Submit 1 Copy To Appropriate District Office
District I – (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
District II – (575) 748-1283
811 S. First St., Artesia, NM 88210
District III – (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV – (505) 476-3460
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-103
Revised July 18, 2013

WELL API NO.
30-025-29991

5. Indicate Type of Lease
STATE ☐ FEE ☒

6. State Oil & Gas Lease No.
V084050001

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

1. Type of Well: Oil Well ☒ Gas Well ☐ Other

7. Lease Name or Unit Agreement Name
Merchant State Unit

8. Well Number
#1

2. Name of Operator
ADVANCE ENERGY PARTNERS HAT MESA, LLC

9. OGRID Number
372417

3. Address of Operator
11490 Westheimer Rd. Suite 950. Houston, TX 77077

10. Pool name or Wildcat

4. Well Location
Unit Letter I : 2309 feet from the South line and 990 feet from the East line
Section 35 Township 21S Range 33E NMPM County LEA

11. Elevation *(Show whether DR, RKB, RT, GR, etc.)*
3661.4 ft

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
PERFORM REMEDIAL WORK	☐	PLUG AND ABANDON	☐	REMEDIAL WORK	☐	ALTERING CASING	☐
TEMPORARILY ABANDON	☐	CHANGE PLANS	☐	COMMENCE DRILLING OPNS.	☐	P AND A	☐
PULL OR ALTER CASING	☐	MULTIPLE COMPL	☐	CASING/CEMENT JOB	☐		
DOWNHOLE COMMINGLE	☐						
CLOSED-LOOP SYSTEM	☐						
OTHER: Surface Restoration	☒			OTHER:	☐		

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

See attached for details. Surface restoration of 1987 (legacy) & 2014 (closed) reserve pit areas.

1. Dig-haul-dispose the upper four (4) feet of soil. Excavated material will be transported to either R360 or LeaLand, Inc for proper disposal. Excavated material is approximated at 10,000 cu. yrds.
2. Place a Geosynthetic Clay Liner at the base of the excavation.
3. Backfill the excavated area with five (5) feet of clean non-waste containing uncontaminated, earthen material with chloride concentrations less than 600 mg/kg as analyzed by EPA Method 300.0.
4. Contour the surface to achieve erosion control, long-term stability and preservation of surface water flow patterns.
5. Reseed the restoration area with "Homesteaders Choice" seed mix applied at the rate of 20 pounds per acre. The selected seed mixture is per the Surface Use Agreement (SUA) between AEP and the Merchants.

ACCEPTED FOR RECORD ONLY

Spud Date: Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Andrew Parker TITLE Environmental Scientist DATE 11/17/2021

Type or print name Andrew Parker E-mail address: aparker@advanceenergypartners.com PHONE: 970-570-9535

For State Use Only

APPROVED BY: TITLE DATE

Conditions of Approval (if any):

ADVANCE ENERGY PARTNERS

11490 Westheimer Road, Suite 950, Houston, Texas 77077 • Phone 832-672-4700 • Fax 832-672-4609

November 17, 2021

RE: Surface Restoration Sundry Notice
Merchant State Unit #1
API: 30-025-29991

NMOCD:

Advance Energy Partners (AEP) submits this surface restoration Sundry Notice for the Merchant State Unit #1 location. Surface restoration will be limited to areas within the legacy 1987 and 2013 reserve pit closure footprints covering an area of 1.5 acres. Exhibit A shows the proposed restoration areas. Surface restoration of the proposed areas is a result of a settlement agreement between AEP and Merchant Livestock Company (Merchant).

The approved C-144 and Closure Report for the 2014 reserve pit is not available at NMOCD Online. Therefore, included in this submittal is:

Appendix A: Approved October 2013 C-144
Appendix B: Closure Notice August 26, 2016
Appendix C: Addendum to Closure Report August 19, 2017
Appendix D: In-place closure deed notice July 19, 2017

Per the settlement agreement, the proposed surface restoration actions are:

1. Dig-haul-dispose the upper four (4) feet of soil. Excavated material will be transported to either R360 or LeaLand, Inc for proper disposal. Excavated material is approximated at 10,000 cu. yrds.
2. Place a Geosynthetic Clay Liner[1] at the base of the excavation.
3. Backfill the excavated area with five (5) feet of clean non-waste containing, uncontaminated, earthen material with chloride concentrations less than 600 mg/kg as analyzed by EPA Method 300.0.
4. Contour the surface to achieve erosion control, long-term stability and preservation of surface water flow patterns.
5. Reseed the restoration area with "Homesteaders Choice" seed mix applied at the rate of 20 pounds per acre. The selected seed mixture is per the Surface Use Agreement (SUA) between AEP and the Merchants.

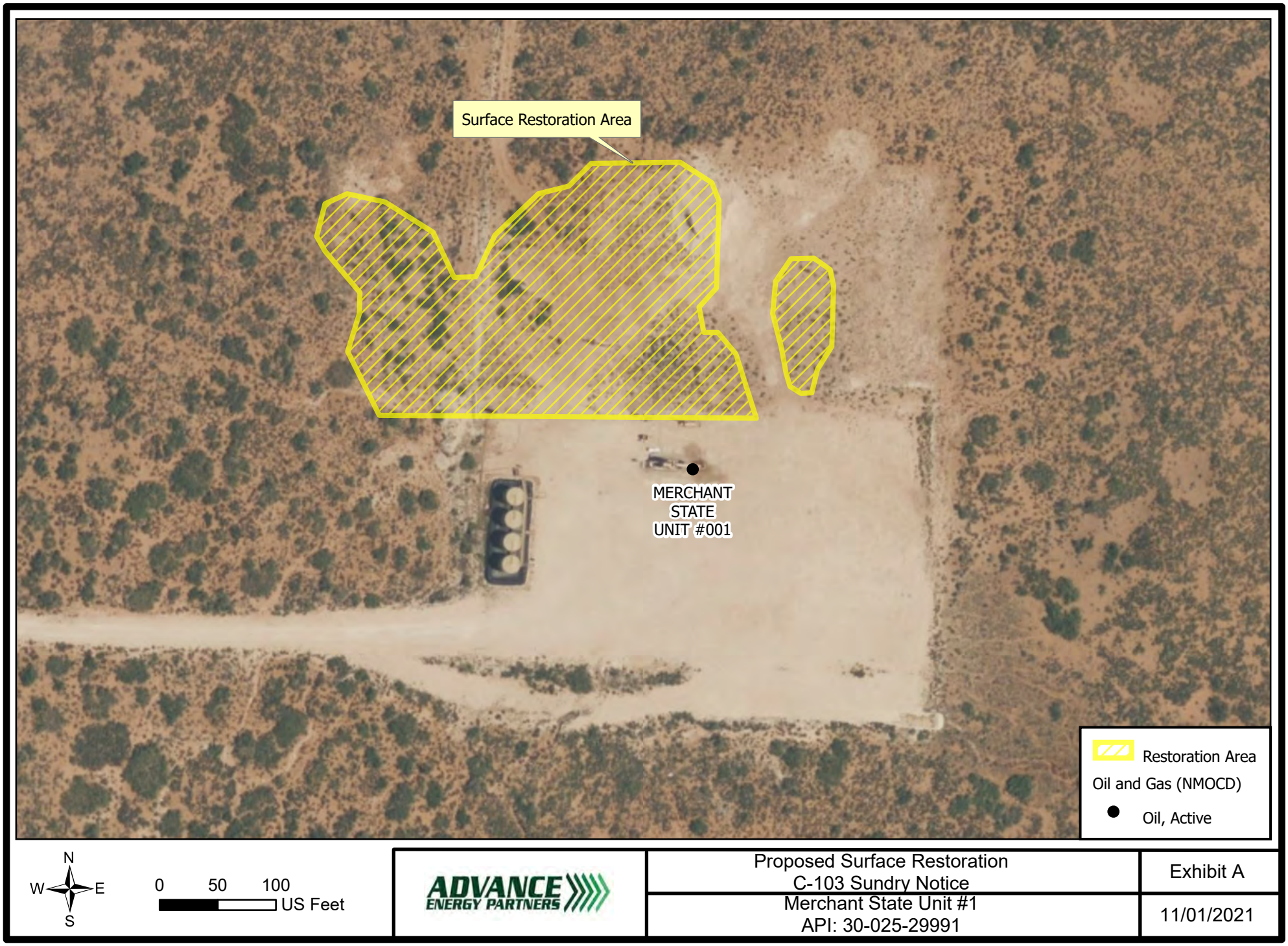
1 https://www.solmax.com/en/products-and-services/gcl-bentoliner/bentoliner

Surface restoration will begin within 30-days of C-103 approval and is anticipated to take approximately 4-weeks to complete. A subsequent report of the completed restoration will be submitted via a C-103 Sundry Notice within 30-days of work completion.

Sincerely,

Andrew Parker
Environmental Scientist

Cc: Randy Black, Advance Energy Partners
Merchant Livestock Company



ADVANCE ENERGY PARTNERS

Proposed Surface Restoration C-103 Sundry Notice	Exhibit A
Merchant State Unit #1 API: 30-025-29991	11/01/2021

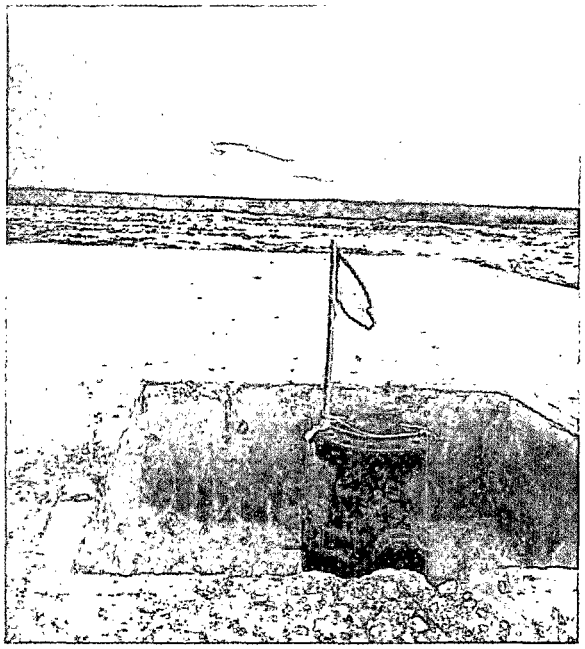
Appendix A

30-025-29990 HOBBS OCD October 2013

OCT 11 2013

RECEIVED

C-144 Permit Package for Merchant State Unit #1 Temporary Pit Section 35 T21S R33E Lea County NM



Location flag of Merchant State Unit 1 taken during field inspection. Pit will be employed for re-entry.

Prepared for
Amtex Energy, Inc.
Midland, Texas

Prepared by
R.T. Hicks Consultants, Ltd.
Albuquerque, New Mexico

R. T. HICKS CONSULTANTS, LTD.
901 Rio Grande Blvd NW ▲ Suite F-142 ▲ Albuquerque, NM 87104 ▲ 505.266.5004 ▲ Fax: 505.266-0745

October 8, 2013

Mr. Geoffrey Leking
NMOCD District
1625 French Drive
Hobbs, NM 88240
Via E-Mail and US Mail

RE: Amtex Energy, Merchant State Unit #1

Dear Geoff:

On behalf of Amtex Energy, R.T. Hicks Consultants submits the attached C-144 application for the above-referenced well.

1. The generic plans were approved by OCD
2. We anticipate "in place" burial of stabilized solids.
3. This letter and application is copied to the State Land Office to notify the surface landowner of the operator's intent to use on-site burial
4. We certify that we conducted a site inspection to examine the conditions on the ground with respect to the siting criteria.

The footprint of the proposed pit for the re-entry overlies the footprint of the pit used to drill the original well. Thus, some of the material excavated for the new pit will be cuttings and residual mud from the original pit. This material will be segregated from clean material excavated from the eastern portion of the proposed pit. We plan to use the dry mud/cuttings for stabilization of the wet cuttings. This mixture of old and new cuttings/mud will be buried in-place in accordance with the Pit Rule. Because the new cuttings will contain little salt, the mixture of old and new cuttings should meet the burial standards for >100 feet to groundwater.

If you have any questions or concerns regarding this application, please contact me. As always, we appreciate your work ethic and attention to detail.

Sincerely,
R.T. Hicks Consultants

Randall Hicks
Principal

Copy: Amtex Energy
NM State Land Office, Terry Warnell

C-144 and Site Specific Information for Temporary Pit

R.T. Hicks Consultants, Ltd.
901 Rio Grande Blvd. NW, Suite F-142
Albuquerque, NM 87104

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., 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
Department
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-144
Revised June 6, 2013

For temporary pits, below-grade tanks, and multi-well fluid management pits, submit to the appropriate NMOCD District Office.
For permanent pits submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.

Pit, Below-Grade Tank, or Proposed Alternative Method Permit or Closure Plan Application

Type of action:
- ☐ Below grade tank registration
- ☒ Permit of a pit or proposed alternative method
- ☐ Closure of a pit, below-grade tank, or proposed alternative method
- ☐ Modification to an existing permit/or registration
- ☐ Closure plan only submitted for an existing permitted or non-permitted pit, below-grade tank, or proposed alternative method

Instructions: Please submit one application (Form C-144) per individual pit, below-grade tank or alternative request

Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.

1.
Operator: Amtex Energy, Inc. OGRID #: 000785
Address: PO Box 3418 Midland, Texas 79702
Facility or well name: Merchant State Unit #1
API Number: 30-025-29991 OCD Permit Number: PI-06540
U/L or Qtr/Qtr I Section 35 Township 21S Range 33E County: Lea
Center of Proposed Design: Latitude 32.4342457° N Longitude -103.5373810° W NAD: ☒ 1927 ☐ 1983
Surface Owner: ☐ Federal ☒ State ☐ Private ☐ Tribal Trust or Indian Allotment

2.
☒ **Pit:** Subsection F, G or J of 19.15.17.11 NMAC
Temporary: ☒ Drilling ☐ Workover
☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A ☐ Multi-Well Fluid Management Low Chloride Drilling Fluid ☐ yes ☒ no
☒ Lined ☐ Unlined Liner type: Thickness 20 mil ☒ LLDPE ☐ HDPE ☐ PVC ☐ Other
☒ String-Reinforced
Liner Seams: ☒ Welded ☐ Factory ☐ Other Volume: 19,582 bbl Dimensions: L 70 x W 275 x D 8 ft (drilling) 12 ft (fluids cell)

3.
☐ **Below-grade tank:** Subsection I of 19.15.17.11 NMAC
Volume: bbl Type of fluid:
Tank Construction material:
☐ Secondary containment with leak detection ☐ Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off
☐ Visible sidewalls and liner ☐ Visible sidewalls only ☐ Other
Liner type: Thickness mil ☐ HDPE ☐ PVC ☐ Other

4.
☐ **Alternative Method:**
Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

5.
Fencing: Subsection D of 19.15.17.11 NMAC *(Applies to permanent pits, temporary pits, and below-grade tanks)*
☐ Chain link, six feet in height, two strands of barbed wire at top *(Required if located within 1000 feet of a permanent residence, school, hospital, institution or church)*
☒ Four foot height, four strands of barbed wire evenly spaced between one and four feet
☐ Alternate. Please specify

6.
Netting: Subsection E of 19.15.17.11 NMAC *(Applies to permanent pits and permanent open top tanks)*

☐ Screen ☐ Netting ☐ Other_____

☐ Monthly inspections (If netting or screening is not physically feasible)

7.
Signs: Subsection C of 19.15.17.11 NMAC

☐ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers

☒ Signed in compliance with 19.15.16.8 NMAC

8.
Variances and Exceptions:
Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.

Please check a box if one or more of the following is requested, if not leave blank:

☐ Variance(s): Requests must be submitted to the appropriate division district for consideration of approval.

☐ Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

9.
Siting Criteria (regarding permitting): 19.15.17.10 NMAC

Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acceptable source material are provided below. **Siting criteria does not apply to drying pads or above-grade tanks.**

General siting	
Ground water is less than 25 feet below the bottom of a low chloride temporary pit or below-grade tank. - ☐ NM Office of the State Engineer - iWATERS database search; ☐ USGS; ☐ Data obtained from nearby wells	☐ Yes ☐ No ☒ NA
Ground water is less than 50 feet below the bottom of a Temporary pit, permanent pit, or Multi-Well Fluid Management pit . NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells **See Figures 1&2**	☐ Yes ☒ No ☐ NA
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. **(Does not apply to below grade tanks) See Figure 5** - Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☒ No
Within the area overlying a subsurface mine. **(Does not apply to below grade tanks) See Figure 7** - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☒ No
Within an unstable area. **(Does not apply to below grade tanks) See Figure 8** - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ☒ No
Within a 100-year floodplain. **(Does not apply to below grade tanks) See Figure 9** - FEMA map	☐ Yes ☒ No
Below Grade Tanks	
Within 100 feet of a continuously flowing watercourse, significant watercourse, lake bed, sinkhole, wetland or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 200 horizontal feet of a spring or a fresh water well used for public or livestock consumption;. - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Temporary Pit using Low Chloride Drilling Fluid (maximum chloride content 15,000 mg/liter) Within 100 feet of a continuously flowing watercourse, or any other significant watercourse or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). (Applies to low chloride temporary pits.) - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet from a occupied permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
Within 200 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 300feet of any other fresh water well or spring, in existence at the time of the initial application. NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 100 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	

Temporary Pit Non-low chloride drilling fluid	☐ Yes ☐ No
Within 300 feet of a continuously flowing watercourse, or any other significant watercourse, or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). **See Figure 3** - Topographic map; Visual inspection (certification) of the proposed site	
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image. **See Figure 4**	☐ Yes ☒ No
Within 500 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 1000 feet of any other fresh water well or spring, in the existence at the time of the initial application; - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site **See Figure 2**	☐ Yes ☒ No
Within 300 feet of a wetland. **See Figure 6** - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Permanent Pit or Multi-Well Fluid Management Pit	☐ Yes ☒ No
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
Within 500 horizontal feet of a spring or a fresh water well used for domestic or stock watering purposes, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
	☐ Yes ☐ No

10.
Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
- ☒ Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9 NMAC
- ☒ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☒ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☒ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☒ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

☐ Previously Approved Design (attach copy of design) API Number: _____ or Permit Number: _____

11.
Multi-Well Fluid Management Pit Checklist: Subsection B of 19.15.17.9 NMAC
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ A List of wells with approved application for permit to drill associated with the pit.
- ☐ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
- ☐ Hydrogeologic Data - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC

☐ Previously Approved Design (attach copy of design) API Number: _____ or Permit Number: _____

12.
Permanent Pits Permit Application Checklist: Subsection B of 19.15.17.9 NMAC
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Climatological Factors Assessment
- ☐ Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Quality Control/Quality Assurance Construction and Installation Plan
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Nuisance or Hazardous Odors, including H_2S, Prevention Plan
- ☐ Emergency Response Plan
- ☐ Oil Field Waste Stream Characterization
- ☐ Monitoring and Inspection Plan
- ☐ Erosion Control Plan
- ☐ Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

13.
Proposed Closure: 19.15.17.13 NMAC
Instructions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.

Type: ☒ Drilling ☐ Workover ☐ Emergency ☐ Cavitation ☐ P&A ☐ Permanent Pit ☐ Below-grade Tank ☐ Multi-well Fluid Management Pit ☐ Alternative

Proposed Closure Method: ☐ Waste Excavation and Removal
☐ Waste Removal (Closed-loop systems only)
☒ On-site Closure Method (Only for temporary pits and closed-loop systems)
☒ In-place Burial ☐ On-site Trench Burial
☐ Alternative Closure Method

14.
Waste Excavation and Removal Closure Plan Checklist: (19.15.17.13 NMAC) ***Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.***

- ☐ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.13 NMAC
- ☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)
- ☐ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

15.
Siting Criteria (regarding on-site closure methods only): 19.15.17.10 NMAC
Instructions: Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria require justifications and/or demonstrations of equivalency. Please refer to 19.15.17.10 NMAC for guidance.

Ground water is less than 25 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☒ No ☐ NA
Ground water is between 25-50 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☒ No ☐ NA
Ground water is more than 100 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☒ Yes ☐ No ☐ NA
Within 100 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☒ No
Within 300 horizontal feet of a private, domestic fresh water well or spring used for domestic or stock watering purposes, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☒ No
Within 300 feet of a wetland. US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance	

adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☒ No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☒ No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ☒ No
Within a 100-year floodplain. - FEMA map	☐ Yes ☒ No

16.
On-Site Closure Plan Checklist: (19.15.17.13 NMAC) ***Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.***

- ☒ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☒ Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection E of 19.15.17.13 NMAC
- ☐ Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of Subsection K of 19.15.17.11 NMAC
- ☒ Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☒ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☒ Waste Material Sampling Plan - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)
- ☒ Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☒ Re-vegetation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☒ Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

17.
Operator Application Certification:

I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief.

Name (Print): William J. Savage Title: President

Signature: William J. Savage Date: October 8, 2013

e-mail address: bsavage@amtexenergy.com Telephone: (432) 770-0913

18.
OCD Approval: ☒ Permit Application (including closure plan) ☐ Closure Plan (only) ☐ OCD Conditions (see attachment)

OCD Representative Signature: Shelley Hening Approval Date: 10/23/13

Title: Environmental Specialist **OCD Permit Number:** PI-06540

19.
Closure Report (required within 60 days of closure completion): 19.15.17.13 NMAC

Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report. The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed.

☐ **Closure Completion Date:**

20.
Closure Method:

☐ Waste Excavation and Removal ☐ On-Site Closure Method ☐ Alternative Closure Method ☐ Waste Removal (Closed-loop systems only)

☐ If different from approved plan, please explain.

21.
Closure Report Attachment Checklist: ***Instructions: Each of the following items must be attached to the closure report. Please indicate, by a check mark in the box, that the documents are attached.***

- ☐ Proof of Closure Notice (surface owner and division)
- ☐ Proof of Deed Notice (required for on-site closure for private land only)
- ☐ Plot Plan (for on-site closures and temporary pits)
- ☐ Confirmation Sampling Analytical Results (if applicable)
- ☐ Waste Material Sampling Analytical Results (required for on-site closure)
- ☐ Disposal Facility Name and Permit Number
- ☐ Soil Backfilling and Cover Installation
- ☐ Re-vegetation Application Rates and Seeding Technique
- ☐ Site Reclamation (Photo Documentation)

On-site Closure Location: Latitude _____ Longitude _____ NAD: ☐ 1927 ☐ 1983

22.

Operator Closure Certification:

I hereby certify that the information and attachments submitted with this closure report is true, accurate and complete to the best of my knowledge and belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan.

Name (Print): _____ Title: _____

Signature: _____ Date: _____

e-mail address: _____ Telephone: _____

Distance to Groundwater

Figure 1, Figure 2, and the discussion presented below demonstrates that groundwater (fresh water as defined by NMOCD Rules) at the location is greater than 100 feet beneath the temporary pit.

Figure 1 is an area geologic base map that depicts regional topography and piezometric contours of the uppermost aquifer based upon measurement data obtained by the USGS. These water wells provide reliable depth to water measurement. Figure 1 also shows:

1. The location of the temporary pit as an orange square.
2. Water wells from the USGS database as large red triangles.
3. The groundwater elevation from the most recent available measurement for each well is provided adjacent to the well symbol.
4. Our interpretation of the 3500 and 3600 (feet above sea level) elevation contours of the potentiometric surface.

The ground surface elevation of the location is 3661.4 and the elevation of groundwater at the site is about 3500. Because the bottom of the pit will be about 12-feet deep, the distance to groundwater will be about (3649-3500 =) 149 feet.

Figure 2 is an area topographic map (metric units) that includes all of the water wells for which information is available, regardless of depth to water measurements. It also shows:

1. The location of the temporary pit as an orange square.
2. USGS water wells with the same symbols as those shown in Figure 1 and the date of the most recent depth-to-water measurement.
3. Water wells from the New Mexico Office of the State Engineer (OSE) database are shown as a blue triangle inside colored circles that indicate well depth. Depth to water (drillers log) and completion dates are not shown for these wells because OSE wells are often miss-located in the WATERS database as older wells are plotted in the center of the quarter, quarter, quarter, of the Section Township and Range and depth to water estimates are typically provided by driller's logs.
4. Water wells from other public databases, such as Open File Report 95, are shown as squares. Because water level measurements in OF-95 are pre-1971, we did not include these data as the USGS data are more recent.

Geology

The proposed temporary pit is located on an outcrop of Quaternary Age eolian and piedmont deposits (Qe/Qp on Figure 1). These fine-grained sands and clays, along with the Quaternary piedmont deposits (Qp on Figure 1), are present as a thin covering of the underlying Tertiary (eroded) or Triassic age rocks or the Ogallala Formation. The Ogallala consists primarily of sand with some clay, silt and gravel, generally capped by caliche. Based on information from GWR-6 (1961), the base of the Ogallala Formation is approximately 3500 feet above sea level and overlies a hard red-bed layer of the upper Triassic. Given an estimated groundwater elevation of 3500, the saturated thickness of the Ogallala is very thin or non-existent.

Topographically, the site is a located on the northeast slope the San Simon Swale, a broad (4-mile wide) northwest to southeast trending valley that is bordered on the north by Grama Ridge. As shown on Figure 3, the location is on a small hill that is about 90 feet higher than the drainage to the southeast.

Water Table Elevation

Fourteen USGS water wells were identified in the area surrounding the Merchant State Unit 1 site, all of which appear to provide water table elevation data (see Figures 1 and 2). A summary of this water well data, with respect to groundwater elevation, is provided on the table below. Note that the US Government Shutdown prevented our finding total depth data for some USGS wells listed below. Data on additional wells shown on Figures 1 and 2 are presented in Appendix B.

Summary of Groundwater Data

	Well Location			Well Source Information							Groundwater Elevation Data					
Well Numbers (see Map)	Township (south)	Range (east)	Section	NM-OSE Database	USGS Database	Open File Rpt. 95	USGS Topo Sheet	Aerial Photograph	Field Verification	Surface Elevation (published)	Surface Elevation (Topo Sheet)	Well Total Depth (published)	Depth to Water (published)	Groundwater Elev. (published)	Groundwater Elev. (using topo elev.)	Gauging Date
USGS-773	20	34	34		✓		✓			3774	3774		82	3692	3692	2/2/1996
USGS-772	20	35	33		✓		✓			3699	3699		89.2	3610	3610	2/2/1996
USGS-763	21	33	2		✓		✓			3768	3768		87.5	3681	3681	2/22/1996
USGS-758	21	33	11		✓		✓			3820	3812		142.4	3678	3669.6	2/22/1996
USGS-719	21	33	18		✓	✓	✓	--	--	3,855	3,855	123	115.75	3,739	3,739	2/20/1996
USGS-684	21	33	28		✓	✓	✓	--	--	3,688	3,688	224	178.85	3,509	3,509	2/21/1996
USGS-765	21	34	5		✓		✓			3708	3708		91.1	3617	3617	3/13/1996
USGS-731	21	34	8	✓	✓		✓			3705	3705		101.3	3604	3604	2/13/1996
USGS-680	21	34	28		✓	✓		✓		3728	3728		136.6	3591	3591	3/13/1996
USGS-662	21	34	33		✓		✓			3641	3641		62.2	3578	3578	2/16/1996
USGS-626	22	32	14	✓	✓		✓	✓	--	3,717	3,718	435	382.65	3,334	3,335	2/20/1996
USGS-536	22	33	12		✓					3,531		325	3206			3/13/1996
USGS-629	22	33	13		✓	✓	✓	--	--	3,514	3,515	508	391.13	3,123	3,124	2/20/1996
USGS-646	22	34	8		✓		✓	--	--	3,578	3,573	35	30.8	3,547	3,542	2/16/1996

Initially, an attempt was made to identify each well using USGS topographic maps. The surface elevation of each well identified on the topographic maps was compared to the published surface elevation, if available. Wells that could not be verified using maps were searched for using current and historic satellite photographs in an effort to identify windmills, tanks, or roads associated with the well. All but one of the water well locations for this project were verified by maps or photographs. The following comments should be noted from the figures and table:

- USGS Well 536 did not appear on topographic maps or aerial photography. The surface elevation data in the USGS database correlate to the elevation data on the topographic map. The groundwater elevation data and depth to water data are consistent with nearby wells with verified locations.

No attempts were made to gauge any of the water wells as the critical wells, located nearest to the site, were measured by the USGS on several occasions.

Hydrogeology

GWR-6 indicates that Ogallala groundwater is not present as a regional aquifer within the topographic valley surrounding the Merchant State Unit #1 site. Wells in this area are designated by GWR-6 as producing from the much deeper Triassic aquifer. Based upon our work at the nearby Amtex wells (e.g. Coop 6 State 1H), we believe the Ogallala Formation is not a viable aquifer at the Merchant State Unit #1.

Beneath the Merchant State Unit 1 site, we believe a water table aquifer exists at a depth of about 161 feet below land surface.

Distance to Surface Water

Figure 3 and the site visit demonstrates that the location is not within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).

- The nearest mapped watercourse is located slightly more than 1 mile to the southeast.
- Dunes dominate the surface near the proposed pit.

Distance to Permanent Residence or Structures

Figure 4 and the site visit demonstrates that the location is not within 300 feet from a permanent residence, school, hospital, institution, church, or other structure in existence at the time of initial application.

- The nearest structures are oil wells and tank batteries

Distance to Non-Public Water Supply

Figures 1 and Figure 2 demonstrates that the location is not within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application.

- Figure 2 shows the locations of all area water wells; the nearest water well is located approximately 1 mile to the northeast (Misc – 70, the West Well). There are no known domestic water wells located within the mapping area.
- No springs were identified within the mapping area.

Distance to Municipal Boundaries and Fresh Water Fields

Figure 5 demonstrates that the location is not within incorporated municipal boundaries or defined municipal fresh water well fields covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended.

- The closest municipality is Eunice, NM approximately 29 miles to the east.
- The closest public well field is located in Eunice.

Distance to Wetlands

Figure 6 demonstrates the location is not within 500 feet of wetlands.

- The nearest designated wetlands is a "Freshwater Pond" located approximately 2 miles to the northeast.

Distance to Subsurface Mines

Figure 7 and our general reconnaissance of the area demonstrate that the nearest mines are caliche pits.

- The nearest caliche pit is located approximately 1.5 miles to the northwest.

Distance to High or Critical Karst Areas

Figure 8 shows the location of the temporary pits with respect BLM Karst areas

- The proposed temporary pit is located within a "low" potential karst area.
- The nearest "high" or "critical" potential karst area is located approximately 16 miles west of the site.

Distance to 100-Year Floodplain

Figure 9 demonstrates that the location is within an area that has not yet been mapped by the Federal Emergency Management Agency with respect to the Flood Insurance Rate 100-Year Floodplain.

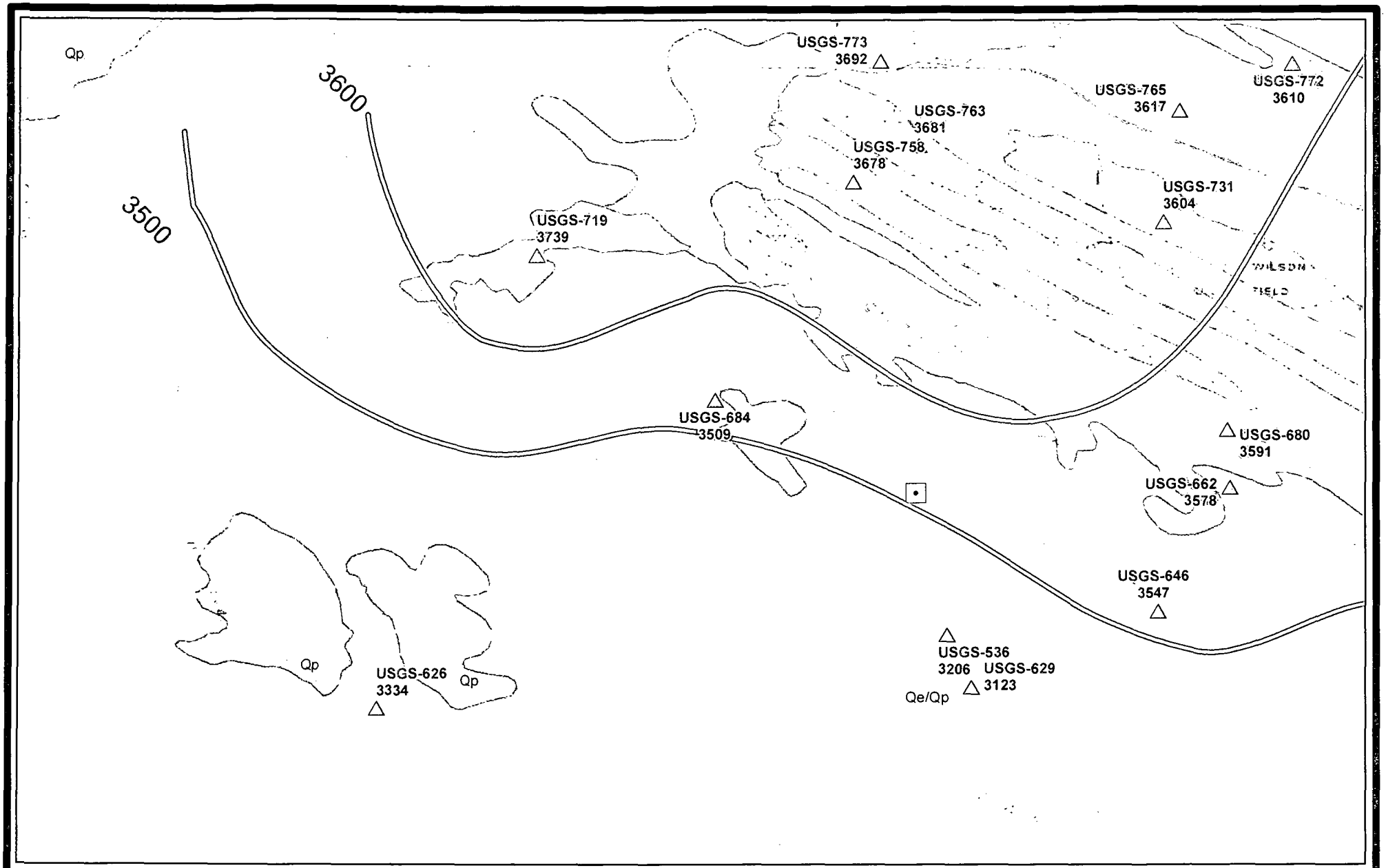
Temporary Pit Design

Please refer to Plates 1 and 2 for the design of the temporary pit and the Design and Construction Plan at the end of this application.

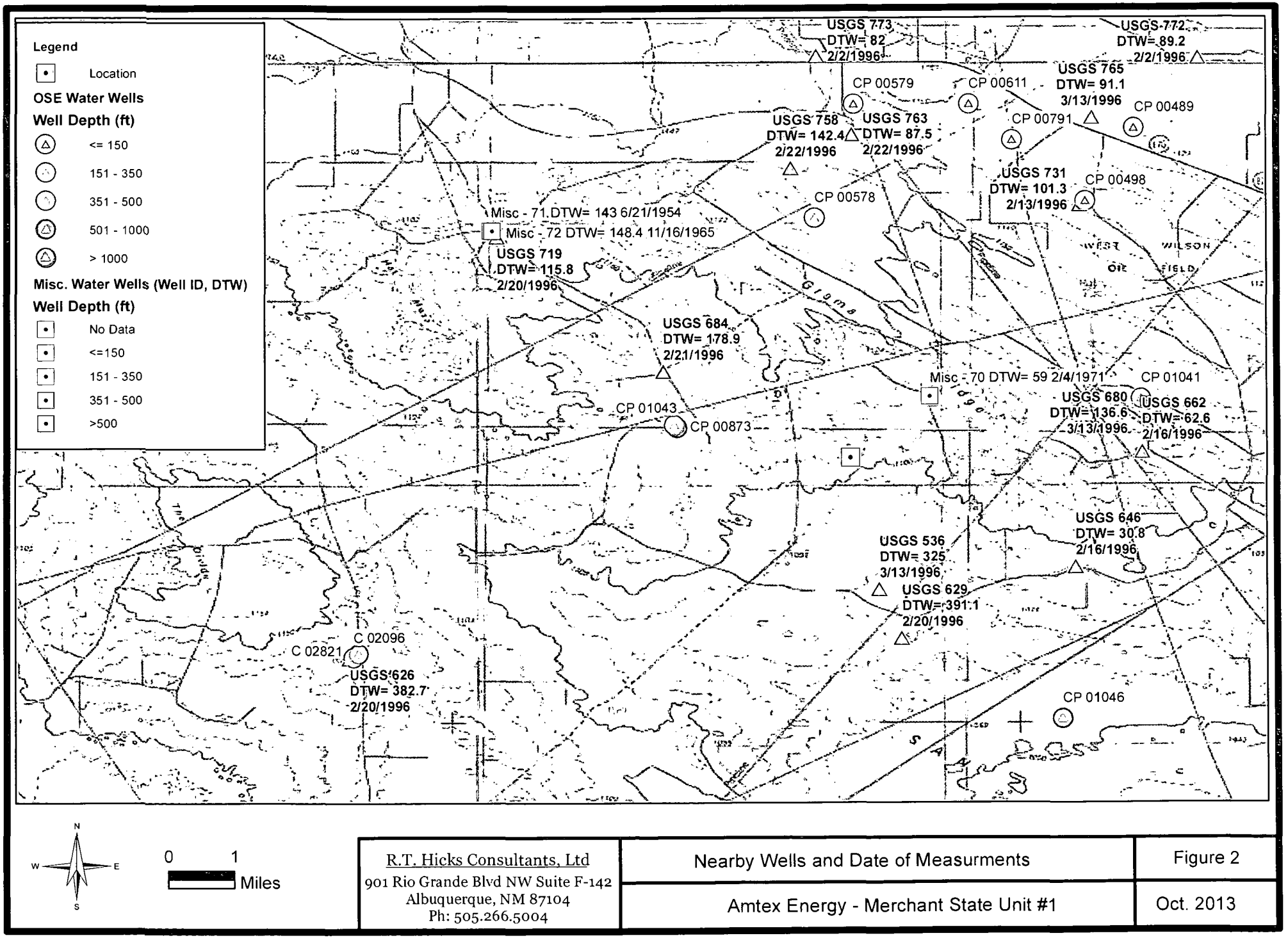
Plate 2 shows that the footprint of the proposed pit for the re-entry overlies the footprint of the pit used to drill the original well. Thus, some of the material excavated for the new pit will be cuttings and residual mud from the original pit. This material will be segregated from clean material excavated from the eastern portion of the proposed pit. We plan to use the dry mud/cuttings for stabilization of the wet cuttings. This mixture of old and new cuttings/mud will be buried in-place in accordance with the Pit Rule. Because the new cuttings will contain little salt, the mixture of old and new cuttings should meet the burial standards for >50 feet to groundwater.

Site Specific Information Figures

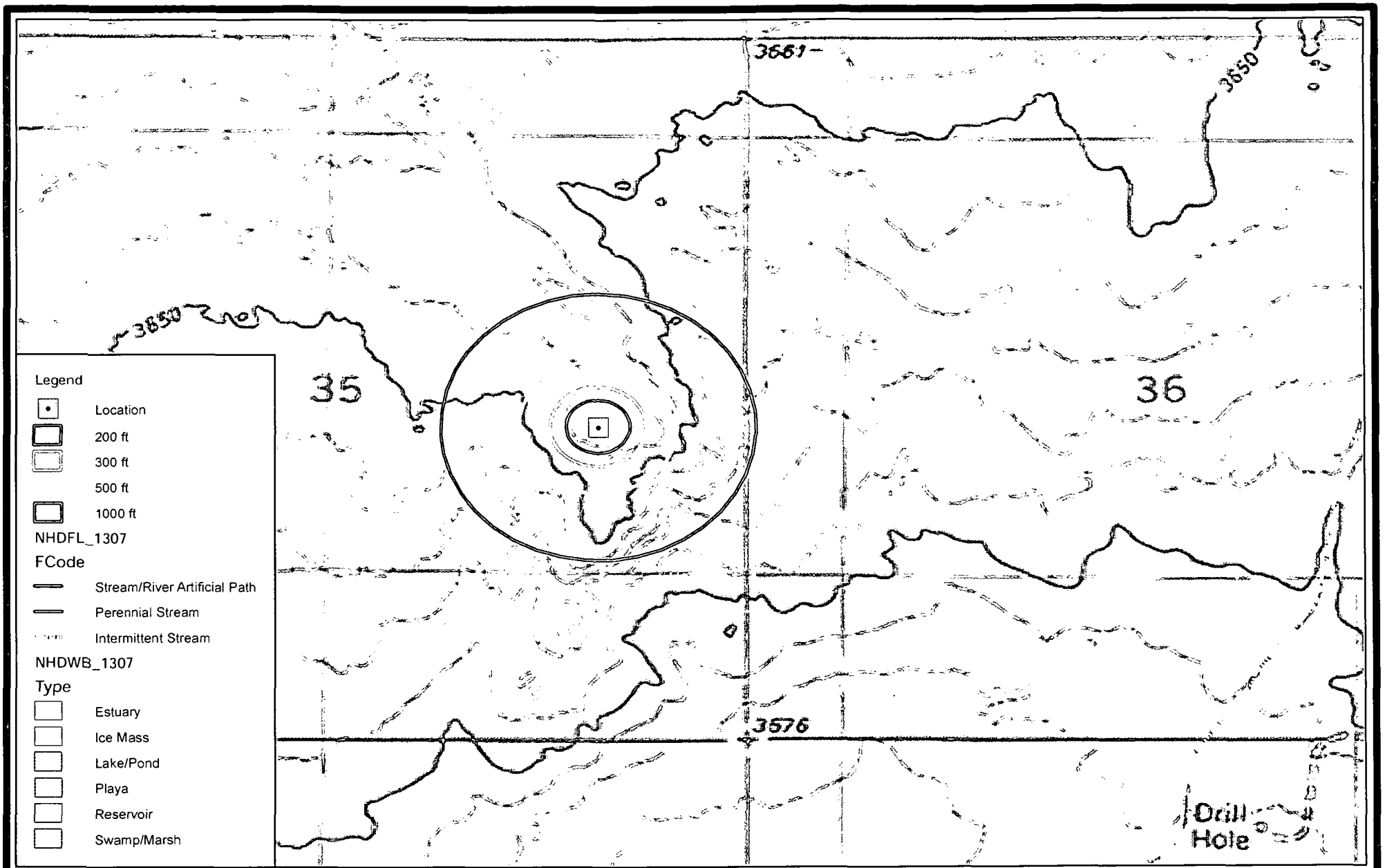
R.T. Hicks Consultants, Ltd.
901 Rio Grande Blvd. NW, Suite F-142
Albuquerque, NM 87104



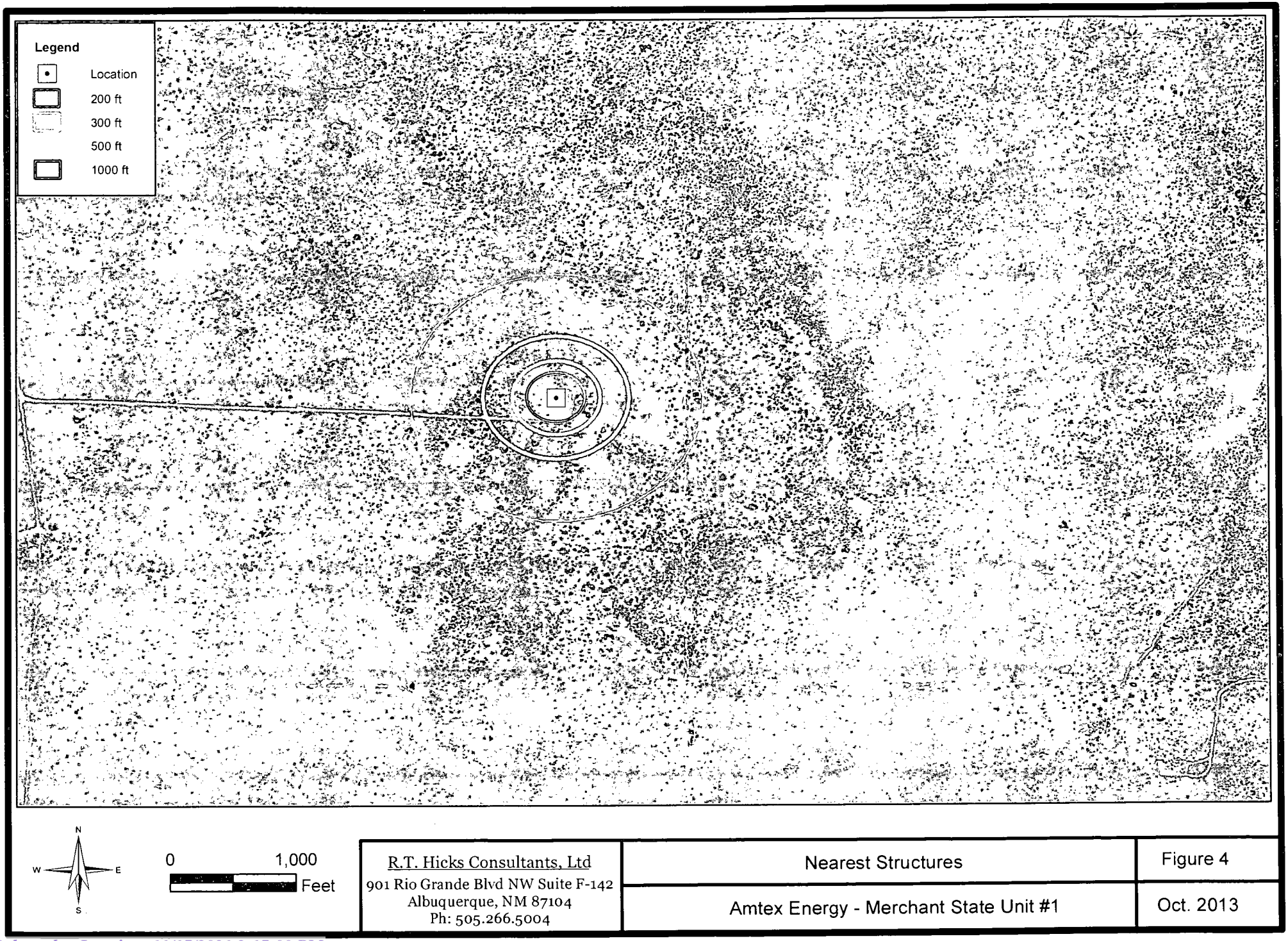
R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 Ph: 505.266.5004	Geology and USGS Groundwater Elevation	Figure 1
	Amtex Energy - Merchant State Unit #1	Oct. 2013



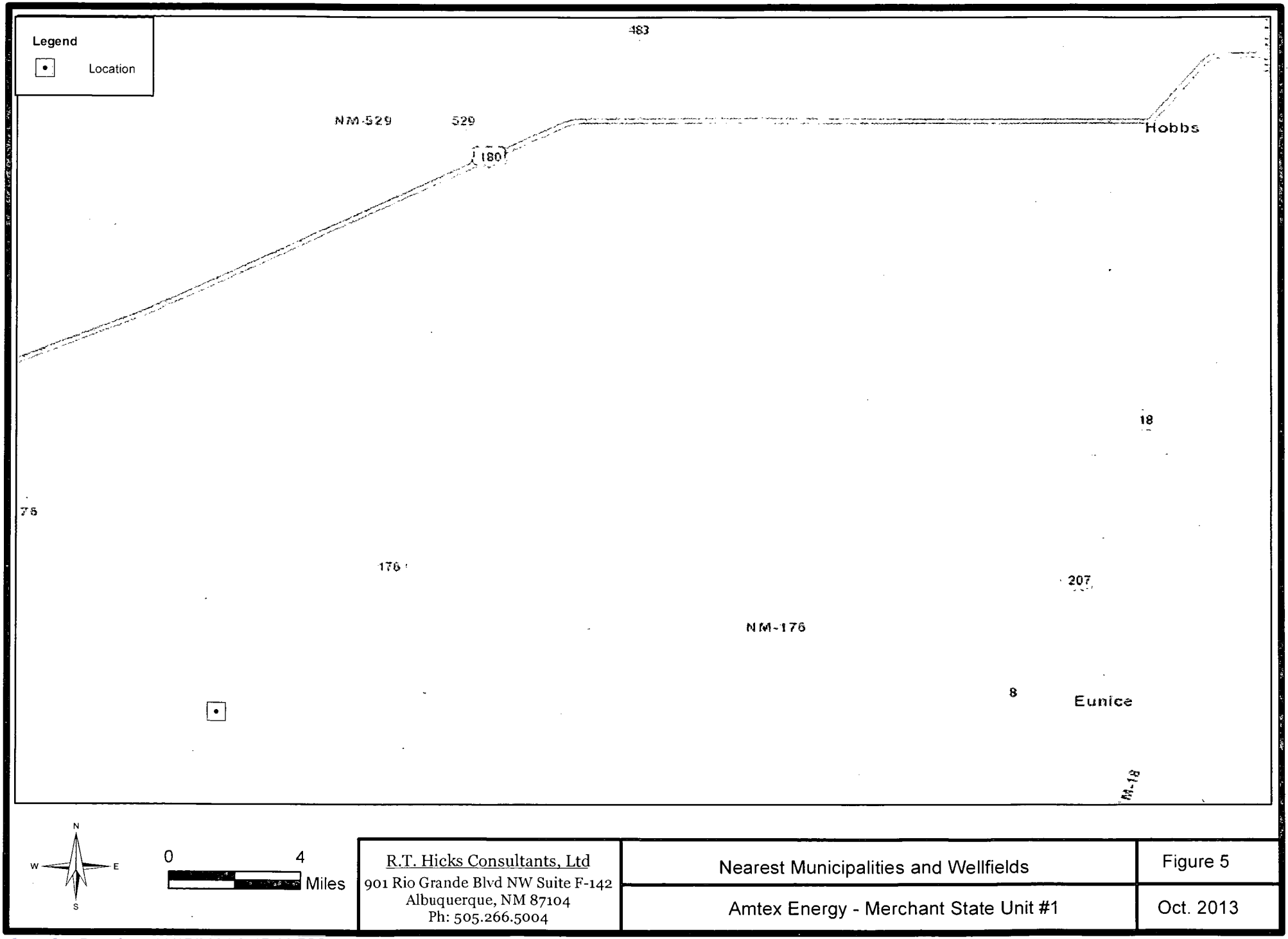
R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 Ph: 505.266.5004	Nearby Wells and Date of Measurments	Figure 2
	Amtex Energy - Merchant State Unit #1	Oct. 2013



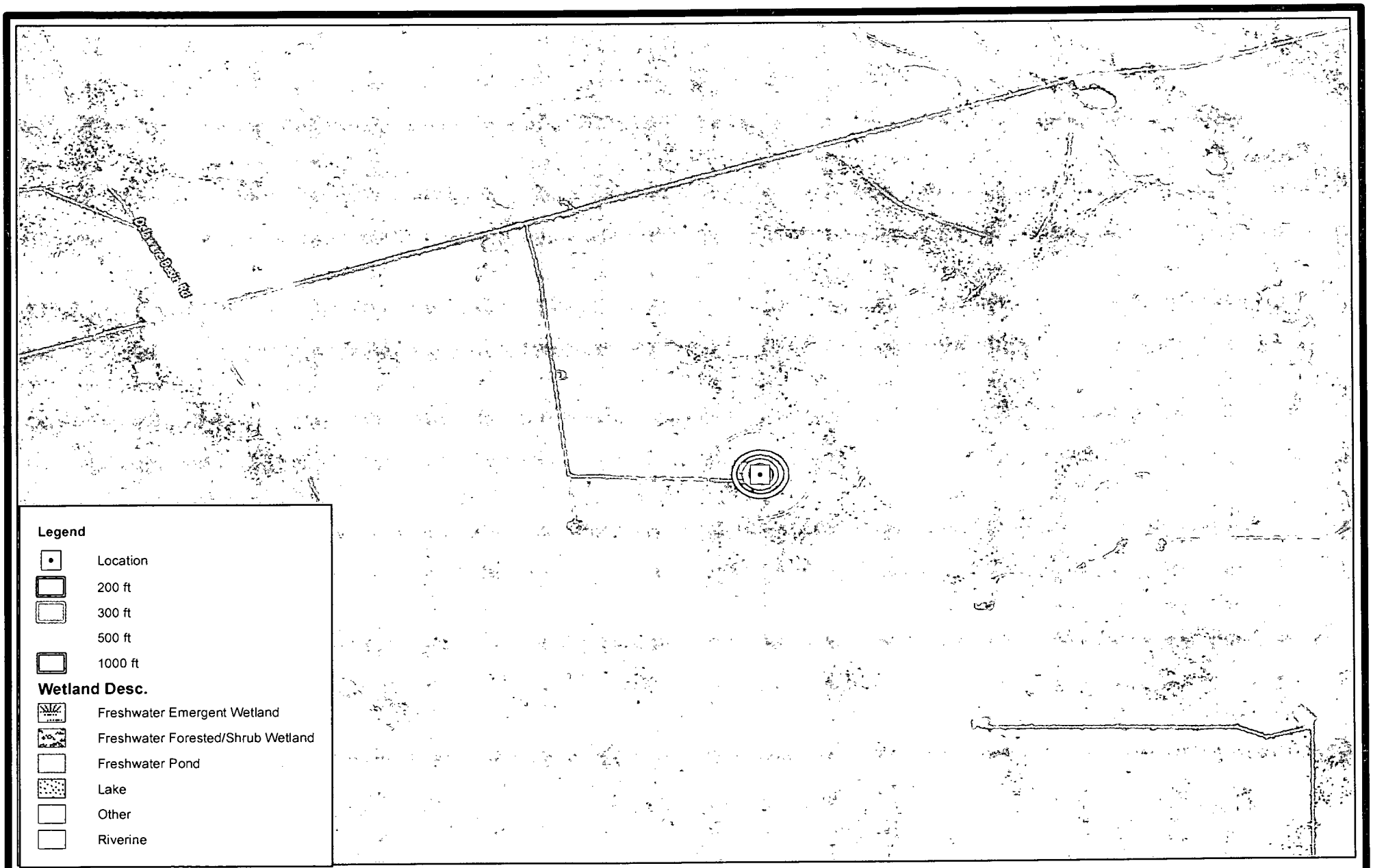
R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 Ph: 505.266.5004	Nearby Surface Water	Figure 3
	Amtex Energy - Merchant State Unit #1	Oct. 2013



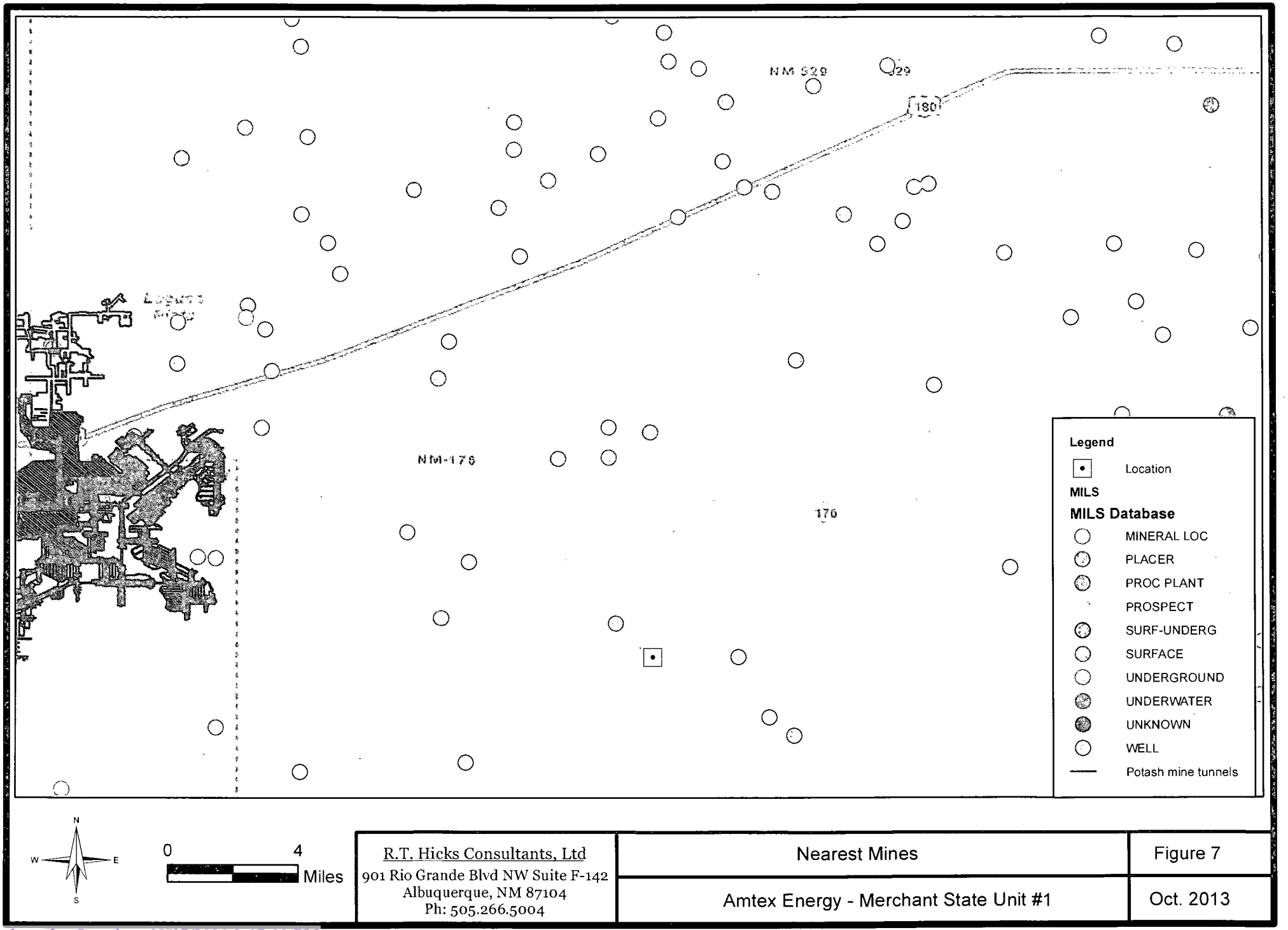
R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 Ph: 505.266.5004	Nearest Structures	Figure 4
	Amtex Energy - Merchant State Unit #1	Oct. 2013



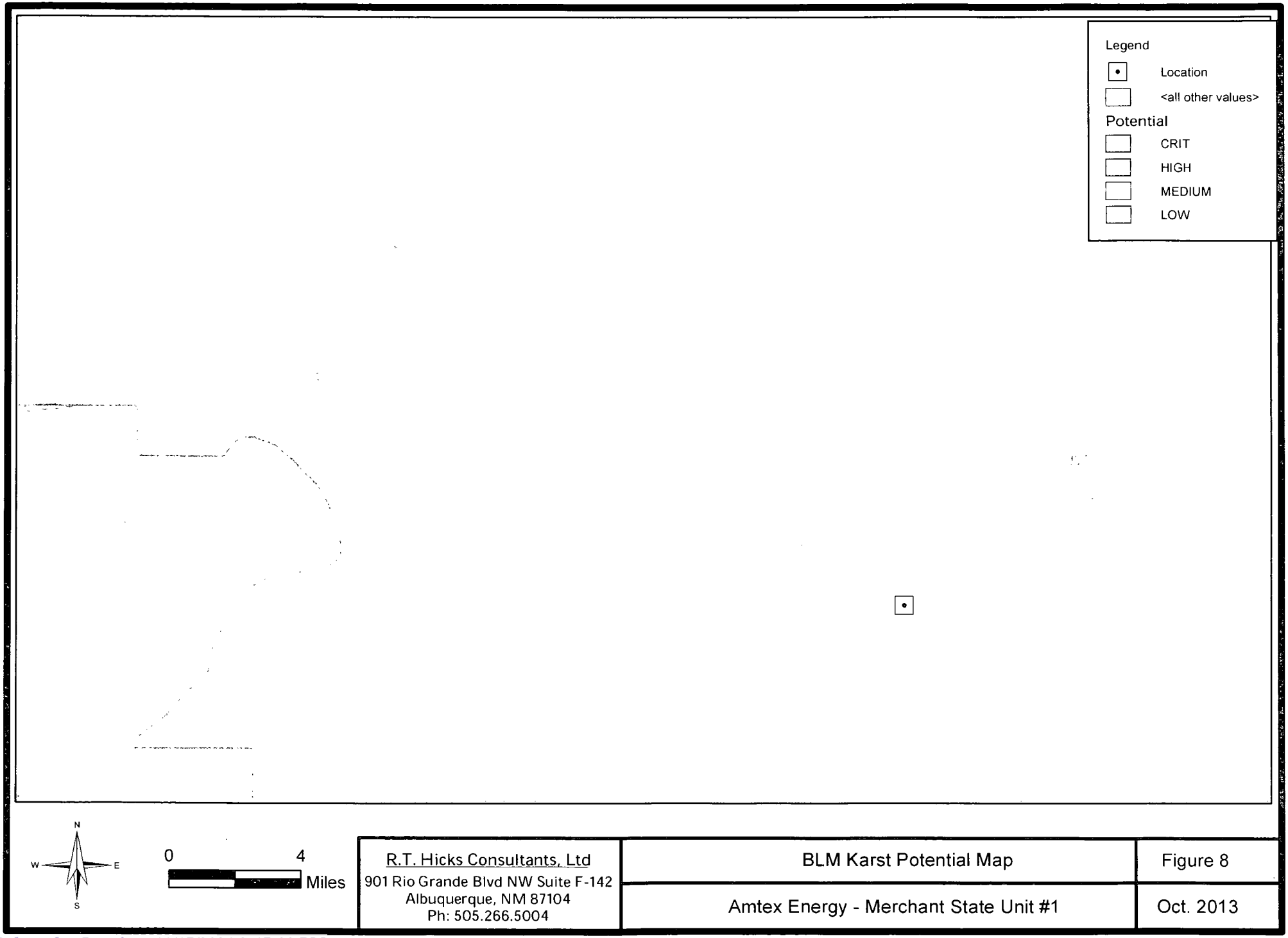
R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 Ph: 505.266.5004	Nearest Municipalities and Wellfields	Figure 5
	Amtex Energy - Merchant State Unit #1	Oct. 2013



R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 Ph: 505.266.5004	Nearest Wetlands	Figure 6
	Amtex Energy - Merchant State Unit #1	Oct. 2013

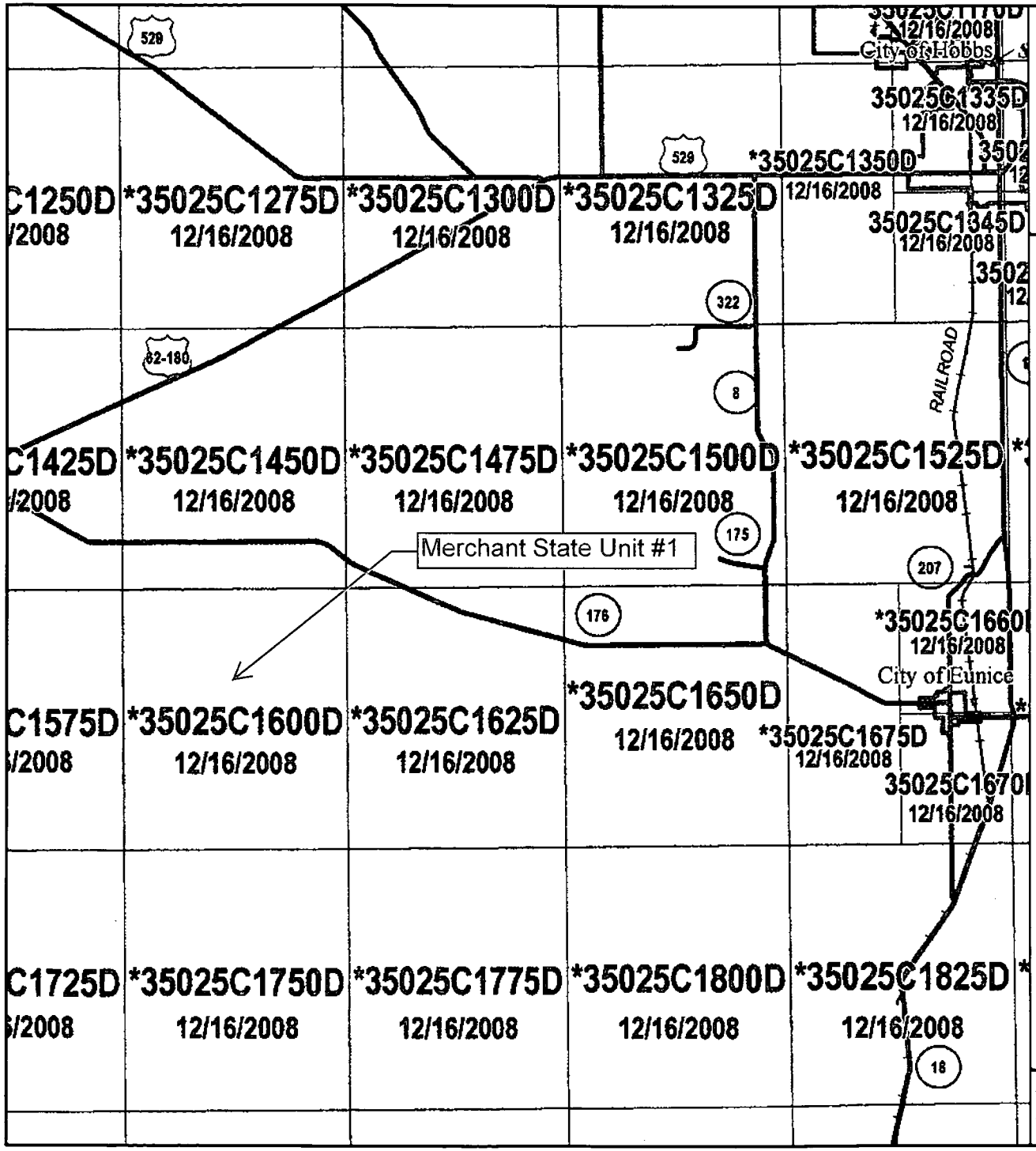


R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 Ph: 505.266.5004	Nearest Mines	Figure 7
	Amtex Energy - Merchant State Unit #1	Oct. 2013



R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 Ph: 505.266.5004	BLM Karst Potential Map	Figure 8
	Amtex Energy - Merchant State Unit #1	Oct. 2013

Figure 9 - FEMA Map



NATIONAL FLOOD INSURANCE PROGRAM

MAP INDEX

FIRM

FLOOD INSURANCE RATE MAP

LEA COUNTY,
NEW MEXICO
AND INCORPORATED AREAS

MAP INDEX

PANELS PRINTED: 440, 445, 955, 965, 1165, 1170, 1200, 1335, 1345, 1355, 1365, 1670, 2102

MAP NUMBER
35025CIND0A

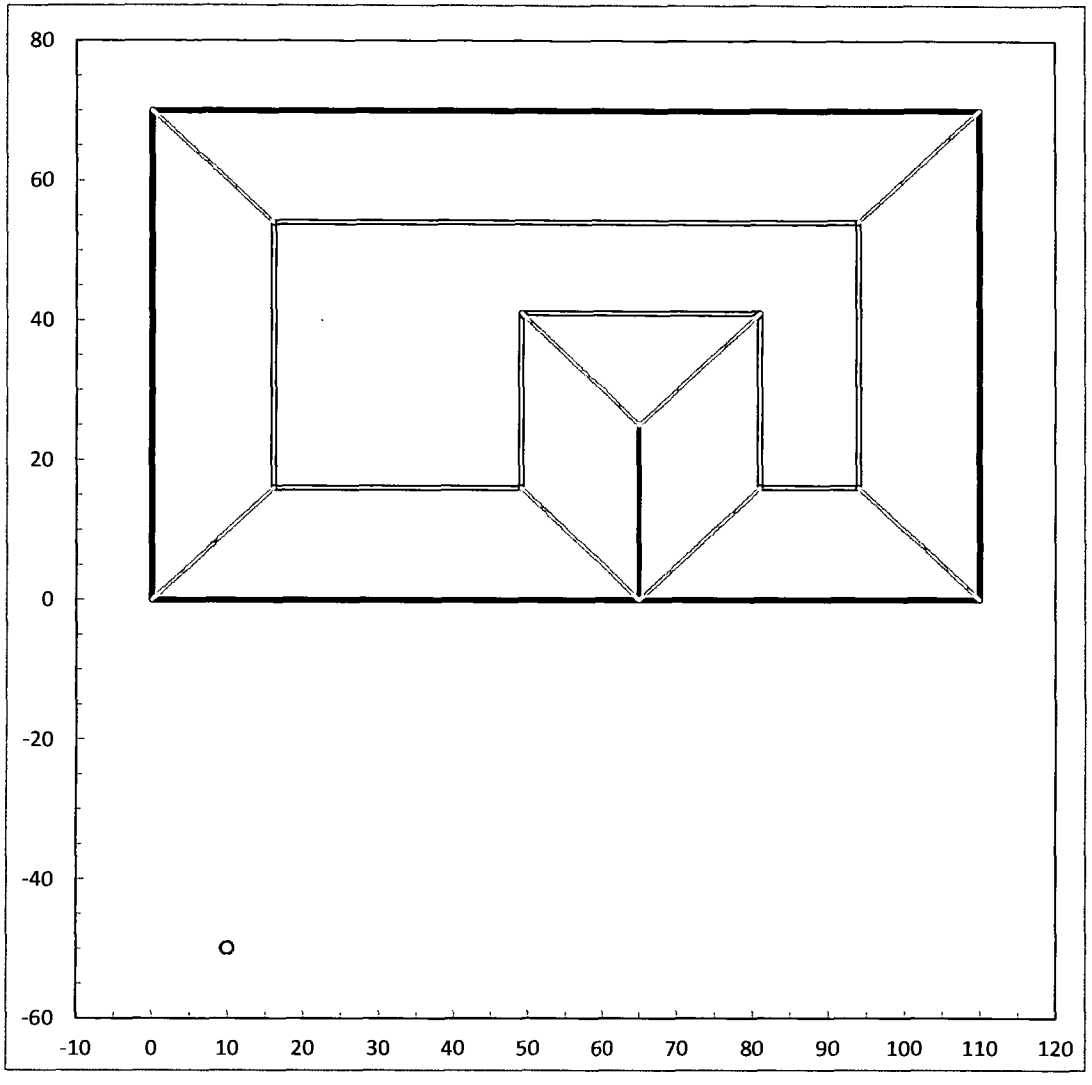
EFFECTIVE DATE
DECEMBER 16, 2008

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

Site Specific Information Plates

R.T. Hicks Consultants, Ltd.
901 Rio Grande Blvd. NW, Suite F-142
Albuquerque, NM 87104



Drilling Cell Dimensions

Drilling Cell Total Width	110.0
Drilling Cell Total Length	70.0
Slopes of Pit Horizontal Distance	2.00
Slopes of Pit Vertical Distance	1.00
Horseshoe divider width at surface	0.0

Inner Horseshoe Dimensions

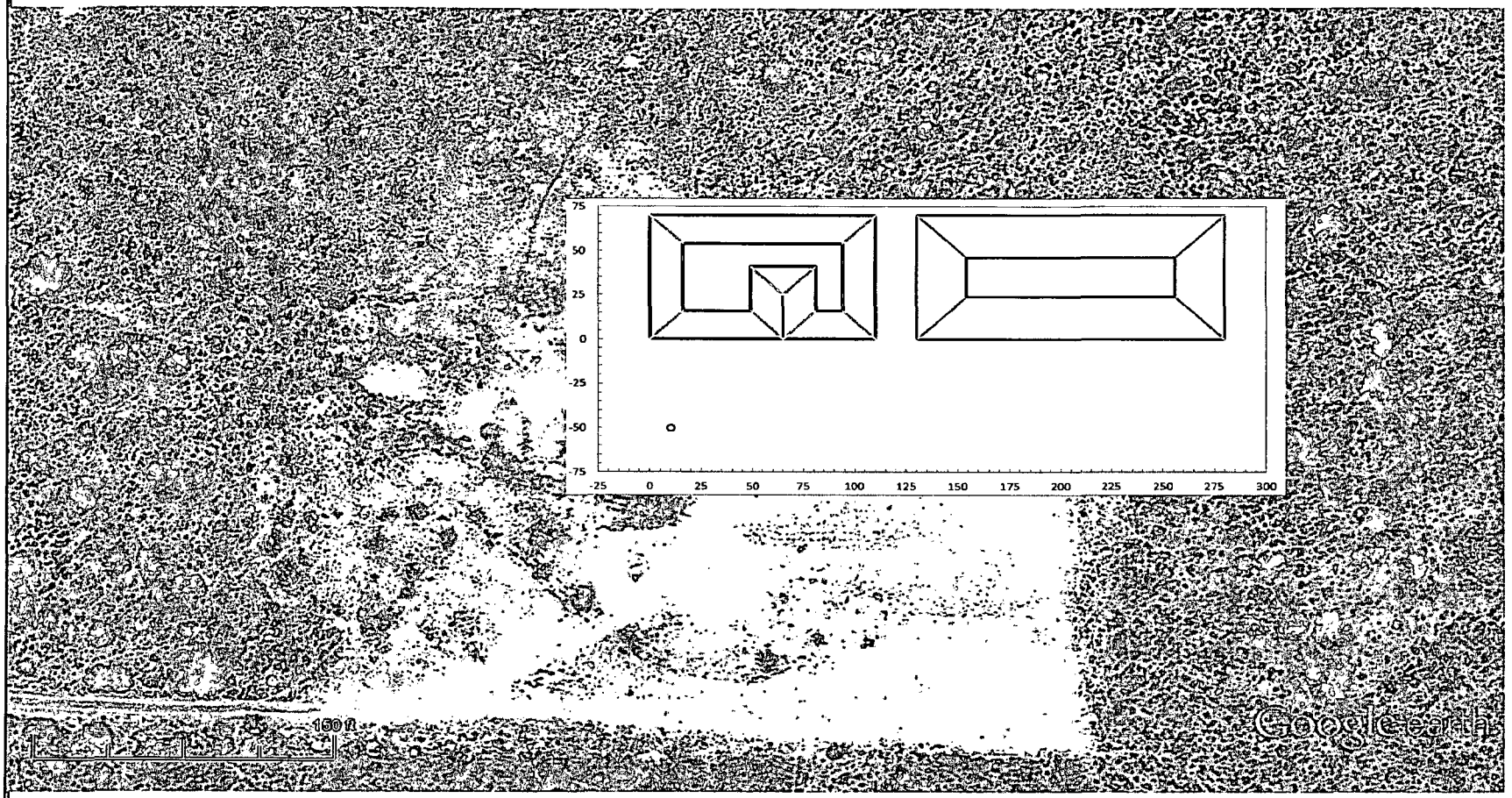
Total Width (left right)	110.0
Total Length (up down)	70.0
Depth	8.0
Length of Divider	25.0
Divider Width	0.0
Width of discharge floor	13.0
Width of suction floor	33.0

Flow-Back/Fluids Cell Dimensions

Width (left-right)	150.0
Length (up-down)	70.0
Depth	12.0

Inner Horeshoe	6784 bbls	**Fluids Cell**	**12,798.07**
Outer Horseshoe	0	**Total Capacity**	**19,582.29**

R.T. Hicks Consultants 901 Rio Grande Blvd. NW Suite F-142 Albuquerque, N. M. 87104	**Drawing of Drilling Cell**	**Plate 1**
	Amtex - Merchant State #1	**Oct- 2013**



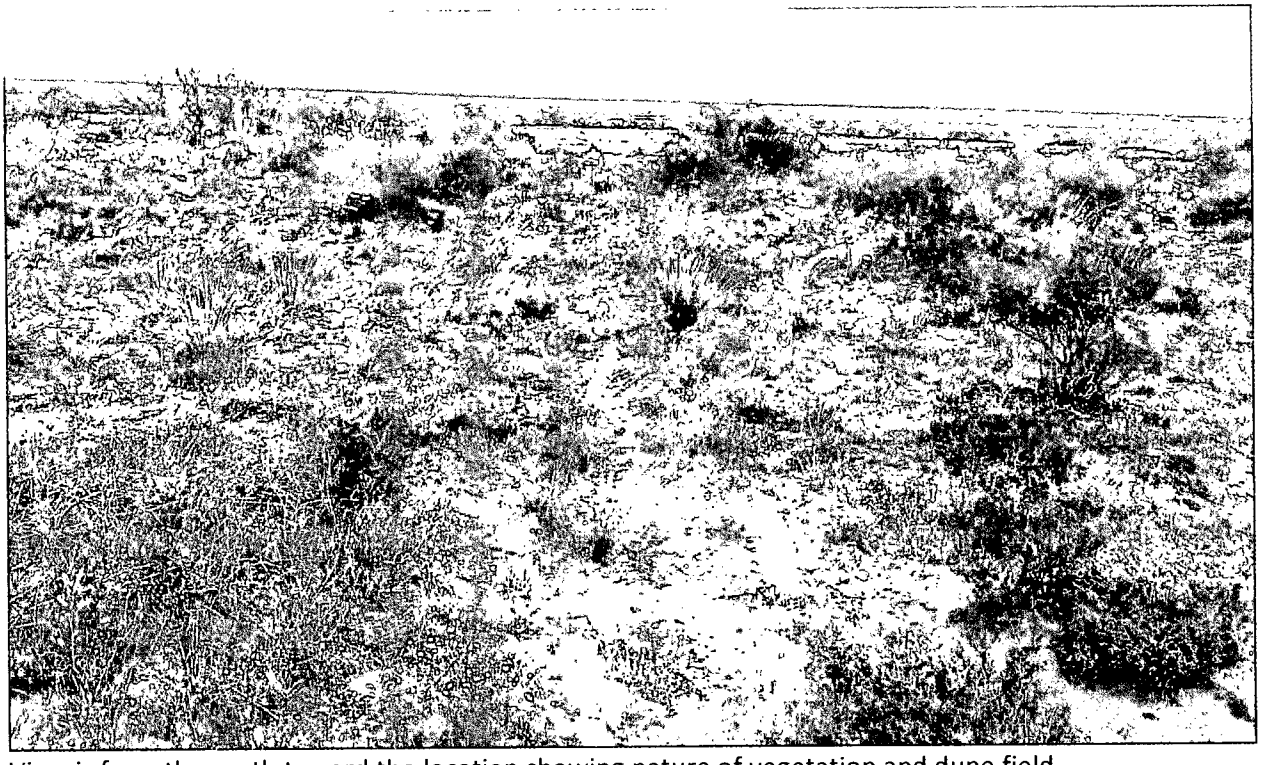
R.T. Hicks Consultants 901 Rio Grande Blvd. NW Suite F-142 Albuquerque, N. M. 87104	**Drawing of Drilling Pit and Well in Relation to Pad**	**Plate 2**
	Amtex - Merchant State #1	**Oct- 2013**

Site Inspection Photographs

R.T. Hicks Consultants, Ltd.
901 Rio Grande Blvd. NW, Suite F-142
Albuquerque, NM 87104

View from southeast corner of location showing nature of vegetation. Note dunes are present on northeast side of location (upper right of photograph)

Northeast corner of location is the proposed location of the temporary pit. Dune field exists in background.



View is from the north toward the location showing nature of vegetation and dune field.

Appendix A

Survey Information

R.T. Hicks Consultants, Ltd.
901 Rio Grande Blvd. NW, Suite F-142
Albuquerque, NM 87104

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-025-29991		WILDCAT, WEST GRAMA RIDGE-BONE SPRINGS

Property Code	Property Name	Well Number
	MERCHANT STATE UNIT	1

OGRID No.	Operator Name	Elevation
	AMTEX ENERGY, INC.	3661.4'

Surface Location

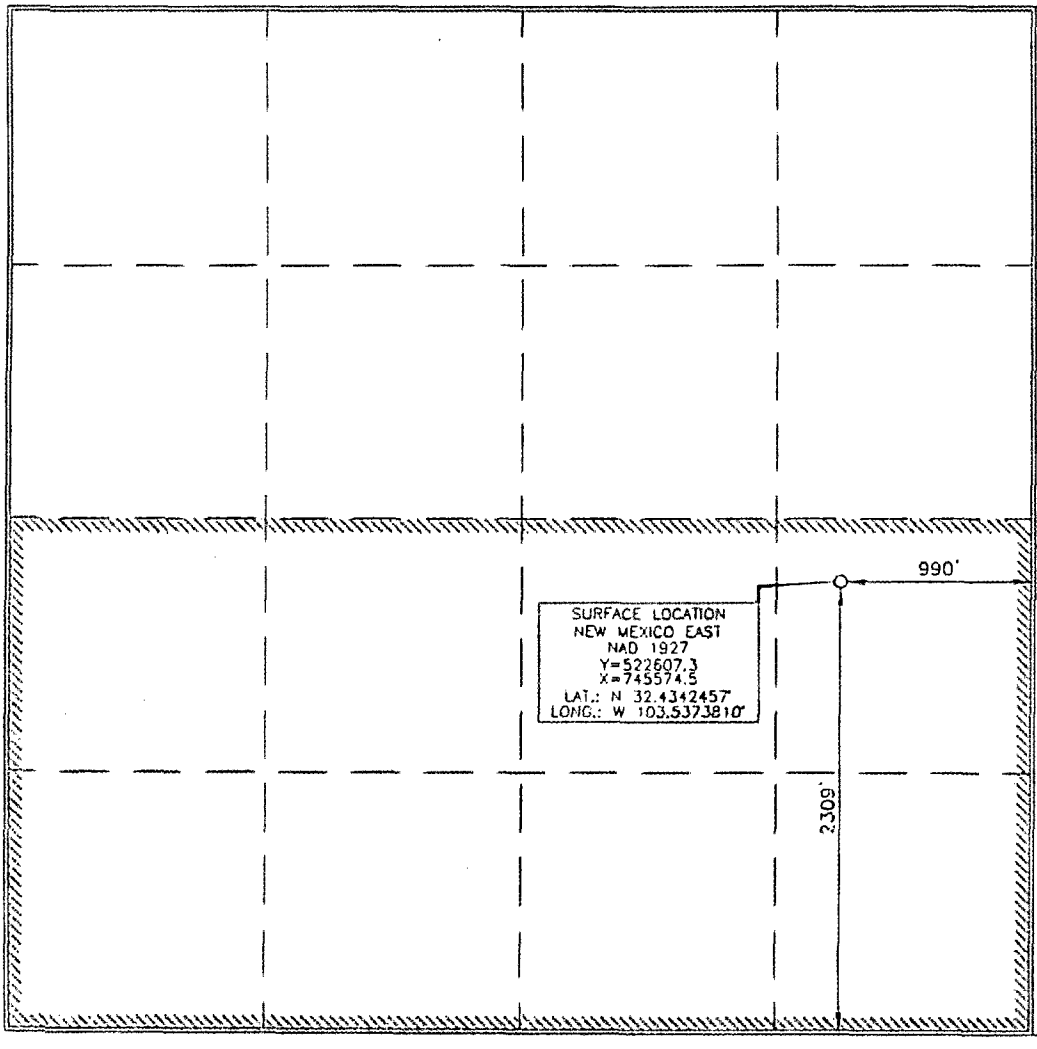
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	35	21 SOUTH	33 EAST, N.M.P.M.		2309'	SOUTH	990'	EAST	LEA

Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
319.73			

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature Date

Printed Name

E-mail Address

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

AUGUST 16, 2013
Date of Survey

Signature and Seal of Professional Surveyor:

JERRY J. ASH NEW MEXICO 15079 PROFESSIONAL LAND SURVEYOR

8/23/2013

Certificate Number 15079

WO# 130816WL (KA)

Appendix B

Additional Water Well Information

R.T. Hicks Consultants, Ltd.
901 Rio Grande Blvd. NW, Suite F-142
Albuquerque, NM 87104

Appendix B Summary of Groundwater Data

Well Numbers (see Map)	Well Location			Well Source Information							Groundwater Elevation Data						Gauging Date
	Township (south)	Range (east)	Section	NM-OSE Database	USGS Database	Open File Rpt. 95	GW Report No. 6	USGS Topo Sheet	Aerial Photograph	Field Verification	Surface Elevation (published)	Surface Elevation (Topo Sheet)	Well Total Depth (published)	Depth to Water (published)	Groundwater Elev. (published)	Groundwater Elev. (using topo elev.)	
USGS-773	20	34	34		✓			✓	--	--	3,774	3,774		82.0	3,692	3,692	2/2/96
USGS-772	20	35	33		✓	✓	✓	✓	--	--	3,699	3,699	135	89.2	3,610	3,610	2/2/96
USGS-763	21	33	2		✓	✓		✓	--	--	3,768	3,768	102	87.5	3,681	3,681	2/22/96
CP 00579	21	33	2	✓									125	100			11/22/79
USGS-758	21	33	11		✓	✓		✓	--	--	3,820	3,812	195	142.4	3,678	3,670	2/22/96
CP 00578	21	33	11	✓		✓			✓	--		3,795	165	150		3,645	1/6/79
Misc- 71	21	33	18			✓	✓	✓	--	--	3,900	3,885		143	3,757	3,742	6/21/54
Misc- 72	21	33	18			✓		✓	--	--	3,892	3,882	160	148.43	3,744	3,734	11/16/65
USGS-719	21	33	18		✓	✓		✓	--	--	3,855	3,855	123	115.75	3,739	3,739	2/20/96
Misc-70	21	33	25			✓		✓	--	--	3,666	3,662		58.95	3,607	3,603	2/4/71
USGS-684	21	33	28		✓	✓	✓	✓	--	--	3,688	3,688	224	178.85	3,509	3,509	2/21/96
CP 01043	21	33	33	✓					✓	--		3,665	950	600		3,065	6/22/96
CP 00873	21	33	33	✓					✓	--		3,665	340	180		3,485	1/5/98
CP 00489	21	34	4	✓									125	95			6/22/71
USGS-765	21	34	5		✓			✓	--	--	3,708	3,708		91.1	3,617	3,617	3/13/96
CP 00791	21	34	6	✓									85	55			6/16/93
CP 00611	21	34	6	✓									118	112			3/26/80
CP 00498	21	34	8	✓									145	120			9/30/71
USGS-731	21	34	8	✓	✓	✓	✓	✓	--	--	3,705	3,705	120	101.3	3,604	3,604	2/13/96
USGS-680 (1-6)	21	34	28		✓				✓	✓	3,728			136.6	3,591		2/13/96
USGS-662	21	34	33		✓	✓	✓	✓	--	--	3,641	3,641	92	62.6	3,578	3,578	2/16/96
USGS-626/C 02096	22	32	14	✓	✓			✓	✓	--	3,717	3,718	435	382.65	3,334	3,335	2/20/96
C 02821	22	32	14	✓				✓	✓	--		3,718	540	340		3,378	6/23/01
Dagger Lake	22	33	5						?	--		3,650					
USGS-536	22	33	12		✓						3,531			325	3,206		3/13/96
USGS-629	22	33	13		✓	✓		✓	--	--	3,514	3,515	508	391.13	3,123	3,124	2/20/96
USGS-646	22	34	8		✓			✓	--	--	3,578	3,573	35	30.8	3,547	3,542	2/16/96

✓ Indicates well was verified, (blank) indicates well not verified, and -- indicates no attempt to verify

Generic Plans for Temporary Pits

R.T. Hicks Consultants, Ltd.
901 Rio Grande Blvd. NW, Suite F-142
Albuquerque, NM 87104

Temporary Pit Design/Construction Plan

Plates 1 and 2 show the design of the temporary pit proposed for this project. Field conditions and the drilling rig layout will determine the final configuration of the pit cells, which will consists of the following:

1. A cell for drilling fluid circulation and cuttings storage consisting of:
    a. An outer horseshoe for fresh water and cut-brine fluid and cuttings
    b. An inner horseshoe for brine and fluid and cuttings
2. A cell for the storage of fresh water (drilling/stimulation) and stimulation flow-back water prior to re-use or disposal (OPTIONAL)

In addition to the commitments listed below, the operator will install a system that can drain water entrained in the drilling waste of the drilling pit. As described in the closure plan, this system of fabric-wrapped perforated pipe and drainage mats lie on the bottom of the drilling cell of the pit – the brine cell and the outer cell. The system will drain to the lowest corner of each cell, generally near the suction area. The exact location will be determined upon completion of the cells. Standpipes rise from the depression and can house a solar-powered pump. The drainage system for the brine cell removes water to an above-ground tank, the fluids cell of the pit, or directly to a truck for re-use or disposal. The drainage system may also be used to introduce fresher water below the residual cuttings/mud, causing the introduced fluid to move upwards through the cuttings/mud and enhance the solids rinsing process. Introduced water can be removed from the pit for re-use via a vacuum truck or recovered from the drainage system at the bottom.

The temporary storage of fluids, fluid reuse or fluid disposal will be conducted in a manner approved by division rules that prevents the contamination of fresh water and protects public health and the environment. This drainage and rinsing system allows the operator to:

- Recover clear water for possible re-use
- Reduce the concentration of constituents of concern in the drilling waste by removing some water entrained in the drilling waste.

Precipitation and the possible addition of relatively fresh water (see closure plan) will rinse the solid drilling waste, causing additional reduction in the constituents of concern as the water is recovered for re-use or disposal.

For any temporary storage of fluids derived from the drilling pit and placed in an above-ground tank, the following will apply:

1. Construction, operation and maintenance of the temporary storage tank(s) will adhere to all applicable NMOCD Rules including but not limited to:
    a. Safety stipulations
    b. Protection from hydrogen sulfide mandates
    c. Signage and identification requirements
    d. Secondary containment requirements for temporary tanks
    e. Applicable netting requirements

2. Any cleaning of the temporary tank(s) will adhere to NMOCD Rules relating to tank cleaning.
3. Transportation of water or drilling fluids derived from the drilling pit will adhere to all applicable NMOCD Rules relating to transportation.
4. Storage of water or drilling fluids in temporary above-ground tanks will also adhere to all applicable Federal mandates.

During final closure of the pit, the tanks and secondary containment system will be removed from the location and the area beneath the tank inspected for any leakage. If any leakage is suspected, the operator will sample the soil beneath the tanks and report any release pursuant to NMOCD Rules.

Finally, we intend to place any temporary tank used in conjunction with the pit drainage system on a 20-mil liner with a berm around it that would allow any inadvertently released fluids to drain or be pumped back into the pit.

Construction/Design Plan of Temporary Pit

Stockpile Topsoil

Prior to constructing the pit the qualified contractor will strip and stockpile the topsoil for use as the final cover or fill at the time of closure.

Signage

The operator will post an upright sign in a conspicuous place in compliance with 19.15.16.8 NMAC as the pit and the well are operated by the same operator. Section 19.15.16.8 states in part:

> 19.15.16.8 SIGN ON WELLS:
> B. For drilling wells, the operator shall post the sign on the derrick or not more than 20 feet from the well.
> C. The sign shall be of durable construction and the lettering shall be legible and large enough to be read under normal conditions at a distance of 50 feet.
> F. Each sign shall show the:
> (1) well number;
> (2) property name;
> (3) operator's name;
> (4) location by footage, quarter-quarter section, township and range (or unit letter can be substituted for the quarter-quarter section);
> and
> (5) API number.

The sign will also provide emergency telephone numbers.

Fencing:

During drilling or workover operations, the operator will not fence the edge of the pit adjacent to the drilling or workover rig.

As the pit is not located within 1000 feet of a permanent residence, school, hospital, institution or church, the operator will fence the pit to exclude livestock with four-wire strands evenly spaced in the interval between one foot and four feet above ground level.

Earthwork

The temporary pit will have a properly constructed foundation and interior slopes consisting of a firm, unyielding base, smooth and free of rocks, debris, sharp edges or irregularities to prevent the liner's rupture or tear.

The slopes of the pit will be no steeper than two horizontal feet to one vertical foot (2H:1V) unless in the transmittal letter the operator requested an alternative to the slope requirement with a demonstration that the pit can be operated in a safe manner to prevent contamination of fresh water and protect public health and the environment.

A berm or ditch will surround the temporary pit to prevent run-on of surface water.

If the transmittal letter identifies concerns relating to the presence of karst and associated instability, during construction of the pit the contractor will compact the earth material that forms the foundation for the pit liner. An expected proctor density of greater than 90% will be achieved by

1. adding water to the earth material as appropriate,
2. compacting the earth by walking a crawler-type tractor down the sides and bottom of the pit
3. repeating this process with a second 6-inch lift of earth material if necessary

Liner Installation

The geomembrane liner will consist of 20-mil string reinforced LLDPE or equivalent liner material identified in the transmittal letter or on Form C-144 (that the appropriate division district office approves through approval of this permit application). The geomembrane liner will be composed of an impervious, synthetic material that is resistant to petroleum hydrocarbons, salts and acidic and alkaline solutions. The liner material will be resistant to ultraviolet light. Liner compatibility will comply with EPA SW-846 method 9090A.

The operator will direct the liner installation contractor to:

1. minimize liner seams and orient them up and down, not across a slope
2. use factory welded seams where possible
3. overlap liners four to six inches and orient seams parallel to the line of maximum slope, i.e., oriented along, not across, the slope, prior to any field seaming
4. minimize the number of welded field seams in comers and irregularly shaped areas
5. utilize only qualified personnel to weld field seams
6. avoid excessive stress-strain on the liner
7. place geotextile under the liner where needed to reduce localized stress-strain or protuberances that may otherwise compromise the liner's integrity
8. anchor the edges of all liners in the bottom of a compacted earth-filled trench that is at least 18 inches deep
9. place additional material (liner, felt, etc.) to ensure that the liner is protected from any fluid force or mechanical damage at any point of discharge into or suction from the lined temporary pit.

C-144 Supplemental Documentation for Temporary Pit

A berm or ditch will surround the temporary pit to prevent run-on of surface water. During drilling operations, the operator may elect to remove run-on protection on the pit edge adjacent to the drilling or workover rig provided that the pit is being used to collect liquids escaping from the drilling or workover rig and this additional fluid will not cause a breach of the temporary pit.

The temporary pit will not be used to vent or flare gas and the volume of the temporary drilling pit, including freeboard, will not exceed 10 acre-feet.

Temporary Pit Operating and Maintenance Plan

The operator will maintain and operate the pit in accordance with the following plan to contain liquids and solids and maintain the integrity of the liner to prevent contamination of fresh water and protect public health and the environment.

If feasible, the operator will recycle, reuse or reclaim all drilling fluids in the temporary pit in a manner approved by division rules that prevents the contamination of fresh water and protects public health and the environment. Re-use of drilling fluids and workover fluids (stimulation flow-back) for drilling and stimulation of subsequent wells is anticipated. If re-use is not possible, fluids will be sent to disposal at a division-approved facility.

The operator will not discharge into or store any hazardous waste in the pit.

If the pit develops a leak or if any penetration of the pit liner occurs above the liquid's surface, then the operator will repair the damage or initiate replacement of the liner within 48 hours of discovery or will seek a variance from the division district office within this time period.

If the pit develops a leak or if any penetration of the pit liner occurs below the liquid's surface, then the operator will remove all liquid above the damage or leak line within 48 hours of discovery. The operator will also notify the district division office (19.15.29 NMAC) within this same 48 hours of the discovery and repair the damage or replace the pit liner.

The operator will ensure that the drilling contractor installs and uses a header, diverter or other hardware that prevents damage to the liner by erosion, fluid jets or impact from installation and removal of hoses or pipes during injection or withdrawal of liquids.

During construction, the operator or qualified contractor will install diversion ditches and berms around the pit as necessary to prevent the collection of surface water run-on. As outlined in the Construction and Design Plan, during drilling operations, the edge of the temporary pit adjacent to the drilling or workover rig may not have run-on protection if the operator is using the temporary pit to collect liquids escaping from the drilling or workover rig and run-on will not result in a breach of the temporary pit.

The operator will maintain on site an oil absorbent boom to contain and remove oil from the pit's surface.

The operator will only discharge fluids or mineral solids (including cement) generated or used during the drilling, completion, or workover processes into the pit.

The operator will maintain the temporary pit free of miscellaneous solid waste or debris. Immediately after cessation of drilling or a workover operation, the operator will remove any visible or measurable layer of oil from the surface of the pit.

The operator will maintain at least two feet of freeboard for the temporary pit, except under extenuating circumstances, which will be noted on the pit inspection log as described below.

The operator will inspect the temporary pit containing drilling fluids daily while the drilling rig or workover rig is on site. After the rigs have left the site, the operator will inspect the pit weekly as long as liquids are present in the pit. The operator will maintain a log of the inspections. The operator will make the log available to the division district office upon request.

The operator will remove all free drilling fluids from the surface of the temporary pit within 60 days from the date that the last drilling or workover rig associated with the pit permit is released. The operator will note the date of this release upon Form C-105 or C-103 upon well or workover completion. The operator may request an extension up to two months from the division district office as long as this additional time does not exceed the temporary pit life span (Subsection R of 19.15.17.7 NMAC).

Temporary Pit In-Place Closure Plan

The wastes in the temporary pit are destined for in place burial at the drilling location or, if stated in the permit transmittal letter, a nearby site on the same lease.

The operator will not begin closure operations without approval of the closure plan submitted with the permit application.

Siting Criteria Compliance Demonstration

Compliance with siting criteria is described in the site-specific information appended to the C-144.

Proof of Surface Owner Notice

The application package was transmitted to the surface landowner and OCD via email.

Construction/Design Plan of Temporary Pit

The design and construction protocols for the temporary pit are provided in the design and construction plan and in Plates 1-2. The drainage system described in the design and construction plan (above) is not shown on the Plates but can be important element of the closure plan.

General Protocols and Procedures

- All free liquids from the pit will be recycled or disposed in a manner consistent with OCD Rules.
- Residual drilling fluids will be removed from the pit within 60 days of release of the drilling rig.
- Water derived from the well stimulation program (flow-back or unused fresh water) that is significantly higher quality than the residual drilling fluids *may* discharge into the pit. The fresher water *may* discharge into the drainage system to flow through the solids or onto the solids in the pit.
- A low-flow pump *may* remove water from the drainage system to a tank or a fluids cell of the temporary pit; thereby further rinsing the residual solids in the pit.
- 20-60 days after placement of fresh flow-back water into the drilling cell, any water in the pit will be removed for re-use or disposal.
- The residual drilling mud and cuttings will be stabilized to a capacity sufficient to support the 4-foot thick soil cover.
- The residual pit solids will not be mixed at a ratio greater than 1 part pit solids to 3 parts dry earth material (e.g. subsoil).
- The pit will not be closed until the stabilized pit contents pass the paint filter liquids test.

Waste Material Sampling Plan

Prior to closure, a five-point (minimum) composite sample of the residual solids in the pit will be tested in a laboratory to demonstrate that the stabilized material will not exceed the contaminant concentrations listed in Table II of 19.15.17.13 NMAC mixed in a ratio of 3:1 with the earth material to be used for mixing and stabilization of the residual cuttings and mud.

In-place burial is the selected on-site disposal alternative.

If a concentration of a contaminant within the material mixed at a ratio not exceeding 3:1 is higher than the concentration given in Table II, closure will proceed in accordance with Subsection C of 19.15.17.13 NMAC.

Protocols and Procedures for Earthwork

Stabilization of the residual cuttings and mud is accomplished by mixing dry earth material within the temporary pit footprint. After stabilization the operator or qualified contractor will:

1. Place a geomembrane cover over the waste material in a way to prevent infiltration of water and so that infiltrated water does not collect on the geomembrane cover after the upper soil cover has been placed.
2. Use a geomembrane cover made of 20-mil string reinforced LLDPE liner or an equivalent cover approved by the district office that is composed of an impervious, synthetic material that is resistant to petroleum hydrocarbons, salts and acidic and alkaline solutions and complies with EPA SW-846 Method 9090A.
3. Over the sloping, stabilized material and liner, place the **Soil Cover Design**:
   a. at least 3-feet of compacted, uncontaminated, non-waste containing earthen fill with chloride concentrations less than 600 mg/kg as analyzed by EPA Method 300.0.
   b. either the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater, over the 3-foot earth material.
4. Contour the cover to blend with the surrounding topography and to prevent erosion of the cover and ponding over the cover.

Closure Notice

The operator will notify the surface owner by certified mail, return receipt requested, that the operator plans closure operations at least 72 hours, but not more than one week, prior to any closure operation. The notice will include the well name, API number, and location.

After approval for in-place burial, the operator shall notify the district office verbally and in writing at least 72 hours but not more than one week before any closure operation. Notice will include the operator's and the location of the temporary pit. The location will include unit letter, section number, township and range. If the location is associated with a well, then the well's name, number and API number will be included.

Should onsite burial be on private land, the operator will file a deed notice including exact location of the burial with the county clerk of the county where the onsite burial is located.

Closure Report

Within 60 days of closure completion, the operator will submit a

i. closure report on form C-144, with necessary attachments
ii. a certification that all information in the report and attachments is correct, that the operator has complied with all applicable closure requirements and conditions

specified in the approved closure plan

iii. a plat of the pit location on form C-l05

iv. if burial is in a nearby trench/pit, a separate C-105 showing the exact location

Unless the permit transmittal letter requests an alternative maker to comply with surface landowner specifications, the operator will place at the center of an onsite burial a steel marker that

- is not less than four inches in diameter
- is placed at the bottom of a three-foot deep hole (minimum) that is filled with cement to secure the marker
- is at least four feet above mean ground level
- permanently displays the operator name, lease name, well number, unit letter, section, township and range in welded or stamped legible letters/numbers

Timing of Closure

The operator will close the temporary pit within 6 months from the date the drilling or workover rig was released from the site. This date will be noted on form C-105 or C-103 filed with the division upon the well's or workover's completion.

Reclamation and Re-vegetation Plan

In addition to the area of the in-place burial, the operator will reclaim to a safe and stable condition that blends with the surrounding undisturbed area

1. the pit location not used for burial
2. other areas associated with the in-place burial including access roads

Areas not reclaimed as described herein due to their use in production or drilling operations will be stabilized and maintained to minimize dust and erosion.

As stated above, the soil cover for burial in-place

A. consists of a minimum of three feet of non-waste containing, uncontaminated, earthen material with chloride concentrations less than 600 mg/kg as analyzed by EPA Method 300.0 placed over the liner and stabilized solids

B. is capped by the background thickness of topsoil or 1-foot of suitable material to establish vegetation, whichever is greater

C. blends into surrounding topography

D. is graded to prevent ponding and to minimize erosion

For all areas disturbed by the closure process that will not be used for production operations or future drilling, the operator will

I. Replace topsoils and subsoils to their original relative positions

II. Grade so as to achieve erosion control, long-term stability and preservation of surface

water flow patterns

III. Reseed in the first favorable growing season following closure

Re-vegetation and reclamation plans imposed by the surface owner will be outlined in communications with the OCD.

The operator will notify the division when the surface grading work element of reclamation is complete.

The operator will notify the division when the site meets the surface owner's requirements or exhibits a uniform vegetative cover that reflects a life-form ratio of plus or minus fifty percent (50%) of pre-disturbance levels and a total percent plant cover of at least seventy percent (70%) of pre-disturbance levels, excluding noxious weeds.

Appendix B

R. T. HICKS CONSULTANTS, LTD.

901 Rio Grande Blvd NW ▲ Suite F-142 ▲ Albuquerque, NM 87104 ▲ 505.266.5004 ▲ Fax: 505.266-0745

August 26, 2016

Mr. Jamie Keyes
NMOCD District 1
1625 French Drive
Hobbs, New Mexico 88240
VIA EMAIL

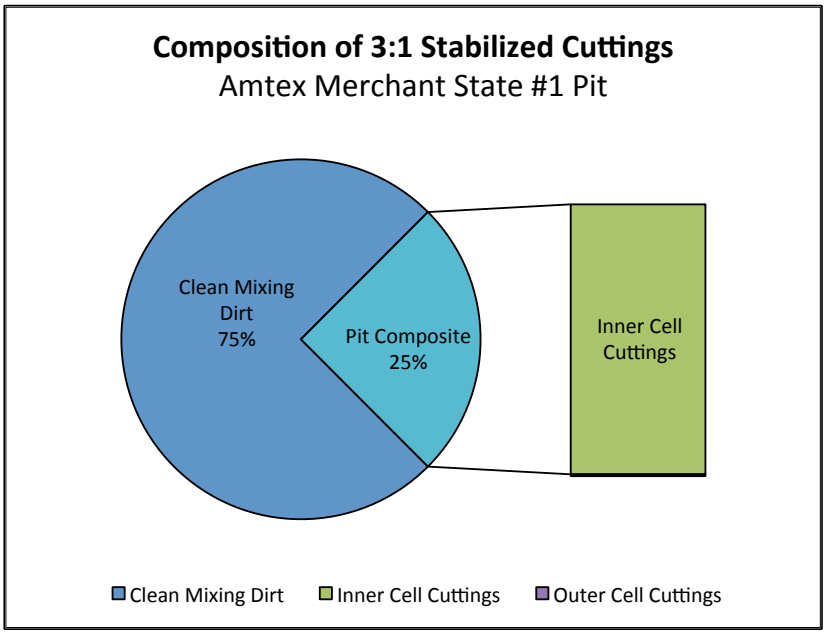
RE: AMTEX Energy, Inc. Merchant State Unit No. 1 Temporary Pit, In-place Burial Notice
API #30-025-29991, Permit #P1-06540, Unit I, Section 35, T21S, R33E, Lea County

Mr. Keyes:

On behalf of Amtex Energy, Inc., R. T. Hicks Consultants provides this notice to NMOCD with a copy to the State Land Office (email return receipt in lieu of US Mail per approved variance request) that closure operations at the above-referenced pit is scheduled to begin on approximately Tuesday, September 6, 2016. Please note that we utilized a variance approved by NMOCD on December 18, 2014 to substitute TPH via 8015 method (GRO + DRO+ ext. DRO) in lieu of method 418.1. The closure process should require about two weeks, depending on the weather and the availability of machinery.

The "In-place Burial" closure plan for the pit was approved by NMOCD on October 23, 2013 with the C-144 temporary pit application. The rig was released from the well on December 25, 2013 and the pit was then used to contain flow-back fluids to complete the well.

Samples collected on August 17, 2016 consisted of a 4-point composite from the horseshoe cell (single horseshoe pit) and a 5-point composite from the clean soil of the berms (beneath the liner) that will be used for stabilization mixing. The table on page 2 of this notice demonstrates the calculated concentration for "3:1 stabilized" material that results when the pit contents are combined with available mixing soil during the closure process. The calculated value mathematically mixes 3 parts clean soil (mixing dirt) with 1 part of the pit composite, as depicted in the adjacent chart.



Amtex Energy Inc. Merchant State No. 1 Temporary Pit	Sample Type	Sample Date	Chloride (mg/kg)	Benzene (mg/kg)	BTEX (mg/kg)	GRO+DRO (mg/kg)	GRO+DRO +extDRO (mg/kg)
Inner Composite (100%)	4-pt field comp.	8/17/16	26,400	9.13	109	3,580	4,029
Outer Composite (0%)	4-pt field comp.	8/17/16	0	0.0	0.0	0.0	0.0
Mixing Dirt	5-pt field comp.	8/17/16	3,600.0	ND	ND	ND	ND
3:1 Stabilized CALCULATED (3 parts mixing dirt, 1 part weighted pit cuttings)			**9,300**	**2.320**	**27.48**	**918.6**	**1,062**
NMAC 19.15.17.13 Table II (>100 ft) Closure Criteria			***80,000***	***10***	***50***	***1,000***	***2,500***

ND = Not Detect, Used Laboratory's Reporting Limit for Calculations

The formula used in the table:

$$\text{3:1 Stabilized Solids} = \frac{[(\text{Horseshoe Pit Composite}) + (3 \times \text{Mixing Dirt})]}{4}$$

Laboratory analyses of the component samples and the calculation of 3:1 stabilized cuttings "demonstrate that, after the waste is solidified or stabilized with soil or other non-waste material at a ratio of no more than 3:1 soil or other non-waste material to waste, the concentration of any contaminant in the stabilized waste is not higher than the parameters listed in Table II of 19.15.17.13 NMAC." Thank you for your consideration of this notice of in-place closure. I will follow-up this notice to you with a phone call today as required by the Pit Rule.

Sincerely,

R.T. Hicks Consultants

Dale T. Littlejohn
Geologist

Copy: Amtex Energy Inc,
Ed Martin via email
New Mexico State Land Office

Appendix C

R. T. HICKS CONSULTANTS, LTD.
901 Rio Grande Blvd NW ▲ Suite F-142 ▲ Albuquerque, NM 87104 ▲ 505.266.5004 ▲ Fax: 505.266-0745

April 19, 2017

Dr. Tomas Oberding
Oil Conservation Division
1220 South Francis Dr.
Santa Fe, New Mexico 87505
Via E-Mail

RE: AMTEX Energy, Merchant State Unit No. 1, API: 30-025-29991, OCD Permit # PI-06540, OGRID # 000785, Unit I Section 35, T21S, R33E, Lea County, Addendum to Temporary Pit Closure Report

Dear Dr. Oberding:

On behalf of Amtex Energy Inc., R.T. Hicks Consultants submits this addendum to the closure report for the above referenced temporary pit, which was submitted on March 6, 2017. Because of the delay in closing the temporary pit, NMOCD requested confirmation sampling to quantify chloride concentrations in the soil below the former pit area in order to determine if seepage below the temporary liner of the pit, during operation of the pit or closure activities, created a threat to fresh water or the environment. The procedures followed are based on a Work Plan submitted on March 30, 2017, and a follow-up telephone conversation with email confirmation on April 6, 2017. A description of the field activities and the analytical results are provided in Attachment 7 as highlighted on the table below from the original Final Closure Report.

Required Information	**Location in Submission**
Proof of closure Notice (to surface owner and Division)	Attachment 1
Proof of Deed Notice (required for on-site closure	State Land (no deed)
Plot Plan (for on-site closures and temporary pits)	C-105 and Attachment 2
Confirmation Sampling Analytical Results	**Attachment 7**
Waste Material Sampling Analytical Results (required for on-site closure)	Attachment 3
Disposal Facility Name and Permit Number	Not Applicable
Soil Backfilling and Cover Installation	Attachment 4
Re-vegetation Application and Seeding Technique	Attachment 5
Updated C-144 form	Attachment 6
Site Reclamation (Photo Documentation)	To follow later

As stated in the original report, R.T. Hicks Consultants will notify NMOCD and provide photo-documentation when re-vegetation obligations described in subsection H of 19.15.17.13 NMAC are met.

Sincerely,
R.T. Hicks Consultants, Ltd.

Dale Littlejohn
Geologist

Copy: Amtex Energy Inc.,
New Mexico State Land Office, Amber Groves
NMOCD District 1 Office, Olivia Yu

Closure Letter (Addendum) Attachment 7
AMTEX Energy, Inc. – Merchant State Unit #1
API: 30-025-29991

CONFIRMATION SAMPLING AND ANALYTICAL RESULTS

On April 12, 2017, Amtex and Hicks Consultants caused the installation of two trenches (see image below) through the clean soil cover backfill material of the former pit area to access earth material below the former liner of the temporary pit.

The Merchant State #1 was originally drilled in 1987 by Enron Oil & Gas Company to a total depth of 16,450 feet. The temporary pit installed in 2013 lay within the footprint of the much larger, reclaimed drilling pit used for the 1987 drilling and, as discussed below, overlay residual drilling waste and liners from the earlier drilling. Therefore,

elevated "background" concentrations of chloride would likely be present below the 2013 temporary pit. The work plan called for sampling below areas most likely to show evidence of seepage from the Amtex pit. The work plan also proposed a third trench located outside the Amtex pit area but below the original Enron pit in order to obtain a background sample. For reasons outlined below, this background trench was not necessary.

The east trench shown in the figure above was 14 feet deep and located at 32° 26' 4.4" North latitude and 103° 32' 16.2" West longitude. The west trench was 5 feet deep and located at 32° 26' 4.4" North latitude and 103° 32' 16.7" West longitude (NAD 83).

The upper 7 feet of excavated material in the East Trench was comprised of backfilled soil that had been set-aside during the installation of the Amtex pit. At the base of this material were fragments of the 20-mil liner used in the Amtex pit as shown in the adjacent photograph. Below the 20-mil liner to a depth of 9 feet (below the surface) the excavation encountered a darker soil, which contained fragments of a much thinner liner (10- to 12-mil) as shown below. We believe the material from 7 to 9 feet are residual drill cuttings mixed with soil.

We collected soil samples from underneath what we believed to be the original Enron pit at 12 and 14 feet below the surface (3 and 5 feet below the original Enron pit), which was the maximum reach of the backhoe.

Similarly, the West Trench encountered fragments of 20-mil liner at 3 feet below the surface and fragments of thinner liner at 3 to 4 feet below the surface. A very hard caliche encountered at a depth of 4 feet below grade is below the 1987 pit and we collected a soil sample at 5 feet below the surface (one foot below the original Enron pit). Based

on this information, the entire Amtex pit lay within the footprint of the original Enron pit and on top of residual material from the 1987 pit. Therefore a third "background" pit was unnecessary.

All soil samples were field titrated to determine the chloride concentration according to attached standard operating procedure. Samples from the total depth of each trench were placed in a clean 4-ounce jar (provided by the laboratory), chilled to 4 C, and transported to Cardinal Laboratory in Hobbs for analysis of chlorides by method SM4500Cl-B. The results of the field titrations, laboratory analysis, and Rule 17 closure criteria for Chloride in the soil are provided on Table 1; the laboratory report is attached.

Table 1
Amtex Energy, Inc. - Merchant State #1 Chloride Concentration

Date	Time	Sample ID	Depth (ft)	Field (mg/kg)	Lab (mg/kg)
4/12/17	1200	East Trench	12	1,403	--
4/12/17	1205	East Trench	14	2,057	3,120
4/12/17	1220	West Trench	5	2,259	3,520
19.15.17.13 NMAC Table II Closure Criteria (GW Depth >100 feet)					**80,000**

* Sample depth measured from surface due to presents of historic pit

The results of the sampling program described above provide clear evidence that the material beneath the Amtex temporary pit ***and*** the 1987 drilling pit are an order of magnitude less than the 80,000 mg/kg limit established by Rule 17 for the burial of drilling waste beneath a liner and 4-foot soil cover. RT Hicks Consultants recommends that no further corrective actions be taken at this site.

FIELD PROCEDURE
Chloride Titration Using
0.282 Normal Silver Nitrate Solution

1.0 Purpose

This procedure is to be used to determine the concentration of chloride in soil and other solids (e.g. drilling waste).

2.0 Scope

This procedure is to be used as the standard field measurement for soil chloride concentrations.

3.0 Sample Collection and Preparation

3.1 Collect at least 80 grams of soil from the sample collection point. Take care to ensure that the sample is representative of the general area of concern to include visible concentrations of hydrocarbons and soil types. If necessary, prepare a composite sample for soils obtained at several points in the sample area.

3.2 The soil sample(s) shall be immediately inserted into a one-quart or larger polyethylene freezer bag. Care should be taken to insure that no cross-contamination occurs between the soil sample and the collection tools or sample processing equipment.

3.3 The sealed sample bag should be massaged to break up any clods.

4.0 Sample Preparation

4.1 Tare a clean glass vial having a minimum 40 ml capacity. Add at least 10 grams of the soil sample and record the weight.

4.2 Add at least 10 grams of reverse osmosis water or distilled water to the soil sample and shake or agitate for 20 seconds.

4.3 Allow the sample to set for a period of 5 minutes or until the separation of soil and water.

4.4 Carefully pour the free liquid extract from the sample, through a paper filter if necessary, into a clean plastic cup.

5.0 Titration Procedure

5.1 Using a graduated pipette, remove 10 ml extract and dispense into a clean plastic cup.

5.2 Add 2-3 drops potassium chromate (K_2CrO_4) to mixture.

5.3 If the sample contains any sulfides (hydrogen or iron sulfides are common to oilfield soil samples) add 2-3 drops of hydrogen peroxide (H_2O_2) to mixture.

5.4 Using a 1 ml pipette, carefully add .282 normal silver nitrate (one drop at a time) to the sample while constantly agitating it. Stop adding silver nitrate when the solution begins to change from yellow to red. Be consistent with endpoint recognition.

5.5 Record the ml of silver nitrate used.

6.0 Calculation

To obtain the chloride concentration, insert measured data into the following formula:

$$\frac{.282 \times 35{,}450 \times \text{ml } AgNO_3}{\text{ml water extract}} \times \frac{\text{grams of water in mixture}}{\text{grams of soil in mixture}}$$

Using Step 5.0, determine the chloride concentration of the RO water used to mix with the soil sample. Record this concentration and subtract it from the formula results to find the net chloride in the soil sample.

Record all results on a field form.

Additional Notes

1) Make sure the scale is weighing in grams.
2) "Zero" the scale with clean, empty 40 ml container (including the cap) sitting on the scale.
3) Add 10 to 20 grams of sample soil to the container. Record the weight.
4) Re"zero" the scale.
5) Add distilled water to almost fill the container. Record the weight.
6) Screw the cap on, and shake the container to thoroughly mix the sample with the distilled water. Set aside to allow settling of the sample. This will take only a few minutes for coarse grained material and up to 20 minutes for very fine grained sediments. The solution does not need to be perfectly clear to continue the procedure.
7) Add 3 drops of Potassium Chromate to a small, clean, plastic cup.
8) Extract 10 ml (using a large pipette – at least 10 ml) of solution from the sample container and put it into the plastic cup. Record ml of solution placed in the cup.
    a. This can be kept track of by careful recording of "before" and "after" fluid levels in the pipette.
    b. Or: Place the plastic cup on the scale with the potassium chromate and "zero" the scale. Add solution to the cup until 10 grams is indicated on the scale.
9) Swirl the solution and the potassium chromate to mix them.
10) Using a 1 ml pipette, add silver nitrate to the mixed solution drop by drop while swirling. The entire solution will change from a pale lemon yellow color to a brick red color when sufficient silver nitrate has been added. STOP when it all turns brick red. It does not need to be a deep brick red color. This will result in an overly high result. Record ml of silver nitrate used.
11) The chloride concentration of the sample is given by:

$$C_{sam} = (35{,}450 * 0.282) * \frac{\text{(grams of water)}}{\text{(grams of soil)}} * \frac{\text{(ml of silver nitrate)}}{\text{(ml of solution)}}$$

or:

$$C_{sam} = (9997) * \frac{\text{(grams of water (Step 5))}}{\text{(grams of soil (Step 3))}} * \frac{\text{(ml of silver nitrate (Step 10))}}{\text{(ml of solution (Step 8))}}$$

Units are: mg(of chloride)/kg(of soil)

Equipment List:
Scale
10 ml pipettes
1 ml pipettes
Controllers for pipettes (small and large),
press pipette into open end (carefully)
40 ml sample containers
Small plastic cups

Silver Nitrate
Potassium Chromate
Distilled water
Waste container for final solution. A robust plastic jug with lid will do for field use. DO NOT pour this down a drain. Dispose of with a chemical lab.
Waste bags for used plastic cups (rinse and pour rinsing fluid into robust jug)

Calculator
Nitrile gloves
Safety glasses
Paper towels

Safety Data

http://ptcl.chem.ox.ac.uk/~hmc/hsci/chemicals/silver_nitrate.html

http://ptcl.chem.ox.ac.uk/~hmc/hsci/chemicals/potassium_chromate.html

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

April 18, 2017

DALE LITTLEJOHN

R T HICKS CONSULTANTS

901 RIO GRANDE BLVD SUITE F-142

ALBUQUERQUE, NM 87104

RE: AMTEX MERCHANT STATE # 1

Enclosed are the results of analyses for samples received by the laboratory on 04/12/17 14:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

R T HICKS CONSULTANTS
DALE LITTLEJOHN
901 RIO GRANDE BLVD SUITE F-142
ALBUQUERQUE NM, 87104
Fax To: NONE

Received:	04/12/2017	Sampling Date:	04/12/2017
Reported:	04/18/2017	Sampling Type:	Soil
Project Name:	AMTEX MERCHANT STATE # 1	Sampling Condition:	Cool & Intact
Project Number:	PIT	Sample Received By:	Tamara Oldaker
Project Location:	LEA COUNTY, NM		

Sample ID: EAST TRENCH (14' BS) (H700977-01)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3120**	16.0	04/13/2017	ND	432	108	400	3.77	

Sample ID: WEST TRENCH (5' BS) (H700977-02)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3520**	16.0	04/13/2017	ND	432	108	400	3.77	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

Company Name:	R T Hicks Consultants Ltd	**BILL TO**	
Project Manager:	Dale Littlejohn	**P.O. #:**	
Address:	901 Rio Grande BLVD, Suite F-142	**Company:**	RT Hicks Consult.
City:	Albuquerque **State:** NM **Zip:** 87104	**Attn:**	Krista
Phone #:	(432) 528-3878 **Fax #:** dale@rthicksconsult.com	**Address:**	901 Rio G. F-142
Project #:	**Project Owner:** Amtex	**City:**	Albuquerque
Project Name:	Merchant State #1 Pit	**State:**	NM **Zip:** 87104
Project Location:	Lea County, NM	**Phone #:**	(505) 266-5004
Sampler Name:	Dale Littlejohn	**Fax #:**	k@rthicksconsult.com

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST									
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	BTEX (8021B or 8260B)	GRO (8015M)	DRO (8015M)	MRO (8015M)	TPH (418.1)	Chloride (300.0 or approved)				
H700977																								
1	East Trench (14' BS)	G	1			✓					✓		4/12	1205						✓				
2	West Trench (5' BS)	G	1			✓					✓		4/12	1220						✓				

Relinquished By:	Date: 4/12	**Received By:**	
Dale T Littlejohn	Time: 1400		
Relinquished By:	Date: 4-12-17	**Received By:**	
	Time: 14:00	Tamara Oldaker	
Delivered By: (Circle One)	**Sample Condition** Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No	**CHECKED BY: (Initials)**	
Sampler - UPS - Bus - Other: 2.9°C		T.O. #75	

Phone Result:	☐ Yes	☐ No	**Add'l Phone #:**
Fax Result:	☐ Yes	☐ No	**Add'l Fax #:**
REMARKS:			

R. T. HICKS CONSULTANTS, LTD.

901 Rio Grande Blvd NW ▲ Suite F-142 ▲ Albuquerque, NM 87104 ▲ 505.266.5004 ▲ Since 1996

March 30, 2017

Dr. Tomas Oberding
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505
Via E-Mail

RE: Amtex Energy, Inc. Merchant State Unit #1

Dear Dr. Oberding:

On behalf of Amtex Energy, Inc. (Amtex), R.T. Hicks Consultants submits the requested work plan to measure seepage, if any, from the temporary pit at the above-referenced location. As shown in the Google image below, there are two cells permitted for this temporary pit: the drilling cell and, to the right, a water storage cell used for hydraulic stimulation, overflow from workover and fluid make-up for drilling. The drilling cell is both small in horizontal extent and shallow because this was a re-entry, not a new well for Amtex. The pit was constructed over the former drilling pit used for the original well. Attached to this work plan is a 1996 Google Earth image of the location; the outline of the former pit is apparent.

As stated in the closure report, all of the solids in the drilling cell were placed in the former water storage pit, which contained only water, blow sand and perhaps a very small volume of cuttings from workover operations.

We proposed the following protocol:

1. Use a backhoe or trackhoe to excavate a sampling trench at each of the three locations shown as red circles. The western sample is meant to determine the background chloride concentration associated with the pre-Amtex drilling pit.
2. Once the excavation reach the floor of the Amtex drilling pit, samples from each trench will be retrieved at 2-foot intervals and tested in the field for chloride concentration.
3. We anticipate that the total depth of each sampling trench will be about 8-14 feet from ground surface and 2-8 feet below the former bottom of the drilling cell, depending on the field chloride results.
4. The bottom sample from the trench will also be submitted to a laboratory for analysis of chloride.
5. We will submit a report of the sampling results to OCD and will include
    a. Latitude and longitude of the sampling trenches.
    b. Location of the trenches plotted on a recent Google Earth image.
    c. Laboratory reports

d. Laboratory and field test results tabulated.
e. Photographic documentation of the field program.
f. A comparison of the data from samples below the Amtex pit to the background sampling trench.
g. A proposal to resolve outstanding issues with this pit that will result in closure of the regulatory file.

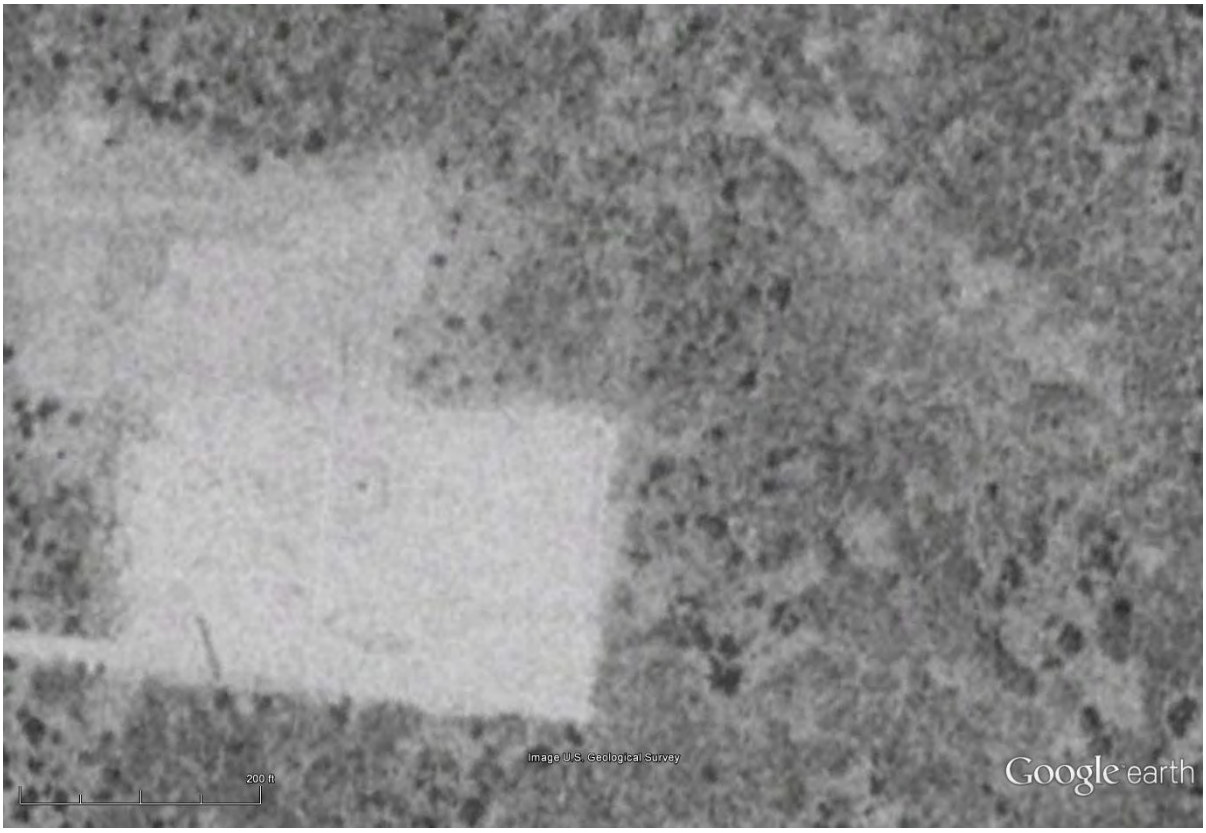
Based upon similar work on drilling pits, we suspect that the sample obtained from 2 feet below the Amtex pit bottom may show evidence of seepage due to the closure process described in the closure report. The samples from 4 feet below the pit might suggest a mixture of some seepage from the Amtex pit and residual salt from the original pit. Samples taken at 6 and 8 feet below the Amtex pit bottom will probably be equivalent to the background trench.

We would like to implement this program as soon as possible. Please expect similar work plans for the other area pits over the next few days. Thanks for your attention to this issue.

Sincerely,
R.T. Hicks Consultants

Dale Littlejohn
Senior Geologist

Copy: Amtex Energy
NM State Land Office, Terry Warnell



1996 Goggle Image of Merchant #1 well site with original reserve pit to the northwest

From: **Dale Littlejohn** dale@rthicksconsult.com
Subject: Amtex Temporary Pit Sampling Project
Date: April 6, 2017 at 9:13 PM
To: Tomas Oberding tomas.oberding@state.nm.us, Olivia Yu Olivia.yu@state.nm.us, Amber Groves agroves@slo.state.nm.us, Ed Martin emartin@slo.state.nm.us
Cc: Randy Hicks r@rthicksconsult.com, Jimmy Smith altech@pvtn.net, tate.savage@amtexenergy.com, William Savage bsavage@amtexenergy.com, krivera@amtexenergy.com, Karol Eads keads@amtexenergy.com, Stephen Wilson storm.construction@outlook.com

---

Tomas,

Thanks for your quick response to these work plans. We intend to start the sampling process at the Coop “6” State Well #2H on Tuesday morning, April 11, 2017. Based on our discussion and your email of today, we will recover soil samples from 2 locations below each pit, (1) the deepest “pooling” location and (2) the shallow “drop off zones of the cuttings”, (we have photographs that will help us make those determinations).

We will sample at 2-foot intervals below the pit to a depth of at least 5 feet below the pit (regardless of the shallower results). We will continue deeper if necessary for vertical delineation and will inform the OCD of the status. The bottom sample of each excavation (at least 2 per site) will be submitted to a laboratory for chloride analysis.

Once again, Thanks for your help.

Dale Littlejohn
dale@rthicksconsult.com
(432) 528-3878

Appendix D

LEA COUNTY, NM
KEITH MANES, COUNTY CLERK
000010015
Book2116 Page 665
1 of 4
07/19/2017 10:40 AM
BY MARIA COLLINS

STATE OF NEW MEXICO §
§
COUNTY OF LEA §

This Notice is filed to provide information concerning certain environmental conditions and/or use limitations pursuant to the New Mexico Oil Conservation Division (NMOCD) Rule found in Title 19 of the New Mexico Administrative Code (NMAC), Chapter 15, and affects the real property (the Property) described as follows:

Unit I of Section 35, Township 21 South, Range 33 East

As the siting criteria in Paragraph (4) of Subsection C of 19.15.17.10 NMAC (effective date of June 16, 2008), were met, Amtex Energy, Inc. elected to use on-site trench burial for closure of the temporary pit used for re-entering and working over the Merchant State Unit No. 1 oil well (API Number 30-025-29991). The waste met the criteria in Subparagraph (c) of Paragraph (3) of Subsection F of 19.15.17.13 NMAC.

The location of the on-site burial trench is as follows:

Being 0.158 acres of land

and said 0.158 acre tract being more particularly described as follows;

Commencing at a point with coordinates of (WGS 84 coordinate system):
Latitude 32.434538°
Longitude -103.537459°

Thence Northwards a distance of 130.81 feet to a point with the coordinates of :
Latitude 32.434896°
Longitude -103.537461°

Thence Westwards a distance of 52.33 feet to a point with the coordinates of :
Latitude 32.434899°
Longitude -103.537627°

Thence Southwards a distance of 131.92 feet to a point with the coordinates of :
Latitude 32.434537°
Longitude -103.537631°

Thence Eastwards a distance of 53.74 feet to the point of beginning and containing 0.158 acres.

LEA COUNTY, NM
KEITH MANES, COUNTY CLERK
00010015
Book2116 Page 666
2 of 4
07/19/2017 10:40 AM
BY MARIA COLLINS

See Plate 1 attached hereto and incorporated herein by reference.

This notice is required because the Property described immediately above currently meets NMOCD requirements for Trench Burial Closure of a Temporary Drilling Pit. Based on the reports, the constituents of concern pose no significant present or future risk to humans or the environment based on the land use. No further remediation of the Property is required by the NMOCD as long as a person shall not build permanent structures over an onsite burial without the appropriate division district office's written approval.

As of the date of this Notice, the record owner of title to the Property is Merchant Livestock with an address of PO Box 1105, Eunice, NM 88231.

For additional information, contact:

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

This Notice may be rendered of no further force or effect only by a superseding deed notice executed by the NMOCD or its successor agencies and filed with the County Clerk of Lea County, NM in the same Real Property Records as those in which this Deed Notice is filed.

Executed this 18 day of July, 2017.

By: Dale T. Littlejohn

Name: Dale T Littlejohn

Title: Agent for Amtex Energy, Inc.

STATE OF TEXAS

(Midland) COUNTY

BEFORE ME, on this the 18 (date) day of July (month and year), personally appeared Dale T Littlejohn (name), Hydrogeologist (title), of RT Hicks Consultants, (company) as agent, Known to me to be the person whose name is subscribed to the foregoing instrument, and they Acknowledge to me that they executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this the 18 day of July, 2017.

Mary G. Martinez

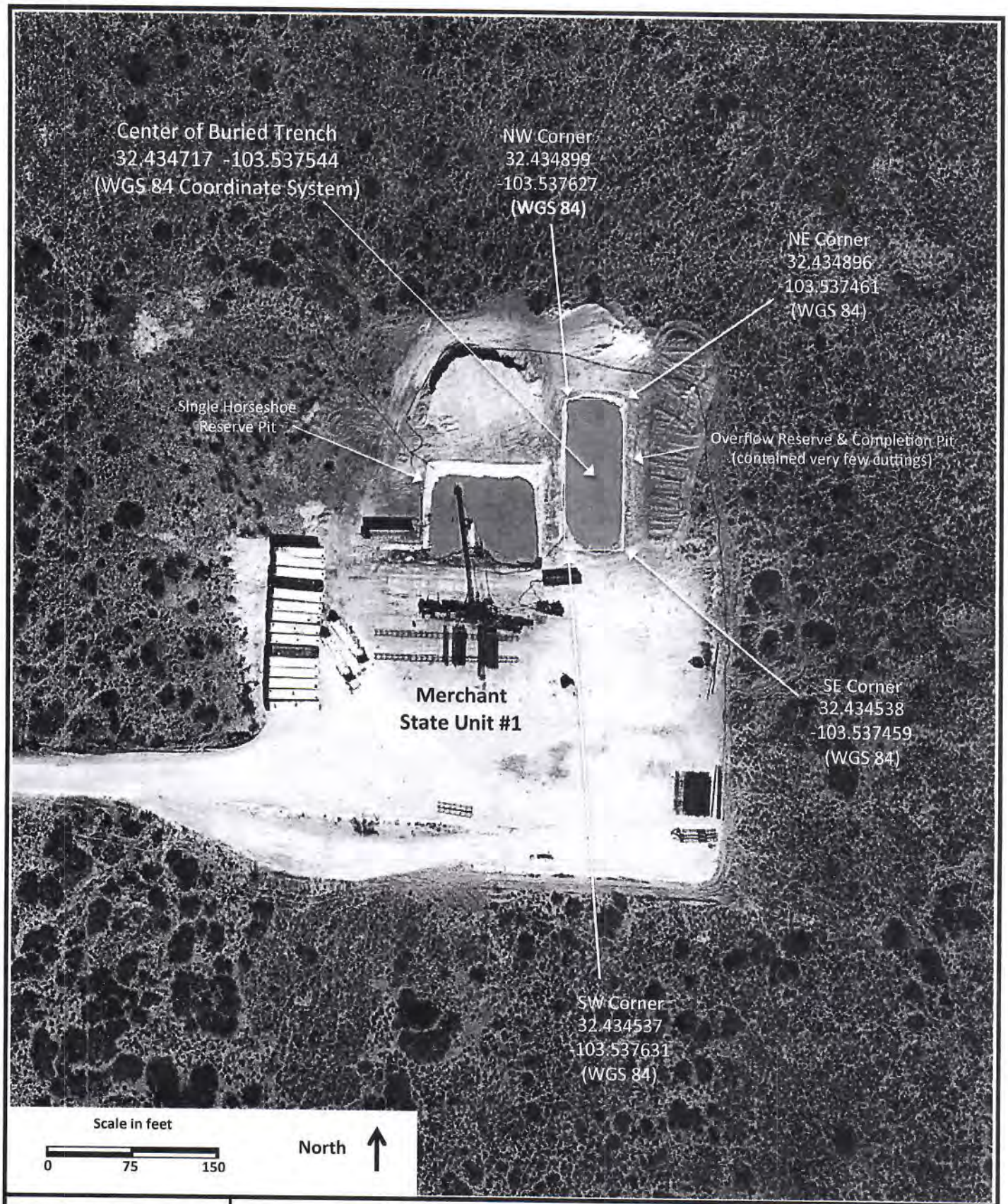
Notary Public in and for the State of Texas,

County of Midland

My Commission Expires: 11/7/2020

MARY G MARTINEZ
NOTARY PUBLIC
STATE OF TEXAS
MY COMM. EXP. 11/7/20
NOTARY ID 12498565-0

LEA COUNTY, NM
KEITH MANES, COUNTY CLERK
000010015
Book2116 Page 667
3 of 4
07/19/2017 10:40 AM
BY MARIA COLLINS



R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 (432) 528-3878	**On-Site Location of Burial Trench** Unit I - Section 35 - T21S - R33E	**Plate 1** Deed Notice
	Amtex Energy, Inc. **Merchant State Unit No. 1**	**July 2017**

LEA COUNTY, NM
KEITH MANES, COUNTY CLERK
00001001S
Book2116 Page 668
4 of 4
07/19/2017 10:40 AM
BY MARIA COLLINS

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Operator:	OGRID:
ADVANCE ENERGY PARTNERS HAT MESA, LLC 11490 Westheimer Rd., Ste 950 Houston, TX 77077	372417
	Action Number: 62289
	Action Type: [C-103] NOI General Sundry (C-103X)

CONDITIONS

Created By	Condition	Condition Date
dmcclure	ACCEPTED FOR RECORD ONLY	11/17/2021