

Leking, Geoffrey R, EMNRD

From: Leking, Geoffrey R, EMNRD
Sent: Friday, December 07, 2012 2:20 PM
To: 'Tavarez, Ike'
Cc: Joshua Russo; Michelle Mullins (MMullins@concho.com)
Subject: RE: COG - Magnum Pronto State Com #2 Tank Battery - Work Plan Approval Request

Ike

The work plan is approved per the responses provided in the email below. Thank you.

Geoffrey Leking
Environmental Specialist
NMOCD-Hobbs
1625 N. French Drive
Hobbs, NM 88240
Office: (575) 393-6161 Ext. 113
Cell: (575) 399-2990
email: geoffreyr.leking@state.nm.us

From: Tavarez, Ike [<mailto:Ike.Tavarez@tetrattech.com>]
Sent: Friday, December 07, 2012 12:26 PM
To: Leking, Geoffrey R, EMNRD
Cc: Joshua Russo; Michelle Mullins (MMullins@concho.com)
Subject: FW: COG - Magnum Pronto State Com #2 Tank Battery - Work Plan Approval Request

Geoffrey,

The responses you requested are listed below. Let me know if you need additional information, thanks

- 1) The area of AH-4 will be excavated to a depth of approximately 3.0' to 5.0' below surface to remove the impacted soil above the RRAL. Once excavated, the excavation will be left open until the lab results are evaluated. If additional excavation is required, the area will be excavated deeper and repeat the process until the soil exceeding the RRAL has been removed. The proposed excavation depth (3-5') shown on Figure 4 are estimated depths, based on the TPH (shown Table 1) declining with depth.
- 2) The area of AH-2 will require additional evaluation (trench sampling). The impacted soil encountered at 3-4' will be confirmed and attempt to define the vertical extent. Based on the evaluation, we will determine the most practicable remedial option for the area. To clarify: If the sampling data shows a small impacted area (hot spot) and a significant chloride drop at 5.0', the chloride impact is limited and does not appear to be an environmental concern (GW 500'). However, Tetra Tech will contact you to discuss the sampling results to approve any proposed action for this area.

Ike Tavarez
Tetra Tech

From: Leking, Geoffrey R, EMNRD [<mailto:GeoffreyR.Leking@state.nm.us>]
Sent: Thursday, December 06, 2012 10:36 AM
To: Tavarez, Ike
Cc: Pat Ellis; Joshua Russo; Grubbs, Robert; Michelle Mullins (MMullins@concho.com)
Subject: RE: COG - Magnum Pronto State Com #2 Tank Battery - Work Plan Approval Request

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- 1) Page 2, "Work Plan" section, Para. 1 – Please indicate that additional excavation will be performed at AH-4 if the confirmation sample at 3.0' displays TPH concentrations above RRALs. It is also noted that Figure 4 indicates that contamination/excavation may extend to 5.0'.
- 2) Page 3, "Work Plan" section, Para. 1 – Please clarify the sentence, ..."However, if the chloride impact at AH-2 is limited, based upon the depth of the know impact and depth to groundwater, this area may be left undisturbed.".

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From: Tavarez, Ike [<mailto:Ike.Tavarez@tetrattech.com>]
Sent: Wednesday, December 05, 2012 2:15 PM
To: Leking, Geoffrey R, EMNRD
Cc: Pat Ellis; Joshua Russo; Grubbs, Robert; Michelle Mullins (MMullins@concho.com)
Subject: FW: COG - Magnum Pronto State Com #2 Tank Battery - Work Plan Approval Request

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Please find the enclosed Work Plan for the above reference spill site located in Eddy County, New Mexico. The work plan includes the soil assessment and remedial recommendations for the spill. I will mail you a hard copy of the work plan for your files. Once approved, Tetra Tech will schedule the soil remediation and notify you prior to implementing the work plan. Please let me know if you need additional information or call me if you have any questions,

Ike Tavarez, PG | Senior Project Manager

Main: 432.682.4559 | Fax: 432.682.3946 | Cell: 432.425.3878

Ike.Tavarez@tetratech.com

Tetra Tech | Complex World, Clear Solutions™

1910 North Big Spring | Midland, TX 79705 | www.tetratech.com

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DEC 05 2012

SITE INFORMATION

HOBBS OCD

Report Type: Work Plan

RECEIVED

DEC 05 2012

General Site Information:

| | | | | | |
|-----------------------------|---|--------|------|--------------|----------|
| Site: | Magnum Pronto State Com #2 Tank Battery | | | | |
| Company: | COG Operating LLC | | | | |
| Section, Township and Range | Unit K | Sec 32 | T19S | R32E | RECEIVED |
| Lease Number: | API-30-025-38827 | | | | |
| County: | Lea County | | | | |
| GPS: | 32.61457° N | | | 103.79071° W | |
| Surface Owner: | State | | | | |
| Mineral Owner: | | | | | |
| Directions: | In between Carlsbad and Hobbs New Mexico at the intersection of CR 243 and CR 126, travel north on CR 126 for 3.3 miles, turn right onto lease road and travel 0.4 miles, turn right and travel 0.1 miles to location on right. | | | | |
| | GW @ 525' | | | | |

Release Data:

| | |
|--------------------------|-----------------------------|
| Date Released: | 7/26/2012 |
| Type Release: | Oil and Produced Water |
| Source of Contamination: | Water leg at heater treater |
| Fluid Released: | 130 bbls |
| Fluids Recovered: | 100 bbls |

Official Communication:

| | | |
|---------------|-----------------------------|-------------------------------|
| Name: | Pat Ellis | Thomas Franklin |
| 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 | tom.k.franklin@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 |

Jeffrey Sekins
 Environmental Specialist
 COMMENTS PROVIDED
 12/06/12
 NMOC-DIST 1



TETRA TECH

October 15, 2012

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

Re: Work Plan for the COG Operating LLC., Magnum Pronto State Com #2, Unit K, Section 32, Township 19 South, Range 32 East, Lea County, New Mexico.

Mr. Leking:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC. (COG) to assess a spill from the Magnum Pronto State Com #2 Tank Battery, Unit K, Section 32, Township 19 South, Range 32 East, Lea County, New Mexico (Site). The spill site coordinates are N 32.61457°, W 103.79071°. 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 July 26, 2012, and released approximately one hundred and thirty (130) barrels of oil and produced water from the water leg of the heater treater, with one hundred (100) barrels of standing fluids recovered. The spill is located in the pasture south of the tank battery measuring approximately 25' x 60'. The initial C-141 form is enclosed in Appendix A.

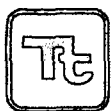
Groundwater

No water wells were listed within Section 32. According to the NMOCD groundwater map, the average depth to groundwater in this area is approximately 500' below surface. The average depth to groundwater map is included in Appendix B.

Tetra Tech

1910 North Big Spring, Midland TX 79705

Tel 332.682.4559 Fax 332.682.2346 www.tetrattech.com



Regulatory

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

Soil Assessment and Analytical Results

On September 5, 2012, Tetra Tech personnel inspected and sampled the spill area. Four (4) auger holes (AH-1 through AH-4) were installed using a stainless steel hand auger to assess the impacted soils. Selected 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, the area of AH-3 showed TPH and BTEX exceeding the RRAL at 0-1.0', but declined below the RRAL at 1.5' below surface. Auger hole (AH-4) showed all of the samples exceeding the TPH RRAL from surface to 2.5' below surface, with concentrations of 11,640 mg/kg at 0-1', 12,240 mg/kg at 1-1.5' and 6,670 mg/kg at 2-2.5'. The impacted soil was not vertically defined at this area. Deeper samples were not collected due to a dense caliche formation.

In addition, elevated chloride concentrations were detected in the deeper soils in the area of AH-2 at 3.0'-3.5' and 4.0'-4.5', with chloride concentrations of 2,780 mg/kg and 7,140 mg/kg, respectively. The chlorides were not vertically defined and the impact appears to be historical.

Work Plan

COG proposes to excavate the impacted soils to depths ranging from 1.0' to 3.0' below surface in order to remove the impacted soil above the RRAL. Once excavated, a confirmation sample will be collected in the area of AH-4 for TPH analysis.



TETRA TECH

In the area of AH-2, a backhoe trench will be installed to assess and attempt to vertically define the chloride impact. Based on the evaluation, the impacted soil may be excavated or capped. However, if the chloride impact at AH-2 is limited, based upon the depth of the known impact and depth to groundwater, this area may be left undisturbed. All of the excavated material will be transported offsite for proper disposal. Once final excavation depths are achieved, the site will be backfilled with clean material and brought to grade.

If the area of AH-2 shows a deeper chloride impact to the soils or the impact is not vertically defined, the spill area may be excavated to a depth of 4.0' below surface and capped with either a 40-mil liner or clay material and backfilled with clean soil. If necessary, Tetra Tech may then oversee the installation of a single borehole to define the extents of the chloride impact.

Due to the location of the spill, the proposed excavation depths or deeper excavation may not be achieved due to wall cave ins, limited access, oil and gas equipment, electrical, structures or lines which may not be feasible or practicable to be removed due to safety concerns. As such, Tetra Tech will excavate the soils to the maximum extent practicable. If the impacted soil is not accessible, the soil will be deferred until the abandonment of the facility.

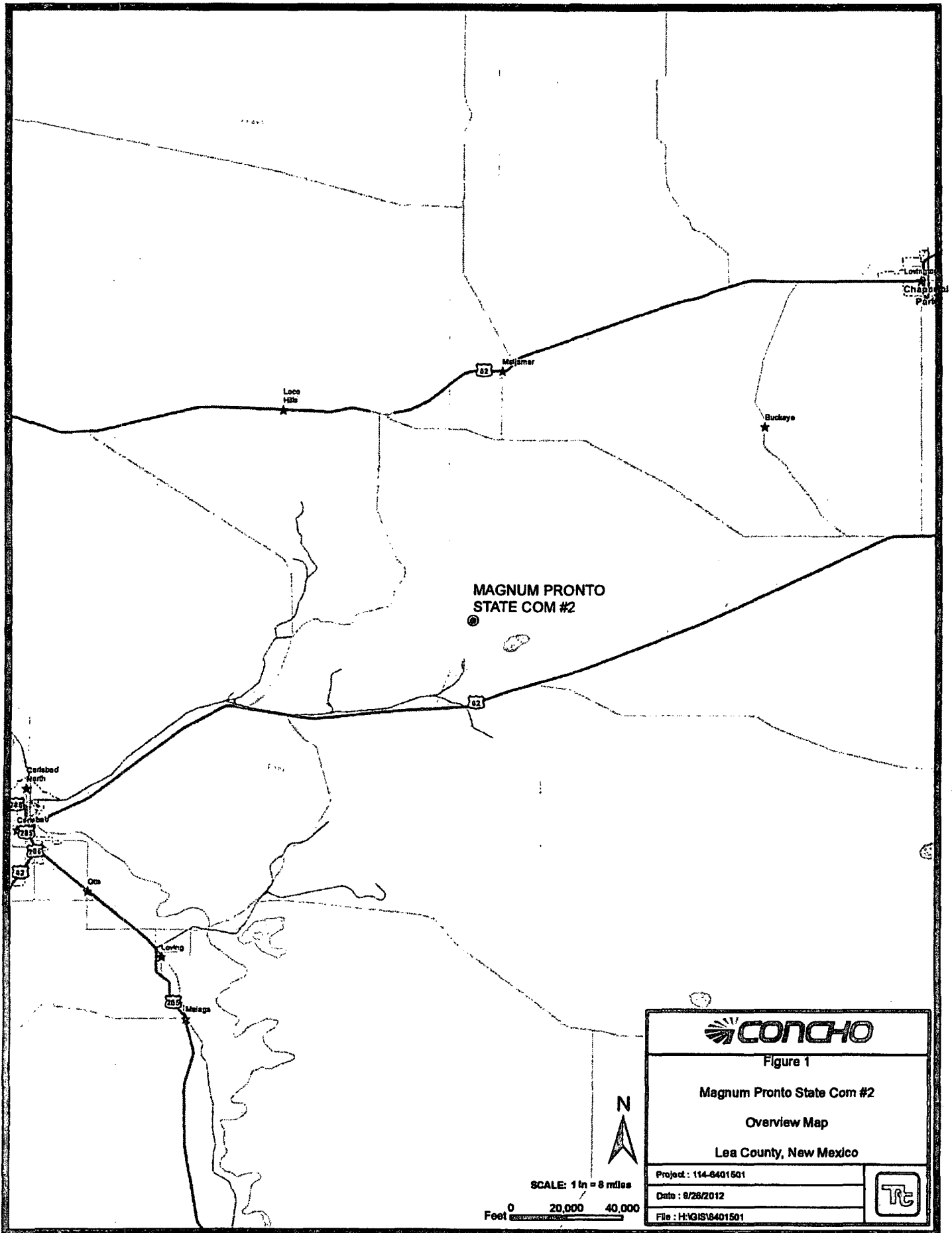
Upon completion, a final report will be submitted to the NMOCD. If you have any questions or comments concerning the assessment or the proposed remediation activities for this site, please call me at (432) 682-4559.

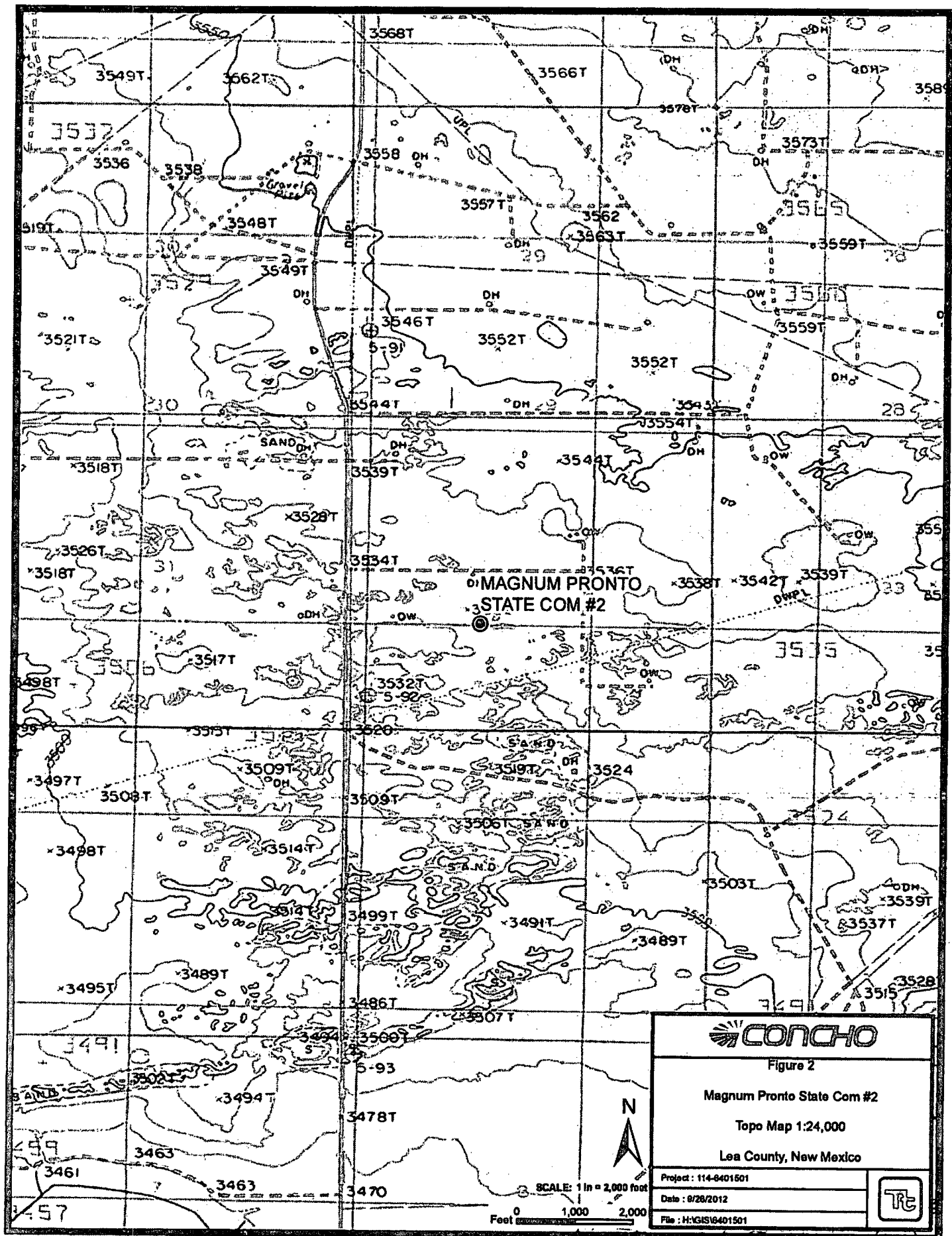
Respectfully submitted,
TETRA TECH

Ike Tavares, PG
Project Manager

cc: Pat Ellis – COG

Figures





CONCHO

Figure 2

Magnum Pronto State Com #2

Topo Map 1:24,000

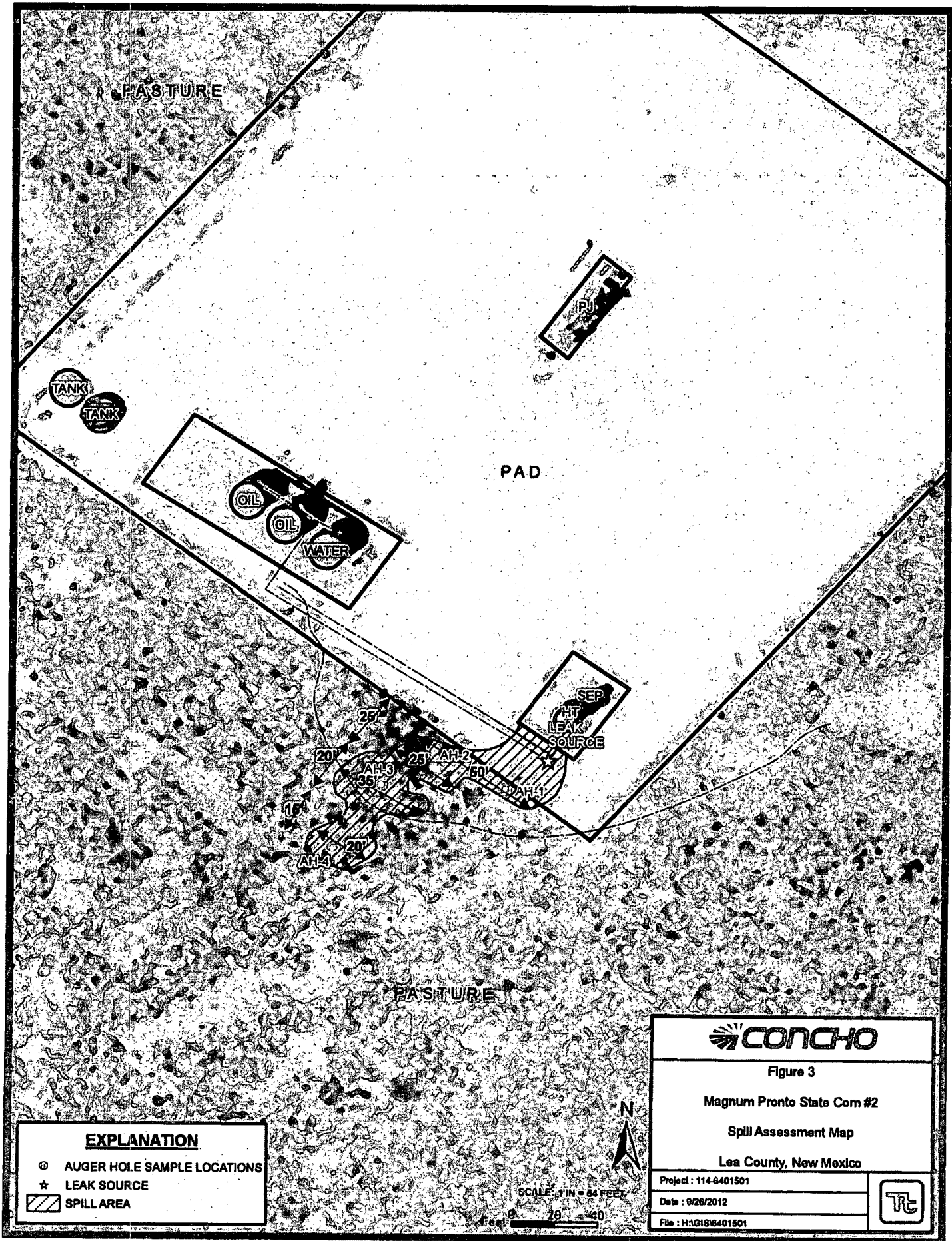
Lea County, New Mexico

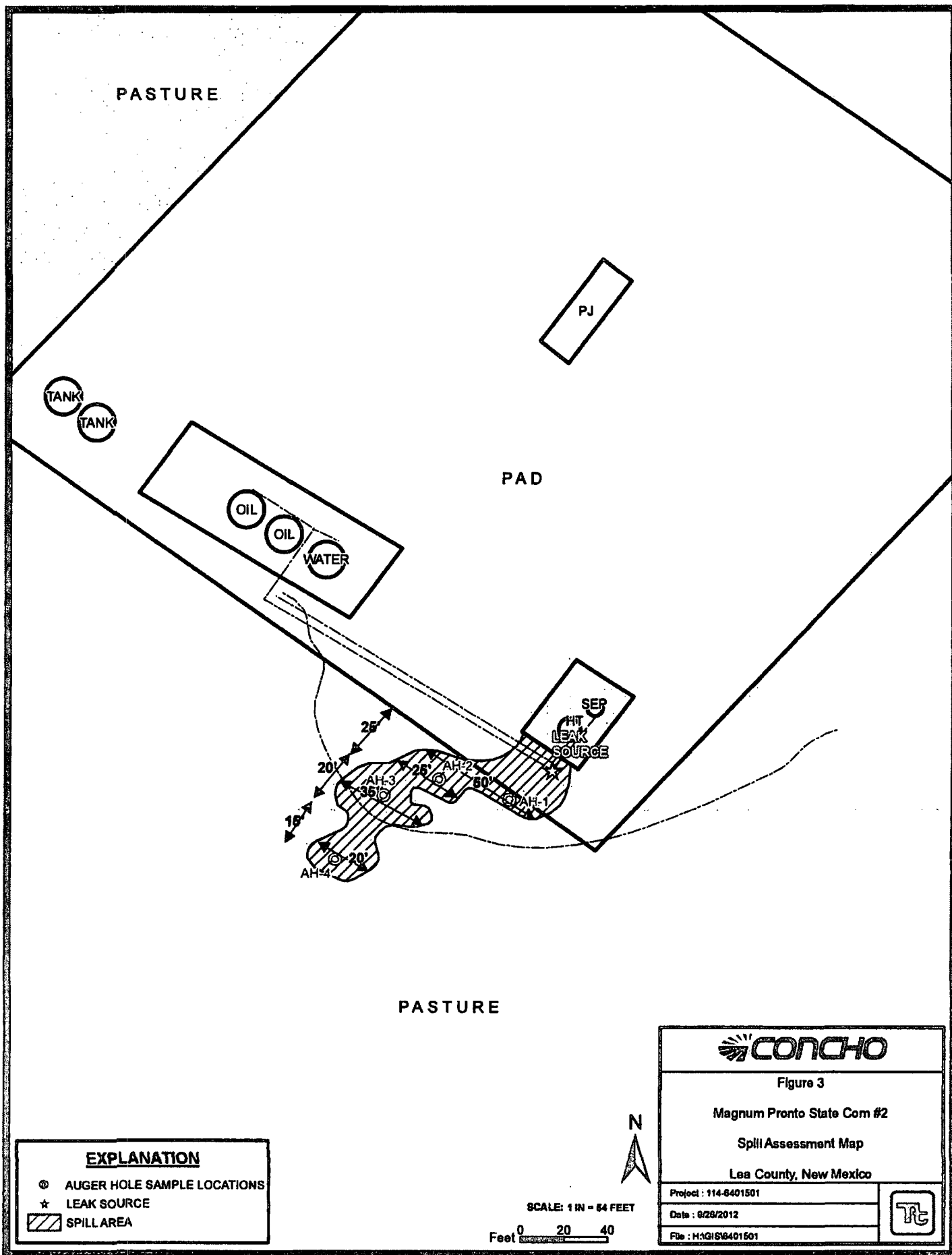
Project : 114-8401501

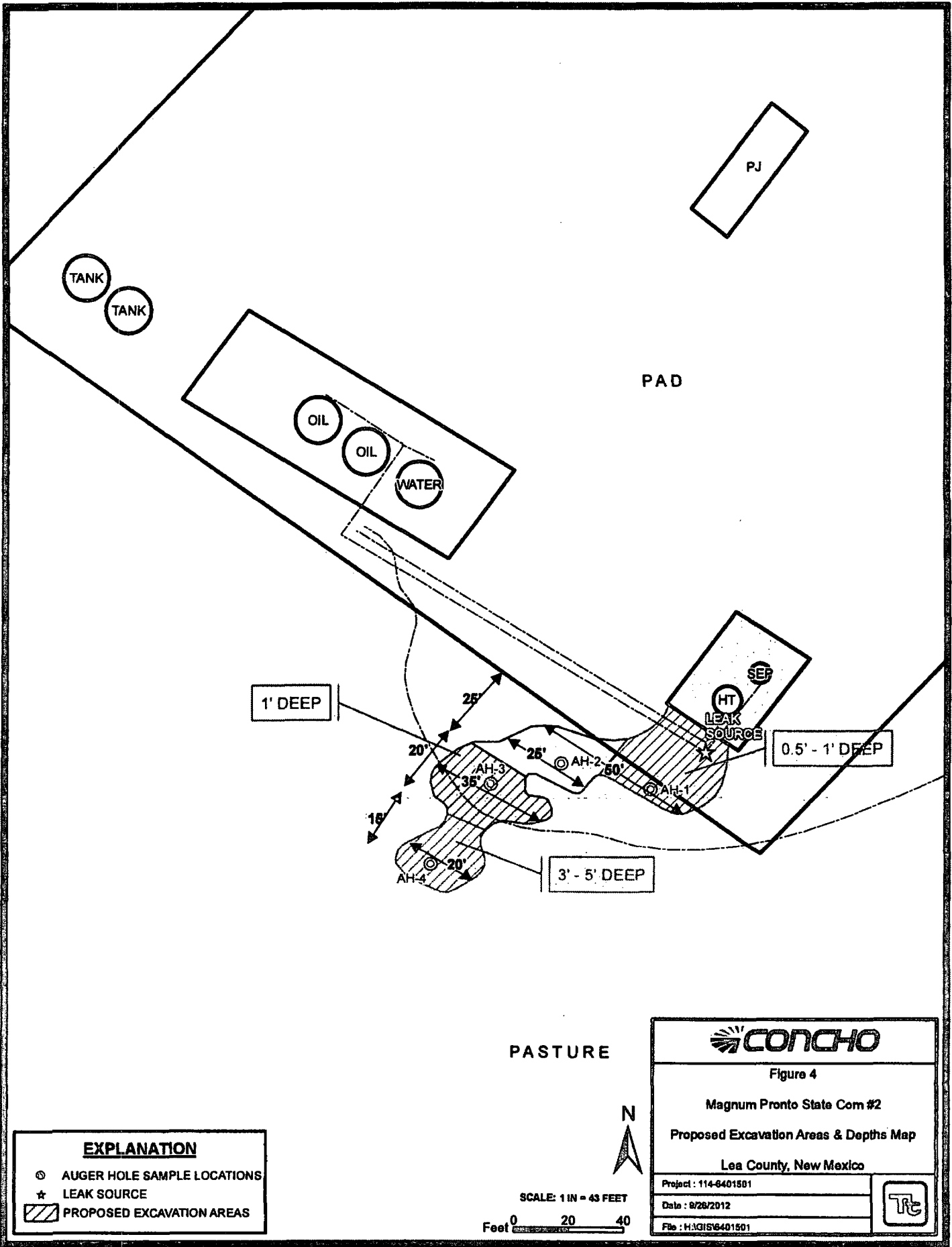
Date : 9/28/2012

File : H:\GIS\8401501









Tables

Table 1
COG Operating LLC.
Magnum Pronto State
Eddy County, New Mexico

| Sample ID | Sample Date | Sample Depth (ft) | Soil Status | | TPH (mg/kg) | | | Benzene (mg/kg) | Toluene (mg/kg) | Ethylbenzene (mg/kg) | Xylene (mg/kg) | Total BTEX (mg/kg) | Chloride (mg/kg) |
|-----------|-------------|-------------------|-------------|---------|-------------|-------|--------|-----------------|-----------------|----------------------|----------------|--------------------|------------------|
| | | | In-Situ | Removed | GRO | DRO | Total | | | | | | |
| AH-1 | 9/5/2012 | 0-1 | X | | 5.25 | <50.0 | 5.25 | <0.0200 | 0.131 | 0.0261 | 0.106 | 0.263 | 915 |
| | " | 1-1.5 | X | | - | - | - | - | - | - | - | - | 420 |
| | " | 2-2.5 | X | | - | - | - | - | - | - | - | - | <20.0 |
| | " | 3-3.5 | X | | - | - | - | - | - | - | - | - | <20.0 |
| | " | 4-4.5 | X | | - | - | - | - | - | - | - | - | <20.0 |
| AH-2 | 9/5/2012 | 0-1 | X | | 676 | <50.0 | 676 | <1.00 | 6.43 | <1.00 | 6.86 | 13.3 | 393 |
| | " | 1-1.5 | X | | - | - | - | - | - | - | - | - | 39.6 |
| | " | 2-2.5 | X | | - | - | - | - | - | - | - | - | 331 |
| | " | 3-3.5 | X | | - | - | - | - | - | - | - | - | 2,780 |
| | " | 4-4.5 | X | | - | - | - | - | - | - | - | - | 7,140 |
| AH-3 | 9/5/2012 | 0-1 | X | | 2,140 | 9,250 | 11,390 | 2.09 | 51.6 | 49.6 | 88.4 | 192 | <20.0 |
| | " | 1-1.5 | X | | 1,690 | 1,790 | 3,480 | <0.100 | 0.163 | 0.128 | 0.328 | 0.619 | <20.0 |
| | " | 2-2.5 | X | | 6.99 | <50.0 | 6.99 | - | - | - | - | - | <20.0 |
| | " | 3-3.5 | X | | - | - | - | - | - | - | - | - | <20.0 |
| | " | 4-4.5 | X | | - | - | - | - | - | - | - | - | <20.0 |
| AH-4 | 9/5/2012 | 0-1 | X | | 2,390 | 9,250 | 11,640 | <1.00 | 1.23 | <1.00 | 2.10 | 3.33 | <20.0 |
| | " | 1-1.5 | X | | 3,440 | 8,800 | 12,240 | - | - | - | - | - | <20.0 |
| | " | 2-2.5 | X | | 5,030 | 1,640 | 6,670 | - | - | - | - | - | <20.0 |

(-) Not Analyzed

 Proposed Excavation Depths

Photos

COG Operating LLC
Magnum Pronto State Com #2
Lea County, New Mexico



TETRA TECH



View Southwest – Area of AH-1 and AH-2



View South – Area of AH-3 and AH-4

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 | Magnum Pronto State Com #2 | Facility Type | Tank Battery |

| | | | |
|---------------|-------|---------------|-------------------------------|
| Surface Owner | State | Mineral Owner | Lease No. (API#) 30-025-38827 |
|---------------|-------|---------------|-------------------------------|

LOCATION OF RELEASE

| | | | | | | | | |
|------------------|---------------|-----------------|--------------|---------------|------------------|---------------|----------------|---------------|
| Unit Letter K | Section 32 | Township 19S | Range 32E | Feet from the | North/South Line | Feet from the | East/West Line | County Lea |
|------------------|---------------|-----------------|--------------|---------------|------------------|---------------|----------------|---------------|

Latitude 32 36.903 Longitude 103 47.446

NATURE OF RELEASE

| | | | | | |
|-----------------------------|---|---|-----------------------|----------------------------|----------------------|
| Type of Release | Oil and produced water | Volume of Release | 130bbbls | Volume Recovered | 100bbbls |
| Source of Release | Water leg at heater | Date and Hour of Occurrence | 07/26/2012 | Date and Hour of Discovery | 07/26/2012 10:00a.m. |
| Was Immediate Notice Given? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required | If YES, To Whom? | Geoffrey Leking-OCD | | |
| By Whom? | Michelle Mullins | Date and Hour | 07/30/2012 10:58 a.m. | | |
| 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.*

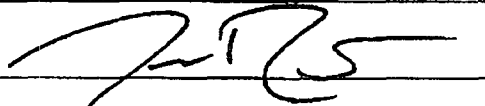
Describe Cause of Problem and Remedial Action Taken.*

A water leg failed at heater which caused the release of fluid. The heater has been removed from service as the water leg is being repaired.

Describe Area Affected and Cleanup Action Taken.*

Initially 130bbbls of fluid were released from the faulty water leg and we were able to recover 100bbbls with a vacuum truck. Terra 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 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: | 08/07/2012 | | Phone: | 432-212-2399 | |

* Attach Additional Sheets If Necessary

Appendix B

Water Well Data
Average Depth to Groundwater (ft)
COG - Magnum Pronto State Com #2
Lea County, New Mexico

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

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

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

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







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

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

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

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

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

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

Appendix C

Summary Report

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

Report Date: September 25, 2012

Work Order: 12091205



Project Location: NM
Project Name: COG/Magnum Pronto State Com. #2
Project Number: 114-6401501

| Sample | Description | Matrix | Date Taken | Time Taken | Date Received |
|--------|-------------|--------|------------|------------|---------------|
| 308963 | AH-1 0-1' | soil | 2012-09-05 | 00:00 | 2012-09-11 |
| 308964 | AH-1 1-1.5' | soil | 2012-09-05 | 00:00 | 2012-09-11 |
| 308965 | AH-1 2-2.5' | soil | 2012-09-05 | 00:00 | 2012-09-11 |
| 308966 | AH-1 3-3.5' | soil | 2012-09-05 | 00:00 | 2012-09-11 |
| 308967 | AH-1 4-4.5' | soil | 2012-09-05 | 00:00 | 2012-09-11 |
| 308968 | AH-2 0-1' | soil | 2012-09-05 | 00:00 | 2012-09-11 |
| 308969 | AH-2 1-1.5' | soil | 2012-09-05 | 00:00 | 2012-09-11 |
| 308970 | AH-2 2-2.5' | soil | 2012-09-05 | 00:00 | 2012-09-11 |
| 308971 | AH-2 3-3.5' | soil | 2012-09-05 | 00:00 | 2012-09-11 |
| 308972 | AH-2 4-4.5' | soil | 2012-09-05 | 00:00 | 2012-09-11 |
| 308973 | AH-3 0-1' | soil | 2012-09-05 | 00:00 | 2012-09-11 |
| 308974 | AH-3 1-1.5' | soil | 2012-09-05 | 00:00 | 2012-09-11 |
| 308975 | AH-3 2-2.5' | soil | 2012-09-05 | 00:00 | 2012-09-11 |
| 308976 | AH-3 3-3.5' | soil | 2012-09-05 | 00:00 | 2012-09-11 |
| 308977 | AH-3 4-4.5' | soil | 2012-09-05 | 00:00 | 2012-09-11 |
| 308978 | AH-4 0-1' | soil | 2012-09-05 | 00:00 | 2012-09-11 |
| 308979 | AH-4 1-1.5' | soil | 2012-09-05 | 00:00 | 2012-09-11 |
| 308980 | AH-4 2-2.5' | soil | 2012-09-05 | 00:00 | 2012-09-11 |

| Sample - Field Code | BTEX | | | | TPH DRO - NEW DRO (mg/Kg) | TPH GRO GRO (mg/Kg) |
|----------------------|--------------------|--------------------|-------------------------|-------------------|---------------------------------|---------------------------|
| | Benzene (mg/Kg) | Toluene (mg/Kg) | Ethylbenzene (mg/Kg) | Xylene (mg/Kg) | | |
| 308963 - AH-1 0-1' | <0.0200 | 0.131 | 0.0261 | 0.106 | <50.0 | 5.25 Qs |
| 308968 - AH-2 0-1' | <1.00 | 6.43 | <1.00 | 6.86 | <50.0 | 676 Qs |
| 308973 - AH-3 0-1' | 2.09 | 51.6 | 49.6 | 88.4 | 9250 | 2140 Qs |
| 308974 - AH-3 1-1.5' | <0.100 | 0.163 | 0.128 | 0.328 | 1790 | 1690 Js |
| 308975 - AH-3 2-2.5' | <0.100 | 0.163 | 0.128 | 0.328 | <50.0 | 6.99 |
| 308978 - AH-4 0-1' | <1.00 | 1.23 | <1.00 | 2.10 | 9250 | 2390 Qs |
| 308979 - AH-4 1-1.5' | <1.00 | 1.23 | <1.00 | 2.10 | 8800 | 3440 |

continued ...

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

... continued

| 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) |
| 308980 - AH-4 2-2.5' | | | | | 1640 | 5030 |

Sample: 308963 - AH-1 0-1'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 915 | mg/Kg | 4 |

Sample: 308964 - AH-1 1-1.5'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 420 | mg/Kg | 4 |

Sample: 308965 - AH-1 2-2.5'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | <20.0 | mg/Kg | 4 |

Sample: 308966 - AH-1 3-3.5'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | <20.0 | mg/Kg | 4 |

Sample: 308967 - AH-1 4-4.5'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | <20.0 | mg/Kg | 4 |

Sample: 308968 - AH-2 0-1'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 393 | mg/Kg | 4 |

Sample: 308969 - AH-2 1-1.5'

continued ...

sample 308969 continued ...

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Param | Flag | Result | Units | RL |
| Chloride | | 39.6 | mg/Kg | 4 |

Sample: 308970 - AH-2 2-2.5'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 331 | mg/Kg | 4 |

Sample: 308971 - AH-2 3-3.5'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 2780 | mg/Kg | 4 |

Sample: 308972 - AH-2 4-4.5'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | 7140 | mg/Kg | 4 |

Sample: 308973 - AH-3 0-1'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | <20.0 | mg/Kg | 4 |

Sample: 308974 - AH-3 1-1.5'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | <20.0 | mg/Kg | 4 |

Sample: 308975 - AH-3 2-2.5'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | <20.0 | mg/Kg | 4 |

Sample: 308976 - AH-3 3-3.5'

Report Date: September 25, 2012

Work Order: 12091205

Page Number: 4 of 4

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | <20.0 | mg/Kg | 4 |

Sample: 308977 - AH-3 4-4.5'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | <20.0 | mg/Kg | 4 |

Sample: 308978 - AH-4 0-1'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | <20.0 | mg/Kg | 4 |

Sample: 308979 - AH-4 1-1.5'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | <20.0 | mg/Kg | 4 |

Sample: 308980 - AH-4 2-2.5'

| Param | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride | | <20.0 | mg/Kg | 4 |