

SITE INFORMATION

2RP-616

Report Type: CLOSURE

General Site Information:

| | | | | | | |
|-----------------------------|--|------|------|--------------|--|--|
| Site: | Birch Keely Unit #196 Well Site | | | | | |
| Company: | COG Operating LLC | | | | | |
| Section, Township and Range | Sec 25 | T17S | R29E | Unit P | | |
| Lease Number: | API-30-015-24976 | | | | | |
| County: | Eddy County | | | | | |
| GPS: | 32.80003° N | | | 104.02646° W | | |
| Surface Owner: | Federal | | | | | |
| Mineral Owner: | | | | | | |
| Directions: | From the intersection of CR 217 and Hwy 82 travel west of Hwy 82 for 1.8 miles, turn left onto lease road and travel 1.3 miles, turn right and travel 0.3 miles to site. | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Release Data:

| | |
|--------------------------|----------------|
| Date Released: | 2/6/2011 |
| Type Release: | Produced Water |
| Source of Contamination: | Steel Flowline |
| Fluid Released: | 20 bbls |
| Fluids Recovered: | 18 bbls |

Official Communication:

| | | |
|---------------|-----------------------------|----------------------------|
| Name: | Pat Ellis | Ike Tavaréz |
| 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) 682-4559 |
| Fax: | (432) 684-7137 | |
| Email: | pellis@conchoresources.com | ike.tavarez@tetrattech.com |

Ranking Criteria

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

| Acceptable Soil RRAL (mg/kg) | | |
|------------------------------|------------|-------|
| Benzene | Total BTEX | TPH |
| 10 | 50 | 5,000 |



January 10, 2012

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

**Re: Closure Report for the COG Operating LLC., Birch Keely Unit
#196 Well Site, Unit P, Section 25, Township 17 South, Range 29
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 Birch Keely Unit #196 well site located in Unit P, Section 25, Township 17 South, Range 29 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.80003°, W 104.02646°. The site location is shown on Figures 1 and 2.

Background

According to the New Mexico Oil Conservation Division (NMOCD) initial C-141 report, the leak was discovered on February 6, 2011, and released approximately twenty (20) barrels of produced fluid from a steel flow line. To alleviate the problem, COG personnel replaced the flow line. Eighteen (18) barrels of standing fluids were recovered. The spill initiated west of the pad affecting an area of approximately 35' X 135' in the pasture. The initial C-141 form is enclosed in Appendix A.

Groundwater

No water wells were listed within Section 25. According to the NMOCD groundwater map, the average depth to groundwater in this area is approximately 175' below surface. The average depth to groundwater map is show in Appendix B.

Tetra Tech

1910 North Big Spring, Midland, TX 79705

Tel 432.682.4559 Fax 432.682.3946 www.tetrattech.com



Regulatory

A risk-based evaluation was performed for the Site in accordance with the 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, ethyl-benzene 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, ethyl-benzene, 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 2, 2011, Tetra Tech personnel inspected and sampled the spill area. Three (3) auger holes (AH-1, AH-2 and 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 sampling results are summarized in Table 1. The auger hole locations are shown on Figure 3.

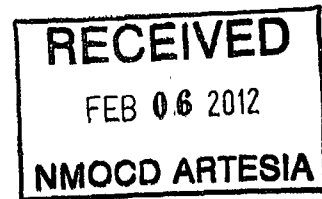
Referring to Table 1, none of the samples exceeded the RRAL for BTEX and TPH. The chloride concentrations were not vertically defined in all of the three auger hole locations.

In order to delineate the chloride impact, soil borings were installed utilizing an air rotary drilling rig. On May 6, 2011, Tetra Tech personnel supervised the installation of three (3) soil bores (SB-1, SB-2 and SB-3). Soil samples were collected to a depth of 50.0' below surface. Referring to Table 1, chloride concentrations declined with depth in SB-1 and SB-2. However, the samples in SB-3 chlorides declined with depth, but spiked at 50.0' below surface, with a chloride of 2,190 mg/kg. Deeper samples could not be collected due to the upper sands sloughing, which would not allow the bottom to remain open. The soil boring locations are shown on Figure 3.

On September 22, 2011, Tetra Tech installed an additional soil boring in the area of SB-3 to attempt to define the extents of the deeper chloride impact. The soil boring was installed to a total depth of 90.0' below surface. Samples were collected at 10.0' intervals from 40.0' to 90.0' below surface.



TETRA TECH



Referring to Table 1, the chloride concentrations declined with depth to 465 mg/kg at 70.0' and <200 at 90.0' below surface.

Closure Activities

Based on the approved work plan, Tetra Tech personnel supervised the excavation of the site. The final excavation depths of the soil remediation were met or exceeded as stated in the approved work plan. The spill area will be excavated to approximately 5.0' to 7.0' below surface. Once the areas are excavated to the appropriate depths, the areas of AH-1 (SB-1) and AH-3 (SB-3) were capped with a 40 mil liner at 4.0' below surface and backfilled with clean soil. A total of 1,560 cubic yards of soil were excavated and hauled to proper disposal. The excavation depths are highlighted in Table 1 and shown on Figure 4.

As requested by the BLM, confirmation samples were collected from the excavation bottom holes and sidewalls. During the excavation, the area of AH-3 (SB-3) was not sampled due to a plastic liner noted on the north wall of the excavation, which appeared to be the edge of a closed reserve pit. The confirmation samples results are shown in Table 1. Once excavated to the appropriate depths, the excavations were backfilled with clean soil to grade.

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

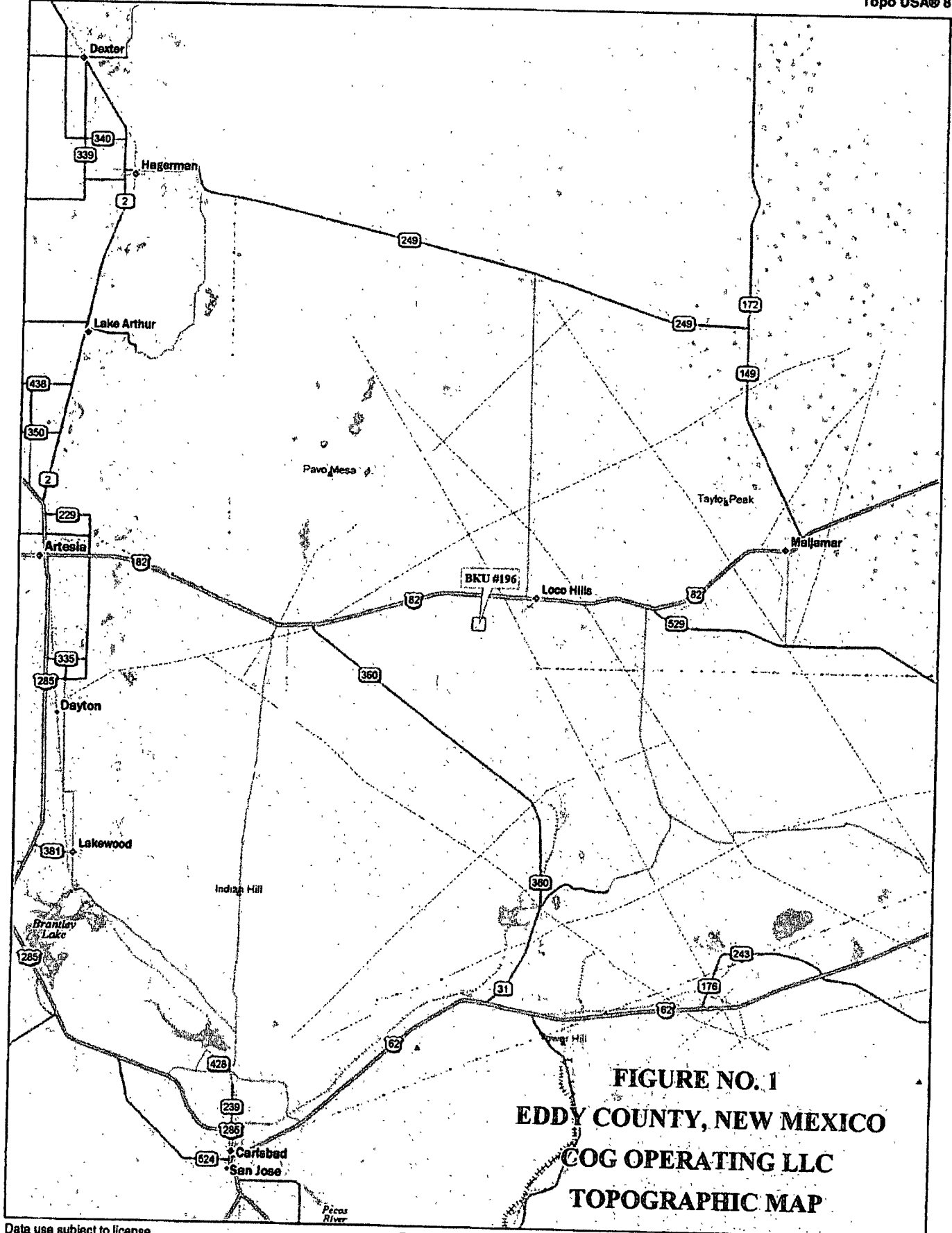
Respectfully submitted,
TETRA TECH



Ike Tavaréz
Senior Project Manager

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

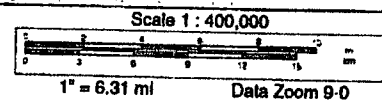
Figures

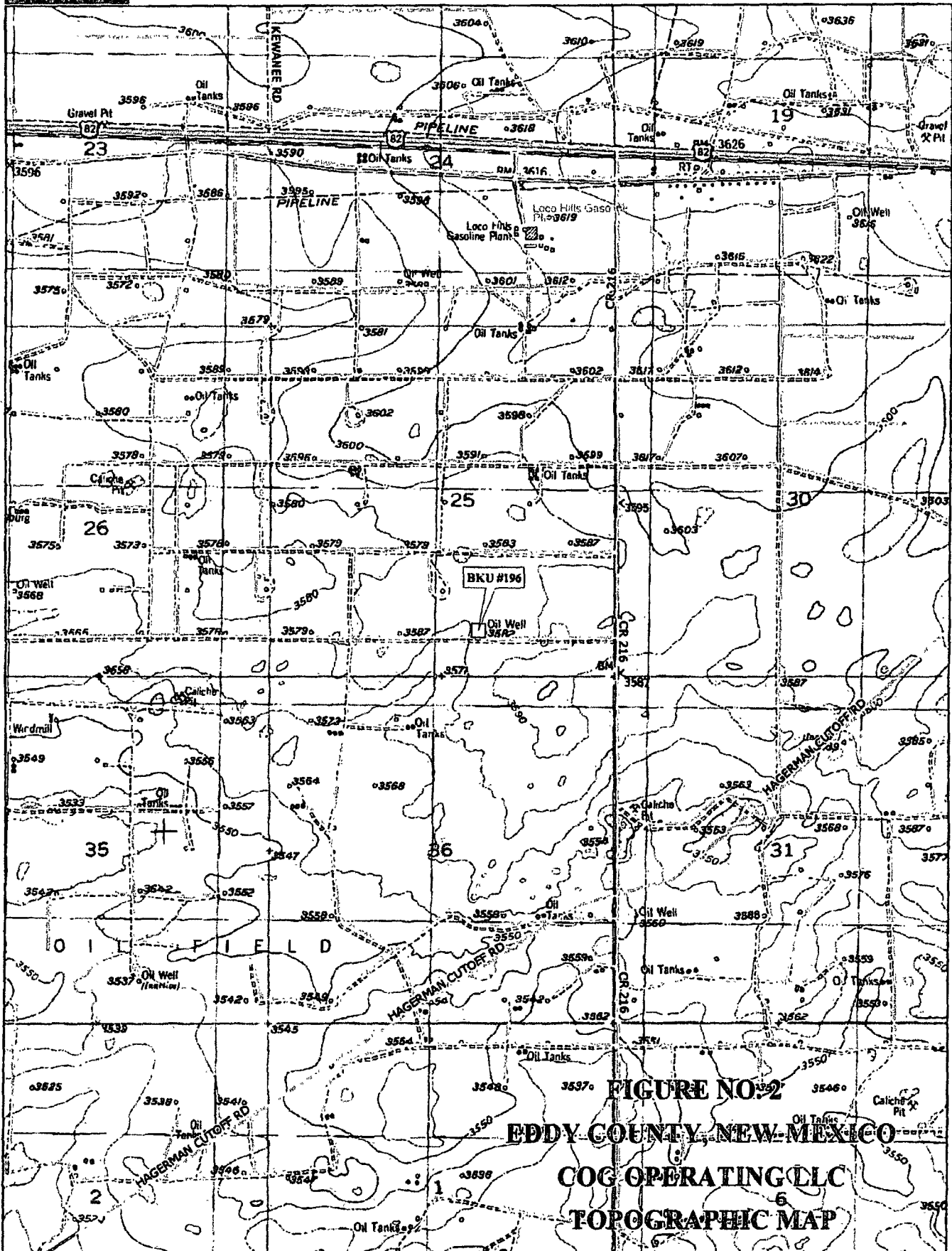


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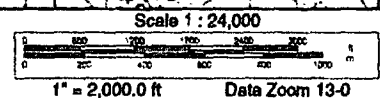


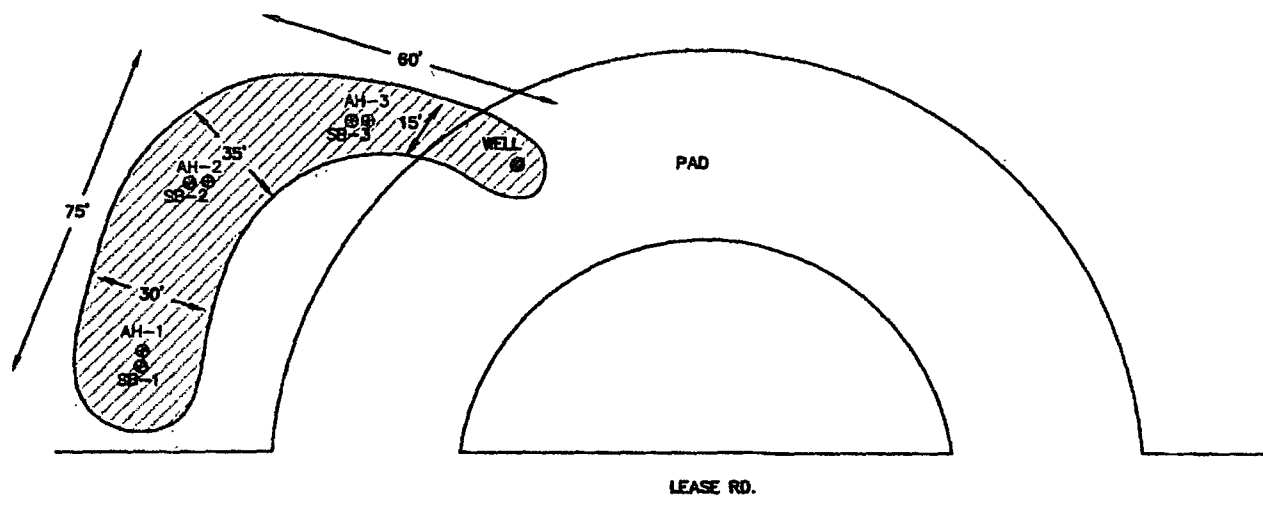


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- ☐ SPILL AREA
- AUGER HOLE LOCATIONS
- SOIL BORE LOCATIONS

NOT TO SCALE

DATE:
2/9/11
DRAWN BY:
JJ
FILE:
24-000-0400007
SHEET 110

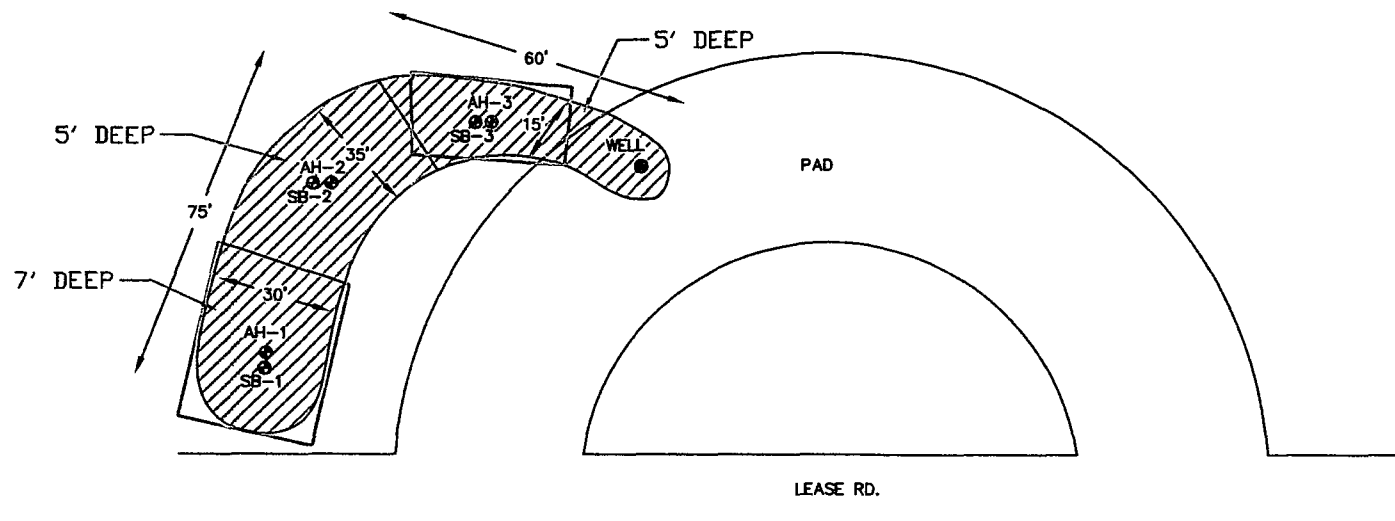
FIGURE NO. 3

EDDY COUNTY, NEW MEXICO

COG OPERATING LLC

BKU #198

TETRA TECH, INC.
MIDLAND, TEXAS



- ☒ EXCAVATED DEPTHS
- ☐ LINER INSTALLATION
- ☒ AUGER HOLE LOCATIONS
- ☒ SOIL BORE LOCATIONS

NOT TO SCALE

DATE:
10/13/2011
DWN. BY:
JM
FILE:
H:\COG\6400827
BKU #196

FIGURE NO. 4

EDDY COUNTY, NEW MEXICO

COG OPERATING LLC

BKU #196
EXCAVATION AREA & DEPTHS

TETRA TECH, INC.
MIDLAND, TEXAS

Tables

EDDY COUNTY, NEW MEXICO

[illegible]

Table 1
COG Operating LLC.
BIRCH KEELY UNIT #196
EDDY COUNTY, NEW MEXICO

| Sample ID | Sample Date | Sample Depth (ft) | 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 | 3/2/2011 | 0-1' | | X | <2.00 | <50.0 | <50.0 | <0.0200 | <0.0200 | <0.0200 | <0.0200 | 1,590 |
| | " | 1-1.5' | | X | | | | | | | | <200 |
| | " | 2-2.5' | | X | | | | | | | | <200 |
| | " | 3-3.5' | | X | | | | | | | | 1,230 |
| SB-3 | 5/6/2011 | 0-1' | | X | | | | | | | | 1,730 |
| | " | 3' | | X | | | | | | | | 6,240 |
| | " | 5' | | X | | | | | | | | 1,490 |
| | " | 7' | X | | - | - | - | - | - | - | - | 3,000 |
| | " | 10' | X | | - | - | - | - | - | - | - | 3,180 |
| | " | 15' | X | | - | - | - | - | - | - | - | 3,010 |
| | " | 20' | X | | - | - | - | - | - | - | - | 3,280 |
| | " | 25' | X | | - | - | - | - | - | - | - | 2,160 |
| | " | 30' | X | | - | - | - | - | - | - | - | 1,540 |
| | " | 40' | X | | - | - | - | - | - | - | - | 1,750 |
| | " | 50' | X | | - | - | - | - | - | - | - | 2,190 |
| SB-3 | 9/22/2011 | 40' | X | | - | - | - | - | - | - | - | 1,890 |
| | | 50' | X | | - | - | - | - | - | - | - | 2,510 |
| | | 60' | X | | - | - | - | - | - | - | - | 1,190 |
| | | 70' | X | | - | - | - | - | - | - | - | 465 |
| | | 80' | X | | - | - | - | - | - | - | - | 201 |
| | | 90' | X | | - | - | - | - | - | - | - | <200 |

(--) Not Analyzed

 Excavated Depths

 Liner Installed

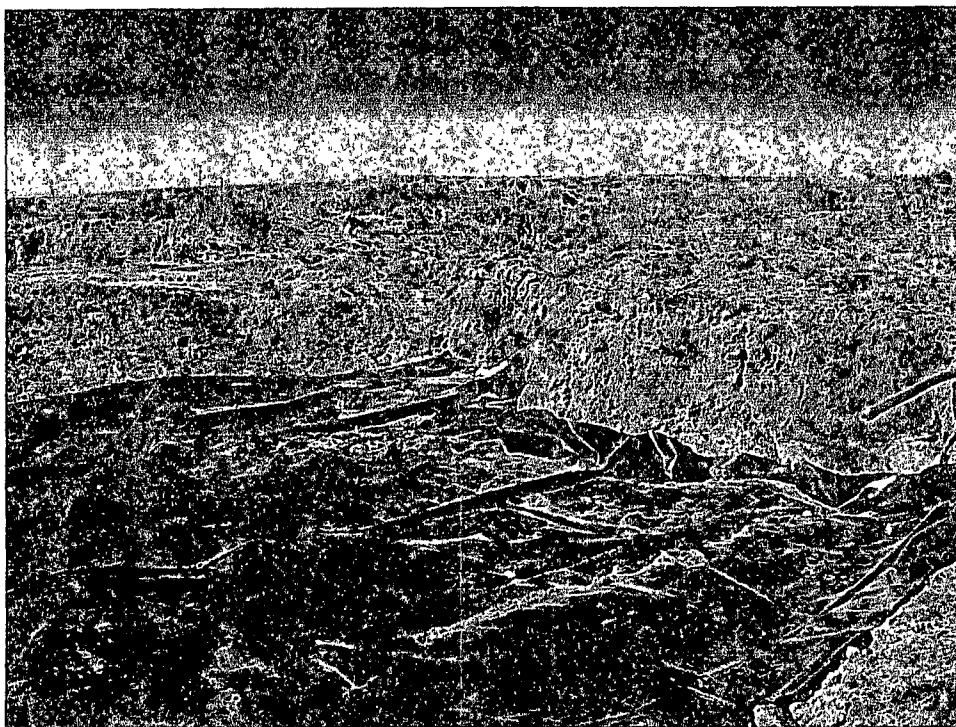
Photos

COG - Birch Keely #196

Eddy County, NM



1. View of Excavation and liner Installation



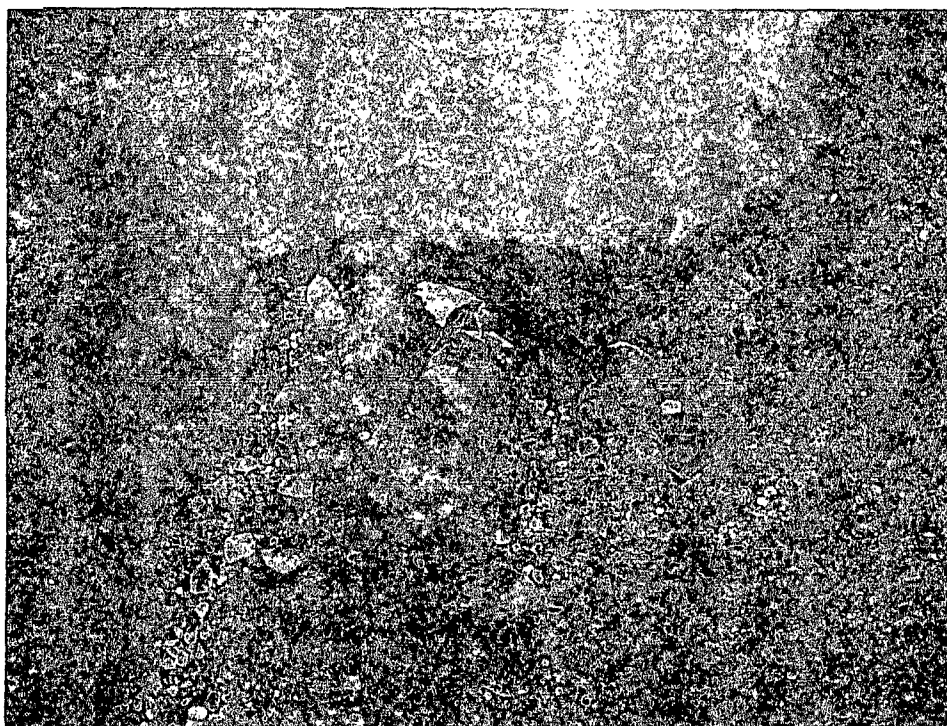
2. View of Excavation and Liner installation

COG - Birch Keely #196

Eddy County, NM



3. Area of AH-3 - bottom hole and liner



4. Area of AH-3 - bottom hole and liner

Appendix A

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

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

| | | | |
|-----------------|--|---------------|--------------|
| Name of Company | COG OPERATING LLC | Contact | Pat Ellis |
| Address | 550 W. Texas, Suite 100, Midland, TX 79701 | Telephone No. | 432-230-0077 |
| Facility Name | Birch Keely Unit #196 | Facility Type | Well |

| | | | | | |
|---------------|---------|---------------|--|------------------|--------------|
| Surface Owner | Federal | Mineral Owner | | Lease No. (API#) | 30-015-24976 |
|---------------|---------|---------------|--|------------------|--------------|

LOCATION OF RELEASE

| | | | | | | | | |
|-------------|---------|----------|-------|---------------|------------------|---------------|----------------|--------|
| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
| P | 25 | 17S | 29E | | | | | Eddy |

Latitude 32 47.987 Longitude 104 01.569

NATURE OF RELEASE

| | | | | | |
|-----------------------------|--|---|------------|----------------------------|----------------------|
| Type of Release | Produced water | Volume of Release | 20bbls | Volume Recovered | 18bbls |
| Source of Release | Steel flowline | Date and Hour of Occurrence | 02/06/2011 | Date and Hour of Discovery | 02/06/2011 6:00 a.m. |
| Was Immediate Notice Given? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Not Required | If YES, To Whom? | | | |
| By Whom? | | Date and Hour | | | |
| Was a Watercourse Reached? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | If YES, Volume Impacting the Watercourse. | | | |

If a Watercourse was Impacted, Describe Fully.*

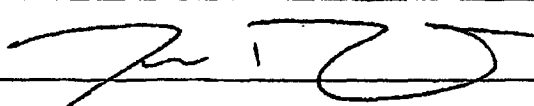
Describe Cause of Problem and Remedial Action Taken.*

The steel flowline developed a hole due to corrosion. The pipe has been replaced and returned into service.

Describe Area Affected and Cleanup Action Taken.*

Initially 20bbls of produced water was released from the steel flowline and we were able to recover 18bbls with a vacuum truck. From the source of the release, the water traveled 3' x 35' to a collecting area measuring 15' x 15' in the pasture. All standing fluid has been recovered. Tetra Tech will sample the spill site area to delineate any contamination from the release and we will present a remediation work plan to the NMOCD/BLM for approval prior to any significant remediation work.

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

| | | | |
|--|-------------------------|----------------------------------|-----------------------------------|
| Signature:  | | OIL CONSERVATION DIVISION | |
| Printed Name: Josh Russo | | Approved by District Supervisor: | |
| Title: HSE Coordinator | Approval Date: | Expiration Date: | |
| E-mail Address: jrusso@conchoresources.com | Conditions of Approval: | | Attached <input type="checkbox"/> |
| Date: 02/15/2011 | Phone: 432-212-2399 | | |

* Attach Additional Sheets If Necessary

District I
1625 N. French Dr., Hobbs, NM 88240
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1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

| | | | |
|-----------------|---|---------------|----------------|
| Name of Company | COG Operating LLC | Contact | Pat Ellis |
| Address | 550 W. Texas, Suite 1300 Midland, Texas 79701 | Telephone No. | (432) 230-0077 |
| Facility Name | Birch Keely #196 | Facility Type | Well |

| | | | | | |
|----------------|---------|---------------|--|-----------|------------------|
| Surface Owner: | Federal | Mineral Owner | | Lease No. | API 30-015-24976 |
|----------------|---------|---------------|--|-----------|------------------|

LOCATION OF RELEASE

| | | | | | | | | |
|-------------|---------|----------|-------|---------------|------------------|---------------|----------------|--------|
| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
| P | 25 | 17S | 29E | | | | | Eddy |

Latitude N 32 47.987 Longitude W 104 01.569

NATURE OF RELEASE

| | | |
|---|---|--|
| Type of Release: Produced water | Volume of Release 20 bbls | Volume Recovered 18 bbls |
| Source of Release: Steel Flow line | Date and Hour of Occurrence 2/6/11 | Date and Hour of Discovery 2/6/11 6:00 a.m. |
| Was Immediate Notice Given? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Not Required | If YES, To Whom? | |
| By Whom? | Date and Hour | |
| Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | If YES, Volume Impacting the Watercourse. | |

If a Watercourse was Impacted, Describe Fully.*

N/A

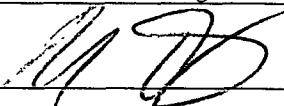
Describe Cause of Problem and Remedial Action Taken.*

The steel flow line developed a hole due to corrosion. The pipe has been replaced and returned into service.

Describe Area Affected and Cleanup Action Taken.*

Tetra Tech inspected and assessed the spill area for extents. A work plan was prepared and submitted to NMOCD for approval. Soils exceeding the RRAL were removed and transported to proper disposal. Two areas (AH-1 and AH-3) were capped with 40 mil liner. Once excavated to the appropriate depths, the excavation was backfilled with clean soil. Tetra Tech prepared closure report and submitted to NMOCD for review.

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

| | | | |
|--|--|----------------------------------|-----------------------------------|
| Signature:  | | <u>OIL CONSERVATION DIVISION</u> | |
| Printed Name: Ike Tavarez (agent for COG) | | Approved by District Supervisor: | |
| Title: Project Manager | | Approval Date: | Expiration Date: |
| E-mail Address: ike.tavarez@tetrattech.com | | Conditions of Approval: | Attached <input type="checkbox"/> |
| Date: 1-10-12 Phone: (432) 682-4559 | | | |

Attach Additional Sheets If Necessary

Appendix B

Water Well Data
Average Depth to Groundwater (ft)
COG - Birch Keely Unit #196
Eddy County, New Mexico

| 16 South | | | 28 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 | | | 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 |

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

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





| 17 South | | | 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 |

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

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

-  New Mexico State Engineers Well Reports
-  USGS Well Reports
-  Geology and Groundwater Conditions in Southern Eddy County, NM
-  NMOCD - Groundwater Data

Appendix C

Summary Report

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

Report Date: March 17, 2011

Work Order: 11030238

Project Location: Eddy County, NM
Project Name: Birch Keely Unit #196

| Sample | Description | Matrix | Date Taken | Time Taken | Date Received |
|--------|-------------|--------|------------|------------|---------------|
| 259350 | AH-1 0-1' | soil | 2011-03-02 | 00:00 | 2011-03-02 |
| 259351 | AH-1 1-1.5' | soil | 2011-03-02 | 00:00 | 2011-03-02 |
| 259352 | AH-1 2-2.5' | soil | 2011-03-02 | 00:00 | 2011-03-02 |
| 259353 | AH-2 0-1' | soil | 2011-03-02 | 00:00 | 2011-03-02 |
| 259354 | AH-2 1-1.5' | soil | 2011-03-02 | 00:00 | 2011-03-02 |
| 259355 | AH-3 0-1' | soil | 2011-03-02 | 00:00 | 2011-03-02 |
| 259356 | AH-3 1-1.5' | soil | 2011-03-02 | 00:00 | 2011-03-02 |
| 259357 | AH-3 2-2.5' | soil | 2011-03-02 | 00:00 | 2011-03-02 |
| 259358 | AH-3 3-3.5' | soil | 2011-03-02 | 00:00 | 2011-03-02 |

| Sample - Field Code | BTEX | | | | TPH DRO - NEW | TPH GRO |
|---------------------|--------------------|--------------------|-------------------------|-------------------|----------------|----------------|
| | Benzene (mg/Kg) | Toluene (mg/Kg) | Ethylbenzene (mg/Kg) | Xylene (mg/Kg) | DRO (mg/Kg) | GRO (mg/Kg) |
| 259350 - AH-1 0-1' | <0.0200 | 0.222 | 0.204 | 0.438 | 97.0 | <2.00 |
| 259353 - AH-2 0-1' | <0.0200 | <0.0200 | <0.0200 | <0.0200 | <50.0 | <2.00 |
| 259355 - AH-3 0-1' | <0.0200 | <0.0200 | <0.0200 | <0.0200 | <50.0 | <2.00 |

Sample: 259350 - AH-1 0-1'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|------|
| Chloride | | 3900 | mg/Kg | 4.00 |

Sample: 259351 - AH-1 1-1.5'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|------|
| Chloride | | 10500 | mg/Kg | 4.00 |

Sample: 259352 - AH-1 2-2.5'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|------|
| Chloride | | 15600 | mg/Kg | 4.00 |

Sample: 259353 - AH-2 0-1'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|------|
| Chloride | | 3110 | mg/Kg | 4.00 |

Sample: 259354 - AH-2 1-1.5'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|------|
| Chloride | | 861 | mg/Kg | 4.00 |

Sample: 259355 - AH-3 0-1'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|------|
| Chloride | | 1590 | mg/Kg | 4.00 |

Sample: 259356 - AH-3 1-1.5'

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

Sample: 259357 - AH-3 2-2.5'

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

Sample: 259358 - AH-3 3-3.5'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|------|
| Chloride | | 1230 | mg/Kg | 4.00 |

Summary Report

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

Report Date: May 19, 2011

Work Order: 11051002



Project Location: Eddy Co., NM
Project Name: COG/Burch Keely Unit #197

| Sample | Description | Matrix | Date Taken | Time Taken | Date Received |
|--------|-------------|--------|------------|------------|---------------|
| 265956 | SB-1 0-1' | soil | 2011-05-06 | 00:00 | 2011-05-09 |
| 265957 | SB-1 3' | soil | 2011-05-06 | 00:00 | 2011-05-09 |
| 265958 | SB-1 5' | soil | 2011-05-06 | 00:00 | 2011-05-09 |
| 265959 | SB-1 7' | soil | 2011-05-06 | 00:00 | 2011-05-09 |
| 265960 | SB-1 10' | soil | 2011-05-06 | 00:00 | 2011-05-09 |
| 265961 | SB-1 15' | soil | 2011-05-06 | 00:00 | 2011-05-09 |
| 265962 | SB-1 20' | soil | 2011-05-06 | 00:00 | 2011-05-09 |
| 265963 | SB-1 25' | soil | 2011-05-06 | 00:00 | 2011-05-09 |
| 265964 | SB-1 30' | soil | 2011-05-06 | 00:00 | 2011-05-09 |
| 265965 | SB-1 40' | soil | 2011-05-06 | 00:00 | 2011-05-09 |
| 265966 | SB-1 50' | soil | 2011-05-06 | 00:00 | 2011-05-09 |
| 265967 | SB-2 0-1' | soil | 2011-05-06 | 00:00 | 2011-05-09 |
| 265968 | SB-2 3' | soil | 2011-05-06 | 00:00 | 2011-05-09 |
| 265969 | SB-2 5' | soil | 2011-05-06 | 00:00 | 2011-05-09 |
| 265970 | SB-2 7' | soil | 2011-05-06 | 00:00 | 2011-05-09 |
| 265971 | SB-2 10' | soil | 2011-05-06 | 00:00 | 2011-05-09 |
| 265972 | SB-2 15' | soil | 2011-05-06 | 00:00 | 2011-05-09 |
| 265973 | SB-2 20' | soil | 2011-05-06 | 00:00 | 2011-05-09 |
| 265974 | SB-2 25' | soil | 2011-05-06 | 00:00 | 2011-05-09 |
| 265975 | SB-2 30' | soil | 2011-05-06 | 00:00 | 2011-05-09 |
| 265976 | SB-2 40' | soil | 2011-05-06 | 00:00 | 2011-05-09 |
| 265977 | SB-2 50' | soil | 2011-05-06 | 00:00 | 2011-05-09 |
| 265978 | SB-2 60' | soil | 2011-05-06 | 00:00 | 2011-05-09 |
| 265979 | SB-3 0-1' | soil | 2011-05-06 | 00:00 | 2011-05-09 |
| 265980 | SB-3 3' | soil | 2011-05-06 | 00:00 | 2011-05-09 |
| 265981 | SB-3 5' | soil | 2011-05-06 | 00:00 | 2011-05-09 |
| 265982 | SB-3 7' | soil | 2011-05-06 | 00:00 | 2011-05-09 |
| 265983 | SB-3 10' | soil | 2011-05-06 | 00:00 | 2011-05-09 |
| 265984 | SB-3 15' | soil | 2011-05-06 | 00:00 | 2011-05-09 |
| 265985 | SB-3 20' | soil | 2011-05-06 | 00:00 | 2011-05-09 |
| 265986 | SB-3 25' | soil | 2011-05-06 | 00:00 | 2011-05-09 |

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This is only a summary. Please, refer to the complete report package for quality control data.

| Sample | Description | Matrix | Date Taken | Time Taken | Date Received |
|--------|-------------|--------|------------|------------|---------------|
| 265987 | SB-3 30' | soil | 2011-05-06 | 00:00 | 2011-05-09 |
| 265988 | SB-3 40' | soil | 2011-05-06 | 00:00 | 2011-05-09 |
| 265989 | SB-3 50' | soil | 2011-05-06 | 00:00 | 2011-05-09 |

Sample: 265956 - SB-1 0-1'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 4180 | mg/Kg | 4 |

Sample: 265957 - SB-1 3'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 12600 | mg/Kg | 4 |

Sample: 265958 - SB-1 5'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 8730 | mg/Kg | 4 |

Sample: 265959 - SB-1 7'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 2470 | mg/Kg | 4 |

Sample: 265960 - SB-1 10'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 1360 | mg/Kg | 4 |

Sample: 265961 - SB-1 15'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 1160 | mg/Kg | 4 |

Sample: 265962 - SB-1 20'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 1750 | mg/Kg | 4 |

Sample: 265963 - SB-1 25'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 2560 | mg/Kg | 4 |

Sample: 265964 - SB-1 30'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 862 | mg/Kg | 4 |

Sample: 265965 - SB-1 40'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 201 | mg/Kg | 4 |

Sample: 265966 - SB-1 50'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | <200 | mg/Kg | 4 |

Sample: 265967 - SB-2 0-1'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 1630 | mg/Kg | 4 |

Sample: 265968 - SB-2 3'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 5100 | mg/Kg | 4 |

Sample: 265969 - SB-2 5'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 736 | mg/Kg | 4 |

Report Date: May 19, 2011

Work Order: 11051002

Page Number: 4 of 6

Sample: 265970 - SB-2 7'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 518 | mg/Kg | 4 |

Sample: 265971 - SB-2 10'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 670 | mg/Kg | 4 |

Sample: 265972 - SB-2 15'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 381 | mg/Kg | 4 |

Sample: 265973 - SB-2 20'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 599 | mg/Kg | 4 |

Sample: 265974 - SB-2 25'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 676 | mg/Kg | 4 |

Sample: 265975 - SB-2 30'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | <200 | mg/Kg | 4 |

Sample: 265976 - SB-2 40'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 288 | mg/Kg | 4 |

Sample: 265977 - SB-2 50'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 516 | mg/Kg | 4 |

Sample: 265978 - SB-2 60'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 261 | mg/Kg | 4 |

Sample: 265979 - SB-3 0-1'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 1730 | mg/Kg | 4 |

Sample: 265980 - SB-3 3'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 6240 | mg/Kg | 4 |

Sample: 265981 - SB-3 5'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 1490 | mg/Kg | 4 |

Sample: 265982 - SB-3 7'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 3000 | mg/Kg | 4 |

Sample: 265983 - SB-3 10'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 3180 | mg/Kg | 4 |

Sample: 265984 - SB-3 15'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 3010 | mg/Kg | 4 |

Sample: 265985 - SB-3 20'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 3280 | mg/Kg | 4 |

Sample: 265986 - SB-3 25'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 2160 | mg/Kg | 4 |

Sample: 265987 - SB-3 30'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 1540 | mg/Kg | 4 |

Sample: 265988 - SB-3 40'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 1750 | mg/Kg | 4 |

Sample: 265989 - SB-3 50'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 2190 | mg/Kg | 4 |

Summary Report

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

Report Date: October 6, 2011

Work Order: 11092630



Project Location: Eddy Co., NM
Project Name: COG/Burch Keely Unit #197
Project Number: 114-6400827

| Sample | Description | Matrix | Date Taken | Time Taken | Date Received |
|--------|-------------|--------|------------|------------|---------------|
| 278361 | BH-3 40' | soil | 2011-09-22 | 00:00 | 2011-09-26 |
| 278362 | BH-3 50' | soil | 2011-09-22 | 00:00 | 2011-09-26 |
| 278363 | BH-3 60' | soil | 2011-09-22 | 00:00 | 2011-09-26 |
| 278364 | BH-3 70' | soil | 2011-09-22 | 00:00 | 2011-09-26 |
| 278365 | BH-3 80' | soil | 2011-09-22 | 00:00 | 2011-09-26 |
| 278366 | BH-3 90' | soil | 2011-09-22 | 00:00 | 2011-09-26 |

Sample: 278361 - BH-3 40'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 1890 | mg/Kg | 4 |

Sample: 278362 - BH-3 50'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 2510 | mg/Kg | 4 |

Sample: 278363 - BH-3 60'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 1190 | mg/Kg | 4 |

Sample: 278364 - BH-3 70'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 465 | mg/Kg | 4 |

Sample: 278365 - BH-3 80'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 201 | mg/Kg | 4 |

Sample: 278366 - BH-3 90'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | <200 | mg/Kg | 4 |

Summary Report

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

Report Date: January 9, 2012

Work Order: 11122919



Project Location: Eddy Co. NM
Project Name: Birch Keely Unit #196
Project Number: 114-6400827

| Sample | Description | Matrix | Date Taken | Time Taken | Date Received |
|--------|-------------------|--------|------------|------------|---------------|
| 285510 | CS-1 North (SB-1) | soil | 2011-12-15 | 00:00 | 2011-12-29 |
| 285511 | CS-1 South (SB-1) | soil | 2011-12-15 | 00:00 | 2011-12-29 |
| 285512 | CS-1 West (SB-1) | soil | 2011-12-15 | 00:00 | 2011-12-29 |
| 285513 | CS-1 BH 7' (SB-1) | soil | 2011-12-15 | 00:00 | 2011-12-29 |
| 285514 | CS-2 North (SB-2) | soil | 2011-12-21 | 00:00 | 2011-12-29 |
| 285515 | CS-2 South (SB-2) | soil | 2011-12-21 | 00:00 | 2011-12-29 |
| 285516 | CS-2 BH 5' (SB-2) | soil | 2011-12-21 | 00:00 | 2011-12-29 |

Sample: 285510 - CS-1 North (SB-1)

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | <200 | mg/Kg | 4 |

Sample: 285511 - CS-1 South (SB-1)

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | <200 | mg/Kg | 4 |

Sample: 285512 - CS-1 West (SB-1)

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | <200 | mg/Kg | 4 |

Sample: 285513 - CS-1 BH 7'(SB-1)

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 278 | mg/Kg | 4 |

Sample: 285514 - CS-2 North (SB-2)

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | <200 | mg/Kg | 4 |

Sample: 285515 - CS-2 South (SB-2)

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 574 | mg/Kg | 4 |

Sample: 285516 - CS-2 BH 5' (SB-2)

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 570 | mg/Kg | 4 |



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E-Mail lab@traceanalysis.com

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

Analytical and Quality Control Report (Corrected Report)

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

Report Date: January 9, 2012

Work Order: 11122919



Project Location: Eddy Co. NM
Project Name: Birch Keely Unit #196
Project Number: 114-6400827

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 |
|--------|-------------------|--------|------------|------------|---------------|
| 285510 | CS-1 North (SB-1) | soil | 2011-12-15 | 00:00 | 2011-12-29 |
| 285511 | CS-1 South (SB-1) | soil | 2011-12-15 | 00:00 | 2011-12-29 |
| 285512 | CS-1 West (SB-1) | soil | 2011-12-15 | 00:00 | 2011-12-29 |
| 285513 | CS-1 BH 7' (SB-1) | soil | 2011-12-15 | 00:00 | 2011-12-29 |
| 285514 | CS-2 North (SB-2) | soil | 2011-12-21 | 00:00 | 2011-12-29 |
| 285515 | CS-2 South (SB-2) | soil | 2011-12-21 | 00:00 | 2011-12-29 |
| 285516 | CS-2 BH 5' (SB-2) | soil | 2011-12-21 | 00:00 | 2011-12-29 |

Report Corrections (Work Order 11122919)

- Corrected project number and project name. 1-9-12

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.

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

TraceAnalysis, Inc.

A handwritten signature in black ink that reads "Michael Abel". The signature is written in a cursive style with a large, stylized 'M' and 'A'.

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

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Case Narrative

Samples for project Birch Keely Unit #196 were received by TraceAnalysis, Inc. on 2011-12-29 and assigned to work order 11122919. Samples for work order 11122919 were received intact at a temperature of 4.0 C.

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

| Test | Method | Prep Batch | Prep Date | QC Batch | Analysis Date |
|----------------------|--------------|---------------|---------------------|-------------|---------------------|
| Chloride (Titration) | SM 4500-Cl B | 74350 | 2012-01-03 at 09:57 | 87599 | 2012-01-04 at 14:00 |

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 11122919 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

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

Report Date: January 9, 2012
114-6400827

Work Order: 11122919
Birch Keely Unit #196

Page Number: 5 of 11
Eddy Co. NM

Analytical Report

Sample: 285510 - CS-1 North (SB-1)

| | | | | | |
|-------------|----------------------|---------------------|--------------|--------------|-----|
| Laboratory: | Midland | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| Analysis: | Chloride (Titration) | Date Analyzed: | 2012-01-04 | Analyzed By: | AR |
| QC Batch: | 87599 | Sample Preparation: | 2012-01-03 | Prepared By: | AR |
| Prep Batch: | 74350 | | | | |

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

Sample: 285511 - CS-1 South (SB-1)

| | | | | | |
|-------------|----------------------|---------------------|--------------|--------------|-----|
| Laboratory: | Midland | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| Analysis: | Chloride (Titration) | Date Analyzed: | 2012-01-04 | Analyzed By: | AR |
| QC Batch: | 87599 | Sample Preparation: | 2012-01-03 | Prepared By: | AR |
| Prep Batch: | 74350 | | | | |

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

Sample: 285512 - CS-1 West (SB-1)

| | | | | | |
|-------------|----------------------|---------------------|--------------|--------------|-----|
| Laboratory: | Midland | Analytical Method: | SM 4500-Cl B | Prep Method: | N/A |
| Analysis: | Chloride (Titration) | Date Analyzed: | 2012-01-04 | Analyzed By: | AR |
| QC Batch: | 87599 | Sample Preparation: | 2012-01-03 | Prepared By: | AR |
| Prep Batch: | 74350 | | | | |

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

Report Date: January 9, 2012
114-6400827

Work Order: 11122919
Birch Keely Unit #196

Page Number: 6 of 11
Eddy Co. NM

Sample: 285513 - CS-1 BH 7'(SB-1)

| | | | |
|-------------|----------------------|---------------------|--------------|
| Laboratory: | Midland | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B |
| QC Batch: | 87599 | Date Analyzed: | 2012-01-04 |
| Prep Batch: | 74350 | Sample Preparation: | 2012-01-03 |
| | | Prep Method: | N/A |
| | | Analyzed By: | AR |
| | | Prepared By: | AR |

| Parameter | Flag | Cert | RL Result | Units | Dilution | RL |
|-----------|------|------|--------------|-------|----------|------|
| Chloride | | | 278 | mg/Kg | 50 | 4.00 |

Sample: 285514 - CS-2 North (SB-2)

| | | | |
|-------------|----------------------|---------------------|--------------|
| Laboratory: | Midland | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B |
| QC Batch: | 87599 | Date Analyzed: | 2012-01-04 |
| Prep Batch: | 74350 | Sample Preparation: | 2012-01-03 |
| | | Prep Method: | N/A |
| | | Analyzed By: | AR |
| | | Prepared By: | AR |

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

Sample: 285515 - CS-2 South (SB-2)

| | | | |
|-------------|----------------------|---------------------|--------------|
| Laboratory: | Midland | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B |
| QC Batch: | 87599 | Date Analyzed: | 2012-01-04 |
| Prep Batch: | 74350 | Sample Preparation: | 2012-01-03 |
| | | Prep Method: | N/A |
| | | Analyzed By: | AR |
| | | Prepared By: | AR |

| Parameter | Flag | Cert | RL Result | Units | Dilution | RL |
|-----------|------|------|--------------|-------|----------|------|
| Chloride | | | 574 | mg/Kg | 50 | 4.00 |

Sample: 285516 - CS-2 BH 5' (SB-2)

| | | | |
|-------------|----------------------|---------------------|--------------|
| Laboratory: | Midland | | |
| Analysis: | Chloride (Titration) | Analytical Method: | SM 4500-Cl B |
| QC Batch: | 87599 | Date Analyzed: | 2012-01-04 |
| Prep Batch: | 74350 | Sample Preparation: | 2012-01-03 |
| | | Prep Method: | N/A |
| | | Analyzed By: | AR |
| | | Prepared By: | AR |

Report Date: January 9, 2012
114-6400827

Work Order: 11122919
Birch Keely Unit #196

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Eddy Co. NM

| Parameter | Flag | Cert | RL Result | Units | Dilution | RL |
|-----------|------|------|--------------|-------|----------|------|
| Chloride | | | 570 | mg/Kg | 50 | 4.00 |

Report Date: January 9, 2012
114-6400827

Work Order: 11122919
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Method Blanks

Method Blank (1) QC Batch: 87599

QC Batch: 87599
Prep Batch: 74350

Date Analyzed: 2012-01-04
QC Preparation: 2012-01-03

Analyzed By: AR
Prepared By: AR

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

Report Date: January 9, 2012
114-6400827

Work Order: 11122919
Birch Keely Unit #196

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Eddy Co. NM

Laboratory Control Spikes

Laboratory Control Spike (LCS-1)

QC Batch: 87599
Prep Batch: 74350

Date Analyzed: 2012-01-04
QC Preparation: 2012-01-03

Analyzed By: AR
Prepared By: AR

| Param | F | C | LCS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|----------|---|---|---------------|-------|------|-----------------|------------------|------|---------------|
| Chloride | | | 95.4 | mg/Kg | 1 | 100 | <3.85 | 95 | 85 - 115 |

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

| Param | F | C | LCSD Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit | RPD | RPD Limit |
|----------|---|---|----------------|-------|------|-----------------|------------------|------|---------------|-----|--------------|
| Chloride | | | 102 | mg/Kg | 1 | 100 | <3.85 | 102 | 85 - 115 | 7 | 20 |

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

Matrix Spike (MS-1) Spiked Sample: 285516

QC Batch: 87599
Prep Batch: 74350

Date Analyzed: 2012-01-04
QC Preparation: 2012-01-03

Analyzed By: AR
Prepared By: AR

| Param | F | C | MS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|----------|---|---|--------------|-------|------|-----------------|------------------|------|---------------|
| Chloride | | | 10600 | mg/Kg | 100 | 10000 | 570 | 100 | 79.4 - 120.6 |

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

| Param | F | C | MSD Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit | RPD | RPD Limit |
|----------|---|---|---------------|-------|------|-----------------|------------------|------|---------------|-----|--------------|
| Chloride | | | 11000 | mg/Kg | 100 | 10000 | 570 | 104 | 79.4 - 120.6 | 4 | 20 |

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

Report Date: January 9, 2012
114-6400827

Work Order: 11122919
Birch Keely Unit #196

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Eddy Co. NM

Calibration Standards

Standard (ICV-1)

QC Batch: 87599

Date Analyzed: 2012-01-04

Analyzed By: AR

| Param | Flag | Cert | Units | ICVs True Conc. | ICVs Found Conc. | ICVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|----------|------|------|-------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| Chloride | | | mg/Kg | 100 | 99.5 | 100 | 85 - 115 | 2012-01-04 |

Standard (CCV-1)

QC Batch: 87599

Date Analyzed: 2012-01-04

Analyzed By: AR

| Param | Flag | Cert | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|----------|------|------|-------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| Chloride | | | mg/Kg | 100 | 101 | 101 | 85 - 115 | 2012-01-04 |

Appendix

Report Definitions

| Name | Definition |
|------|----------------------------|
| MDL | Method Detection Limit |
| SQL | Minimum Quantitation Limit |
| SDL | Sample Detection Limit |

Laboratory Certifications

| C | Certifying Authority | Certification Number | Laboratory Location |
|---|----------------------|----------------------|---------------------|
| - | NCTRCA | WFWB384444Y0909 | TraceAnalysis |
| - | DBE | VN 20657 | TraceAnalysis |
| - | HUB | 1752439743100-86536 | TraceAnalysis |
| - | WBE | 237019 | TraceAnalysis |

Standard Flags

| F | Description |
|-----|---|
| B | Analyte detected in the corresponding method blank above the method detection limit |
| H | Analyzed out of hold time |
| J | Estimated concentration |
| Jb | The analyte is positively identified and the value is approximated between the SDL and SQL. Sample contains less than ten times the concentration found in the method blank. The result should be considered non-detect to the SDL. |
| Je | Estimated concentration exceeding calibration range. |
| Qc | Calibration check outside of laboratory limits. |
| Qr | RPD outside of laboratory limits |
| Qs | Spike recovery outside of laboratory limits. |
| Qsr | Surrogate recovery outside of laboratory limits. |
| U | The analyte is not detected above the SDL |

Attachments

The scanned attachments will follow this page.
Please note, each attachment may consist of more than one page.

111 22919

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:

OF:

 ANALYSIS REQUEST
 (Circle or Specify Method No.)

CLIENT NAME:

SITE MANAGER:

PROJECT NO.:

PROJECT NAME:

LAB I.D.
NUMBER

DATE

TIME

MATRIX

COMP

GRAB

SAMPLE IDENTIFICATION

NUMBER OF CONTAINERS

FILTERED (Y/N)

HCL

HNO3

ICE

NONE

PRESERVATIVE
METHOD

BTEX 8021B

TPH 8015 MOD. TX1005 (Ext. to C35)

PAH 8270

HCRA Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Metals Ag As Ba Cd Cr Pb 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

RELINQUISHED BY: (Signature)

Date:

Time:

RECEIVED BY: (Signature)

Date:

Time:

SAMPLED BY: (Print & Initial)

Date:

Time:

RELINQUISHED BY: (Signature)

Date:

Time:

RECEIVED BY: (Signature)

Date:

Time:

SAMPLE SHIPPED BY: (Circle)

AIRBILL #:

RELINQUISHED BY: (Signature)

Date:

Time:

RECEIVED BY: (Signature)

Date:

Time:

TETRA TECH CONTACT PERSON:

OTHER:

RECEIVING LABORATORY:

RECEIVED BY: (Signature)

ADDRESS:

CITY:

STATE:

ZIP:

CONTACT:

PHONE:

DATE:

TIME:

SAMPLE CONDITION WHEN RECEIVED:

REMARKS:

TETRA TECH CONTACT PERSON:

Results by:

RUSH Charges
Authorized:

Yes No

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