# SITE INFORMATION

RECEIVED
AUG 10 2010
NMOCD ARTESIA

**2RP-390** **Report Type: Work Plan**

**General Site Information:**

| | |
|---|---|
| ***Site:*** | **Jenkins B Federal #7** |
| ***Company:*** | **COG Operating LLC** |
| ***Section, Township and Range*** | **Section 20, T17S, R30 E Unit Letter - E** |
| ***Lease Number:*** | **(API#) 30-015-29451** |
| ***County:*** | **Eddy County** |
| ***GPS:*** | **32 .822824° N, 103.999198° W** |
| ***Surface Owner:*** | Federal |
| ***Mineral Owner:*** | |
| ***Directions:*** | From the intersection of Hwy 82 and Hwy 217 go north on 217 for 0.6m, turn left and go 0.5m to site on left side of lease road. |

**Release Data:**

| | |
|---|---|
| *Date Released:* | 2/5/2010 |
| *Type Release:* | Produced water |
| *Source of Contamination:* | Split in flowline |
| *Fluid Released:* | 100 barrels |
| *Fluids Recovered:* | 80 barrels |

**Official Communication:**

| | | | |
|---|---|---|---|
| *Name:* | Pat Ellis | | Kim Dorey |
| *Company:* | COG Operating, LLC | | Tetra Tech |
| *Address:* | 550 W. Texas Ave. Ste. 1300 | | 1910 N. Big Spring |
| *P.O. Box* | | | |
| *City:* | Midland Texas, 79701 | | Midland, Texas |
| *Phone number:* | (432) 686-3023 | | (432) 631-0348 |
| *Fax:* | (432) 684-7137 | | |
| *Email:* | pellis@conchoresources.com | | kim.dorey@tetratech.com |

**Ranking Criteria**

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

**Acceptable Soil RRAL (mg/kg)**

| ***Benzene*** | ***Total BTEX*** | ***TPH*** |
|---|---|---|
| 10 | 50 | 5,000 |

TETRA TECH



July 12, 2010

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

**Re: Work Plan for the COG Operating LLC., Jenkins B federal #7, Unit E, Section 20, Township 17 South, Range 30 East, Eddy County, New Mexico.**

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC. (COG) to assess a spill from the Jenkins B federal #7 located in Unit E, Section 20, Township 17 South, Range 30 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.82282°, W 103.99919°. The site location is shown on Figures 1 and 2.

## Background

According to the State of New Mexico C-141 Initial Report, the leak was discovered on February 5, 2010, and released approximately one hundred (100) barrels of produced water from a flowline. To alleviate the problem, COG personnel replaced the flowline. Eighty (80) barrels of standing fluids were recovered. The spill originated from a split flowline affecting a 150' by 40' wide (tapering to 20') area that migrated west parallel to the lease road. The initial C-141 form is enclosed in Appendix C.

Tetra Tech
1910 North Big Spring, Midland,TX 79705
Tel 432.682.4559 Fax 432.682.3946 www.tetratech.com

## Groundwater

No water wells were listed within Section 20. According to the NMOCD groundwater map, the average depth to groundwater in this area is greater than 200' below surface. The Water Well Data is shown in Appendix B.

## Regulatory

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

## Soil Assessment and Analytical Results

On March 10, 2010, Tetra Tech personnel inspected and sampled the spill area. A total of three (3) auger holes (AH-1 through AH-3) were installed using a stainless steel hand auger to assess the impacted soils. Select samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The results of the sampling are summarized in Table 1. The auger hole locations are shown on Figure 3.

Referring to Table 1, all the submitted samples were below the RRAL for TPH and BTEX. Elevated chloride concentrations were detected for AH-2 and AH-3 of 10,600 mg/kg (1-1.5') and 10,100 mg/kg (0-.5') respectively.

In order to delineate the impact of the spill, on March 18, 2010, Tetra Tech personnel supervised the installation of three soil borings (SB-1 through SB-3) utilizing an air rotary drilling rig. SB-3 was re-drilled on April 12, 2010 to confirm delineation. Samples were collected for laboratory analysis. All elevated chloride concentrations dropped to <200 mg/kg.

**Work Plan**

The area impacted by the spill is in native sand dunes. As a result, proposed excavation depths may not be reach due to wall cave ins and safety concerns for equipment operators as well as other onsite personnel . Tetra Tech personnel will supervise the removal of impacted soils as shown in attached Table 1 and Figure 4. In addition, selected excavated areas with deeper chloride impact will be capped (lined) with a 40 mil plastic liner. Once the areas are excavated to the appropriate depths, the excavation will be backfilled with clean soil. The liner will be installed at a depth of 4.0' below surface. The liner installation areas are shown on Figure 4.

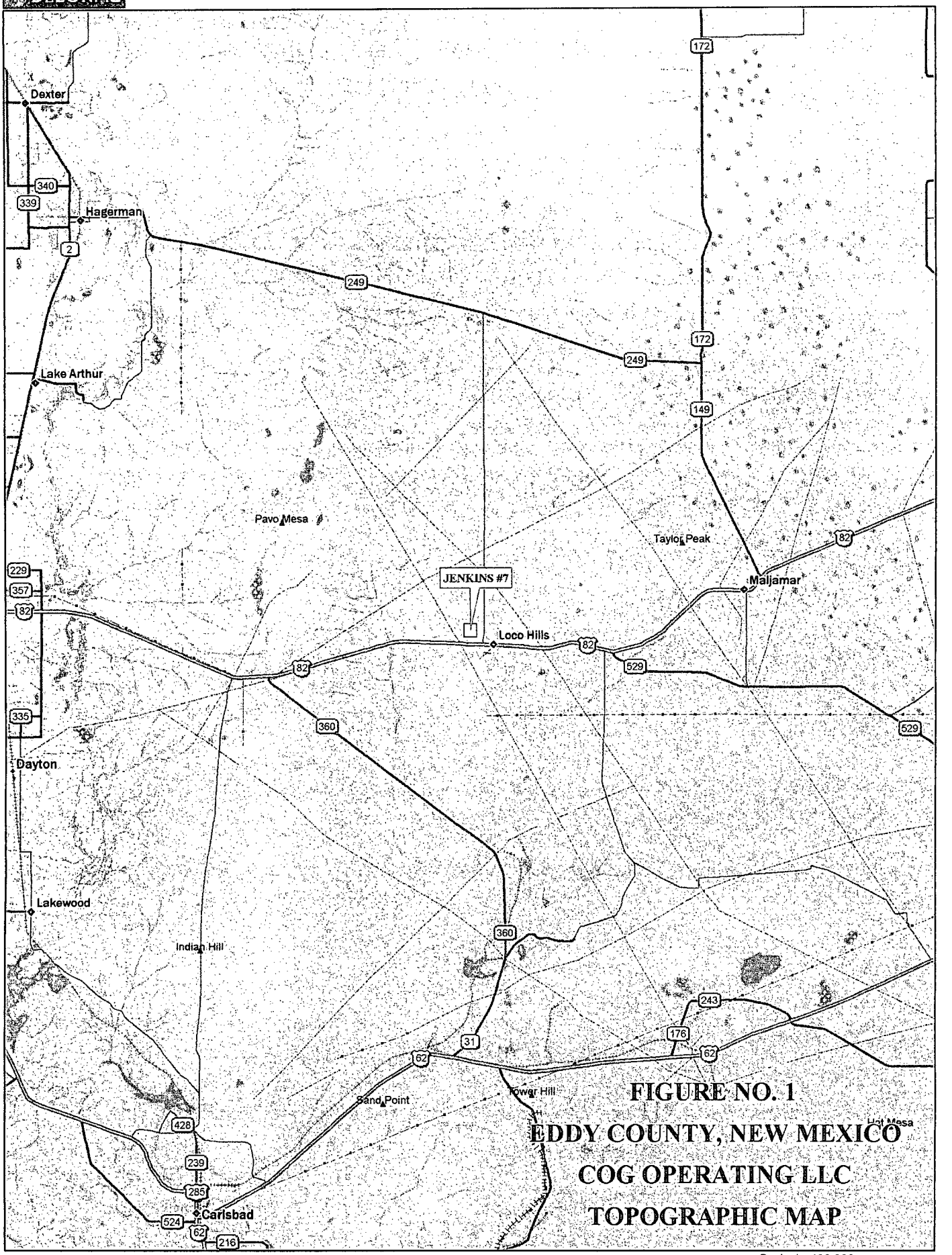
If you require any additional information or have any questions or comments concerning this report, please call at (432) 682-4559.

Respectfully submitted,
TETRA TECH

Kim Dorey
Staff Geologist

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

# FIGURES




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



TN
MN (8.0°E)

Scale 1 : 400,000
1" = 6.31 mi
Data Zoom 9-0


# FIGURE NO. 2

## EDDY COUNTY, NEW MEXICO

## COG OPERATING LLC

## TOPOGRAPHIC MAP



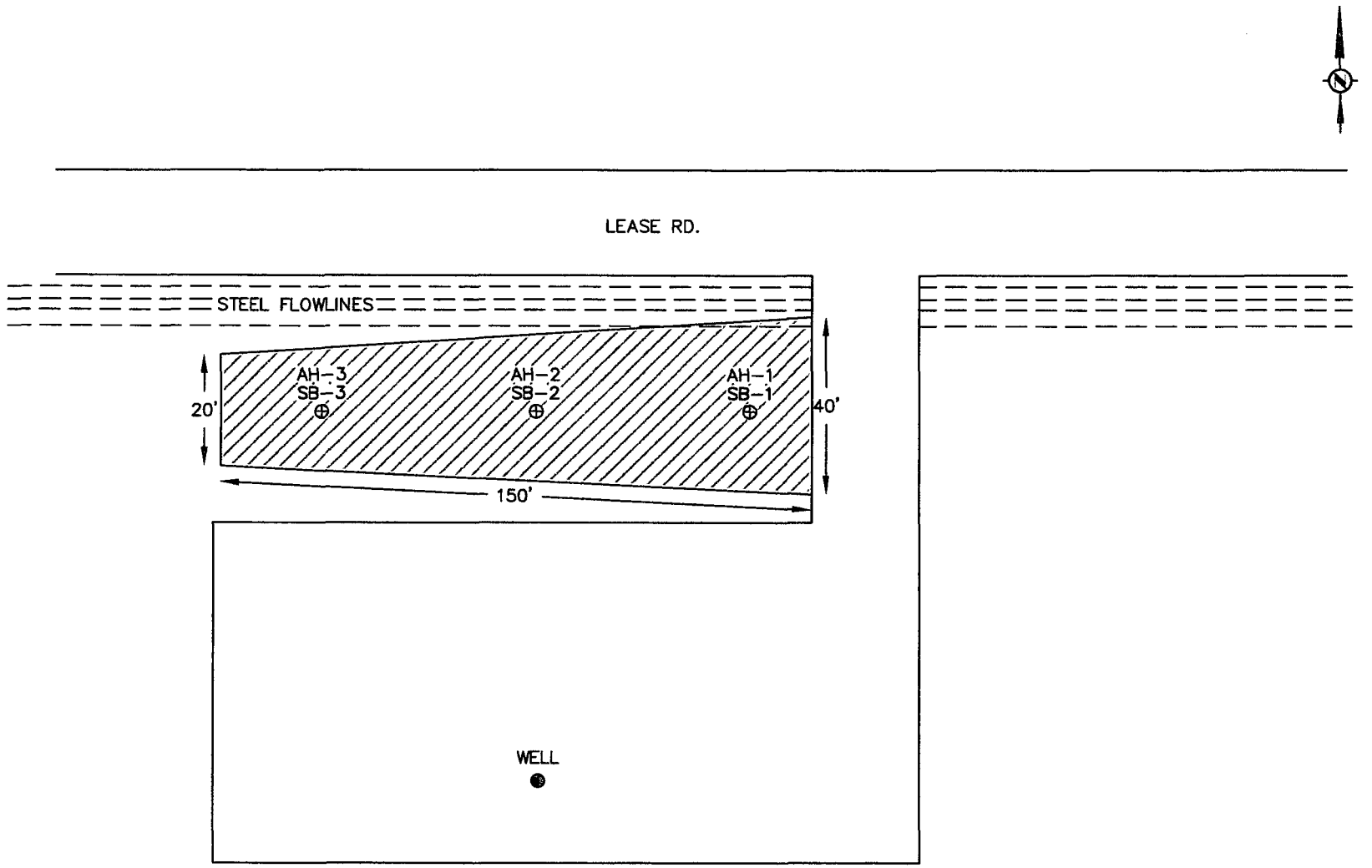
TN

MN (8.0°E)

Scale 1 : 24,000

1" = 2,000.0 ft

Data Zoom 13-0




SPILL AREA
⊕ AUGER HOLE SAMPLE LOCATIONS
⊕ SOIL BORING LOCATIONS

NOT TO SCALE

FIGURE NO. 3

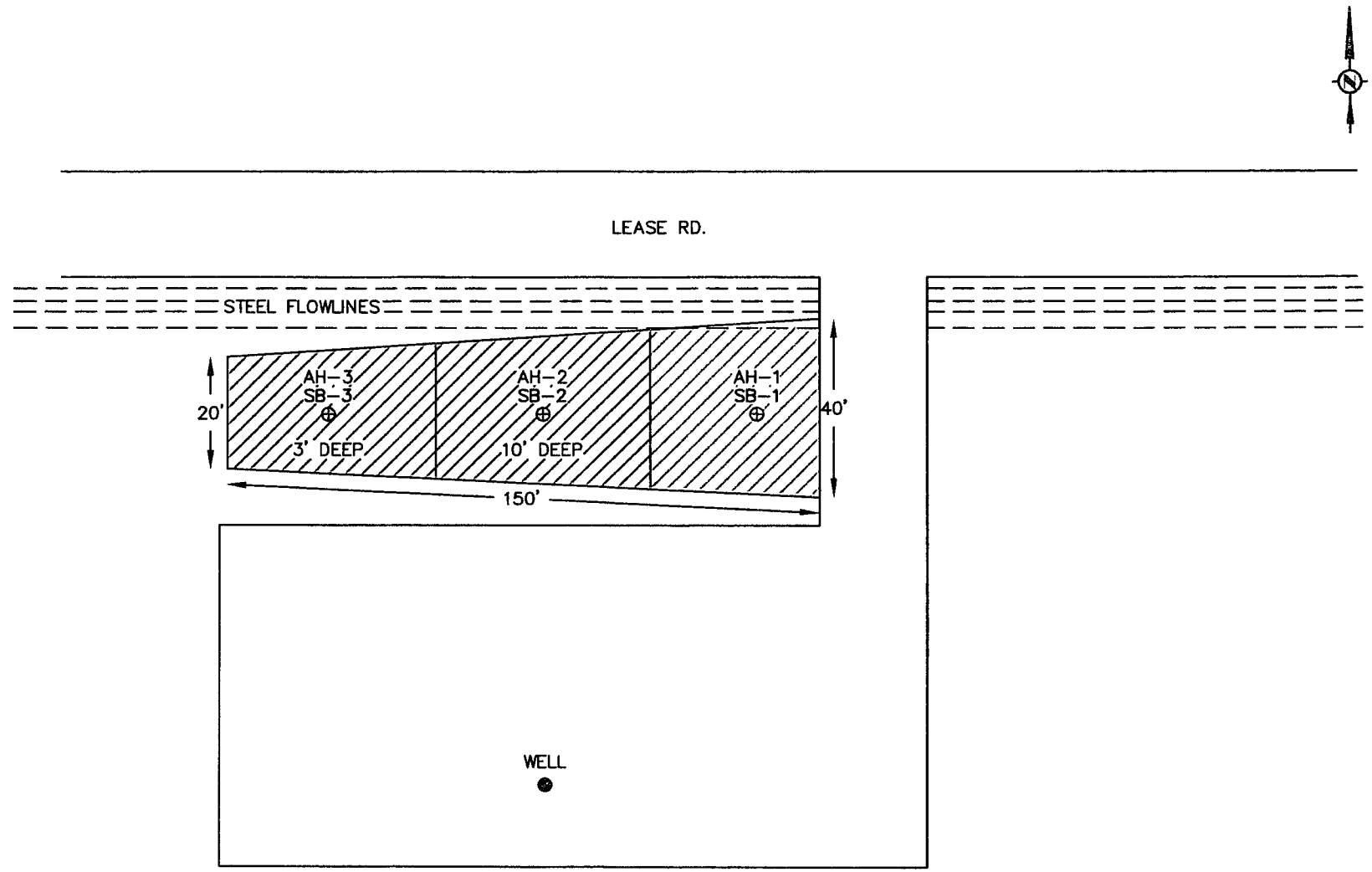
EDDY COUNTY, NEW MEXICO

COG OPERATING LLC

JENKINS #7

DATE: 4/30/10
DWN. BY: JJ
FILE: M:\COG\84000435 JENKINS #7

TETRA TECH, INC.
MIDLAND, TEXAS




SPILL AREA
EXCAVATION AREA
⊕ AUGER HOLE SAMPLE LOCATIONS
⊕ SOIL BORING LOCATIONS

*NOT TO SCALE*

**FIGURE NO. 4**

**EDDY COUNTY, NEW MEXICO**

**COG OPERATING LLC**

**JENKINS #7**

DATE: 4/30/10
DWN. BY: JJ
FILE: H:\COG\6400435 JENKINS #7

***TETRA TECH, INC.***
***MIDLAND, TEXAS***

# TABLES

# Table 1
## COG Operating LLC.
## Jenkins B Federal #7
## EDDY COUNTY, NEW MEXICO

| Sample ID | Sample Date | Sample Depth (ft) | Depth (BEB) | Soil Status | | TPH (mg/kg) | | | Benzene (mg/kg) | Toluene (mg/kg) | Ethlybenzene (mg/kg) | Xylene (mg/kg) | Chloride (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | In-Situ | Removed | GRO | DRO | Total | | | | | |
| **AH-1** | 3/10/2010 | 0-1' | 1' | X | | <1.00 | <50.0 | <50.0 | <0.0100 | <0.0100 | <0.0100 | <0.0100 | <200 |
| | | 1-1.5' | 1' | X | | - | - | - | - | - | - | - | <200 |
| | | | | | | | | | | | | | |
| **SB-1** | 3/18/2010 | 0-1' | - | X | | <1.00 | <50.0 | <50.0 | <0.0100 | <0.0100 | <0.0100 | <0.0100 | <200 |
| | | 2'-3' | - | X | | - | - | - | - | - | - | - | <200 |
| | | 4'-5' | - | X | | - | - | - | - | - | - | - | 1,020 |
| | | 6'-7' | - | X | | - | - | - | - | - | - | - | 525 |
| | | 10'-11' | - | X | | - | - | - | - | - | - | - | <200 |
| | | 15'-16' | - | X | | - | - | - | - | - | - | - | <200 |
| | | 20'-21' | - | X | | - | - | - | - | - | - | - | <200 |
| | | 30'-31' | - | X | | - | - | - | - | - | - | - | 363 |

# Table 1
## COG Operating LLC.
## Jenkins B Federal #7
## EDDY COUNTY, NEW MEXICO

| Sample ID | Sample Date | Sample Depth (ft) | Depth (BEB) | Soil Status | | TPH (mg/kg) | | | Benzene (mg/kg) | Toluene (mg/kg) | Ethlybenzene (mg/kg) | Xylene (mg/kg) | Chloride (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | In-Situ | Removed | GRO | DRO | Total | | | | | |
| **AH-2** | 3/10/2010 | 0-1' | 1' | X | | <1.00 | <50.0 | <50.0 | <0.0100 | <0.0100 | <0.0100 | <0.0100 | 9,500 |
| | | 1-1.5' | 1' | X | | - | - | - | - | - | - | - | 10,600 |
| **SB-2** | 3/18/2010 | 0-1' | - | X | | <1.00 | <50.0 | <50.0 | <0.0100 | <0.0100 | <0.0100 | <0.0100 | 9,860 |
| | | 2'-3' | - | X | | - | - | - | - | - | - | - | 12,200 |
| | | 4'-5' | - | X | | - | - | - | - | - | - | - | 15,400 |
| | | 6'-7' | - | X | | - | - | - | - | - | - | - | 15,800 |
| | | 10'-11' | - | X | | - | - | - | - | - | - | - | 8,570 |
| | | 15'-16' | - | X | | - | - | - | - | - | - | - | 1,210 |
| | | 20'-21' | - | X | | - | - | - | - | - | - | - | 2,030 |
| | 4/12/2010 | 10' | - | X | | - | - | - | - | - | - | - | 466 |
| | | 15' | - | X | | - | - | - | - | - | - | - | <200 |
| | | 20' | - | X | | - | - | - | - | - | - | - | <200 |
| | | 25' | - | X | | - | - | - | - | - | - | - | <200 |
| | | 30' | - | X | | - | - | - | - | - | - | - | <200 |
| | | 35' | - | X | | - | - | - | - | - | - | - | <200 |
| | | 40' | - | X | | - | - | - | - | - | - | - | <200 |

# Table 1
## COG Operating LLC.
## Jenkins B Federal #7
## EDDY COUNTY, NEW MEXICO

| Sample ID | Sample Date | Sample Depth (ft) | Depth (BEB) | Soil Status | | TPH (mg/kg) | | | Benzene (mg/kg) | Toluene (mg/kg) | Ethlybenzene (mg/kg) | Xylene (mg/kg) | Chloride (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | In-Situ | Removed | GRO | DRO | Total | | | | | |
| **AH-3** | 3/10/2010 | 0-.5' | 1.5' | X | | <1.00 | <50.0 | <50.0 | <0.0100 | <0.0100 | <0.0100 | <0.0100 | 10,100 |
| **SB-3** | 3/18/2010 | 0-1' | - | X | | <1.00 | <50.0 | <50.0 | <0.0100 | <0.0100 | <0.0100 | <0.0100 | 10,000 |
| | | 2'-3' | - | X | | - | - | - | - | - | - | - | 13,200 |
| | | 4'-5' | - | X | | - | - | - | - | - | - | - | <200 |
| | | 6'-7' | - | X | | - | - | - | - | - | - | - | <200 |
| | | 10'-11' | - | X | | - | - | - | - | - | - | - | <200 |
| | | 15'-16' | - | X | | - | - | - | - | - | - | - | <200 |
| | | 20'-21' | - | X | | - | - | - | - | - | - | - | <200 |
| | | 30'-31' | - | X | | - | - | - | - | - | - | - | <200 |

BEB Below Excavation Bottom

(--) Not Analyzed

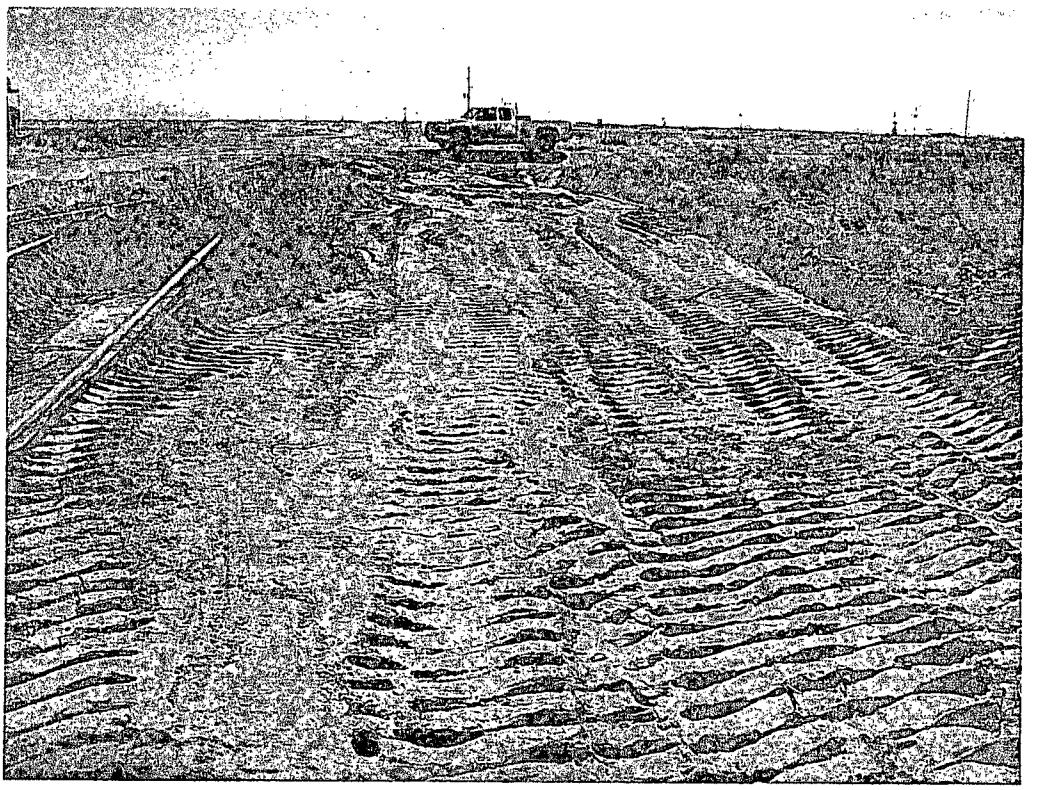
Excavated material

# PHOTOGRAPHS

COG Operating LLC
Jenkins B Federal #7
Eddy County, New Mexico



View west – Near AH-1



View east – Near AH-3

# APPENDIX A

RECEIVED FEB 12 2010

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised October 10, 2003

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

# Release Notification and Corrective Action

pMLB1004831009

## OPERATOR

☒ Initial Report ☐ Final Report

| | | | |
|---|---|---|---|
| Name of Company | COG Operating, LLC 229137 | Contact | Pat Ellis |
| Address | 550 W. Texas, Suite 100 Midland TX, 79701 | Telephone No. | 432-230-0077 |
| Facility Name | Jenkins B Federal #7 | Facility Type | Well |

| | | |
|---|---|---|
| Surface Owner Federal | Mineral Owner | Lease No. (API#) 30-015-29451 |

## LOCATION OF RELEASE

| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
|---|---|---|---|---|---|---|---|---|
| E | 20 | 17S | 30E | 1650 | NORTH | 1090 | WEST | EDDY |

**Latitude** 32.822824 **Longitude** 103.999198

## NATURE OF RELEASE

| | | |
|---|---|---|
| Type of Release Produced Water | Volume of Release 100bbl | Volume Recovered 80bbl |
| Source of Release Flowline | Date and Hour of Occurrence 02/05/2010 1:00 p.m. | Date and Hour of Discovery 02/05/2010 2:00 p.m. |
| Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required | If YES, To Whom? Jim Amos – BLM<br>Mike Bratcher - OCD | |
| By Whom? Josh Russo | Date and Hour 02/05/2010 2:30 p.m. | |
| Was a Watercourse Reached? ☐ Yes ☒ No | If YES, Volume Impacting the Watercourse. | |

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

There was a split in the flowline. The flowline has been repaired.

Describe Area Affected and Cleanup Action Taken.*

Produced water was released into the area immediately next to the split flowline. A total of 100bbls of fluid was released. 80bbls of fluid was recovered by a vacuum truck. One-call protocol will be made by dirt contractor who will then wait for archeological/wildlife sensitivity clearance from BLM before removing any saturated soils prior to soil sampling by Tetra Tech (The closest well to the leak is the MCINTYRE DK FEDERAL #8 M-20-17S-30E 990 FSL 990 FWL 32 81558379 : 103 99955142) 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 your 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: Signed By Mike Bratcher |
| Title: HSE Coordinator | Approval Date: FEB 17 2010 Expiration Date: |
| E-mail Address: jrusso@conchoresources.com | Conditions of Approval: Attached ☒ |
| Date: 02/12/2010 Phone: 432-212-239[illegible] | |

* Attach Additional Sheets If Necessary

REMEDIATION per OCD Rules and Guidelines. SUBMIT REMEDIATION PROPOSAL BY: 3/17/10

2RP-390

pMLB1004831375

## Water Well Data
## Average Depth to Groundwater (ft)
## COG - Jenkins B Federal #7
## Eddy County, New Mexico

**16 South 29 East**

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

**16 South 30 East**

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

**16 South 31 East**

| 6 | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|
| 7 | 8 | 9 | 10 | 11 | 12 **288** |
| 18 | 17 | 16 | 15 | 14 | 13 **113** |
| 19 | 20 | 21 | 22 | 23 | 24 |
| 30 | 29 | 28 | 27 | 26 | 25 |
| 31 **290** | 32 | 33 | 34 | 35 | 36 |

**17 South 29 East**

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

**17 South 30 East**

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

**17 South 31 East**

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

**18 South 29 East**

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

**18 South 30 East**

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

**18 South 31 East**

| 6 | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|
| 7 | 8 | 9 | 10 | 11 | 12 **400** |
| 18 | 17 | 16 | 15 | 14 **317** | 13 |
| 19 | 20 | 21 | 22 | 23 | 24 |
| 30 | 29 | 28 | 27 | 26 | 25 |
| 31 | 32 | 33 | 34 | 35 **261** | 36 |

- 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

# Summary Report

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

Report Date: March 22, 2010

Work Order: 10031509

Project Location: Eddy County, NM
Project Name: COG/Jenkins B Federal #7
Project Number: 114-6400435

| Sample | Description | Matrix | Date Taken | Time Taken | Date Received |
|---|---|---|---|---|---|
| 225641 | AH-1 0-1' 1' BEB | soil | 2010-03-10 | 00:00 | 2010-03-12 |
| 225642 | AH-1 1-1.5' 1' BEB | soil | 2010-03-10 | 00:00 | 2010-03-12 |
| 225643 | AH-2 0-1' 1' BEB | soil | 2010-03-10 | 00:00 | 2010-03-12 |
| 225644 | AH-2 1-1.5' 1' BEB | soil | 2010-03-10 | 00:00 | 2010-03-12 |
| 225645 | AH-3 0-.5' 1.5' BEB | soil | 2010-03-10 | 00:00 | 2010-03-12 |

| | BTEX | | | | TPH DRO - NEW | TPH GRO |
|---|---|---|---|---|---|---|
| Sample - Field Code | Benzene (mg/Kg) | Toluene (mg/Kg) | Ethylbenzene (mg/Kg) | Xylene (mg/Kg) | DRO (mg/Kg) | GRO (mg/Kg) |
| **225641 - AH-1 0-1' 1' BEB** | <0.0100 | <0.0100 | <0.0100 | <0.0100 | <50.0 | <1.00 |
| **225643 - AH-2 0-1' 1' BEB** | <0.0100 | <0.0100 | <0.0100 | <0.0100 | <50.0 | <1.00 |
| **225645 - AH-3 0-.5' 1.5' BEB** | <0.0100 | <0.0100 | <0.0100 | <0.0100 | <50.0 | <1.00 |

**Sample: 225641 - AH-1 0-1' 1' BEB**

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

**Sample: 225642 - AH-1 1-1.5' 1' BEB**

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

**Sample: 225643 - AH-2 0-1' 1' BEB**

| Param | Flag | Result | Units | RL |
|---|---|---|---|---|
| Chloride | | **9500** | mg/Kg | 4.00 |

**Sample: 225644 - AH-2 1-1.5' 1' BEB**

| Param | Flag | Result | Units | RL |
|---|---|---|---|---|
| Chloride | | **10600** | mg/Kg | 4.00 |

**Sample: 225645 - AH-3 0-.5' 1.5' BEB**

| Param | Flag | Result | Units | RL |
|---|---|---|---|---|
| Chloride | | **10100** | mg/Kg | 4.00 |

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
200 East Sunset Road, Suite E El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
5002 Basin Street, Suite A1 Midland, Texas 79703 432•689•6301 FAX 432•689•6313
6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132 817•201•5260
E-Mail: lab@traceanalysis.com

## Certifications

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

## NELAP Certifications

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

# Analytical and Quality Control Report

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Report Date: March 22, 2010

Work Order: 10031509

Project Location: Eddy County, NM
Project Name: COG/Jenkins B Federal #7
Project Number: 114-6400435

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 |
|---|---|---|---|---|---|
| 225641 | AH-1 0-1' 1' BEB | soil | 2010-03-10 | 00:00 | 2010-03-12 |
| 225642 | AH-1 1-1.5' 1' BEB | soil | 2010-03-10 | 00:00 | 2010-03-12 |
| 225643 | AH-2 0-1' 1' BEB | soil | 2010-03-10 | 00:00 | 2010-03-12 |
| 225644 | AH-2 1-1.5' 1' BEB | soil | 2010-03-10 | 00:00 | 2010-03-12 |
| 225645 | AH-3 0-.5' 1.5' BEB | soil | 2010-03-10 | 00:00 | 2010-03-12 |

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.

TraceAnalysis, Inc.

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

**Standard Flags**

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

# Case Narrative

Samples for project COG/Jenkins B Federal #7 were received by TraceAnalysis, Inc. on 2010-03-12 and assigned to work order 10031509. Samples for work order 10031509 were received intact at a temperature of 6.0 C.

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

| Test | Method | Prep Batch | Prep Date | QC Batch | Analysis Date |
|---|---|---|---|---|---|
| BTEX | S 8021B | 58507 | 2010-03-17 at 11:00 | 68370 | 2010-03-17 at 13:22 |
| Chloride (Titration) | SM 4500-Cl B | 58451 | 2010-03-16 at 12:46 | 68375 | 2010-03-18 at 15:19 |
| TPH DRO - NEW | Mod. 8015B | 58454 | 2010-03-16 at 15:15 | 68314 | 2010-03-16 at 15:15 |
| TPH DRO - NEW | Mod. 8015B | 58487 | 2010-03-17 at 14:37 | 68350 | 2010-03-17 at 14:37 |
| TPH GRO | S 8015B | 58507 | 2010-03-17 at 11:00 | 68371 | 2010-03-17 at 13:51 |

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 10031509 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

# Analytical Report

**Sample: 225641 - AH-1 0-1' 1' BEB**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | BTEX | Analytical Method: | S 8021B | Prep Method: | S 5035 |
| QC Batch: | 68370 | Date Analyzed: | 2010-03-17 | Analyzed By: | AG |
| Prep Batch: | 58507 | Sample Preparation: | 2010-03-17 | Prepared By: | AG |

| Parameter | Flag | RL Result | Units | Dilution | RL |
|---|---|---|---|---|---|
| Benzene | | <0.0100 | mg/Kg | 1 | 0.0100 |
| Toluene | | <0.0100 | mg/Kg | 1 | 0.0100 |
| Ethylbenzene | | <0.0100 | mg/Kg | 1 | 0.0100 |
| Xylene | | <0.0100 | mg/Kg | 1 | 0.0100 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|---|---|---|---|---|---|---|---|
| Trifluorotoluene (TFT) | | 1.87 | mg/Kg | 1 | 2.00 | 94 | 60.4 - 141.2 |
| 4-Bromofluorobenzene (4-BFB) | | 2.04 | mg/Kg | 1 | 2.00 | 102 | 43.1 - 158.4 |

**Sample: 225641 - AH-1 0-1' 1' BEB**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 68375 | Date Analyzed: | 2010-03-18 | Analyzed By: | AR |
| Prep Batch: | 58451 | Sample Preparation: | 2010-03-16 | Prepared By: | AR |

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

**Sample: 225641 - AH-1 0-1' 1' BEB**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | TPH DRO - NEW | Analytical Method: | Mod. 8015B | Prep Method: | N/A |
| QC Batch: | 68314 | Date Analyzed: | 2010-03-16 | Analyzed By: | kg |
| Prep Batch: | 58454 | Sample Preparation: | 2010-03-16 | 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 | | 87.0 | mg/Kg | 1 | 100 | 87 | 70 - 130 |

**Sample: 225641 - AH-1 0-1' 1' BEB**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | TPH GRO | Analytical Method: | S 8015B | Prep Method: | S 5035 |
| QC Batch: | 68371 | Date Analyzed: | 2010-03-17 | Analyzed By: | AG |
| Prep Batch: | 58507 | Sample Preparation: | 2010-03-17 | Prepared By: | AG |

| Parameter | Flag | RL Result | Units | Dilution | RL |
|---|---|---|---|---|---|
| GRO | | <1.00 | mg/Kg | 1 | 1.00 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|---|---|---|---|---|---|---|---|
| Trifluorotoluene (TFT) | | 2.80 | mg/Kg | 1 | 2.00 | 140 | 65.3 - 155 |
| 4-Bromofluorobenzene (4-BFB) | | 2.57 | mg/Kg | 1 | 2.00 | 128 | 61.7 - 131.1 |

**Sample: 225642 - AH-1 1-1.5' 1' BEB**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 68375 | Date Analyzed: | 2010-03-18 | Analyzed By: | AR |
| Prep Batch: | 58451 | Sample Preparation: | 2010-03-16 | Prepared By: | AR |

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

**Sample: 225643 - AH-2 0-1' 1' BEB**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | BTEX | Analytical Method: | S 8021B | Prep Method: | S 5035 |
| QC Batch: | 68370 | Date Analyzed: | 2010-03-17 | Analyzed By: | AG |
| Prep Batch: | 58507 | Sample Preparation: | 2010-03-17 | Prepared By: | AG |

| Parameter | Flag | RL Result | Units | Dilution | RL |
|---|---|---|---|---|---|
| Benzene | | <0.0100 | mg/Kg | 1 | 0.0100 |
| Toluene | | <0.0100 | mg/Kg | 1 | 0.0100 |
| Ethylbenzene | | <0.0100 | mg/Kg | 1 | 0.0100 |
| Xylene | | <0.0100 | mg/Kg | 1 | 0.0100 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|---|---|---|---|---|---|---|---|
| Trifluorotoluene (TFT) | | 1.84 | mg/Kg | 1 | 2.00 | 92 | 60.4 - 141.2 |
| 4-Bromofluorobenzene (4-BFB) | | 1.98 | mg/Kg | 1 | 2.00 | 99 | 43.1 - 158.4 |

**Sample: 225643 - AH-2 0-1' 1' BEB**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 68375 | Date Analyzed: | 2010-03-18 | Analyzed By: | AR |
| Prep Batch: | 58451 | Sample Preparation: | 2010-03-16 | Prepared By: | AR |

| Parameter | Flag | RL Result | Units | Dilution | RL |
|---|---|---|---|---|---|
| Chloride | | **9500** | mg/Kg | 100 | 4.00 |

**Sample: 225643 - AH-2 0-1' 1' BEB**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | TPH DRO - NEW | Analytical Method: | Mod. 8015B | Prep Method: | N/A |
| QC Batch: | 68350 | Date Analyzed: | 2010-03-17 | Analyzed By: | kg |
| Prep Batch: | 58487 | Sample Preparation: | 2010-03-17 | 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 | | 91.6 | mg/Kg | 1 | 100 | 92 | 70 - 130 |

**Sample: 225643 - AH-2 0-1' 1' BEB**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | TPH GRO | Analytical Method: | S 8015B | Prep Method: | S 5035 |
| QC Batch: | 68371 | Date Analyzed: | 2010-03-17 | Analyzed By: | AG |
| Prep Batch: | 58507 | Sample Preparation: | 2010-03-17 | Prepared By: | AG |

| Parameter | Flag | RL Result | Units | Dilution | RL |
|---|---|---|---|---|---|
| GRO | | <1.00 | mg/Kg | 1 | 1.00 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|---|---|---|---|---|---|---|---|
| Trifluorotoluene (TFT) | | 2.75 | mg/Kg | 1 | 2.00 | 138 | 65.3 - 155 |
| 4-Bromofluorobenzene (4-BFB) | | 2.51 | mg/Kg | 1 | 2.00 | 126 | 61.7 - 131.1 |

**Sample: 225644 - AH-2 1-1.5' 1' BEB**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 68375 | Date Analyzed: | 2010-03-18 | Analyzed By: | AR |
| Prep Batch: | 58451 | Sample Preparation: | 2010-03-16 | Prepared By: | AR |

| Parameter | Flag | RL Result | Units | Dilution | RL |
|---|---|---|---|---|---|
| Chloride | | **10600** | mg/Kg | 100 | 4.00 |

**Sample: 225645 - AH-3 0-.5' 1.5' BEB**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | BTEX | Analytical Method: | S 8021B | Prep Method: | S 5035 |
| QC Batch: | 68370 | Date Analyzed: | 2010-03-17 | Analyzed By: | AG |
| Prep Batch: | 58507 | Sample Preparation: | 2010-03-17 | Prepared By: | AG |

| Parameter | Flag | RL Result | Units | Dilution | RL |
|---|---|---|---|---|---|
| Benzene | | <0.0100 | mg/Kg | 1 | 0.0100 |
| Toluene | | <0.0100 | mg/Kg | 1 | 0.0100 |
| Ethylbenzene | | <0.0100 | mg/Kg | 1 | 0.0100 |
| Xylene | | <0.0100 | mg/Kg | 1 | 0.0100 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|---|---|---|---|---|---|---|---|
| Trifluorotoluene (TFT) | | 1.33 | mg/Kg | 1 | 2.00 | 66 | 60.4 - 141.2 |
| 4-Bromofluorobenzene (4-BFB) | | 1.45 | mg/Kg | 1 | 2.00 | 72 | 43.1 - 158.4 |

**Sample: 225645 - AH-3 0-.5' 1.5' BEB**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 68375 | Date Analyzed: | 2010-03-18 | Analyzed By: | AR |
| Prep Batch: | 58451 | Sample Preparation: | 2010-03-16 | Prepared By: | AR |

| Parameter | Flag | RL Result | Units | Dilution | RL |
|---|---|---|---|---|---|
| Chloride | | **10100** | mg/Kg | 100 | 4.00 |

**Sample: 225645 - AH-3 0-.5' 1.5' BEB**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | TPH DRO - NEW | Analytical Method: | Mod. 8015B | Prep Method: | N/A |
| QC Batch: | 68314 | Date Analyzed: | 2010-03-16 | Analyzed By: | kg |
| Prep Batch: | 58454 | Sample Preparation: | 2010-03-16 | 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 | | 83.3 | mg/Kg | 1 | 100 | 83 | 70 - 130 |

**Sample: 225645 - AH-3 0-.5' 1.5' BEB**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | TPH GRO | Analytical Method: | S 8015B | Prep Method: | S 5035 |
| QC Batch: | 68371 | Date Analyzed: | 2010-03-17 | Analyzed By: | AG |
| Prep Batch: | 58507 | Sample Preparation: | 2010-03-17 | Prepared By: | AG |

| Parameter | Flag | RL Result | Units | Dilution | RL |
|---|---|---|---|---|---|
| GRO | | <1.00 | mg/Kg | 1 | 1.00 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|---|---|---|---|---|---|---|---|
| Trifluorotoluene (TFT) | | 2.00 | mg/Kg | 1 | 2.00 | 100 | 65.3 - 155 |
| 4-Bromofluorobenzene (4-BFB) | | 1.86 | mg/Kg | 1 | 2.00 | 93 | 61.7 - 131.1 |

**Method Blank (1)** QC Batch: 68314

| | | | | | |
|---|---|---|---|---|---|
| QC Batch: | 68314 | Date Analyzed: | 2010-03-16 | Analyzed By: | kg |
| Prep Batch: | 58454 | QC Preparation: | 2010-03-16 | Prepared By: | kg |

| Parameter | Flag | MDL Result | Units | RL |
|---|---|---|---|---|
| DRO | | <5.86 | mg/Kg | 50 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|---|---|---|---|---|---|---|---|
| n-Tricosane | | 71.9 | mg/Kg | 1 | 100 | 72 | 70 - 130 |

**Method Blank (1)** QC Batch: 68350

QC Batch: 68350 Date Analyzed: 2010-03-17 Analyzed By: kg
Prep Batch: 58487 QC Preparation: 2010-03-17 Prepared By: kg

| Parameter | Flag | MDL Result | Units | RL |
|---|---|---|---|---|
| DRO | | <5.86 | mg/Kg | 50 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|---|---|---|---|---|---|---|---|
| n-Tricosane | | 77.7 | mg/Kg | 1 | 100 | 78 | 70 - 130 |

**Method Blank (1)** QC Batch: 68370

QC Batch: 68370 Date Analyzed: 2010-03-17 Analyzed By: AG
Prep Batch: 58507 QC Preparation: 2010-03-17 Prepared By: AG

| Parameter | Flag | MDL Result | Units | RL |
|---|---|---|---|---|
| Benzene | | <0.00410 | mg/Kg | 0.01 |
| Toluene | | <0.00310 | mg/Kg | 0.01 |
| Ethylbenzene | | <0.00240 | mg/Kg | 0.01 |
| Xylene | | <0.00650 | mg/Kg | 0.01 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|---|---|---|---|---|---|---|---|
| Trifluorotoluene (TFT) | | 1.79 | mg/Kg | 1 | 2.00 | 90 | 64.9 - 142.7 |
| 4-Bromofluorobenzene (4-BFB) | | 1.74 | mg/Kg | 1 | 2.00 | 87 | 43.9 - 141.9 |

**Method Blank (1)** QC Batch: 68371

QC Batch: 68371 Date Analyzed: 2010-03-17 Analyzed By: AG
Prep Batch: 58507 QC Preparation: 2010-03-17 Prepared By: AG

| Parameter | Flag | MDL Result | Units | RL |
|---|---|---|---|---|
| GRO | | <0.396 | mg/Kg | 1 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|---|---|---|---|---|---|---|---|
| Trifluorotoluene (TFT) | | 2.67 | mg/Kg | 1 | 2.00 | 134 | 66.2 - 145 |
| 4-Bromofluorobenzene (4-BFB) | | 2.22 | mg/Kg | 1 | 2.00 | 111 | 62 - 120.5 |

**Method Blank (1)** QC Batch: 68375

QC Batch: 68375 Date Analyzed: 2010-03-18 Analyzed By: AR
Prep Batch: 58451 QC Preparation: 2010-03-16 Prepared By: AR

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

**Laboratory Control Spike (LCS-1)**

QC Batch: 68314 Date Analyzed: 2010-03-16 Analyzed By: kg
Prep Batch: 58454 QC Preparation: 2010-03-16 Prepared By: kg

| Param | LCS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|
| DRO | 239 | mg/Kg | 1 | 250 | <5.86 | 96 | 57.4 - 133.4 |

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

| Param | LCSD Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| DRO | 221 | mg/Kg | 1 | 250 | <5.86 | 88 | 57.4 - 133.4 | 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 |
|---|---|---|---|---|---|---|---|---|
| n-Tricosane | 108 | 100 | mg/Kg | 1 | 100 | 108 | 100 | 70 - 130 |

**Laboratory Control Spike (LCS-1)**

QC Batch: 68350 Date Analyzed: 2010-03-17 Analyzed By: kg
Prep Batch: 58487 QC Preparation: 2010-03-17 Prepared By: kg

| Param | LCS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|
| DRO | 186 | mg/Kg | 1 | 250 | <5.86 | 74 | 57.4 - 133.4 |

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

| Param | LCSD Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| DRO | 207 | mg/Kg | 1 | 250 | <5.86 | 83 | 57.4 - 133.4 | 11 | 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 | 81.7 | 91.6 | mg/Kg | 1 | 100 | 82 | 92 | 70 - 130 |

**Laboratory Control Spike (LCS-1)**

QC Batch: 68370 | Date Analyzed: 2010-03-17 | Analyzed By: AG
Prep Batch: 58507 | QC Preparation: 2010-03-17 | Prepared By: AG

| Param | LCS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|
| Benzene | 1.87 | mg/Kg | 1 | 2.00 | <0.00410 | 94 | 75.4 - 115.7 |
| Toluene | 1.88 | mg/Kg | 1 | 2.00 | <0.00310 | 94 | 78.4 - 113.6 |
| Ethylbenzene | 1.89 | mg/Kg | 1 | 2.00 | <0.00240 | 94 | 76 - 114.2 |
| Xylene | 5.67 | mg/Kg | 1 | 6.00 | <0.00650 | 94 | 76.9 - 113.6 |

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 | <0.00410 | 94 | 75.4 - 115.7 | 0 | 20 |
| Toluene | 1.88 | mg/Kg | 1 | 2.00 | <0.00310 | 94 | 78.4 - 113.6 | 0 | 20 |
| Ethylbenzene | 1.87 | mg/Kg | 1 | 2.00 | <0.00240 | 94 | 76 - 114.2 | 1 | 20 |
| Xylene | 5.66 | mg/Kg | 1 | 6.00 | <0.00650 | 94 | 76.9 - 113.6 | 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 |
|---|---|---|---|---|---|---|---|---|
| Trifluorotoluene (TFT) | 1.73 | 1.77 | mg/Kg | 1 | 2.00 | 86 | 88 | 65 - 142.9 |
| 4-Bromofluorobenzene (4-BFB) | 2.00 | 2.05 | mg/Kg | 1 | 2.00 | 100 | 102 | 43.8 - 144.9 |

**Laboratory Control Spike (LCS-1)**

QC Batch: 68371 | Date Analyzed: 2010-03-17 | Analyzed By: AG
Prep Batch: 58507 | QC Preparation: 2010-03-17 | Prepared By: AG

| Param | LCS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|
| GRO | 18.0 | mg/Kg | 1 | 20.0 | <0.396 | 90 | 52.5 - 114.3 |

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 | 17.6 | mg/Kg | 1 | 20.0 | <0.396 | 88 | 52.5 - 114.3 | 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) | 2.45 | 2.36 | mg/Kg | 1 | 2.00 | 122 | 118 | 66.2 - 148.7 |
| 4-Bromofluorobenzene (4-BFB) | 2.30 | 2.20 | mg/Kg | 1 | 2.00 | 115 | 110 | 64.1 - 127.4 |

**Laboratory Control Spike (LCS-1)**

QC Batch: 68375 | Date Analyzed: 2010-03-18 | Analyzed By: AR
Prep Batch: 58451 | QC Preparation: 2010-03-16 | Prepared By: AR

| Param | LCS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|
| Chloride | 98.8 | mg/Kg | 1 | 100 | <2.18 | 99 | 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 | 100 | mg/Kg | 1 | 100 | <2.18 | 100 | 85 - 115 | 1 | 20 |

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

**Matrix Spike (MS-1)** Spiked Sample: 225699

QC Batch: 68314 | Date Analyzed: 2010-03-16 | Analyzed By: kg
Prep Batch: 58454 | QC Preparation: 2010-03-16 | Prepared By: kg

| Param | MS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|
| DRO | 203 | mg/Kg | 1 | 250 | <5.86 | 81 | 35.2 - 167.1 |

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

| Param | MSD Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| DRO | 200 | mg/Kg | 1 | 250 | <5.86 | 80 | 35.2 - 167.1 | 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 |
|---|---|---|---|---|---|---|---|---|
| n-Tricosane | 103 | 105 | mg/Kg | 1 | 100 | 103 | 105 | 70 - 130 |

**Matrix Spike (MS-1)** Spiked Sample: 225164

QC Batch: 68350 | Date Analyzed: 2010-03-17 | Analyzed By: kg
Prep Batch: 58487 | QC Preparation: 2010-03-17 | Prepared By: kg

| Param | MS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|
| DRO | 163 | mg/Kg | 1 | 250 | <5.86 | 65 | 35.2 - 167.1 |

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

| Param | MSD Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| DRO | 167 | mg/Kg | 1 | 250 | <5.86 | 67 | 35.2 - 167.1 | 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 |
|---|---|---|---|---|---|---|---|---|
| n-Tricosane | 87.1 | 88.6 | mg/Kg | 1 | 100 | 87 | 89 | 70 - 130 |

**Matrix Spike (MS-1)** Spiked Sample: 225641

QC Batch: 68370 | Date Analyzed: 2010-03-17 | Analyzed By: AG
Prep Batch: 58507 | QC Preparation: 2010-03-17 | Prepared By: AG

| Param | MS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|
| Benzene | 1.84 | mg/Kg | 1 | 2.00 | <0.00410 | 92 | 57.7 - 140.7 |
| Toluene | 1.87 | mg/Kg | 1 | 2.00 | <0.00310 | 94 | 53.4 - 146.6 |
| Ethylbenzene | 1.89 | mg/Kg | 1 | 2.00 | <0.00240 | 94 | 62.1 - 141.6 |
| Xylene | 5.65 | mg/Kg | 1 | 6.00 | <0.00650 | 94 | 61.2 - 142.7 |

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 | 1.86 | mg/Kg | 1 | 2.00 | <0.00410 | 93 | 57.7 - 140.7 | 1 | 20 |
| Toluene | 1.90 | mg/Kg | 1 | 2.00 | <0.00310 | 95 | 53.4 - 146.6 | 2 | 20 |
| Ethylbenzene | 1.92 | mg/Kg | 1 | 2.00 | <0.00240 | 96 | 62.1 - 141.6 | 2 | 20 |
| Xylene | 5.76 | mg/Kg | 1 | 6.00 | <0.00650 | 96 | 61.2 - 142.7 | 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) | 1.47 | 1.40 | mg/Kg | 1 | 2 | 74 | 70 | 61.7 - 139.6 |
| 4-Bromofluorobenzene (4-BFB) | 1.62 | 1.56 | mg/Kg | 1 | 2 | 81 | 78 | 49.6 - 146.7 |

**Matrix Spike (MS-1)** Spiked Sample: 225701

QC Batch: 68371 | Date Analyzed: 2010-03-17 | Analyzed By: AG
Prep Batch: 58507 | QC Preparation: 2010-03-17 | Prepared By: AG

| Param | MS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|
| GRO | 19.1 | mg/Kg | 1 | 20.0 | <0.396 | 96 | 10 - 198.3 |

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 |
|---|---|---|---|---|---|---|---|---|---|
| GRO | 19.4 | mg/Kg | 1 | 20.0 | <0.396 | 97 | 10 - 198.3 | 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) | 2.00 | 2.05 | mg/Kg | 1 | 2 | 100 | 102 | 65.5 - 143 |
| 4-Bromofluorobenzene (4-BFB) | 2.07 | 2.15 | mg/Kg | 1 | 2 | 104 | 108 | 58.6 - 140 |

**Matrix Spike (MS-1)** Spiked Sample: 225660

QC Batch: 68375 | Date Analyzed: 2010-03-18 | Analyzed By: AR
Prep Batch: 58451 | QC Preparation: 2010-03-16 | Prepared By: AR

| Param | MS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|
| Chloride | 12700 | mg/Kg | 100 | 10000 | 2680 | 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 | 12800 | mg/Kg | 100 | 10000 | 2680 | 101 | 85 - 115 | 1 | 20 |

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

**Standard (CCV-1)**

QC Batch: 68314 | Date Analyzed: 2010-03-16 | Analyzed By: kg

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| DRO | | mg/Kg | 250 | 249 | 100 | 80 - 120 | 2010-03-16 |

**Standard (CCV-2)**

QC Batch: 68314 Date Analyzed: 2010-03-16 Analyzed By: kg

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| DRO | | mg/Kg | 250 | 206 | 82 | 80 - 120 | 2010-03-16 |

**Standard (CCV-2)**

QC Batch: 68350 Date Analyzed: 2010-03-17 Analyzed By: kg

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| DRO | | mg/Kg | 250 | 219 | 88 | 80 - 120 | 2010-03-17 |

**Standard (CCV-3)**

QC Batch: 68350 Date Analyzed: 2010-03-17 Analyzed By: kg

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| DRO | | mg/Kg | 250 | 204 | 82 | 80 - 120 | 2010-03-17 |

**Standard (CCV-1)**

QC Batch: 68370 Date Analyzed: 2010-03-17 Analyzed By: AG

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| Benzene | | mg/Kg | 0.100 | 0.0911 | 91 | 80 - 120 | 2010-03-17 |
| Toluene | | mg/Kg | 0.100 | 0.0920 | 92 | 80 - 120 | 2010-03-17 |
| Ethylbenzene | | mg/Kg | 0.100 | 0.0913 | 91 | 80 - 120 | 2010-03-17 |
| Xylene | | mg/Kg | 0.300 | 0.276 | 92 | 80 - 120 | 2010-03-17 |

**Standard (CCV-2)**

QC Batch: 68370 Date Analyzed: 2010-03-17 Analyzed By: AG

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| Benzene | | mg/Kg | 0.100 | 0.0925 | 92 | 80 - 120 | 2010-03-17 |
| Toluene | | mg/Kg | 0.100 | 0.0919 | 92 | 80 - 120 | 2010-03-17 |
| Ethylbenzene | | mg/Kg | 0.100 | 0.0902 | 90 | 80 - 120 | 2010-03-17 |
| Xylene | | mg/Kg | 0.300 | 0.272 | 91 | 80 - 120 | 2010-03-17 |

**Standard (CCV-1)**

QC Batch: 68371 Date Analyzed: 2010-03-17 Analyzed By: AG

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| GRO | | mg/Kg | 1.00 | 1.12 | 112 | 80 - 120 | 2010-03-17 |

**Standard (CCV-2)**

QC Batch: 68371 Date Analyzed: 2010-03-17 Analyzed By: AG

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| GRO | | mg/Kg | 1.00 | 1.10 | 110 | 80 - 120 | 2010-03-17 |

**Standard (ICV-1)**

QC Batch: 68375 Date Analyzed: 2010-03-18 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 | 2010-03-18 |

**Standard (CCV-1)**

QC Batch: 68375 Date Analyzed: 2010-03-18 Analyzed By: AR

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| Chloride | | mg/Kg | 100 | 101 | 101 | 85 - 115 | 2010-03-18 |

Order #: 100315O9

# Analysis Request of Chain of Custody Record

PAGE: 1 of 1


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


ANALYSIS REQUEST
*(Circle or Specify Method No.)*

| CLIENT NAME: | SITE MANAGER: |
|---|---|
| COG | Ike Tavarez |

| PROJECT NO.: | PROJECT NAME: |
|---|---|
| 114-6400435 | COG / Jenkins B Federal #7 Eddy Co, NM |

| LAB I.D. NUMBER | DATE | TIME | MATRIX | COMP. | GRAB | SAMPLE IDENTIFICATION | NUMBER OF CONTAINERS | FILTERED (Y/N) | PRESERVATIVE METHOD: HCL | HNO3 | ICE | NONE | BTEX 80218 | TPH 8015 MOD | TX1005 (Ext. to C35) | PAH 8270 | RCRA Metals Ag As Ba Cd Cr Pb Hg Se | TCLP Metals Ag As Ba Cd Vr Pd Hg Se | TCLP Volatiles | TCLP Semi Volatiles | RCI | GC.MS Vol. 8240/8260/624 | GC.MS Semi. Vol. 8270/625 | PCB's 8080/608 | Pest. 808/608 | Chloride | Gamma Spec. | Alpha Beta (Air) | PLM (Asbestos) | Major Anions/Cations, pH, TDS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 225641 | 2010 3/10 | | S | | X | AH-1 0-1' 1' BEB | 1 | | | | X | | X | X | | | | | | | | | | | | X | | | | |
| 642 | | | | | | AH-1 1'-1.5' 1' BEB | | | | | | | | | | | | | | | | | | | | X | | | | |
| 643 | | | | | | AH-2 0-1' 1' BEB | | | | | | | X | X | | | | | | | | | | | | X | | | | |
| 644 | | | | | | AH-2 1'-1.5' 1' BEB | | | | | | | | | | | | | | | | | | | | X | | | | |
| 645 | ↓ | | ↓ | | ↓ | AH-3 0-.5' 1.5' BEB | ↓ | | | | ↓ | | X | X | | | | | | | | | | | | X | | | | |

| | | | |
|---|---|---|---|
| RELINQUISHED BY: (Signature) | Date: 3-15-10 Time: 15:25 | RECEIVED BY: (Signature) | Date: 3/12/10 Time: 15:25 |
| RELINQUISHED BY: (Signature) | Date: Time: | RECEIVED BY: (Signature) | Date: Time: |
| RELINQUISHED BY: (Signature) | Date: Time: | RECEIVED BY: (Signature) | Date: Time: |

SAMPLED BY: (Print & Initial) Thomas K Franklin TKF — Date: 3/10/10 Time:

SAMPLE SHIPPED BY: (Circle) FEDEX BUS HAND DELIVERED UPS — AIRBILL #: — OTHER:

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

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: Le 0° C intact

REMARKS: Run deeper sample of TPH if exceeds 5,000 mg/kg

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

# Summary Report

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

Report Date: March 26, 2010

Work Order: 10032225

Project Location: Eddy County, NM
Project Name: COG/Jenkins B Federal #7
Project Number: 114-6400435

| Sample | Description | Matrix | Date Taken | Time Taken | Date Received |
|---|---|---|---|---|---|
| 226228 | SB-1 0-1' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226229 | SB-1 2-3' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226230 | SB-1 4-5' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226231 | SB-1 6-7' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226232 | SB-1 10-11' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226233 | SB-1 15-16' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226234 | SB-1 20-21' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226235 | SB-1 30-31' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226236 | SB-2 0-1' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226237 | SB-2 2-3' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226238 | SB-2 4-5' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226239 | SB-2 6-7' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226240 | SB-2 10-11' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226241 | SB-2 15-16' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226242 | SB-2 20-21' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226243 | SB-3 0-1' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226244 | SB-3 2-3' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226245 | SB-3 4-5' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226246 | SB-3 6-7' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226247 | SB-3 10-11' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226248 | SB-3 15-16' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226249 | SB-3 20-21' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226250 | SB-3 30-31' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |

| | BTEX | | | | TPH DRO - NEW | TPH GRO |
|---|---|---|---|---|---|---|
| | Benzene | Toluene | Ethylbenzene | Xylene | DRO | GRO |
| Sample - Field Code | (mg/Kg) | (mg/Kg) | (mg/Kg) | (mg/Kg) | (mg/Kg) | (mg/Kg) |
| **226228 - SB-1 0-1' (6 in. BEB)** | <0.0100 | <0.0100 | <0.0100 | <0.0100 | <50.0 | <1.00 |

*continued ...*

*... continued*

| Sample - Field Code | BTEX Benzene (mg/Kg) | Toluene (mg/Kg) | Ethylbenzene (mg/Kg) | Xylene (mg/Kg) | TPH DRO - NEW DRO (mg/Kg) | TPH GRO GRO (mg/Kg) |
|---|---|---|---|---|---|---|
| **226236 - SB-2 0-1' (6 in. BEB)** | <0.0100 | <0.0100 | <0.0100 | <0.0100 | <50.0 | <1.00 |
| **226243 - SB-3 0-1' (6 in. BEB)** | <0.0100 | <0.0100 | <0.0100 | <0.0100 | <50.0 | <1.00 |

**Sample: 226228 - SB-1 0-1' (6 in. BEB)**

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

**Sample: 226229 - SB-1 2-3' (6 in. BEB)**

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

**Sample: 226230 - SB-1 4-5' (6 in. BEB)**

| Param | Flag | Result | Units | RL |
|---|---|---|---|---|
| Chloride | | **1020** | mg/Kg | 4.00 |

**Sample: 226231 - SB-1 6-7' (6 in. BEB)**

| Param | Flag | Result | Units | RL |
|---|---|---|---|---|
| Chloride | | **525** | mg/Kg | 4.00 |

**Sample: 226232 - SB-1 10-11' (6 in. BEB)**

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

**Sample: 226233 - SB-1 15-16' (6 in. BEB)**

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

**Sample: 226234 - SB-1 20-21' (6 in. BEB)**

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

**Sample: 226235 - SB-1 30-31' (6 in. BEB)**

| Param | Flag | Result | Units | RL |
|---|---|---|---|---|
| Chloride | | **363** | mg/Kg | 4.00 |

**Sample: 226236 - SB-2 0-1' (6 in. BEB)**

| Param | Flag | Result | Units | RL |
|---|---|---|---|---|
| Chloride | | **9860** | mg/Kg | 4.00 |

**Sample: 226237 - SB-2 2-3' (6 in. BEB)**

| Param | Flag | Result | Units | RL |
|---|---|---|---|---|
| Chloride | | **12200** | mg/Kg | 4.00 |

**Sample: 226238 - SB-2 4-5' (6 in. BEB)**

| Param | Flag | Result | Units | RL |
|---|---|---|---|---|
| Chloride | | **15400** | mg/Kg | 4.00 |

**Sample: 226239 - SB-2 6-7' (6 in. BEB)**

| Param | Flag | Result | Units | RL |
|---|---|---|---|---|
| Chloride | | **15800** | mg/Kg | 4.00 |

**Sample: 226240 - SB-2 10-11' (6 in. BEB)**

| Param | Flag | Result | Units | RL |
|---|---|---|---|---|
| Chloride | | **8570** | mg/Kg | 4.00 |

**Sample: 226241 - SB-2 15-16' (6 in. BEB)**

| Param | Flag | Result | Units | RL |
|---|---|---|---|---|
| Chloride | | **1210** | mg/Kg | 4.00 |

**Sample: 226242 - SB-2 20-21' (6 in. BEB)**

| Param | Flag | Result | Units | RL |
|---|---|---|---|---|
| Chloride | | **2030** | mg/Kg | 4.00 |

**Sample: 226243 - SB-3 0-1' (6 in. BEB)**

| Param | Flag | Result | Units | RL |
|---|---|---|---|---|
| Chloride | | **10000** | mg/Kg | 4.00 |

**Sample: 226244 - SB-3 2-3' (6 in. BEB)**

| Param | Flag | Result | Units | RL |
|---|---|---|---|---|
| Chloride | | **13200** | mg/Kg | 4.00 |

**Sample: 226245 - SB-3 4-5' (6 in. BEB)**

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

**Sample: 226246 - SB-3 6-7' (6 in. BEB)**

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

**Sample: 226247 - SB-3 10-11' (6 in. BEB)**

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

**Sample: 226248 - SB-3 15-16' (6 in. BEB)**

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

**Sample: 226249 - SB-3 20-21' (6 in. BEB)**

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

**Sample: 226250 - SB-3 30-31' (6 in. BEB)**

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

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
200 East Sunset Road, Suite E El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
5002 Basin Street, Suite A1 Midland, Texas 79703 432•689•6301 FAX 432•689•6313
6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132 817•201•5260
E-Mail: lab@traceanalysis.com

## Certifications

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

## NELAP Certifications

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

# Analytical and Quality Control Report

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

Report Date: March 26, 2010

Work Order: 10032225

Project Location: Eddy County, NM
Project Name: COG/Jenkins B Federal #7
Project Number: 114-6400435

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 |
|---|---|---|---|---|---|
| 226228 | SB-1 0-1' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226229 | SB-1 2-3' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226230 | SB-1 4-5' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226231 | SB-1 6-7' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226232 | SB-1 10-11' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226233 | SB-1 15-16' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226234 | SB-1 20-21' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226235 | SB-1 30-31' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226236 | SB-2 0-1' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226237 | SB-2 2-3' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |

| Sample | Description | Matrix | Date Taken | Time Taken | Date Received |
|---|---|---|---|---|---|
| 226238 | SB-2 4-5' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226239 | SB-2 6-7' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226240 | SB-2 10-11' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226241 | SB-2 15-16' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226242 | SB-2 20-21' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226243 | SB-3 0-1' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226244 | SB-3 2-3' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226245 | SB-3 4-5' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226246 | SB-3 6-7' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226247 | SB-3 10-11' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226248 | SB-3 15-16' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226249 | SB-3 20-21' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |
| 226250 | SB-3 30-31' (6 in. BEB) | soil | 2010-03-18 | 00:00 | 2010-03-22 |

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



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

**Standard Flags**

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

# Case Narrative

Samples for project COG/Jenkins B Federal #7 were received by TraceAnalysis, Inc. on 2010-03-22 and assigned to work order 10032225. Samples for work order 10032225 were received intact at a temperature of 3.4 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 | 58601 | 2010-03-22 at 17:00 | 68489 | 2010-03-22 at 17:51 |
| Chloride (Titration) | SM 4500-Cl B | 58644 | 2010-03-24 at 08:56 | 68622 | 2010-03-26 at 14:57 |
| Chloride (Titration) | SM 4500-Cl B | 58645 | 2010-03-24 at 08:56 | 68623 | 2010-03-26 at 14:58 |
| Chloride (Titration) | SM 4500-Cl B | 58646 | 2010-03-24 at 08:57 | 68624 | 2010-03-26 at 14:59 |
| TPH DRO - NEW | Mod. 8015B | 58574 | 2010-03-22 at 10:12 | 68458 | 2010-03-22 at 10:12 |
| TPH GRO | S 8015B | 58601 | 2010-03-22 at 17:00 | 68490 | 2010-03-22 at 18:19 |

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 10032225 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

# Analytical Report

**Sample: 226228 - SB-1 0-1' (6 in. BEB)**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | BTEX | Analytical Method: | S 8021B | Prep Method: | S 5035 |
| QC Batch: | 68489 | Date Analyzed: | 2010-03-22 | Analyzed By: | AG |
| Prep Batch: | 58601 | Sample Preparation: | 2010-03-22 | Prepared By: | AG |

| Parameter | Flag | Result | RL | Units | Dilution | RL |
|---|---|---|---|---|---|---|
| Benzene | | <0.0100 | | mg/Kg | 1 | 0.0100 |
| Toluene | | <0.0100 | | mg/Kg | 1 | 0.0100 |
| Ethylbenzene | | <0.0100 | | mg/Kg | 1 | 0.0100 |
| Xylene | | <0.0100 | | mg/Kg | 1 | 0.0100 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|---|---|---|---|---|---|---|---|
| Trifluorotoluene (TFT) | | 1.64 | mg/Kg | 1 | 2.00 | 82 | 60.4 - 141.2 |
| 4-Bromofluorobenzene (4-BFB) | | 1.65 | mg/Kg | 1 | 2.00 | 82 | 43.1 - 158.4 |

**Sample: 226228 - SB-1 0-1' (6 in. BEB)**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 68622 | Date Analyzed: | 2010-03-26 | Analyzed By: | AR |
| Prep Batch: | 58644 | Sample Preparation: | 2010-03-24 | Prepared By: | AR |

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

**Sample: 226228 - SB-1 0-1' (6 in. BEB)**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | TPH DRO - NEW | Analytical Method: | Mod. 8015B | Prep Method: | N/A |
| QC Batch: | 68458 | Date Analyzed: | 2010-03-22 | Analyzed By: | kg |
| Prep Batch: | 58574 | Sample Preparation: | 2010-03-22 | Prepared By: | kg |

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

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

**Sample: 226228 - SB-1 0-1' (6 in. BEB)**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | TPH GRO | Analytical Method: | S 8015B | Prep Method: | S 5035 |
| QC Batch: | 68490 | Date Analyzed: | 2010-03-22 | Analyzed By: | AG |
| Prep Batch: | 58601 | Sample Preparation: | 2010-03-22 | Prepared By: | AG |

| Parameter | Flag | RL Result | Units | Dilution | RL |
|---|---|---|---|---|---|
| GRO | | <1.00 | mg/Kg | 1 | 1.00 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|---|---|---|---|---|---|---|---|
| Trifluorotoluene (TFT) | | 2.00 | mg/Kg | 1 | 2.00 | 100 | 65.3 - 155 |
| 4-Bromofluorobenzene (4-BFB) | | 1.84 | mg/Kg | 1 | 2.00 | 92 | 61.7 - 131.1 |

**Sample: 226229 - SB-1 2-3' (6 in. BEB)**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 68622 | Date Analyzed: | 2010-03-26 | Analyzed By: | AR |
| Prep Batch: | 58644 | Sample Preparation: | 2010-03-24 | Prepared By: | AR |

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

**Sample: 226230 - SB-1 4-5' (6 in. BEB)**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 68622 | Date Analyzed: | 2010-03-26 | Analyzed By: | AR |
| Prep Batch: | 58644 | Sample Preparation: | 2010-03-24 | Prepared By: | AR |

| Parameter | Flag | RL Result | Units | Dilution | RL |
|---|---|---|---|---|---|
| Chloride | | **1020** | mg/Kg | 50 | 4.00 |

**Sample: 226231 - SB-1 6-7' (6 in. BEB)**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 68622 | Date Analyzed: | 2010-03-26 | Analyzed By: | AR |
| Prep Batch: | 58644 | Sample Preparation: | 2010-03-24 | Prepared By: | AR |

| Parameter | Flag | Result | RL Units | Dilution | RL |
|---|---|---|---|---|---|
| Chloride | | **525** | mg/Kg | 50 | 4.00 |

**Sample: 226232 - SB-1 10-11' (6 in. BEB)**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 68622 | Date Analyzed: | 2010-03-26 | Analyzed By: | AR |
| Prep Batch: | 58644 | Sample Preparation: | 2010-03-24 | Prepared By: | AR |

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

**Sample: 226233 - SB-1 15-16' (6 in. BEB)**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 68622 | Date Analyzed: | 2010-03-26 | Analyzed By: | AR |
| Prep Batch: | 58644 | Sample Preparation: | 2010-03-24 | Prepared By: | AR |

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

**Sample: 226234 - SB-1 20-21' (6 in. BEB)**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 68622 | Date Analyzed: | 2010-03-26 | Analyzed By: | AR |
| Prep Batch: | 58644 | Sample Preparation: | 2010-03-24 | Prepared By: | AR |

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

**Sample: 226235 - SB-1 30-31' (6 in. BEB)**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 68622 | Date Analyzed: | 2010-03-26 | Analyzed By: | AR |
| Prep Batch: | 58644 | Sample Preparation: | 2010-03-24 | Prepared By: | AR |

| Parameter | Flag | Result | RL Units | Dilution | RL |
|---|---|---|---|---|---|
| Chloride | | **363** | mg/Kg | 50 | 4.00 |

**Sample: 226236 - SB-2 0-1' (6 in. BEB)**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | BTEX | Analytical Method: | S 8021B | Prep Method: | S 5035 |
| QC Batch: | 68489 | Date Analyzed: | 2010-03-22 | Analyzed By: | AG |
| Prep Batch: | 58601 | Sample Preparation: | 2010-03-22 | Prepared By: | AG |

| Parameter | Flag | Result | RL Units | Dilution | RL |
|---|---|---|---|---|---|
| Benzene | | <0.0100 | mg/Kg | 1 | 0.0100 |
| Toluene | | <0.0100 | mg/Kg | 1 | 0.0100 |
| Ethylbenzene | | <0.0100 | mg/Kg | 1 | 0.0100 |
| Xylene | | <0.0100 | mg/Kg | 1 | 0.0100 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|---|---|---|---|---|---|---|---|
| Trifluorotoluene (TFT) | | 2.24 | mg/Kg | 1 | 2.00 | 112 | 60.4 - 141.2 |
| 4-Bromofluorobenzene (4-BFB) | | 2.27 | mg/Kg | 1 | 2.00 | 114 | 43.1 - 158.4 |

**Sample: 226236 - SB-2 0-1' (6 in. BEB)**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 68622 | Date Analyzed: | 2010-03-26 | Analyzed By: | AR |
| Prep Batch: | 58644 | Sample Preparation: | 2010-03-24 | Prepared By: | AR |

| Parameter | Flag | Result | RL Units | Dilution | RL |
|---|---|---|---|---|---|
| Chloride | | **9860** | mg/Kg | 100 | 4.00 |

**Sample: 226236 - SB-2 0-1' (6 in. BEB)**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | TPH DRO - NEW | Analytical Method: | Mod. 8015B | Prep Method: | N/A |
| QC Batch: | 68458 | Date Analyzed: | 2010-03-22 | Analyzed By: | kg |
| Prep Batch: | 58574 | Sample Preparation: | 2010-03-22 | Prepared By: | kg |

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

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|---|---|---|---|---|---|---|---|
| n-Tricosane | | 77.6 | mg/Kg | 1 | 100 | 78 | 70 - 130 |

**Sample: 226236 - SB-2 0-1' (6 in. BEB)**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | TPH GRO | Analytical Method: | S 8015B | Prep Method: | S 5035 |
| QC Batch: | 68490 | Date Analyzed: | 2010-03-22 | Analyzed By: | AG |
| Prep Batch: | 58601 | Sample Preparation: | 2010-03-22 | Prepared By: | AG |

| Parameter | Flag | Result | RL | Units | Dilution | RL |
|---|---|---|---|---|---|---|
| GRO | | <1.00 | | mg/Kg | 1 | 1.00 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|---|---|---|---|---|---|---|---|
| Trifluorotoluene (TFT) | | 2.73 | mg/Kg | 1 | 2.00 | 136 | 65.3 - 155 |
| 4-Bromofluorobenzene (4-BFB) | | 2.49 | mg/Kg | 1 | 2.00 | 124 | 61.7 - 131.1 |

**Sample: 226237 - SB-2 2-3' (6 in. BEB)**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 68622 | Date Analyzed: | 2010-03-26 | Analyzed By: | AR |
| Prep Batch: | 58644 | Sample Preparation: | 2010-03-24 | Prepared By: | AR |

| Parameter | Flag | Result | RL | Units | Dilution | RL |
|---|---|---|---|---|---|---|
| Chloride | | **12200** | | mg/Kg | 100 | 4.00 |

**Sample: 226238 - SB-2 4-5' (6 in. BEB)**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 68623 | Date Analyzed: | 2010-03-26 | Analyzed By: | AR |
| Prep Batch: | 58645 | Sample Preparation: | 2010-03-24 | Prepared By: | AR |

| Parameter | Flag | Result | RL Units | Dilution | RL |
|---|---|---|---|---|---|
| Chloride | | **15400** | mg/Kg | 100 | 4.00 |

**Sample: 226239 - SB-2 6-7' (6 in. BEB)**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 68623 | Date Analyzed: | 2010-03-26 | Analyzed By: | AR |
| Prep Batch: | 58645 | Sample Preparation: | 2010-03-24 | Prepared By: | AR |

| Parameter | Flag | Result | RL Units | Dilution | RL |
|---|---|---|---|---|---|
| Chloride | | **15800** | mg/Kg | 100 | 4.00 |

**Sample: 226240 - SB-2 10-11' (6 in. BEB)**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 68623 | Date Analyzed: | 2010-03-26 | Analyzed By: | AR |
| Prep Batch: | 58645 | Sample Preparation: | 2010-03-24 | Prepared By: | AR |

| Parameter | Flag | Result | RL Units | Dilution | RL |
|---|---|---|---|---|---|
| Chloride | | **8570** | mg/Kg | 100 | 4.00 |

**Sample: 226241 - SB-2 15-16' (6 in. BEB)**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 68623 | Date Analyzed: | 2010-03-26 | Analyzed By: | AR |
| Prep Batch: | 58645 | Sample Preparation: | 2010-03-24 | Prepared By: | AR |

| Parameter | Flag | Result | RL Units | Dilution | RL |
|---|---|---|---|---|---|
| Chloride | | **1210** | mg/Kg | 50 | 4.00 |

**Sample: 226242 - SB-2 20-21' (6 in. BEB)**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 68623 | Date Analyzed: | 2010-03-26 | Analyzed By: | AR |
| Prep Batch: | 58645 | Sample Preparation: | 2010-03-24 | Prepared By: | AR |

| Parameter | Flag | Result | RL Units | Dilution | RL |
|---|---|---|---|---|---|
| Chloride | | **2030** | mg/Kg | 100 | 4.00 |

**Sample: 226243 - SB-3 0-1' (6 in. BEB)**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | BTEX | Analytical Method: | S 8021B | Prep Method: | S 5035 |
| QC Batch: | 68489 | Date Analyzed: | 2010-03-22 | Analyzed By: | AG |
| Prep Batch: | 58601 | Sample Preparation: | 2010-03-22 | Prepared By: | AG |

| Parameter | Flag | Result | RL Units | Dilution | RL |
|---|---|---|---|---|---|
| Benzene | | <0.0100 | mg/Kg | 1 | 0.0100 |
| Toluene | | <0.0100 | mg/Kg | 1 | 0.0100 |
| Ethylbenzene | | <0.0100 | mg/Kg | 1 | 0.0100 |
| Xylene | | <0.0100 | mg/Kg | 1 | 0.0100 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|---|---|---|---|---|---|---|---|
| Trifluorotoluene (TFT) | | 2.30 | mg/Kg | 1 | 2.00 | 115 | 60.4 - 141.2 |
| 4-Bromofluorobenzene (4-BFB) | | 2.35 | mg/Kg | 1 | 2.00 | 118 | 43.1 - 158.4 |

**Sample: 226243 - SB-3 0-1' (6 in. BEB)**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 68623 | Date Analyzed: | 2010-03-26 | Analyzed By: | AR |
| Prep Batch: | 58645 | Sample Preparation: | 2010-03-24 | Prepared By: | AR |

| Parameter | Flag | Result | RL Units | Dilution | RL |
|---|---|---|---|---|---|
| Chloride | | **10000** | mg/Kg | 100 | 4.00 |

**Sample: 226243 - SB-3 0-1' (6 in. BEB)**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | TPH DRO - NEW | Analytical Method: | Mod. 8015B | Prep Method: | N/A |
| QC Batch: | 68458 | Date Analyzed: | 2010-03-22 | Analyzed By: | kg |
| Prep Batch: | 58574 | Sample Preparation: | 2010-03-22 | Prepared By: | kg |

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

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|---|---|---|---|---|---|---|---|
| n-Tricosane | | 82.7 | mg/Kg | 1 | 100 | 83 | 70 - 130 |

**Sample: 226243 - SB-3 0-1' (6 in. BEB)**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | TPH GRO | Analytical Method: | S 8015B | Prep Method: | S 5035 |
| QC Batch: | 68490 | Date Analyzed: | 2010-03-22 | Analyzed By: | AG |
| Prep Batch: | 58601 | Sample Preparation: | 2010-03-22 | Prepared By: | AG |

| Parameter | Flag | Result | RL | Units | Dilution | RL |
|---|---|---|---|---|---|---|
| GRO | | <1.00 | | mg/Kg | 1 | 1.00 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|---|---|---|---|---|---|---|---|
| Trifluorotoluene (TFT) | | 2.76 | mg/Kg | 1 | 2.00 | 138 | 65.3 - 155 |
| 4-Bromofluorobenzene (4-BFB) | | 2.56 | mg/Kg | 1 | 2.00 | 128 | 61.7 - 131.1 |

**Sample: 226244 - SB-3 2-3' (6 in. BEB)**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 68623 | Date Analyzed: | 2010-03-26 | Analyzed By: | AR |
| Prep Batch: | 58645 | Sample Preparation: | 2010-03-24 | Prepared By: | AR |

| Parameter | Flag | Result | RL | Units | Dilution | RL |
|---|---|---|---|---|---|---|
| Chloride | | **13200** | | mg/Kg | 100 | 4.00 |

**Sample: 226245 - SB-3 4-5' (6 in. BEB)**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 68623 | Date Analyzed: | 2010-03-26 | Analyzed By: | AR |
| Prep Batch: | 58645 | Sample Preparation: | 2010-03-24 | Prepared By: | AR |

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

**Sample: 226246 - SB-3 6-7' (6 in. BEB)**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 68623 | Date Analyzed: | 2010-03-26 | Analyzed By: | AR |
| Prep Batch: | 58645 | Sample Preparation: | 2010-03-24 | Prepared By: | AR |

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

**Sample: 226247 - SB-3 10-11' (6 in. BEB)**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 68623 | Date Analyzed: | 2010-03-26 | Analyzed By: | AR |
| Prep Batch: | 58645 | Sample Preparation: | 2010-03-24 | Prepared By: | AR |

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

**Sample: 226248 - SB-3 15-16' (6 in. BEB)**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 68624 | Date Analyzed: | 2010-03-26 | Analyzed By: | AR |
| Prep Batch: | 58646 | Sample Preparation: | 2010-03-26 | Prepared By: | AR |

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

**Sample: 226249 - SB-3 20-21' (6 in. BEB)**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 68624 | Date Analyzed: | 2010-03-26 | Analyzed By: | AR |
| Prep Batch: | 58646 | Sample Preparation: | 2010-03-26 | Prepared By: | AR |

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

**Sample: 226250 - SB-3 30-31' (6 in. BEB)**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 68624 | Date Analyzed: | 2010-03-26 | Analyzed By: | AR |
| Prep Batch: | 58646 | Sample Preparation: | 2010-03-26 | Prepared By: | AR |

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

**Method Blank (1)** QC Batch: 68458

| | | | | | |
|---|---|---|---|---|---|
| QC Batch: | 68458 | Date Analyzed: | 2010-03-22 | Analyzed By: | kg |
| Prep Batch: | 58574 | QC Preparation: | 2010-03-22 | Prepared By: | kg |

| Parameter | Flag | MDL Result | Units | RL |
|---|---|---|---|---|
| DRO | | <5.86 | mg/Kg | 50 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|---|---|---|---|---|---|---|---|
| n-Tricosane | | 72.8 | mg/Kg | 1 | 100 | 73 | 70 - 130 |

**Method Blank (1)** QC Batch: 68489

| | | | | | |
|---|---|---|---|---|---|
| QC Batch: | 68489 | Date Analyzed: | 2010-03-22 | Analyzed By: | AG |
| Prep Batch: | 58601 | QC Preparation: | 2010-03-22 | Prepared By: | AG |

| Parameter | Flag | MDL Result | Units | RL |
|---|---|---|---|---|
| Benzene | | <0.00410 | mg/Kg | 0.01 |

*continued ...*

*method blank continued ...*

| Parameter | Flag | MDL Result | Units | RL |
|---|---|---|---|---|
| Toluene | | <0.00310 | mg/Kg | 0.01 |
| Ethylbenzene | | <0.00240 | mg/Kg | 0.01 |
| Xylene | | <0.00650 | mg/Kg | 0.01 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|---|---|---|---|---|---|---|---|
| Trifluorotoluene (TFT) | | 2.30 | mg/Kg | 1 | 2.00 | 115 | 64.9 - 142.7 |
| 4-Bromofluorobenzene (4-BFB) | | 1.84 | mg/Kg | 1 | 2.00 | 92 | 43.9 - 141.9 |

**Method Blank (1)** QC Batch: 68490

QC Batch: 68490 Date Analyzed: 2010-03-22 Analyzed By: AG
Prep Batch: 58601 QC Preparation: 2010-03-22 Prepared By: AG

| Parameter | Flag | MDL Result | Units | RL |
|---|---|---|---|---|
| GRO | | <0.396 | mg/Kg | 1 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|---|---|---|---|---|---|---|---|
| Trifluorotoluene (TFT) | | 2.82 | mg/Kg | 1 | 2.00 | 141 | 66.2 - 145 |
| 4-Bromofluorobenzene (4-BFB) | | 2.04 | mg/Kg | 1 | 2.00 | 102 | 62 - 120.5 |

**Method Blank (1)** QC Batch: 68622

QC Batch: 68622 Date Analyzed: 2010-03-26 Analyzed By: AR
Prep Batch: 58644 QC Preparation: 2010-03-24 Prepared By: AR

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

**Method Blank (1)** QC Batch: 68623

QC Batch: 68623 Date Analyzed: 2010-03-26 Analyzed By: AR
Prep Batch: 58645 QC Preparation: 2010-03-24 Prepared By: AR

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

**Method Blank (1)** QC Batch: 68624

| | | | | | |
|---|---|---|---|---|---|
| QC Batch: | 68624 | Date Analyzed: | 2010-03-26 | Analyzed By: | AR |
| Prep Batch: | 58646 | QC Preparation: | 2010-03-24 | Prepared By: | AR |

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

**Laboratory Control Spike (LCS-1)**

| | | | | | |
|---|---|---|---|---|---|
| QC Batch: | 68458 | Date Analyzed: | 2010-03-22 | Analyzed By: | kg |
| Prep Batch: | 58574 | QC Preparation: | 2010-03-22 | Prepared By: | kg |

| Param | LCS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|
| DRO | 198 | mg/Kg | 1 | 250 | <5.86 | 79 | 57.4 - 133.4 |

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

| Param | LCSD Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| DRO | 178 | mg/Kg | 1 | 250 | <5.86 | 71 | 57.4 - 133.4 | 11 | 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 | 86.4 | 78.0 | mg/Kg | 1 | 100 | 86 | 78 | 70 - 130 |

**Laboratory Control Spike (LCS-1)**

| | | | | | |
|---|---|---|---|---|---|
| QC Batch: | 68489 | Date Analyzed: | 2010-03-22 | Analyzed By: | AG |
| Prep Batch: | 58601 | QC Preparation: | 2010-03-22 | Prepared By: | AG |

| Param | LCS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|
| Benzene | 1.79 | mg/Kg | 1 | 2.00 | <0.00410 | 90 | 75.4 - 115.7 |
| Toluene | 1.80 | mg/Kg | 1 | 2.00 | <0.00310 | 90 | 78.4 - 113.6 |
| Ethylbenzene | 1.80 | mg/Kg | 1 | 2.00 | <0.00240 | 90 | 76 - 114.2 |
| Xylene | 5.38 | mg/Kg | 1 | 6.00 | <0.00650 | 90 | 76.9 - 113.6 |

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 | 1.77 | mg/Kg | 1 | 2.00 | <0.00410 | 88 | 75.4 - 115.7 | 1 | 20 |

*continued ...*

*control spikes continued ...*

| Param | LCSD Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Toluene | 1.77 | mg/Kg | 1 | 2.00 | <0.00310 | 88 | 78.4 - 113.6 | 2 | 20 |
| Ethylbenzene | 1.78 | mg/Kg | 1 | 2.00 | <0.00240 | 89 | 76 - 114.2 | 1 | 20 |
| Xylene | 5.33 | mg/Kg | 1 | 6.00 | <0.00650 | 89 | 76.9 - 113.6 | 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) | 2.21 | 1.96 | mg/Kg | 1 | 2.00 | 110 | 98 | 65 - 142.9 |
| 4-Bromofluorobenzene (4-BFB) | 2.30 | 2.06 | mg/Kg | 1 | 2.00 | 115 | 103 | 43.8 - 144.9 |

**Laboratory Control Spike (LCS-1)**

QC Batch: 68490 | Date Analyzed: 2010-03-22 | Analyzed By: AG
Prep Batch: 58601 | QC Preparation: 2010-03-22 | Prepared By: AG

| Param | LCS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|
| GRO | 16.6 | mg/Kg | 1 | 20.0 | <0.396 | 83 | 52.5 - 114.3 |

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 | 17.6 | mg/Kg | 1 | 20.0 | <0.396 | 88 | 52.5 - 114.3 | 6 | 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) | 2.65 | 2.44 | mg/Kg | 1 | 2.00 | 132 | 122 | 66.2 - 148.7 |
| 4-Bromofluorobenzene (4-BFB) | 2.39 | 2.19 | mg/Kg | 1 | 2.00 | 120 | 110 | 64.1 - 127.4 |

**Laboratory Control Spike (LCS-1)**

QC Batch: 68622 | Date Analyzed: 2010-03-26 | Analyzed By: AR
Prep Batch: 58644 | QC Preparation: 2010-03-24 | Prepared By: AR

| Param | LCS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|
| Chloride | 98.8 | mg/Kg | 1 | 100 | <2.18 | 99 | 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 | 100 | mg/Kg | 1 | 100 | <2.18 | 100 | 85 - 115 | 1 | 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: 68623 Date Analyzed: 2010-03-26 Analyzed By: AR
Prep Batch: 58645 QC Preparation: 2010-03-24 Prepared By: AR

| Param | LCS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|
| Chloride | 99.1 | mg/Kg | 1 | 100 | <2.18 | 99 | 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 | 100 | mg/Kg | 1 | 100 | <2.18 | 100 | 85 - 115 | 1 | 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: 68624 Date Analyzed: 2010-03-26 Analyzed By: AR
Prep Batch: 58646 QC Preparation: 2010-03-24 Prepared By: AR

| Param | LCS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|
| Chloride | 100 | mg/Kg | 1 | 100 | <2.18 | 100 | 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 | 2 | 20 |

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

**Matrix Spike (MS-1)** Spiked Sample: 226243

QC Batch: 68489 Date Analyzed: 2010-03-22 Analyzed By: AG
Prep Batch: 58601 QC Preparation: 2010-03-22 Prepared By: AG

*continued ...*

*matrix spikes continued ...*

| Param | MS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|
| Param | MS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
| Benzene | 2.00 | mg/Kg | 1 | 2.00 | <0.00410 | 100 | 57.7 - 140.7 |
| Toluene | 2.03 | mg/Kg | 1 | 2.00 | <0.00310 | 102 | 53.4 - 146.6 |
| Ethylbenzene | 2.06 | mg/Kg | 1 | 2.00 | <0.00240 | 103 | 62.1 - 141.6 |
| Xylene | 6.16 | mg/Kg | 1 | 6.00 | <0.00650 | 103 | 61.2 - 142.7 |

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 | 1.80 | mg/Kg | 1 | 2.00 | <0.00410 | 90 | 57.7 - 140.7 | 10 | 20 |
| Toluene | 1.83 | mg/Kg | 1 | 2.00 | <0.00310 | 92 | 53.4 - 146.6 | 10 | 20 |
| Ethylbenzene | 1.86 | mg/Kg | 1 | 2.00 | <0.00240 | 93 | 62.1 - 141.6 | 10 | 20 |
| Xylene | 5.60 | mg/Kg | 1 | 6.00 | <0.00650 | 93 | 61.2 - 142.7 | 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 |
|---|---|---|---|---|---|---|---|---|
| Trifluorotoluene (TFT) | 1.48 | 2.02 | mg/Kg | 1 | 2 | 74 | 101 | 61.7 - 139.6 |
| 4-Bromofluorobenzene (4-BFB) | 1.55 | 2.09 | mg/Kg | 1 | 2 | 78 | 104 | 49.6 - 146.7 |

**Matrix Spike (MS-1)** Spiked Sample: 226243

QC Batch: 68490 | Date Analyzed: 2010-03-22 | Analyzed By: AG
Prep Batch: 58601 | QC Preparation: 2010-03-22 | Prepared By: AG

| Param | MS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|
| GRO | 18.1 | mg/Kg | 1 | 20.0 | <0.396 | 90 | 10 - 198.3 |

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 |
|---|---|---|---|---|---|---|---|---|---|
| GRO | 18.6 | mg/Kg | 1 | 20.0 | <0.396 | 93 | 10 - 198.3 | 3 | 20 |

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

| Surrogate | MS Result | MSD Result | Units | Dil. | Spike Amount | MS Rec. | MSD Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|---|
| Trifluorotoluene (TFT) | 2.58 | 2.76 | mg/Kg | 1 | 2 | 129 | 138 | 65.5 - 143 |
| 4-Bromofluorobenzene (4-BFB) | 2.48 | 2.65 | mg/Kg | 1 | 2 | 124 | 132 | 58.6 - 140 |

**Matrix Spike (MS-1)** Spiked Sample: 226237

QC Batch: 68622 | Date Analyzed: 2010-03-26 | Analyzed By: AR
Prep Batch: 58644 | QC Preparation: 2010-03-24 | Prepared By: AR

| Param | MS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|
| Chloride | 22300 | mg/Kg | 100 | 10000 | 12200 | 101 | 85 - 115 |

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

| Param | MSD Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 22500 | mg/Kg | 100 | 10000 | 12200 | 103 | 85 - 115 | 1 | 20 |

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

**Matrix Spike (MS-1)** Spiked Sample: 226247

QC Batch: 68623 | Date Analyzed: 2010-03-26 | Analyzed By: AR
Prep Batch: 58645 | QC Preparation: 2010-03-24 | 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 | 10400 | mg/Kg | 100 | 10000 | <218 | 104 | 85 - 115 | 2 | 20 |

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

**Matrix Spike (MS-1)** Spiked Sample: 226250

QC Batch: 68624 | Date Analyzed: 2010-03-26 | Analyzed By: AR
Prep Batch: 58646 | QC Preparation: 2010-03-24 | Prepared By: AR

| Param | MS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|
| Chloride | 9990 | 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 | 10100 | mg/Kg | 100 | 10000 | <218 | 101 | 85 - 115 | 1 | 20 |

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

**Standard (CCV-3)**

QC Batch: 68458 Date Analyzed: 2010-03-22 Analyzed By: kg

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| DRO | | mg/Kg | 250 | 249 | 100 | 80 - 120 | 2010-03-22 |

**Standard (CCV-4)**

QC Batch: 68458 Date Analyzed: 2010-03-22 Analyzed By: kg

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| DRO | | mg/Kg | 250 | 247 | 99 | 80 - 120 | 2010-03-22 |

**Standard (CCV-1)**

QC Batch: 68489 Date Analyzed: 2010-03-22 Analyzed By: AG

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| Benzene | | mg/Kg | 0.100 | 0.0868 | 87 | 80 - 120 | 2010-03-22 |
| Toluene | | mg/Kg | 0.100 | 0.0870 | 87 | 80 - 120 | 2010-03-22 |
| Ethylbenzene | | mg/Kg | 0.100 | 0.0841 | 84 | 80 - 120 | 2010-03-22 |
| Xylene | | mg/Kg | 0.300 | 0.254 | 85 | 80 - 120 | 2010-03-22 |

**Standard (CCV-2)**

QC Batch: 68489 Date Analyzed: 2010-03-22 Analyzed By: AG

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| Benzene | | mg/Kg | 0.100 | 0.0893 | 89 | 80 - 120 | 2010-03-22 |
| Toluene | | mg/Kg | 0.100 | 0.0889 | 89 | 80 - 120 | 2010-03-22 |
| Ethylbenzene | | mg/Kg | 0.100 | 0.0875 | 88 | 80 - 120 | 2010-03-22 |
| Xylene | | mg/Kg | 0.300 | 0.264 | 88 | 80 - 120 | 2010-03-22 |

**Standard (CCV-1)**

QC Batch: 68490 Date Analyzed: 2010-03-22 Analyzed By: AG

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| GRO | | mg/Kg | 1.00 | 1.05 | 105 | 80 - 120 | 2010-03-22 |

**Standard (CCV-2)**

QC Batch: 68490 Date Analyzed: 2010-03-22 Analyzed By: AG

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| GRO | | mg/Kg | 1.00 | 1.16 | 116 | 80 - 120 | 2010-03-22 |

**Standard (ICV-1)**

QC Batch: 68622 Date Analyzed: 2010-03-26 Analyzed By: AR

| Param | Flag | Units | ICVs True Conc. | ICVs Found Conc. | ICVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| Chloride | | mg/Kg | 100 | 98.3 | 98 | 85 - 115 | 2010-03-26 |

**Standard (CCV-1)**

QC Batch: 68622 Date Analyzed: 2010-03-26 Analyzed By: AR

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| Chloride | | mg/Kg | 100 | 102 | 102 | 85 - 115 | 2010-03-26 |

**Standard (ICV-1)**

QC Batch: 68623 Date Analyzed: 2010-03-26 Analyzed By: AR

| Param | Flag | Units | ICVs True Conc. | ICVs Found Conc. | ICVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| Chloride | | mg/Kg | 100 | 102 | 102 | 85 - 115 | 2010-03-26 |

**Standard (CCV-1)**

QC Batch: 68623 Date Analyzed: 2010-03-26 Analyzed By: AR

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| Chloride | | mg/Kg | 100 | 97.8 | 98 | 85 - 115 | 2010-03-26 |

**Standard (ICV-1)**

QC Batch: 68624 Date Analyzed: 2010-03-26 Analyzed By: AR

| Param | Flag | Units | ICVs True Conc. | ICVs Found Conc. | ICVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| Chloride | | mg/Kg | 100 | 98.3 | 98 | 85 - 115 | 2010-03-26 |

**Standard (CCV-1)**

QC Batch: 68624 Date Analyzed: 2010-03-26 Analyzed By: AR

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| Chloride | | mg/Kg | 100 | 102 | 102 | 85 - 115 | 2010-03-26 |

Order #: 100322225

# Analysis Request of Chain of Custody Record


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


PAGE: 1 OF: 3

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 0435 114-640 ~~Billing~~ KD

PROJECT NAME: COG / Jenkins #7 Eddy Co., NM

ANALYSIS REQUEST (Circle or Specify Method No.)

| LAB I.D. NUMBER | DATE 2010 | TIME | MATRIX | COMP. | GRAB | SAMPLE IDENTIFICATION | NUMBER OF CONTAINERS | FILTERED (Y/N) | PRESERVATIVE METHOD: HCL | HNO3 | ICE | NONE | BTEX 8021B | TPH 8015 MOD. TX1005 (Ext. to C35) | PAH 8270 | RCRA Metals Ag As Ba Cd Cr Pb Hg Se | TCLP Metals Ag As Ba Cd Vr Pd Hg Se | TCLP Volatiles | TCLP Semi Volatiles | RCI | GC.MS Vol. 8240/8260/624 | GC.MS Semi. Vol. 8270/625 | PCB's 8080/608 | Pest. 808/608 | Chloride | Gamma Spec. | Alpha Beta (Air) | PLM (Asbestos) | Major Anions/Cations, pH, TDS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2016228 | 3/18 | | S | | X | SB-1 0-1' (6" BEB) | 1 | | | | X | | X | X | | | | | | | | | | | X | | | | |
| 229 | | | | | | SB-1 2-3' (6" BEB) | 1 | | | | X | | | | | | | | | | | | | | X | | | | |
| 230 | | | | | | SB-1 4-5' (6" BEB) | 1 | | | | X | | | | | | | | | | | | | | X | | | | |
| 231 | | | | | | SB-1 6-7' (6" BEB) | 1 | | | | X | | | | | | | | | | | | | | X | | | | |
| 232 | | | | | | SB-1 10-11' (6" BEB) | 1 | | | | X | | | | | | | | | | | | | | X | | | | |
| 233 | | | | | | SB-1 15-16' (6" BEB) | 1 | | | | X | | | | | | | | | | | | | | X | | | | |
| 234 | | | | | | SB-1 20-21' (6" BEB) | 1 | | | | X | | | | | | | | | | | | | | X | | | | |
| 235 | | | | | | SB-1 30-31' (6" BEB) | 1 | | | | X | | | | | | | | | | | | | | X | | | | |
| 236 | | | | | | SB-2 0-1' (6" BEB) | 1 | | | | X | | X | X | | | | | | | | | | | X | | | | |
| 237 | | | | | | SB-2 2-3' (6" BEB) | 1 | | | | X | | | | | | | | | | | | | | X | | | | |

| | | | |
|---|---|---|---|
| RELINQUISHED BY: (Signature) | Date: 3/22/10 Time: 1350 | RECEIVED BY: (Signature) | Date: 3/22/10 Time: 15:50 |
| RELINQUISHED BY: (Signature) | Date: Time: | RECEIVED BY: (Signature) | Date: Time: |
| RELINQUISHED BY: (Signature) | Date: Time: | RECEIVED BY: (Signature) | Date: Time: |

SAMPLED BY: (Print & Initial) Kim — Date: 3/18/10 Time:

SAMPLE SHIPPED BY: (Circle) FEDEX BUS HAND DELIVERED UPS — AIRBILL #: — OTHER:

RECEIVING LABORATORY: TRACE — RECEIVED BY: (Signature)

ADDRESS: — CITY: Midland STATE: TX ZIP:

CONTACT: — PHONE: — DATE: — TIME:

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 3, 4°C intact

REMARKS: If TPH >5,000 mg/kg run deeper samples

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

Order #: 10032225

# Analysis Request of Chain of Custody Record



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

ANALYSIS REQUEST
*(Circle or Specify Method No.)*

| CLIENT NAME: | SITE MANAGER: |
|---|---|
| COG | Ike Tavarez |

| PROJECT NO.: | PROJECT NAME: |
|---|---|
| 114-6400435 | COG / Jenkins #7 Eddy Co., NM |

| LAB I.D. NUMBER | DATE 2010 | TIME | MATRIX | COMP. | GRAB | SAMPLE IDENTIFICATION | NUMBER OF CONTAINERS | FILTERED (Y/N) | PRESERVATIVE METHOD: HCL | HNO3 | ICE | NONE | BTEX 8021B | TPH 8015 MOD | TX1005 (Ext. to C35) | PAH 8270 | RCRA Metals Ag As Ba Cd Cr Pb Hg Se | TCLP Metals Ag As Ba Cd Vr Pd Hg Se | TCLP Volatiles | TCLP Semi Volatiles | RCI | GC.MS Vol. 8240/8260/624 | GC.MS Semi. Vol. 8270/625 | PCB's 8080/608 | Pest. 808/608 | Chloride | Gamma Spec. | Alpha Beta (Air) | PLM (Asbestos) | Major Anions/Cations, pH, TDS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 226238 | 3/18 | | S | | X | SB-2 4-5' (6" BEB) | 1 | | | | X | | | | | | | | | | | | | | | X | | | | |
| 239 | | | | | | SB-2 6-7' (6" BEB) | 1 | | | | X | | | | | | | | | | | | | | | X | | | | |
| 240 | | | | | | SB-2 10-11' (6" BEB) | 1 | | | | X | | | | | | | | | | | | | | | X | | | | |
| 241 | | | | | | SB-2 15-16 (6" BEB) | 1 | | | | X | | | | | | | | | | | | | | | X | | | | |
| 242 | | | | | | SB-2 20-21' (6" BEB) | 1 | | | | X | | | | | | | | | | | | | | | X | | | | |
| 243 | | | | | | SB-3 0-1' (6" BEB) | 1 | | | | X | | X | X | | | | | | | | | | | | X | | | | |
| 244 | | | | | | SB-3 2-3' (6" BEB) | 1 | | | | X | | | | | | | | | | | | | | | X | | | | |
| 245 | | | | | | SB-3 4-5' (6" BEB) | 1 | | | | X | | | | | | | | | | | | | | | X | | | | |
| 246 | | | | | | SB-3 6-7' (6" BEB) | 1 | | | | X | | | | | | | | | | | | | | | X | | | | |
| 247 | | | | | | SB-3 10-11' (6" BEB) | 1 | | | | X | | | | | | | | | | | | | | | X | | | | |

| | | | |
|---|---|---|---|
| RELINQUISHED BY: (Signature) | Date: 3/22/10 Time: 1350 | RECEIVED BY: (Signature) | Date: 3/22/10 Time: 1350 |
| SAMPLED BY: (Print & Initial) Kim | Date: 3/18/10 Time: | | |
| RELINQUISHED BY: (Signature) | Date: Time: | RECEIVED BY: (Signature) | Date: Time: |
| SAMPLE SHIPPED BY: (Circle) FEDEX HAND DELIVERED BUS UPS | AIRBILL #: OTHER: | | |
| RELINQUISHED BY: (Signature) | Date: Time: | RECEIVED BY: (Signature) | Date: Time: |
| TETRA TECH CONTACT PERSON: Ike Tavarez | Results by: | | |
| RECEIVING LABORATORY: TRACE<br>ADDRESS:<br>CITY: Midland STATE: TX ZIP:<br>CONTACT: PHONE: | RECEIVED BY: (Signature)<br>DATE: TIME: | | RUSH Charges Authorized: Yes No |
| SAMPLE CONDITION WHEN RECEIVED: 3.4°C intact | REMARKS: IF TPH >5,000 mg/kg run deeper samples | | |

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

Order #: 10032225

# Analysis Request of Chain of Custody Record



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

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-6400435

PROJECT NAME: COG / Jenkins #7
Eddy Co, NM

| LAB I.D. NUMBER | DATE 2010 | TIME | MATRIX | COMP. | GRAB | SAMPLE IDENTIFICATION | NUMBER OF CONTAINERS | FILTERED (Y/N) | PRESERVATIVE METHOD: HCL | HNO3 | ICE | NONE | BTEX 8021B | TPH 8015 MOD. TX1005 (Ext. to C35) | PAH 8270 | RCRA Metals Ag As Ba Cd Cr Pb Hg Se | TCLP Metals Ag As Ba Cd Vr Pd Hg Se | TCLP Volatiles | TCLP Semi Volatiles | RCI | GC.MS Vol. 8240/8260/624 | GC.MS Semi. Vol. 8270/625 | PCB's 8080/608 | Pest. 809/608 | Chloride | Gamma Spec. | Alpha Beta (Air) | PLM (Asbestos) | Major Anions/Cations, pH, TDS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 226248 | 3/18 | | S | | X | SB-3 15-16' (6" BED) | 1 | | | | X | | | | | | | | | | | | | X | | | | |
| 249 | 3/18 | | S | | X | SB-3 20-21' (6" BEB) | 1 | | | | X | | | | | | | | | | | | | X | | | | |
| 250 | 3/18 | | S | | X | SB-3 30-31' (6" BEB) | 1 | | | | X | | | | | | | | | | | | | X | | | | |

ANALYSIS REQUEST (Circle or Specify Method No.)

RELINQUISHED BY: (Signature) Date: 3/22/10 Time: 1350
RECEIVED BY: (Signature) Date: 3/22/10 Time: 16:50
SAMPLED BY: (Print & Initial) Kim Date: 3/18/10 Time:

RELINQUISHED BY: (Signature) Date: Time:
RECEIVED BY: (Signature) Date: Time:
SAMPLE SHIPPED BY: (Circle) FEDEX HAND DELIVERED BUS UPS
AIRBILL #:
OTHER:

RELINQUISHED BY: (Signature) Date: Time:
RECEIVED BY: (Signature) Date: Time:
TETRA TECH CONTACT PERSON: Ike Tavarez
Results by:

RECEIVING LABORATORY: TRACE
ADDRESS:
CITY: Midland STATE: TX ZIP:
CONTACT: PHONE: DATE: TIME:
RECEIVED BY: (Signature)
RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 3.4°c intact

REMARKS: If TPH > 5,000 mg/kg run deeper samples

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

Order #: 100322 25

# Analysis Request of Chain of Custody Record

PAGE: 1 OF: 3


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


ANALYSIS REQUEST
*(Circle or Specify Method No.)*

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-640 0435 ~~Batch~~ KD

PROJECT NAME: COG / Jenkins #7
Eddy Co., NM

| LAB I.D. NUMBER | DATE 2010 | TIME | MATRIX | COMP. | GRAB | SAMPLE IDENTIFICATION | NUMBER OF CONTAINERS | FILTERED (Y/N) | PRESERVATIVE METHOD: HCL | HNO3 | ICE | NONE | BTEX 8021B | TPH 8015 MOD. TX1005 (Ext. to C35) | PAH 8270 | RCRA Metals Ag As Ba Cd Cr Pb Hg Se | TCLP Metals Ag As Ba Cd Vr Pd Hg Se | TCLP Volatiles | TCLP Semi Volatiles | RCI | GC.MS Vol. 8240/8260/624 | GC.MS Semi. Vol. 8270/625 | PCB's 8080/608 | Pest. 808/608 | Chloride | Gamma Spec. | Alpha Beta (Air) | PLM (Asbestos) | Major Anions/Cations, pH, TDS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 226228 | 3/18 | | S | | X | SB-1 0-1' (6" BEB) | 1 | | | | X | | X | X | | | | | | | | | | | X | | | | |
| 229 | | | | | | SB-1 2-3' (6" BEB) | 1 | | | | X | | | | | | | | | | | | | | X | | | | |
| 230 | | | | | | SB-1 4-5' (6" BEB) | 1 | | | | X | | | | | | | | | | | | | | X | | | | |
| 231 | | | | | | SB-1 6-7' (6" BEB) | 1 | | | | X | | | | | | | | | | | | | | X | | | | |
| 232 | | | | | | SB-1 10-11' (6" BEB) | 1 | | | | X | | | | | | | | | | | | | | X | | | | |
| 233 | | | | | | SB-1 15-16' (6" BEB) | 1 | | | | X | | | | | | | | | | | | | | X | | | | |
| 234 | | | | | | SB-1 20-21' (6" BED) | 1 | | | | X | | | | | | | | | | | | | | X | | | | |
| 235 | | | | | | SB-1 30-31' (6" BEB) | 1 | | | | X | | | | | | | | | | | | | | X | | | | |
| 236 | | | | | | SB-2 0-1' (6" BEB) | 1 | | | | X | | X | X | | | | | | | | | | | X | | | | |
| 237 | | | | | | SB-2 2-3' (6" BED) | 1 | | | | X | | | | | | | | | | | | | | X | | | | |

| | | | |
|---|---|---|---|
| RELINQUISHED BY: (Signature) | Date: 3/22/10 Time: 1350 | RECEIVED BY: (Signature) | Date: 3/22/10 Time: 15:50 |
| SAMPLED BY: (Print & Initial) Kim | Date: 3/18/10 Time: | | |
| RELINQUISHED BY: (Signature) | Date: Time: | RECEIVED BY: (Signature) | Date: Time: |
| SAMPLE SHIPPED BY: (Circle) FEDEX HAND DELIVERED BUS UPS | AIRBILL #: OTHER: | | |
| RELINQUISHED BY: (Signature) | Date: Time: | RECEIVED BY: (Signature) | Date: Time: |
| TETRA TECH CONTACT PERSON: Ike Tavarez | Results by: | | |
| RECEIVING LABORATORY: TRACE ADDRESS: CITY: Midland STATE: TX ZIP: CONTACT: PHONE: | RECEIVED BY: (Signature) DATE: TIME: | | RUSH Charges Authorized: Yes No |
| SAMPLE CONDITION WHEN RECEIVED: 3.4°C intact | REMARKS: If TPH >5,000 mg/kg run deeper samples | | |

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

Order #: 10032225

# Analysis Request of Chain of Custody Record



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

ANALYSIS REQUEST
*(Circle or Specify Method No.)*

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-6400435

PROJECT NAME: COG / Jenkins #7

Eddy Co., NM

| LAB I.D. NUMBER | DATE 2010 | TIME | MATRIX | COMP. | GRAB | SAMPLE IDENTIFICATION | NUMBER OF CONTAINERS | FILTERED (Y/N) | PRESERVATIVE METHOD: HCL | HNO3 | ICE | NONE | BTEX 8021B | TPH 8015 MOD | TX1005 (Ext. to C35) | PAH 8270 | RCRA Metals Ag As Ba Cd Cr Pb Hg Se | TCLP Metals Ag As Ba Cd Vr Pd Hg Se | TCLP Volatiles | TCLP Semi Volatiles | RCI | GC.MS Vol. 8240/8260/624 | GC.MS Semi. Vol. 8270/625 | PCB's 8080/608 | Pest. 808/608 | Chloride | Gamma Spec. | Alpha Beta (Air) | PLM (Asbestos) | Major Anions/Cations, pH, TDS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 226238 | 3/18 | | S | | X | SB-2 4-5' (6" BEB) | 1 | | | | X | | | | | | | | | | | | | | | X | | | | |
| 239 | | | | | | SB-2 6-7' (6" BEB) | 1 | | | | X | | | | | | | | | | | | | | | X | | | | |
| 240 | | | | | | SB-2 10-11' (6" BEB) | 1 | | | | X | | | | | | | | | | | | | | | X | | | | |
| 241 | | | | | | SB-2 15-16 (6" BEB) | 1 | | | | X | | | | | | | | | | | | | | | X | | | | |
| 242 | | | | | | SB-2 20-21' (6" BEB) | 1 | | | | X | | | | | | | | | | | | | | | X | | | | |
| 243 | | | | | | SB-3 0-1' (6" BEB) | 1 | | | | X | | X | X | | | | | | | | | | | | X | | | | |
| 244 | | | | | | SB-3 2-3' (6" BEB) | 1 | | | | X | | | | | | | | | | | | | | | X | | | | |
| 245 | | | | | | SB-3 4-5' (6" BEB) | 1 | | | | X | | | | | | | | | | | | | | | X | | | | |
| 246 | | | | | | SB-3 6-7' (6" BEB) | 1 | | | | X | | | | | | | | | | | | | | | X | | | | |
| 247 | | | | | | SB-3 10-11' (6" BEB) | 1 | | | | X | | | | | | | | | | | | | | | X | | | | |

RELINQUISHED BY: (Signature) Date: 3/22/10 Time: 1350
RECEIVED BY: (Signature) Date: 3/22/10 Time: 1350
SAMPLED BY: (Print & Initial) Kim Date: 3/18/10 Time:

RELINQUISHED BY: (Signature) Date: Time:
RECEIVED BY: (Signature) Date: Time:
SAMPLE SHIPPED BY: (Circle) FEDEX HAND DELIVERED BUS UPS
AIRBILL #:
OTHER:

RELINQUISHED BY: (Signature) Date: Time:
RECEIVED BY: (Signature) Date: Time:
TETRA TECH CONTACT PERSON: Ike Tavarez
Results by:

RECEIVING LABORATORY: TRACE
ADDRESS:
CITY: Midland STATE: TX ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature)
DATE: TIME:
RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 3.4°c intact

REMARKS: If TPH >5,000 mg/kg run deeper samples

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

Order #: 10032225

# Analysis Request of Chain of Custody Record



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

CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-6400435

PROJECT NAME: COG / Jenkins #7
Eddy Co, NM

| LAB I.D. NUMBER | DATE 2010 | TIME | MATRIX | COMP | GRAB | SAMPLE IDENTIFICATION | NUMBER OF CONTAINERS | FILTERED (Y/N) | PRESERVATIVE METHOD: HCL | HNO3 | ICE | NONE | BTEX 8021B | TPH 8015 MOD. TX1005 (Ext. to C35) | PAH 8270 | RCRA Metals Ag As Ba Cd Cr Pb Hg Se | TCLP Metals Ag As Ba Cd Vr Pd Hg Se | TCLP Volatiles | TCLP Semi Volatiles | RCI | GC.MS Vol. 8240/8260/624 | GC.MS Semi. Vol. 8270/625 | PCB's 8080/608 | Pest. 808/608 | Chloride | Gamma Spec. | Alpha Beta (Air) | PLM (Asbestos) | Major Anions/Cations, pH, TDS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22,248 | 3/18 | | S | | X | SB-3 15-16' (6" BED) | 1 | | | | X | | | | | | | | | | | | | X | | | | |
| 249 | 3/18 | | S | | X | SB-3 20-21' (6" BED) | 1 | | | | X | | | | | | | | | | | | | X | | | | |
| 250 | 3/18 | | S | | X | SB-3 30-31' (6" BED) | 1 | | | | X | | | | | | | | | | | | | X | | | | |

ANALYSIS REQUEST (Circle or Specify Method No.)

RELINQUISHED BY: (Signature) Date: 3/22/10 Time: 1350
RECEIVED BY: (Signature) Date: 3/22/10 Time: 16:50
SAMPLED BY: (Print & Initial) KM Date: 3/18/10 Time:

RELINQUISHED BY: (Signature) Date: Time:
RECEIVED BY: (Signature) Date: Time:
SAMPLE SHIPPED BY: (Circle) FEDEX HAND DELIVERED BUS UPS
AIRBILL #:
OTHER:

RELINQUISHED BY: (Signature) Date: Time:
RECEIVED BY: (Signature) Date: Time:
TETRA TECH CONTACT PERSON: Ike Tavarez
Results by:

RECEIVING LABORATORY: TRACE
ADDRESS:
CITY: Midland STATE: TX ZIP:
CONTACT: PHONE:
RECEIVED BY: (Signature)
DATE: TIME:
RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED: 3.4°c intact

REMARKS: If TPH > 5,000 mg/kg run deeper samples

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

# Summary Report

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

Report Date: April 21, 2010

Work Order: 10041409

Project Location: Eddy County, NM
Project Name: COG/Jenkins B Federal #7
Project Number: 114-6400435

| Sample | Description | Matrix | Date Taken | Time Taken | Date Received |
|---|---|---|---|---|---|
| 228467 | SB-2 10' | soil | 2010-04-12 | 00:00 | 2010-04-13 |
| 228468 | SB-2 15' | soil | 2010-04-12 | 00:00 | 2010-04-13 |
| 228469 | SB-2 20' | soil | 2010-04-12 | 00:00 | 2010-04-13 |
| 228470 | SB-2 25' | soil | 2010-04-12 | 00:00 | 2010-04-13 |
| 228471 | SB-2 30' | soil | 2010-04-12 | 00:00 | 2010-04-13 |
| 228472 | SB-2 35' | soil | 2010-04-12 | 00:00 | 2010-04-13 |
| 228473 | SB-2 40' | soil | 2010-04-12 | 00:00 | 2010-04-13 |

**Sample: 228467 - SB-2 10'**

| Param | Flag | Result | Units | RL |
|---|---|---|---|---|
| Chloride | | **466** | mg/Kg | 4.00 |

**Sample: 228468 - SB-2 15'**

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

**Sample: 228469 - SB-2 20'**

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

**Sample: 228470 - SB-2 25'**

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

**Sample: 228471 - SB-2 30'**

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

**Sample: 228472 - SB-2 35'**

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

**Sample: 228473 - SB-2 40'**

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

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
200 East Sunset Road, Suite E El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
5002 Basin Street, Suite A1 Midland, Texas 79703 432•689•6301 FAX 432•689•6313
6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132 817•201•5260
E-Mail: lab@traceanalysis.com

## Certifications

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

## NELAP Certifications

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

# Analytical and Quality Control Report

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

Report Date: April 21, 2010

Work Order: 10041409

Project Location: Eddy County, NM
Project Name: COG/Jenkins B Federal #7
Project Number: 114-6400435

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 |
|---|---|---|---|---|---|
| 228467 | SB-2 10' | soil | 2010-04-12 | 00:00 | 2010-04-13 |
| 228468 | SB-2 15' | soil | 2010-04-12 | 00:00 | 2010-04-13 |
| 228469 | SB-2 20' | soil | 2010-04-12 | 00:00 | 2010-04-13 |
| 228470 | SB-2 25' | soil | 2010-04-12 | 00:00 | 2010-04-13 |
| 228471 | SB-2 30' | soil | 2010-04-12 | 00:00 | 2010-04-13 |
| 228472 | SB-2 35' | soil | 2010-04-12 | 00:00 | 2010-04-13 |
| 228473 | SB-2 40' | soil | 2010-04-12 | 00:00 | 2010-04-13 |

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

This report consists of a total of 7 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

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

**Standard Flags**

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

# Case Narrative

Samples for project COG/Jenkins B Federal #7 were received by TraceAnalysis, Inc. on 2010-04-13 and assigned to work order 10041409. Samples for work order 10041409 were received intact at a temperature of 7.5 C.

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

| Test | Method | Prep Batch | Prep Date | QC Batch | Analysis Date |
|---|---|---|---|---|---|
| Chloride (Titration) | SM 4500-Cl B | 59238 | 2010-04-19 at 11:46 | 69269 | 2010-04-20 at 15:22 |

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 10041409 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

# Analytical Report

**Sample: 228467 - SB-2 10'**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 69269 | Date Analyzed: | 2010-04-20 | Analyzed By: | AR |
| Prep Batch: | 59238 | Sample Preparation: | 2010-04-19 | Prepared By: | AR |

| Parameter | Flag | RL Result | Units | Dilution | RL |
|---|---|---|---|---|---|
| Chloride | | **466** | mg/Kg | 50 | 4.00 |

**Sample: 228468 - SB-2 15'**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 69269 | Date Analyzed: | 2010-04-20 | Analyzed By: | AR |
| Prep Batch: | 59238 | Sample Preparation: | 2010-04-19 | Prepared By: | AR |

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

**Sample: 228469 - SB-2 20'**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 69269 | Date Analyzed: | 2010-04-20 | Analyzed By: | AR |
| Prep Batch: | 59238 | Sample Preparation: | 2010-04-19 | Prepared By: | AR |

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

**Sample: 228470 - SB-2 25'**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 69269 | Date Analyzed: | 2010-04-20 | Analyzed By: | AR |
| Prep Batch: | 59238 | Sample Preparation: | 2010-04-19 | Prepared By: | AR |

*continued ...*

*sample 228470 continued ...*

| Parameter | Flag | RL Result | Units | Dilution | RL |
|---|---|---|---|---|---|

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

**Sample: 228471 - SB-2 30'**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 69269 | Date Analyzed: | 2010-04-20 | Analyzed By: | AR |
| Prep Batch: | 59238 | Sample Preparation: | 2010-04-19 | Prepared By: | AR |

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

**Sample: 228472 - SB-2 35'**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 69269 | Date Analyzed: | 2010-04-20 | Analyzed By: | AR |
| Prep Batch: | 59238 | Sample Preparation: | 2010-04-19 | Prepared By: | AR |

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

**Sample: 228473 - SB-2 40'**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Midland | | | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch: | 69269 | Date Analyzed: | 2010-04-20 | Analyzed By: | AR |
| Prep Batch: | 59238 | Sample Preparation: | 2010-04-19 | Prepared By: | AR |

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

**Method Blank (1)** QC Batch: 69269

QC Batch: 69269 | Date Analyzed: 2010-04-20 | Analyzed By: AR
Prep Batch: 59238 | QC Preparation: 2010-04-19 | Prepared By: AR

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

**Laboratory Control Spike (LCS-1)**

QC Batch: 69269 | Date Analyzed: 2010-04-20 | Analyzed By: AR
Prep Batch: 59238 | QC Preparation: 2010-04-19 | Prepared By: AR

| Param | LCS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|
| Chloride | 98.6 | mg/Kg | 1 | 100 | <2.18 | 99 | 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 | 99.9 | mg/Kg | 1 | 100 | <2.18 | 100 | 85 - 115 | 1 | 20 |

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

**Matrix Spike (MS-1)** Spiked Sample: 228498

QC Batch: 69269 | Date Analyzed: 2010-04-20 | Analyzed By: AR
Prep Batch: 59238 | QC Preparation: 2010-04-19 | Prepared By: AR

| Param | MS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|
| Chloride | 24700 | mg/Kg | 100 | 10000 | 15100 | 96 | 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 | 25200 | mg/Kg | 100 | 10000 | 15100 | 101 | 85 - 115 | 2 | 20 |

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

**Standard (ICV-1)**

QC Batch: 69269 | Date Analyzed: 2010-04-20 | Analyzed By: AR

| Param | Flag | Units | ICVs True Conc. | ICVs Found Conc. | ICVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| Chloride | | mg/Kg | 100 | 100 | 100 | 85 - 115 | 2010-04-20 |

**Standard (CCV-1)**

QC Batch: 69269 Date Analyzed: 2010-04-20 Analyzed By: AR

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| Chloride | | mg/Kg | 100 | 99.8 | 100 | 85 - 115 | 2010-04-20 |

Order #: 10041409

# Analysis Request of Chain of Custody Record

PAGE: 1 OF: 1


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


CLIENT NAME: COG

SITE MANAGER: Ike Tavarez

PROJECT NO.: 114-640435

PROJECT NAME: COG - Jenkins Federal #7 Flowline Eddy Co, NM

| LAB I.D. NUMBER | DATE 2010 | TIME | MATRIX | COMP. | GRAB | SAMPLE IDENTIFICATION | NUMBER OF CONTAINERS | FILTERED (Y/N) | PRESERVATIVE METHOD: HCL | HNO3 | ICE | NONE | BTEX 8021B | TPH 8015 MOD. TX1005 (Ext. to C35) | PAH 8270 | RCRA Metals Ag As Ba Cd Cr Pb Hg Se | TCLP Metals Ag As Ba Cd Vr Pd Hg Se | TCLP Volatiles | TCLP Semi Volatiles | RCI | GC.MS Vol. 8240/8260/624 | GC.MS Semi. Vol. 8270/625 | PCB's 8080/608 | Pest. 808/608 | Chloride | Gamma Spec. | Alpha Beta (Air) | PLM (Asbestos) | Major Anions/Cations, pH, TDS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 228467 | 4/12 | | S | | X | SB-2 10' | 1 | | | | | | | | | | | | | | | | | X | | | | |
| 468 | 4/12 | | S | | X | SB-2 15' | 1 | | | | | | | | | | | | | | | | | X | | | | |
| 469 | 4/12 | | S | | X | SB-2 20' | 1 | | | | | | | | | | | | | | | | | X | | | | |
| 470 | 4/12 | | S | | X | SB-2 25' | 1 | | | | | | | | | | | | | | | | | X | | | | |
| 471 | 4/12 | | S | | X | SB-2 30' | 1 | | | | | | | | | | | | | | | | | X | | | | |
| 472 | 4/12 | | S | | X | SB-2 35' | 1 | | | | | | | | | | | | | | | | | X | | | | |
| 473 | 4/12 | | S | | X | SB-2 40' | 1 | | | | | | | | | | | | | | | | | X | | | | |

RELINQUISHED BY: (Signature) — Date: 4/13/10 Time: 1645
RECEIVED BY: (Signature) — Date: 4/13/10 Time: 1645

RELINQUISHED BY: (Signature) — Date: Time:
RECEIVED BY: (Signature) — Date: Time:

RELINQUISHED BY: (Signature) — Date: Time:
RECEIVED BY: (Signature) — Date: Time:

SAMPLED BY: (Print & Initial) Kim — Date: 4/12/10 Time:

SAMPLE SHIPPED BY: (Circle) FEDEX BUS HAND DELIVERED UPS
AIRBILL #:
OTHER:

TETRA TECH CONTACT PERSON: Ike Tavarez

Results by:

RUSH Charges Authorized: Yes No

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

SAMPLE CONDITION WHEN RECEIVED: 7.5 c intact

REMARKS: All tests - Midland

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