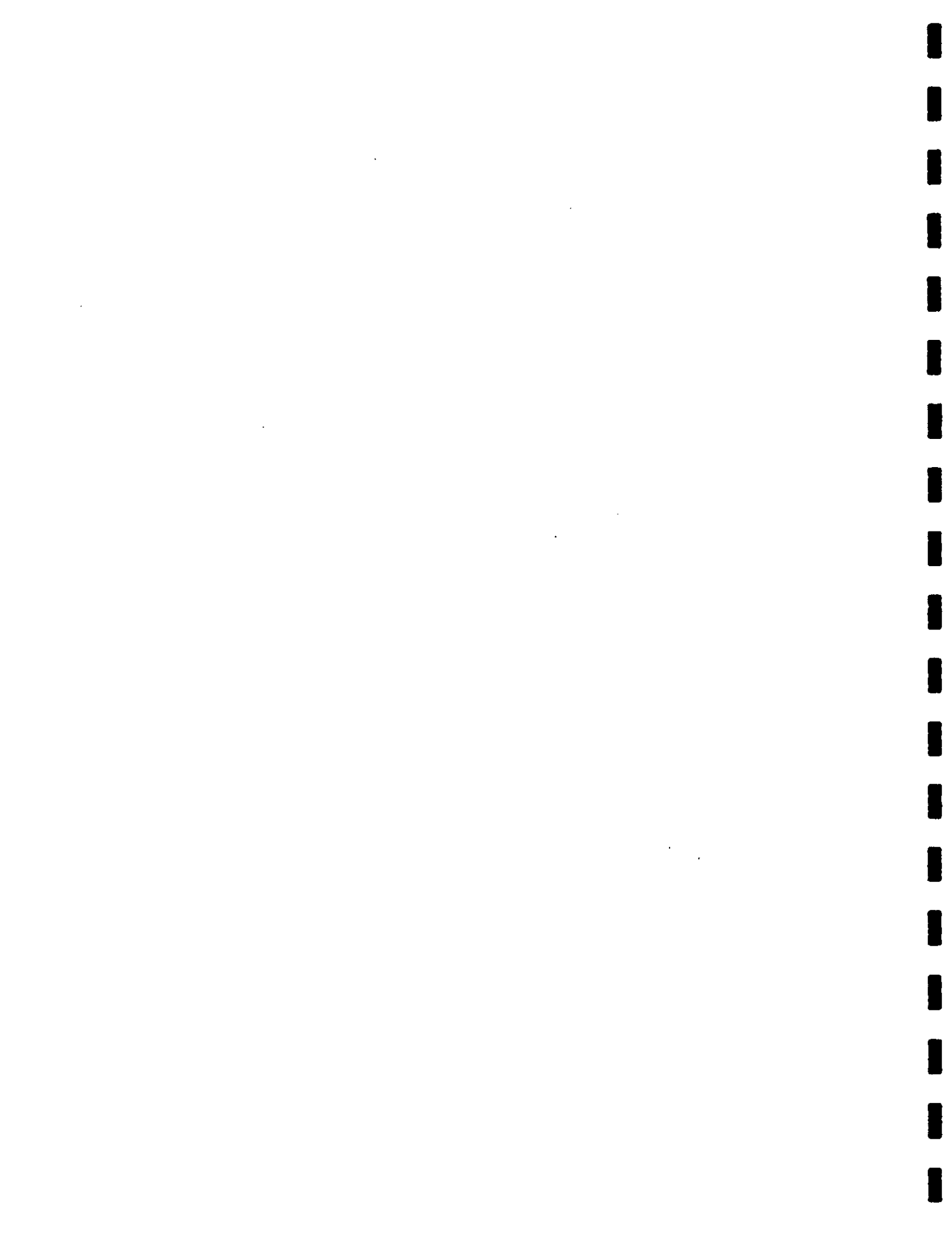
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.97	mg/Kg	1	2.00	98	74.6 - 127.8
4-Bromofluorobenzene (4-BFB)		2.09	mg/Kg	1	2.00	104	32.9 - 129.8

Method Blank (1) QC Batch: 77882

QC Batch: 77882
Prep Batch: 66796

Date Analyzed: 2011-02-23
QC Preparation: 2011-02-23

Analyzed By: kg
Prepared By: kg



Report Date: February 28, 2011
114-6400821

Work Order: 11021811
COG/JC Federal Tank Battery

Page Number: 29 of 49
Lea Co., NM

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		90.9	mg/Kg	1	100	91	70 - 130

Method Blank (1) QC Batch: 77928

QC Batch: 77928
Prep Batch: 66842

Date Analyzed: 2011-02-25
QC Preparation: 2011-02-25

Analyzed By: ME
Prepared By: ME

Parameter	Flag	MDL Result	Units	RL
Benzene		<0.0118	mg/Kg	0.02
Toluene		<0.00600	mg/Kg	0.02
Ethylbenzene		<0.00850	mg/Kg	0.02
Xylene		<0.00613	mg/Kg	0.02

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.87	mg/Kg	1	2.00	94	70.8 - 123.5
4-Bromofluorobenzene (4-BFB)		2.39	mg/Kg	1	2.00	120	48.8 - 134

Method Blank (1) QC Batch: 77929

QC Batch: 77929
Prep Batch: 66842

Date Analyzed: 2011-02-25
QC Preparation: 2011-02-25

Analyzed By: ME
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)		1.92	mg/Kg	1	2.00	96	74.6 - 127.8
4-Bromofluorobenzene (4-BFB)		2.22	mg/Kg	1	2.00	111	32.9 - 129.8

Method Blank (1) QC Batch: 77931

QC Batch: 77931
Prep Batch: 66843

Date Analyzed: 2011-02-26
QC Preparation: 2011-02-25

Analyzed By: ME
Prepared By: ME

Report Date: February 28, 2011
114-6400821

Work Order: 11021811
COG/JC Federal Tank Battery

Page Number: 30 of 49
Lea Co., NM

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)		1.96	mg/Kg	1	2.00	98	74.6 - 127.8
4-Bromofluorobenzene (4-BFB)		1.98	mg/Kg	1	2.00	99	32.9 - 129.8

Method Blank (1) QC Batch: 77932

QC Batch: 77932
Prep Batch: 66844

Date Analyzed: 2011-02-25
QC Preparation: 2011-02-25

Analyzed By: kg
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		91.4	mg/Kg	1	100	91	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 77781
Prep Batch: 66718

Date Analyzed: 2011-02-21
QC Preparation: 2011-02-21

Analyzed By: kg
Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	206	mg/Kg	1	250	<15.7	82	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	210	mg/Kg	1	250	<15.7	84	47.5 - 144.1	2	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	99.2	99.7	mg/Kg	1	100	99	100	70 - 130



Report Date: February 28, 2011
114-6400821

Work Order: 11021811
COG/JC Federal Tank Battery

Page Number: 31 of 49
Lea Co., NM

Laboratory Control Spike (LCS-1)

QC Batch: 77799
Prep Batch: 66703

Date Analyzed: 2011-02-21
QC Preparation: 2011-02-21

Analyzed By: AR
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	103	mg/Kg	1	100	<2.18	103	85 - 115	6	20

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

Laboratory Control Spike (LCS-1)

QC Batch: 77800
Prep Batch: 66703

Date Analyzed: 2011-02-22
QC Preparation: 2011-02-21

Analyzed By: AR
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	95.9	mg/Kg	1	100	<2.18	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	104	mg/Kg	1	100	<2.18	104	85 - 115	8	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: 77801
Prep Batch: 66703

Date Analyzed: 2011-02-22
QC Preparation: 2011-02-21

Analyzed By: AR
Prepared By: AR

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	97.0	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.

Report Date: February 28, 2011
114-6400821

Work Order: 11021811
COG/JC Federal Tank Battery

Page Number: 32 of 49
Lea Co., NM

Laboratory Control Spike (LCS-1)

QC Batch: 77802
Prep Batch: 66703

Date Analyzed: 2011-02-22
QC Preparation: 2011-02-21

Analyzed By: AR
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: 77804
Prep Batch: 66705

Date Analyzed: 2011-02-21
QC Preparation: 2011-02-21

Analyzed By: ME
Prepared By: ME

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.86	mg/Kg	1	2.00	<0.0118	93	76.4 - 118.4
Toluene	1.92	mg/Kg	1	2.00	<0.00600	96	81.8 - 111.9
Ethylbenzene	1.94	mg/Kg	1	2.00	<0.00850	97	81.1 - 112.2
Xylene	5.92	mg/Kg	1	6.00	<0.00613	99	81.7 - 111.5

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	1.88	mg/Kg	1	2.00	<0.0118	94	76.4 - 118.4	1	20
Toluene	1.93	mg/Kg	1	2.00	<0.00600	96	81.8 - 111.9	0	20
Ethylbenzene	1.98	mg/Kg	1	2.00	<0.00850	99	81.1 - 112.2	2	20
Xylene	5.96	mg/Kg	1	6.00	<0.00613	99	81.7 - 111.5	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)	2.05	2.03	mg/Kg	1	2.00	102	102	69 - 123.3
4-Bromofluorobenzene (4-BFB)	2.42	2.41	mg/Kg	1	2.00	121	120	64.9 - 131.9

Laboratory Control Spike (LCS-1)

QC Batch: 77805
Prep Batch: 66705

Date Analyzed: 2011-02-21
QC Preparation: 2011-02-21

Analyzed By: ME
Prepared By: ME

Report Date: February 28, 2011
114-6400821

Work Order: 11021811
COG/JC Federal Tank Battery

Page Number: 33 of 49
Lea Co., NM

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	17.1	mg/Kg	1	20.0	<0.753	86	61.8 - 97

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	17.0	mg/Kg	1	20.0	<0.753	85	61.8 - 97	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)	2.13	2.07	mg/Kg	1	2.00	106	104	74.6 - 124
4-Bromofluorobenzene (4-BFB)	2.29	2.22	mg/Kg	1	2.00	114	111	53.9 - 121.1

Laboratory Control Spike (LCS-1)

QC Batch: 77858
Prep Batch: 66777

Date Analyzed: 2011-02-23
QC Preparation: 2011-02-23

Analyzed By: ME
Prepared By: ME

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.96	mg/Kg	1	2.00	<0.0118	98	76.4 - 118.4
Toluene	1.99	mg/Kg	1	2.00	<0.00600	100	81.8 - 111.9
Ethylbenzene	2.04	mg/Kg	1	2.00	<0.00850	102	81.1 - 112.2
Xylene	6.14	mg/Kg	1	6.00	<0.00613	102	81.7 - 111.5

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	1.96	mg/Kg	1	2.00	<0.0118	98	76.4 - 118.4	0	20
Toluene	1.95	mg/Kg	1	2.00	<0.00600	98	81.8 - 111.9	2	20
Ethylbenzene	2.01	mg/Kg	1	2.00	<0.00850	100	81.1 - 112.2	2	20
Xylene	6.05	mg/Kg	1	6.00	<0.00613	101	81.7 - 111.5	2	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)	2.01	1.97	mg/Kg	1	2.00	100	98	69 - 123.3
4-Bromofluorobenzene (4-BFB)	2.46	2.39	mg/Kg	1	2.00	123	120	64.9 - 131.9

Laboratory Control Spike (LCS-1)

QC Batch: 77859
Prep Batch: 66777

Date Analyzed: 2011-02-23
QC Preparation: 2011-02-23

Analyzed By: ME
Prepared By: ME



Report Date: February 28, 2011
114-6400821

Work Order: 11021811
COG/JC Federal Tank Battery

Page Number: 34 of 49
Lea Co., NM

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	15.6	mg/Kg	1	20.0	<0.753	78	61.8 - 97

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

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
GRO	16.0	mg/Kg	1	20.0	<0.753	80	61.8 - 97	2	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)	1.98	2.02	mg/Kg	1	2.00	99	101	74.6 - 124
4-Bromofluorobenzene (4-BFB)	2.20	2.24	mg/Kg	1	2.00	110	112	53.9 - 121.1

Laboratory Control Spike (LCS-1)

QC Batch: 77882
Prep Batch: 66796

Date Analyzed: 2011-02-23
QC Preparation: 2011-02-23

Analyzed By: kg
Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	242	mg/Kg	1	250	<15.7	97	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	241	mg/Kg	1	250	<15.7	96	47.5 - 144.1	0	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	109	115	mg/Kg	1	100	109	115	70 - 130

Laboratory Control Spike (LCS-1)

QC Batch: 77928
Prep Batch: 66842

Date Analyzed: 2011-02-25
QC Preparation: 2011-02-25

Analyzed By: ME
Prepared By: ME

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.89	mg/Kg	1	2.00	<0.0118	94	76.4 - 118.4
Toluene	1.90	mg/Kg	1	2.00	<0.00600	95	81.8 - 111.9
Ethylbenzene	1.88	mg/Kg	1	2.00	<0.00850	94	81.1 - 112.2

continued ...

Report Date: February 28, 2011
114-6400821

Work Order: 11021811
COG/JC Federal Tank Battery

Page Number: 35 of 49
Lea Co., NM

control spikes continued ...

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Xylene	5.69	mg/Kg	1	6.00	<0.00613	95	81.7 - 111.5

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	1.89	mg/Kg	1	2.00	<0.0118	94	76.4 - 118.4	0	20
Toluene	1.91	mg/Kg	1	2.00	<0.00600	96	81.8 - 111.9	0	20
Ethylbenzene	1.90	mg/Kg	1	2.00	<0.00850	95	81.1 - 112.2	1	20
Xylene	5.76	mg/Kg	1	6.00	<0.00613	96	81.7 - 111.5	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	1.89	mg/Kg	1	2.00	88	94	69 - 123.3
4-Bromofluorobenzene (4-BFB)	2.40	2.52	mg/Kg	1	2.00	120	126	64.9 - 131.9

Laboratory Control Spike (LCS-1)

QC Batch: 77929
Prep Batch: 66842

Date Analyzed: 2011-02-25
QC Preparation: 2011-02-25

Analyzed By: ME
Prepared By: ME

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	14.0	mg/Kg	1	20.0	<0.753	70	61.8 - 97

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	15.1	mg/Kg	1	20.0	<0.753	76	61.8 - 97	8	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)	1.82	1.84	mg/Kg	1	2.00	91	92	74.6 - 124
4-Bromofluorobenzene (4-BFB)	2.17	2.20	mg/Kg	1	2.00	108	110	53.9 - 121.1

Laboratory Control Spike (LCS-1)

QC Batch: 77931
Prep Batch: 66843

Date Analyzed: 2011-02-26
QC Preparation: 2011-02-25

Analyzed By: ME
Prepared By: ME

Report Date: February 28, 2011
114-6400821

Work Order: 11021811
COG/JC Federal Tank Battery

Page Number: 36 of 49
Lea Co., NM

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	13.1	mg/Kg	1	20.0	<0.753	66	61.8 - 97

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	15.2	mg/Kg	1	20.0	<0.753	76	61.8 - 97	15	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)	1.84	1.96	mg/Kg	1	2.00	92	98	74.6 - 124
4-Bromofluorobenzene (4-BFB)	1.93	2.09	mg/Kg	1	2.00	96	104	53.9 - 121.1

Laboratory Control Spike (LCS-1)

QC Batch: 77932
Prep Batch: 66844

Date Analyzed: 2011-02-25
QC Preparation: 2011-02-25

Analyzed By: kg
Prepared By: kg

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	241	mg/Kg	1	250	<15.7	96	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	224	mg/Kg	1	250	<15.7	90	47.5 - 144.1	7	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
n-Tricosane	111	108	mg/Kg	1	100	111	108	70 - 130

Matrix Spike (MS-1) Spiked Sample: 258012

QC Batch: 77781
Prep Batch: 66718

Date Analyzed: 2011-02-21
QC Preparation: 2011-02-21

Analyzed By: kg
Prepared By: kg

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	595	mg/Kg	1	250	334	104	11.7 - 152.3

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

Report Date: February 28, 2011
114-6400821

Work Order: 11021811
COG/JC Federal Tank Battery

Page Number: 37 of 49
Lea Co., NM

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
DRÖ	709	mg/Kg	1	250	334	150	11.7 - 152.3	18	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 ^{14 15}	142	161	mg/Kg	1	100	142	161	70 - 130

Matrix Spike (MS-1) Spiked Sample: 257874

QC Batch: 77799
Prep Batch: 66703

Date Analyzed: 2011-02-21
QC Preparation: 2011-02-21

Analyzed By: AR
Prepared By: AR

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

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	10400	mg/Kg	100	10000	<218	104	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: 257884

QC Batch: 77800
Prep Batch: 66703

Date Analyzed: 2011-02-22
QC Preparation: 2011-02-21

Analyzed By: AR
Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	10200	mg/Kg	100	10000	<218	102	85 - 115

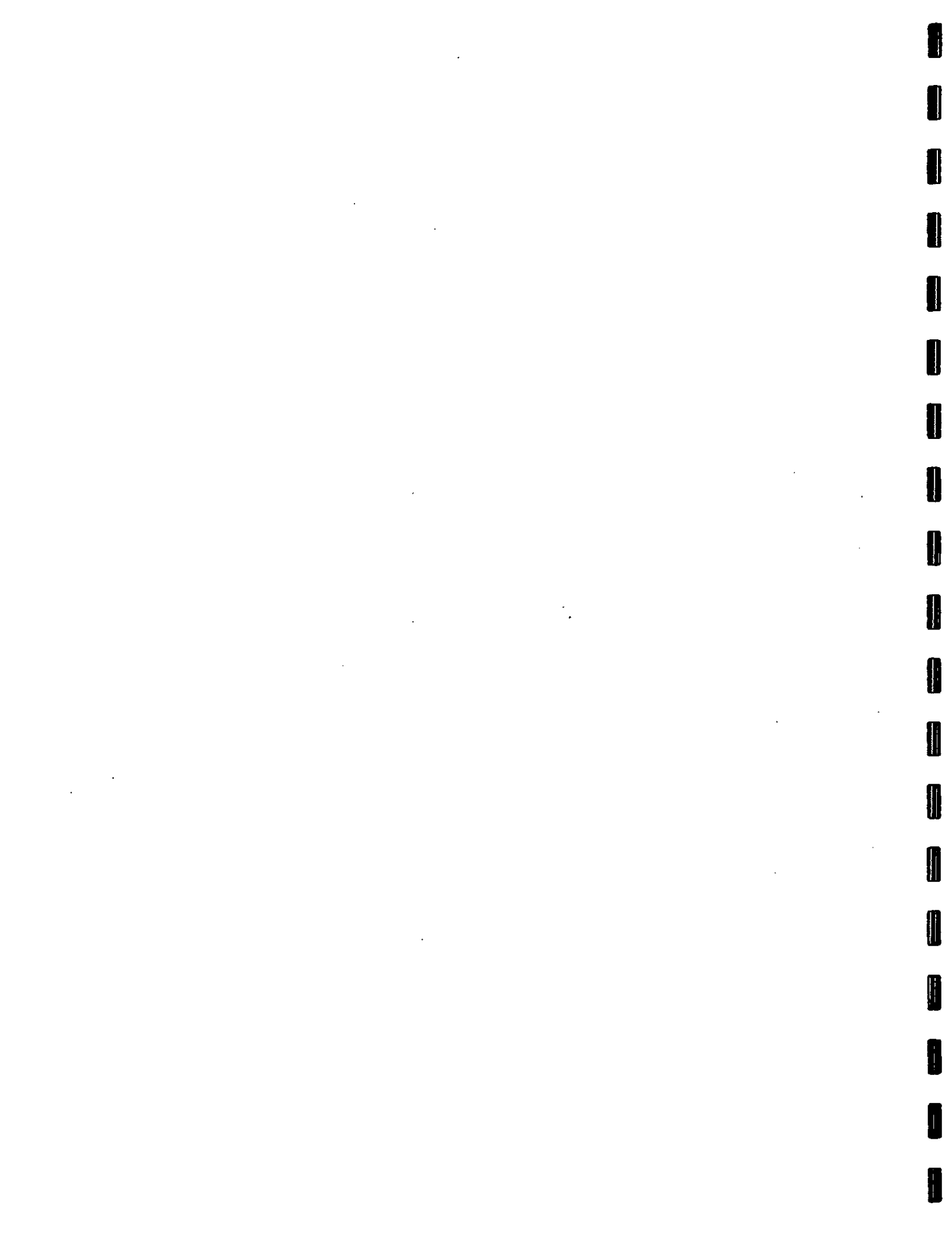
Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	10600	mg/Kg	100	10000	<218	106	85 - 115	4	20

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

¹⁴High surrogate recovery due to peak interference.

¹⁵High surrogate recovery due to peak interference.



Report Date: February 28, 2011
114-6400821

Work Order: 11021811
COG/JC Federal Tank Battery

Page Number: 38 of 49
Lea Co., NM

Matrix Spike (MS-1) Spiked Sample: 257894

QC Batch: 77801
Prep Batch: 66703

Date Analyzed: 2011-02-22
QC Preparation: 2011-02-21

Analyzed By: AR
Prepared By: AR

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	9850	mg/Kg	100	10000	<218	98	85 - 115

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	10600	mg/Kg	100	10000	<218	106	85 - 115	7	20

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

Matrix Spike (MS-1) Spiked Sample: 257904

QC Batch: 77802
Prep Batch: 66703

Date Analyzed: 2011-02-22
QC Preparation: 2011-02-21

Analyzed By: AR
Prepared By: AR

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

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

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	10600	mg/Kg	100	10000	<218	104	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: 257853

QC Batch: 77804
Prep Batch: 66705

Date Analyzed: 2011-02-21
QC Preparation: 2011-02-21

Analyzed By: ME
Prepared By: ME

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.93	mg/Kg	1	2.00	<0.0118	96	65.5 - 139.8
Toluene	2.10	mg/Kg	1	2.00	0.2359	93	70.5 - 137.3
Ethylbenzene	2.33	mg/Kg	1	2.00	0.3461	99	66.7 - 151
Xylene	7.35	mg/Kg	1	6.00	1.2225	102	68.7 - 149.5

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	1.91	mg/Kg	1	2.00	<0.0118	96	65.5 - 139.8	1	20
Toluene	2.10	mg/Kg	1	2.00	0.2359	93	70.5 - 137.3	0	20
Ethylbenzene	2.44	mg/Kg	1	2.00	0.3461	105	66.7 - 151	5	20
Xylene	7.52	mg/Kg	1	6.00	1.2225	105	68.7 - 149.5	2	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)	2.55	2.54	mg/Kg	1	2	128	127	50.9 - 152.9
4-Bromofluorobenzene (4-BFB)	^{16 17} 3.49	3.51	mg/Kg	1	2	174	176	48.5 - 165.8

Matrix Spike (MS-1) Spiked Sample: 257849

QC Batch: 77805
Prep Batch: 66705

Date Analyzed: 2011-02-21
QC Preparation: 2011-02-21

Analyzed By: ME
Prepared By: ME

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GR0	16.1	mg/Kg	1	20.0	<0.753	80	63 - 108.5

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
GR0	17.6	mg/Kg	1	20.0	<0.753	88	63 - 108.5	9	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)	2.63	2.69	mg/Kg	1	2	132	134	54.1 - 154.3
4-Bromofluorobenzene (4-BFB)	2.87	2.93	mg/Kg	1	2	144	146	41.9 - 162.8

Matrix Spike (MS-1) Spiked Sample: 258031

QC Batch: 77858
Prep Batch: 66777

Date Analyzed: 2011-02-23
QC Preparation: 2011-02-23

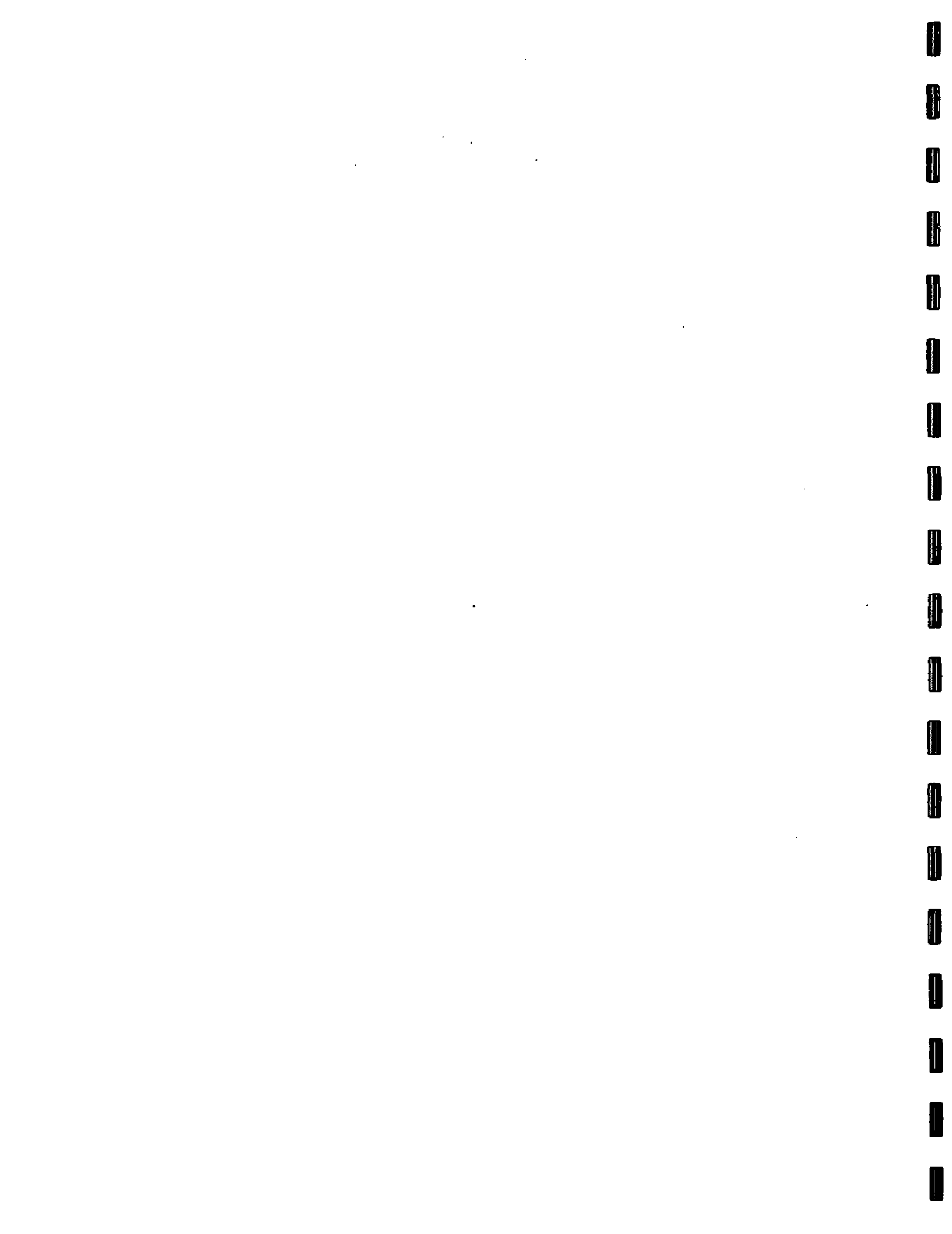
Analyzed By: ME
Prepared By: ME

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.87	mg/Kg	1	2.00	<0.0118	94	65.5 - 139.8
Toluene	1.95	mg/Kg	1	2.00	<0.00600	98	70.5 - 137.3

continued ...

¹⁶High surrogate recovery due to peak interference.

¹⁷High surrogate recovery due to peak interference.



matrix spikes continued ...

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Ethylbenzene	2.02	mg/Kg	1	2.00	<0.00850	101	66.7 - 151
Xylene	6.18	mg/Kg	1	6.00	<0.00613	103	68.7 - 149.5

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	1.84	mg/Kg	1	2.00	<0.0118	92	65.5 - 139.8	2	20
Toluene	1.92	mg/Kg	1	2.00	<0.00600	96	70.5 - 137.3	2	20
Ethylbenzene	2.04	mg/Kg	1	2.00	<0.00850	102	66.7 - 151	1	20
Xylene	6.18	mg/Kg	1	6.00	<0.00613	103	68.7 - 149.5	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)	2.46	2.46	mg/Kg	1	2	123	123	50.9 - 152.9
4-Bromofluorobenzene (4-BFB)	3.09	3.09	mg/Kg	1	2	154	154	48.5 - 165.8

Matrix Spike (MS-1) Spiked Sample: 258063

QC Batch: 77859
Prep Batch: 66777

Date Analyzed: 2011-02-23
QC Preparation: 2011-02-23

Analyzed By: ME
Prepared By: ME

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	¹⁸ 214	mg/Kg	1	20.0	214.043	0	63 - 108.5

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	¹⁹ 238	mg/Kg	1	20.0	214.043	56	63 - 108.5	11	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)	2.53	2.50	mg/Kg	1	2	126	125	54.1 - 154.3
4-Bromofluorobenzene (4-BFB)	3.13	3.20	mg/Kg	1	2	156	160	41.9 - 162.8

¹⁸Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

¹⁹MSD analyte out of range. MS/MSD has a RPD within limits. Therefore, MS shows extraction occurred properly.



Report Date: February 28, 2011
114-6400821

Work Order: 11021811
COG/JC Federal Tank Battery

Page Number: 41 of 49
Lea Co., NM

Matrix Spike (MS-1) Spiked Sample: 257898

QC Batch: 77882
Prep Batch: 66796

Date Analyzed: 2011-02-23
QC Preparation: 2011-02-23

Analyzed By: kg
Prepared By: kg

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	240	mg/Kg	1	250	<15.7	96	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	218	mg/Kg	1	250	<15.7	87	11.7 - 152.3	10	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	113	101	mg/Kg	1	100	113	101	70 - 130

Matrix Spike (MS-1) Spiked Sample: 258030

QC Batch: 77928
Prep Batch: 66842

Date Analyzed: 2011-02-25
QC Preparation: 2011-02-25

Analyzed By: ME
Prepared By: ME

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	1.83	mg/Kg	1	2.00	<0.0118	92	65.5 - 139.8
Toluene	1.90	mg/Kg	1	2.00	<0.00600	95	70.5 - 137.3
Ethylbenzene	1.96	mg/Kg	1	2.00	<0.00850	98	66.7 - 151
Xylene	5.96	mg/Kg	1	6.00	<0.00613	99	68.7 - 149.5

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	1.76	mg/Kg	1	2.00	<0.0118	88	65.5 - 139.8	4	20
Toluene	1.82	mg/Kg	1	2.00	<0.00600	91	70.5 - 137.3	4	20
Ethylbenzene	1.88	mg/Kg	1	2.00	<0.00850	94	66.7 - 151	4	20
Xylene	5.73	mg/Kg	1	6.00	<0.00613	96	68.7 - 149.5	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
Trifluorotoluene (TFT)	2.30	2.26	mg/Kg	1	2	115	113	50.9 - 152.9
4-Bromofluorobenzene (4-BFB)	3.00	2.99	mg/Kg	1	2	150	150	48.5 - 165.8



Report Date: February 28, 2011
114-6400821

Work Order: 11021811
COG/JC Federal Tank Battery

Page Number: 42 of 49
Lea Co., NM

Matrix Spike (MS-1) Spiked Sample: 258253

QC Batch: 77929
Prep Batch: 66842

Date Analyzed: 2011-02-25
QC Preparation: 2011-02-25

Analyzed By: ME
Prepared By: ME

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	14.6	mg/Kg	1	20.0	<0.753	73	63 - 108.5

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	16.0	mg/Kg	1	20.0	<0.753	80	63 - 108.5	9	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)	2.46	2.53	mg/Kg	1	2	123	126	54.1 - 154.3
4-Bromofluorobenzene (4-BFB)	2.99	3.09	mg/Kg	1	2	150	154	41.9 - 162.8

Matrix Spike (MS-1) Spiked Sample: 257873

QC Batch: 77931
Prep Batch: 66843

Date Analyzed: 2011-02-26
QC Preparation: 2011-02-25

Analyzed By: ME
Prepared By: ME

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
GRO	14.3	mg/Kg	1	20.0	<0.753	72	63 - 108.5

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	14.5	mg/Kg	1	20.0	<0.753	72	63 - 108.5	1	20

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

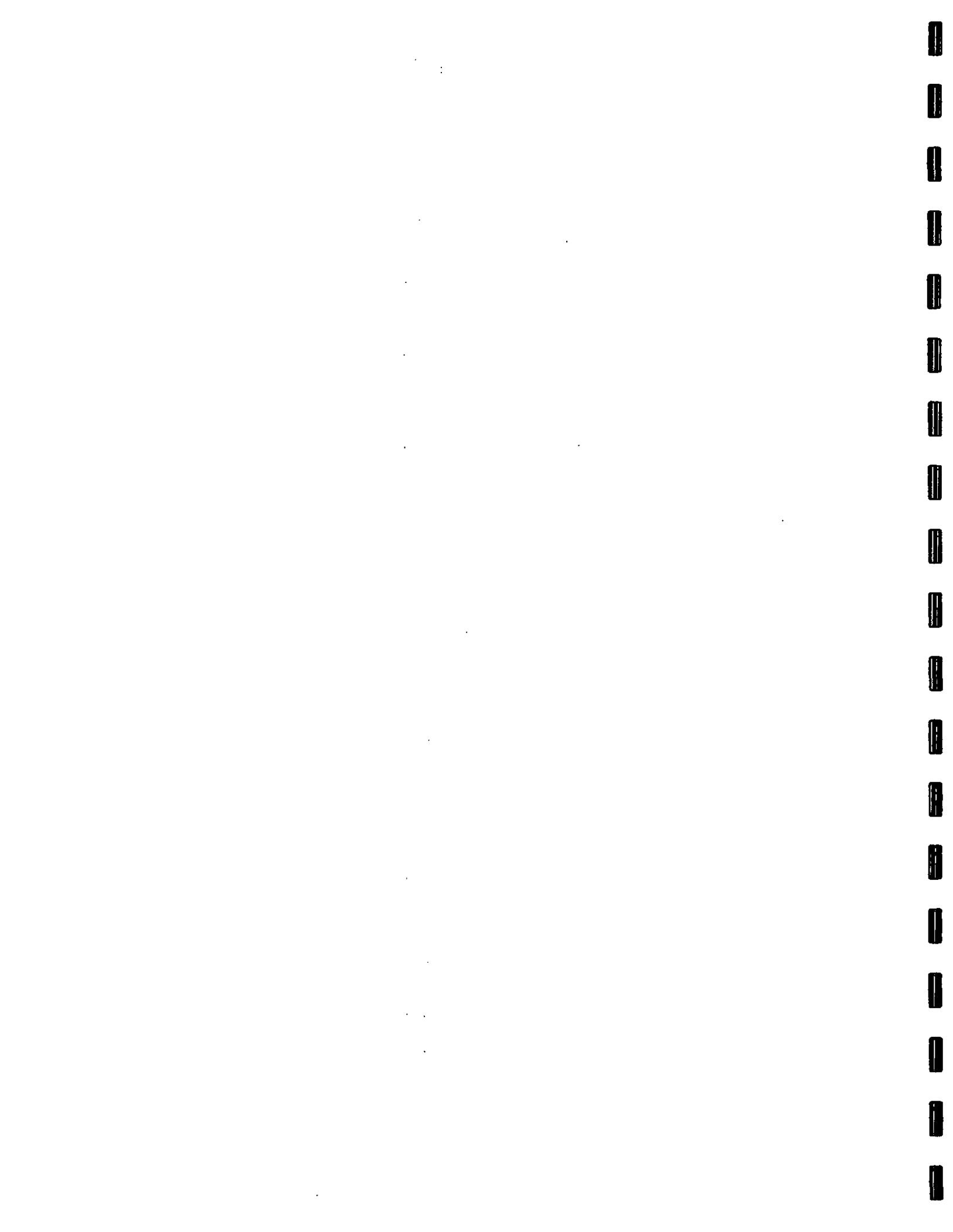
Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	2.43	2.41	mg/Kg	1	2	122	120	54.1 - 154.3
4-Bromofluorobenzene (4-BFB)	2.62	2.62	mg/Kg	1	2	131	131	41.9 - 162.8

Matrix Spike (MS-1) Spiked Sample: 257873

QC Batch: 77932
Prep Batch: 66844

Date Analyzed: 2011-02-25
QC Preparation: 2011-02-25

Analyzed By: kg
Prepared By: kg



Report Date: February 28, 2011
114-6400821

Work Order: 11021811
COG/JC Federal Tank Battery

Page Number: 43 of 49
Lea Co., NM

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
DRO	207	mg/Kg	1	250	<15.7	83	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	210	mg/Kg	1	250	<15.7	84	11.7 - 152.3	1	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	96.0	97.4	mg/Kg	1	100	96	97	70 - 130

Standard (CCV-2)

QC Batch: 77781

Date Analyzed: 2011-02-21

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	225	90	80 - 120	2011-02-21

Standard (CCV-3)

QC Batch: 77781

Date Analyzed: 2011-02-21

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	216	86	80 - 120	2011-02-21

Standard (ICV-1)

QC Batch: 77799

Date Analyzed: 2011-02-21

Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.4	99	85 - 115	2011-02-21

Standard (CCV-1)

QC Batch: 77799

Date Analyzed: 2011-02-21

Analyzed By: AR



Report Date: February 28, 2011
114-6400821

Work Order: 11021811
COG/JC Federal Tank Battery

Page Number: 44 of 49
Lea Co., NM

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	2011-02-21

Standard (ICV-1)

QC Batch: 77800

Date Analyzed: 2011-02-22

Analyzed By: AR

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	97.3	97	85 - 115	2011-02-22

Standard (CCV-1)

QC Batch: 77800

Date Analyzed: 2011-02-22

Analyzed By: AR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	103	103	85 - 115	2011-02-22

Standard (ICV-1)

QC Batch: 77801

Date Analyzed: 2011-02-22

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	2011-02-22

Standard (CCV-1)

QC Batch: 77801

Date Analyzed: 2011-02-22

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	2011-02-22

Standard (ICV-1)

QC Batch: 77802

Date Analyzed: 2011-02-22

Analyzed By: AR



Report Date: February 28, 2011
114-6400821

Work Order: 11021811
COG/JC Federal Tank Battery

Page Number: 45 of 49
Lea Co., NM

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/Kg	100	99.8	100	85 - 115	2011-02-22

Standard (CCV-1)

QC Batch: 77802

Date Analyzed: 2011-02-22

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	2011-02-22

Standard (CCV-2)

QC Batch: 77804

Date Analyzed: 2011-02-21

Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0959	96	80 - 120	2011-02-21
Toluene		mg/Kg	0.100	0.0984	98	80 - 120	2011-02-21
Ethylbenzene		mg/Kg	0.100	0.0988	99	80 - 120	2011-02-21
Xylene		mg/Kg	0.300	0.300	100	80 - 120	2011-02-21

Standard (CCV-3)

QC Batch: 77804

Date Analyzed: 2011-02-21

Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0943	94	80 - 120	2011-02-21
Toluene		mg/Kg	0.100	0.0956	96	80 - 120	2011-02-21
Ethylbenzene		mg/Kg	0.100	0.0955	96	80 - 120	2011-02-21
Xylene		mg/Kg	0.300	0.289	96	80 - 120	2011-02-21

Standard (CCV-2)

QC Batch: 77805

Date Analyzed: 2011-02-21

Analyzed By: ME



Report Date: February 28, 2011
114-6400821

Work Order: 11021811
COG/JC Federal Tank Battery

Page Number: 46 of 49
Lea Co., NM

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	2011-02-21

Standard (CCV-3)

QC Batch: 77805

Date Analyzed: 2011-02-21

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	1.07	107	80 - 120	2011-02-21

Standard (CCV-2)

QC Batch: 77858

Date Analyzed: 2011-02-23

Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0923	92	80 - 120	2011-02-23
Toluene		mg/Kg	0.100	0.0925	92	80 - 120	2011-02-23
Ethylbenzene		mg/Kg	0.100	0.0920	92	80 - 120	2011-02-23
Xylene		mg/Kg	0.300	0.278	93	80 - 120	2011-02-23

Standard (CCV-3)

QC Batch: 77858

Date Analyzed: 2011-02-23

Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0971	97	80 - 120	2011-02-23
Toluene		mg/Kg	0.100	0.0956	96	80 - 120	2011-02-23
Ethylbenzene		mg/Kg	0.100	0.0944	94	80 - 120	2011-02-23
Xylene		mg/Kg	0.300	0.286	95	80 - 120	2011-02-23

Standard (CCV-2)

QC Batch: 77859

Date Analyzed: 2011-02-23

Analyzed By: ME



Report Date: February 28, 2011
114-6400821

Work Order: 11021811
COG/JC Federal Tank Battery

Page Number: 47 of 49
Lea Co., NM

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.989	99	80 - 120	2011-02-23

Standard (CCV-3)

QC Batch: 77859

Date Analyzed: 2011-02-23

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	1.12	112	80 - 120	2011-02-23

Standard (CCV-1)

QC Batch: 77882

Date Analyzed: 2011-02-23

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	243	97	80 - 120	2011-02-23

Standard (CCV-2)

QC Batch: 77882

Date Analyzed: 2011-02-23

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	232	93	80 - 120	2011-02-23

Standard (CCV-3)

QC Batch: 77882

Date Analyzed: 2011-02-23

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	226	90	80 - 120	2011-02-23

Standard (CCV-2)

QC Batch: 77928

Date Analyzed: 2011-02-25

Analyzed By: ME



Report Date: February 28, 2011
114-6400821

Work Order: 11021811
COG/JC Federal Tank Battery

Page Number: 48 of 49
Lea Co., NM

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0956	96	80 - 120	2011-02-25
Toluene		mg/Kg	0.100	0.0954	95	80 - 120	2011-02-25
Ethylbenzene		mg/Kg	0.100	0.0949	95	80 - 120	2011-02-25
Xylenc		mg/Kg	0.300	0.287	96	80 - 120	2011-02-25

Standard (CCV-3)

QC Batch: 77928

Date Analyzed: 2011-02-25

Analyzed By: ME

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0968	97	80 - 120	2011-02-25
Toluene		mg/Kg	0.100	0.0974	97	80 - 120	2011-02-25
Ethylbenzene		mg/Kg	0.100	0.0955	96	80 - 120	2011-02-25
Xylene		mg/Kg	0.300	0.289	96	80 - 120	2011-02-25

Standard (CCV-1)

QC Batch: 77929

Date Analyzed: 2011-02-25

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	0.909	91	80 - 120	2011-02-25

Standard (CCV-2)

QC Batch: 77929

Date Analyzed: 2011-02-25

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	0.872	87	80 - 120	2011-02-25

Standard (CCV-3)

QC Batch: 77929

Date Analyzed: 2011-02-25

Analyzed By: ME



Report Date: February 28, 2011
114-6400821

Work Order: 11021811
COG/JC Federal Tank Battery

Page Number: 49 of 49
Lea Co., NM

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1.00	0.913	91	80 - 120	2011-02-25

Standard (CCV-1)

QC Batch: 77931

Date Analyzed: 2011-02-26

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	0.895	90	80 - 120	2011-02-26

Standard (CCV-2)

QC Batch: 77931

Date Analyzed: 2011-02-26

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	0.919	92	80 - 120	2011-02-26

Standard (CCV-1)

QC Batch: 77932

Date Analyzed: 2011-02-25

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	208	83	80 - 120	2011-02-25

Standard (CCV-2)

QC Batch: 77932

Date Analyzed: 2011-02-25

Analyzed By: kg

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	258	103	80 - 120	2011-02-25

