

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

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

Form C-144
July 21, 2008

For temporary pits, closed-loop systems, and below-grade tanks, submit to the appropriate NMOCD District Office.
For permanent pits and exceptions submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.

**Pit, Closed-Loop System, Below-Grade Tank, or
Proposed Alternative Method Permit or Closure Plan Application**

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

Instructions: Please submit one application (Form C-144) per individual pit, closed-loop system, 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: **ROSETTA RESOURCES OPERATING LP** OGRID #: **239235**
Address: **1200 17TH ST., SUITE 770, DENVER, CO 80202**
Facility or well name: **TSAH TAH 11 #3R**
API Number: **30-045-34713** OCD Permit Number: _____
U/L or Qtr/Qtr **SWSW** Section **11** Township **24 N** Range **10 W** County: **SAN JUAN**
Center of Proposed Design: Latitude **36.32407° N** Longitude **107.87054° W** NAD: ☐ 1927 ☒ 1983
Surface Owner: ☒ Federal ☐ State ☐ Private ☐ Tribal Trust or Indian Allotment

RCVD AUG 19 '08
OIL CONS. DIV.
DIST. 3

2.
☒ **Pit:** Subsection F or G of 19.15.17.11 NMAC
Temporary: ☒ Drilling ☐ Workover
☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A
☒ Lined ☐ Unlined Liner type: Thickness **20** mil ☒ LLDPE ☐ HDPE ☐ PVC ☐ Other _____
☒ String-Reinforced
Liner Seams: ☒ Welded ☒ Factory ☐ Other _____ Volume: **921** bbl Dimensions: L **60'** x W **12'** x D **8'**

3.
☐ **Closed-loop System:** Subsection H of 19.15.17.11 NMAC
Type of Operation: ☐ P&A ☐ Drilling a new well ☐ Workover or Drilling (Applies to activities which require prior approval of a permit or notice of intent)
☐ Drying Pad ☐ Above Ground Steel Tanks ☐ Haul-off Bins ☐ Other _____
☐ Lined ☐ Unlined Liner type: Thickness _____ mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other _____
Liner Seams: ☐ Welded ☐ Factory ☐ Other _____

4.
☐ **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 _____

5.
☐ **Alternative Method:**
Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

6.

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 minimum 36" hog wire topped with at least 1 strand of barbed wire = at least 48" high fence

7.

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)

8.

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 19.15.3.103 NMAC

9.

Administrative Approvals 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:

- ☒ Administrative approval(s): Requests must be submitted to the appropriate division district or the Santa Fe Environmental Bureau office for consideration of approval. *See italicized requests for alternate slopes on Page 3 of attachment*
- ☐ Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

10.

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. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. Siting criteria does not apply to drying pads or above-grade tanks associated with a closed-loop system.

Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. (Applies to temporary, emergency, or cavitation pits and below-grade tanks) - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. (Applies to permanent pits) - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
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. - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within a 100-year floodplain. - FEMA map	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

11.

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: _____

12.

Closed-loop Systems 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.

- ☐ Geologic and Hydrogeologic Data (only for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 19.15.17.9
- ☐ Siting Criteria Compliance Demonstrations (only for on-site closure) - 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: _____☐ Previously Approved Operating and Maintenance Plan API Number: _____ (Applies only to closed-loop system that use above ground steel tanks or haul-off bins and propose to implement waste removal for closure)

13.

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 H₂S, 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

14.

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 ☐ Closed-loop System
☐ AlternativeProposed 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 (Exceptions must be submitted to the Santa Fe Environmental Bureau for consideration)

15.

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 F 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 I of 19.15.17.13 NMAC
- ☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

16.

Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only: (19.15.17.13.D NMAC)

Instructions: Please identify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if more than two facilities are required.

Disposal Facility Name: _____ Disposal Facility Permit Number: _____
 Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Will any of the proposed closed-loop system operations and associated activities occur on or in areas that *will not* be used for future service and operations?

☐ Yes (If yes, please provide the information below) ☐ No

Required for impacted areas which will not be used for future service and operations:

- ☐ 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 I of 19.15.17.13 NMAC
☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

17.

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 may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for guidance.

Ground water is less than 50 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
Ground water is between 50 and 100 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> 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	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
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	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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. - NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within a 100-year floodplain. - FEMA map	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

18.

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 F of 19.15.17.13 NMAC See 10. on APD Page 7 (Exhibit L)
☐ Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements 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 Subsection F of 19.15.17.13 NMAC
☒ Waste Material Sampling Plan - based upon the appropriate requirements of Subsection F 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 I of 19.15.17.13 NMAC
☒ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

19.

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): **BRIAN WOOD** Title: **CONSULTANT**

Signature: _____

Date: **8-18-08**

e-mail address: **brian@permitswest.com** Telephone: **(505) 466-8120**

20.

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

OCD Representative Signature: _____

Approval Date: **9-2-08**

Title: **Enviro Spec**

OCD Permit Number: _____

21.

Closure Report (required within 60 days of closure completion): Subsection K of 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: _____

22.

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.

23.

Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:

Instructions: Please identify the facility or facilities for where the liquids, drilling fluids and drill cuttings were disposed. Use attachment if more than two facilities were utilized.

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Were the closed-loop system operations and associated activities performed on or in areas that *will not* be used for future service and operations?

☐ Yes (If yes, please demonstrate compliance to the items below) ☐ No

Required for impacted areas which will not be used for future service and operations:

- ☐ Site Reclamation (Photo Documentation)
☐ Soil Backfilling and Cover Installation
☐ Re-vegetation Application Rates and Seeding Technique

24.

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)
☐ 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

25.

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: _____

Rosetta Resources Operating LP
Tsah Tah 11 #3R temporary pit
1047' FSL & 1200' FWL Sec. 11, T. 24 N., R. 10 W.
San Juan County, New Mexico
API # 30-045-34713

PAGE 1

Siting Criteria

1. Ground water is more than 500' below the bottom of the pit. This estimate is based on the Blancett water well (Exhibit A) which is $\approx 1\frac{1}{3}$ miles away in SW 12-24n-10w (Exhibit B). Pit will be in the Nacimiento Formation.

6,881' graded ground	$\approx 6,695'$ water well ground elevation
<u>- 8' deep pit</u>	<u>- 595' depth to water</u>
6,873' bottom of pit	$\approx 6,360'$ water level elevation

6,873' bottom of pit
<u>- 6,360' water level</u>
$\approx 513'$ depth to water

There is no recorded depth information for the Yazzie water well which is 2,000' ENE in SE 11-24n-10w. The water well owner, Mr. Yazzie, said on July 21 that the depth was $\approx 800'$, he had a submersible pump, depth to water was similar to that at the Blancett well, but he did not know the exact depth. The well is used for livestock. (Water for human consumption is piped to his house by NTUA.) Mr. Yazzie said the windmill in NW Section 16 was of a similar depth.

2. Pit is not within 300' of a continuously flowing watercourse. Pit is not within 200' of any other significant watercourse as defined by OCD. Closest first order tributary of Coal Creek is many miles downstream (Exhibit C).

3. Excluding Rosetta's Tsah Tah SWD 11 pump shed on the adjacent pad, pit is not within 300' of any building. Closest buildings are $\approx 2,000'$ east and west (Exhibits C & D).

4. Pit is not within 1,000' any fresh water well or spring (Exhibits A & C).

5. Pit is not within municipal boundaries or within a municipal fresh water well field (Exhibits A & C).

Rosetta Resources Operating LP
Tsah Tah 11 #3R temporary pit
1047' FSL & 1200' FWL Sec. 11, T. 24 N., R. 10 W.
San Juan County, New Mexico
API # 30-045-34713

PAGE 2

6. Pit is not within 500' of a wetland (Exhibit E).
7. Pit does not overly a mine (Exhibit F).
8. Pit is not in an unstable area. No evidence of earth movement was found during a July 21, 2008 inspection. Maximum grade is 1%. All of pit will be in cut. (Exhibits G & H)
9. Pit is not within a 100 year flood plain (Exhibit I).
10. C-102 is attached as Exhibit J.
11. Note that proposed pit overlaps about a dozen feet of Rosetta's reclaimed 11 #3 pit (Exhibit K). The 11 #3 pit was reclaimed before June 16, 2008.

Hydrogeology

Surface formation is the Nacimiento. According to Stone et al in Hydrogeology and water resources of San Juan Basin, New Mexico, the Nacimiento is mainly a mudstone. There are also medium to coarse grained sandstone layers in the Nacimiento. Transmissivities of 100 feet² per day can be found in the coarser continuous sandstones. Water in the more extensive sandstones has a specific conductance of 1,500 μ mhos. Specific conductance is >2,000 μ mhos in the finer grained sandstones.

The Nacimiento is above the Ojo Alamo sandstone. The Ojo Alamo top was found to be at 5,951' in the adjacent (52') Tsah Tah 11 #3 well. That well is at 1000 FSL & 1205 FWL in this same Section 11. If the top of the Ojo Alamo is at the same elevation in the 11 #3R, then it would be 922' below the bottom of the pit (6,873' - 5,951' = 922'). Based on completion reports from Rosetta's Tsah Tah 11-3, 11-4, and 12-4 wells which show the Ojo Alamo top at 5,950' to 6,050'; the water wells appear to produce from the bottom of the Nacimiento.

Rosetta Resources Operating LP
Tsah Tah 11 #3R temporary pit
1047' FSL & 1200' FWL Sec. 11, T. 24 N., R. 10 W.
San Juan County, New Mexico
API # 30-045-34713

PAGE 3

Alternative for 19.15.17.11 D. (3)

Rosetta is proposing an alternate fence. Sheep graze in the project area and hog wire has been found to be more effective than just barbed wire. The operator will fence the pit with a minimum 48" high fence. Fence will consist of minimum 36" high woven wire (hog wire) topped with at least 1 strand of barbed wire.

Alternative for 19.15.17.11 F. (2)

Rosetta is proposing alternate (vertical) slopes for the 60' long sides of the pit. Alternate is requested to minimize well site footprint ($\approx 70\%$ of proposed well site overlaps existing well site). This allows a smaller rig to be used. Rig must be close to the deep part of the pit since the pump is on the rig itself. Rosetta will install extra liner to allow for some slack and avoid stress and strain. Rosetta will also install two rope ladders - one on each of the 60' long sides.

Alternative for 19.15.17.13 F. (1) (d)

If the well goes into production, then an alternate interim marking system will be used to allow for safer and more efficient operations. A minimum 4" O. D. steel pipe will be set at least 36" deep at the center of the pit. A threaded collar will be on the top of the pipe. A minimum 12" x 12" steel plate will be welded atop the threaded collar. Top of the plate will be flush with ground level. The standard location information listed will be welded onto the plate, plus a notation that it marks an on site buried temporary pit. Upon plugging the well, the plate will be removed and the pit marked as described in 19.15.17.13 F. (1) (d).

Executed this 18th day of August, 2008.



Brian Wood, Consultant

Rosetta Resources Operating LP
Tsah Tah 11 #3R temporary pit
1047' FSL & 1200' FWL Sec. 11, T. 24 N., R. 10 W.
San Juan County, New Mexico
API # 30-045-34713

PAGE 4

Permits West, Inc.
37 Verano Loop, Santa Fe, NM 87508
(505) 466-8120 FAX: (505) 466-9682 Cellular: (505) 699-2276

Rosetta's field representative will be: Paul Thompson or West Hahn
Walsh Engineering & Production Corp.
7415 East Main St.
Farmington, NM 87402
(505) 327-4892

NMOCD Rules

19.15.17.11 DESIGN AND CONSTRUCTION SPECIFICATIONS:

A. General specifications. An operator shall design and construct a pit, closed-loop system, below-grade tank or sump to contain liquids and solids and prevent contamination of fresh water and protect public health and the environment.

B. Stockpiling of topsoil. Prior to constructing a pit or closed-looped system, except a pit constructed in an emergency, the operator shall strip and stockpile the topsoil for use as the final cover or fill at the time of closure.

C. Signs. The operator shall post an upright sign not less than 12 inches by 24 inches with lettering not less than two inches in height in a conspicuous place on the fence surrounding the pit, closed-loop system or below-grade tank, unless the pit, closed-loop system or below-grade tank is located on a site where there is an existing well, signed in compliance with 19.15.3.103 NMAC, that is operated by the same operator. The operator shall post the sign in a manner and location such that a person can easily read the legend. The sign shall provide the following information: the operator's name; the location of the site by quarter-quarter or unit letter, section, township and range; and emergency telephone numbers.

D. Fencing.

(1) The operator shall fence or enclose a pit or below-grade tank in a manner that prevents unauthorized access and shall maintain the fences in good repair. Fences are not required

Rosetta Resources Operating LP
Tsah Tah 11 #3R temporary pit
1047' FSL & 1200' FWL Sec. 11, T. 24 N., R. 10 W.
San Juan County, New Mexico
API # 30-045-34713

PAGE 5

if there is an adequate surrounding perimeter fence that prevents unauthorized access to the well site or facility, including the pit or below-grade tank. During drilling or work over operations, the operator is not required to fence the edge of the pit adjacent to the drilling or work over rig.

~~(2) The operator shall fence or enclose a pit or below grade tank located within 1000 feet of a permanent residence, school, hospital, institution or church with a chain link security fence, at least six feet in height with at least two strands of barbed wire at the top. The operator shall ensure that all gates associated with the fence are closed and locked when responsible personnel are not on site. During drilling or work over operations, the operator is not required to fence the edge of the temporary pit adjacent to the drilling or work over rig.~~

(3) ~~The operator shall fence any other pit or below grade tank to exclude livestock with a four foot fence that has at least four strands of barbed wire evenly spaced in the interval between one foot and four feet above ground level. The appropriate division district office may approve an alternative to this requirement if the operator demonstrates that an alternative provides equivalent or better protection. The appropriate division district office may impose additional fencing requirements for protection of wildlife in particular areas.~~

The operator will fence the pit with a minimum 48" high fence. Fence will consist of minimum 36" woven wire (hog wire) topped with at least 1 strand of barbed wire.

E. ~~Netting. The operator shall ensure that a permanent pit or a permanent open top tank is screened, netted or otherwise rendered non-hazardous to wildlife, including migratory birds. Where netting or screening is not feasible, the operator shall on a monthly basis inspect for, and within 30 days of discovery, report discovery of dead migratory birds or other wildlife to the appropriate wildlife agency and to the appropriate division district office in order to facilitate assessment and implementation of measures to prevent incidents from reoccurring.~~

F. Temporary pits. The operator shall design and construct a temporary pit in accordance with the following requirements.

(1) The operator shall design and construct a temporary pit to ensure the confinement of liquids to prevent unauthorized releases.

(2) A temporary pit shall 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 operator shall construct a temporary pit so that the slopes are no steeper than two horizontal feet to one vertical foot (2H:1V). The short (12') side slopes will be no steeper than two horizontal feet to one vertical foot (2H:1V). The long (60') side slopes will be vertical.~~ The appropriate division district office may approve an alternative to the slope requirement if the operator demonstrates that it can construct and operate the temporary pit in a safe manner to prevent contamination of fresh water and protect

Rosetta Resources Operating LP
Tsah Tah 11 #3R temporary pit
1047' FSL & 1200' FWL Sec. 11, T. 24 N., R. 10 W.
San Juan County, New Mexico
API # 30-045-34713

PAGE 6

public health and the environment.

(3) The operator shall design and construct a temporary pit with a geomembrane liner. The geomembrane liner shall consist of 20-mil string reinforced LLDPE or equivalent liner material that the appropriate division district office approves. The geomembrane liner shall be composed of an impervious, synthetic material that is resistant to petroleum hydrocarbons, salts and acidic and alkaline solutions. The liner material shall be resistant to ultraviolet light. Liner compatibility shall comply with EPA SW-846 method 9090A.

(4) The operator shall minimize liner seams and orient them up and down, not across a slope. The operator shall use factory welded seams where possible. Prior to field seaming, the operator shall overlap liners four to six inches and orient seams parallel to the line of maximum slope, *i.e.*, oriented along, not across, the slope. The operator shall minimize the number of field seams in corners and irregularly shaped areas. Qualified personnel shall perform field seaming. The operator shall weld field liner seams.

(5) Construction shall avoid excessive stress-strain on the liner.

(6) Geotextile is required under the liner where needed to reduce localized stress-strain or protuberances that may otherwise compromise the liner's integrity.

(7) The operator shall anchor the edges of all liners in the bottom of a compacted earth-filled trench. The anchor trench shall be at least 18 inches deep.

(8) The operator shall 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 *by using an $\approx 8"$ O. D. PVC pipe at a $\approx 45^\circ$ angle.*

(9) The operator shall design and construct a temporary pit to prevent run-on of surface water. A berm, ditch, proper sloping or other diversion shall surround a temporary pit to prevent run-on of surface water. During drilling operations, the edge of the temporary pit adjacent to the drilling or work over rig is not required to have run-on protection if the operator is using the temporary pit to collect liquids escaping from the drilling or work over rig and run-on will not result in a breach of the temporary pit.

(10) The volume of a temporary pit shall not exceed 10 acre-feet, including freeboard.

(11) The part of a temporary pit used to vent or flare gas during a drilling or

Rosetta Resources Operating LP
Tsah Tah 11 #3R temporary pit
1047' FSL & 1200' FWL Sec. 11, T. 24 N., R. 10 W.
San Juan County, New Mexico
API # 30-045-34713

PAGE 7

work over operation that is designed to allow liquids to drain to a separate temporary pit does not require a liner, unless the appropriate division district office requires an alternative design in order to protect surface water, ground water and the environment. The operator shall not allow freestanding liquids to remain on the unlined portion of a temporary pit used to vent or flare gas.

19.15.17.12 OPERATIONAL REQUIREMENTS:

A. General specifications. An operator shall maintain and operate a pit, closed-loop system, below-grade tank or sump in accordance with the following requirements.

(1) The operator shall operate and maintain a pit, closed-loop system, below-grade tank or sump to contain liquids and solids and maintain the integrity of the liner, liner system or secondary containment system, prevent contamination of fresh water and protect public health and the environment.

(2) The operator shall recycle, reuse or reclaim or dispose of all drilling fluids in a manner, approved by division rules, that prevents the contamination of fresh water and protects public health and the environment. *Operator will haul such fluids to Basin Disposal's (OCD permit NM-01-005) evaporation pond in SENW 3-29n-11w.*

(3) The operator shall not discharge into or store any hazardous waste in a pit, closed-loop system, below-grade tank or sump.

(4) If any pit liner's integrity is compromised, or if any penetration of the liner occurs above the liquid's surface, then the operator shall notify the appropriate division district office within 48 hours of the discovery and repair the damage or replace the liner.

(5) If a pit, below-grade tank, closed-loop system or sump develops a leak, or if any penetration of the pit liner, below-grade tank, closed-loop system or sump occurs below the liquid's surface, then the operator shall remove all liquid above the damage or leak line within 48 hours, notify the appropriate division district office within 48 hours of the discovery and repair the damage or replace the pit liner, below-grade tank, closed-loop system or sump.

(6) The injection or withdrawal of liquids from a pit shall be accomplished through 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.

(7) The operator shall operate and install a pit, below-grade tank or sump to

Rosetta Resources Operating LP
Tsah Tah 11 #3R temporary pit
1047' FSL & 1200' FWL Sec. 11, T. 24 N., R. 10 W.
San Juan County, New Mexico
API # 30-045-34713

PAGE 8

prevent the collection of surface water run-on.

(8) The operator shall install, or maintain on site, an oil absorbent boom or other device to contain and remove oil from a pit's surface.

B. Temporary pits. An operator shall maintain and operate a temporary pit in accordance with the following additional requirements.

(1) Only fluids used or generated during the drilling or work over process may be discharged into a temporary pit. The operator shall maintain a temporary pit free of miscellaneous solid waste or debris. The operator shall use a tank made of steel or other material, which the appropriate division district office approves, to contain hydrocarbon-based drilling fluids. Immediately after cessation of a drilling or work over operation, the operator shall remove any visible or measurable layer of oil from the surface of a drilling or work over pit.

(2) The operator shall maintain at least 2 feet of freeboard for a temporary pit.

(3) The operator shall inspect a temporary pit containing drilling fluids at least daily while the drilling or work over rig is on-site. Thereafter, the operator shall inspect the temporary pit weekly so long as liquids remain in the temporary pit. The operator shall maintain a log of such inspections and make the log available for the appropriate division district office's review upon request. The operator shall file a copy of the log with the appropriate division district office when the operator closes the temporary pit.

(4) The operator shall remove all free liquids from a temporary pit within 30 days from the date that the operator releases the drilling or work over rig. The operator shall note the date of the drilling or work over rig's release on form C-105 or C-103 upon well or work over completion. The appropriate division district office may grant an extension of up to three months.

(5) The operator shall remove any liquids from the temporary pit used for cavitation within 48 hours after completing cavitation. The operator may request and receive additional time to remove the liquids from the temporary pit used for cavitation if the operator demonstrates to the appropriate division district office's satisfaction that it is not feasible to access the location within 48 hours.

19.15.17.13 CLOSURE REQUIREMENTS:

Rosetta Resources Operating LP
Tsah Tah 11 #3R temporary pit
1047' FSL & 1200' FWL Sec. 11, T. 24 N., R. 10 W.
San Juan County, New Mexico
API # 30-045-34713

PAGE 9

A. Time requirements for closure. An operator shall close a pit, closed-loop system or below-grade tank within the time periods provided in 19.15.17.13 NMAC, or by an earlier date that the division requires because of imminent danger to fresh water, public health or the environment.

~~(1) An operator shall cease discharging into an existing unlined permanent pit that is permitted by or registered with the division within two years after June 16, 2008. An operator shall close an existing unlined permanent pit that is permitted by or registered with the division within three years after June 16, 2008.~~

~~(2) An operator shall cease discharging into an existing, lined or unlined, permanent pit that is not permitted by or registered with the division on or by June 16, 2008. An operator shall close an existing, lined or unlined, permanent pit that is not permitted by or registered with the division within six months after June 16, 2008.~~

~~(3) An operator shall close an existing unlined temporary pit within three months after June 16, 2008.~~

~~(4) An operator shall close an existing below grade tank that does not meet the requirements of Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC or is not included in Paragraph (5) of Subsection I of 19.15.17.11 NMAC within five years after June 16, 2008, if not retrofitted to comply with Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC.~~

~~(5) An operator shall close any other permitted permanent pit within 60 days of cessation of operation of the permanent pit in accordance with a closure plan that the environmental bureau in the division's Santa Fe office approves.~~

(6) An operator shall close any other permitted temporary pit within six months from the date that the operator releases the drilling or work over rig. The appropriate division district office may grant an extension not to exceed three months.

B. Closure methods for temporary pits. The operator of a temporary pit shall remove all liquids from the temporary pit prior to closure and dispose of the liquids in a division-approved facility or recycle, reuse or reclaim the liquids in a manner that the appropriate division district office approves. The operator shall close the temporary pit by one of the following methods.

~~(1) Waste excavation and removal.~~

(2) On-site burial. The operator shall demonstrate and comply with the siting requirements in Subsection C of 19.15.17.10 NMAC and the closure requirements and standards of Subsection F of 19.15.17.13 NMAC if the proposed closure method of a temporary pit involves on-site burial.

F. On-site closure methods. The following closure requirements and standards apply if the operator proposes a closure method for a drying pad associated with a closed-loop system or a

Rosetta Resources Operating LP
Tsah Tah 11 #3R temporary pit
1047' FSL & 1200' FWL Sec. 11, T. 24 N., R. 10 W.
San Juan County, New Mexico
API # 30-045-34713

PAGE 10

temporary pit pursuant to Paragraph (2) of Subsection D of 19.15.17.13 NMAC or Paragraph (2) of Subsection B of 19.15.17.13 NMAC that involves on-site burial, or an alternative closure method pursuant to Paragraph (3) of Subsection D of 19.15.17.13 NMAC or Paragraph (3) of Subsection B of 19.15.17.13 NMAC and Subsection B of 19.15.17.15 NMAC.

(1) General requirements.

(a) Any proposed on-site closure method shall comply with the siting criteria specified in Subsection C of 19.15.17.10 NMAC.

(b) The operator shall provide the surface owner notice of the operator's proposal of an on-site closure method. The operator shall attach the proof of notice to the permit application.

(c) The operator shall comply with the closure requirements and standards of Paragraphs (2) and (3), as applicable, of Subsection F of 19.15.17.13 NMAC if the proposed closure method for a drying pad associated with a closed-loop system or for a temporary pit involves on-site burial pursuant to Paragraph (2) of Subsection D of 19.15.17.13 NMAC or Paragraph (2) of Subsection B of 19.15.17.13 NMAC, or involves an alternative closure method pursuant to Paragraph (3) of Subsection D of 19.15.17.13 NMAC or Paragraph (3) of Subsection B of 19.15.17.13 NMAC and Subsection B of 19.15.17.15 NMAC.

(d) The operator shall place a steel marker at the center of an on-site burial. The steel marker shall be not less than four inches in diameter and shall be cemented in a three-foot deep hole at a minimum. The steel marker shall extend at least four feet above mean ground level and at least three feet below ground level. The operator name, lease name and well number and location, including unit letter, section, township and range, and that the marker designates an on-site burial location shall be welded, stamped or otherwise permanently engraved into the metal of the steel marker. A person shall not build permanent structures over an on-site burial without the appropriate division district office's written approval. A person shall not remove an on-site burial marker without the division's written permission.

If the well goes into production, then an alternate interim marking system will be used to allow for safer and more efficient operations. A minimum 4" O. D. steel pipe will be set at least 36" deep at the center of the pit. A threaded collar will be on the top of the pipe. A minimum 12" x 12" steel plate will be welded atop the threaded collar. Top of the plate will be flush with ground

Rosetta Resources Operating LP
Tsah Tah 11 #3R temporary pit
1047' FSL & 1200' FWL Sec. 11, T. 24 N., R. 10 W.
San Juan County, New Mexico
API # 30-045-34713

PAGE 11

level. The same information listed in the preceding paragraph will be welded onto the plate, plus a notation that it marks an on site buried temporary pit. Upon plugging the well, the plate will be removed and the pit marked as described in the preceding paragraph.

(e) The operator shall report the exact location of the on-site burial on form C-105 filed with the division.

(f) The operator shall file a deed notice identifying the exact location of the on-site burial with the county clerk in the county where the on-site burial occurs.

(2) In-place burial.

(a) Where the operator meets the siting criteria specified in Paragraphs (2) or (3) of Subsection C of 19.15.17.10 NMAC and the applicable waste criteria specified in Subparagraphs (c) or (d) of Paragraph (2) of Subsection F of 19.15.17.13 NMAC, an operator may use in-place burial (burial in the existing temporary pit) for closure of a temporary pit or bury the contents of a drying pad associated with a closed-loop system in a temporary pit that the operator constructs in accordance with Paragraphs (1) through (6) and (10) of Subsection F of 19.15.17.11 NMAC for closure of a drying pad associated with a closed loop system.

(b) Prior to closing an existing temporary pit or to placing the contents from a drying pad associated with a closed-loop system into a temporary pit that the operator constructs for disposal, the operator shall stabilize or solidify the contents to a bearing capacity sufficient to support the temporary pit's final cover. The operator shall not mix the contents with soil or other material at a mixing ratio of greater than 3:1, soil or other material to contents.

~~(c) Where ground water will be between 50 and 100 feet below the bottom of the buried waste, the operator shall collect at a minimum, a five point, composite sample of the contents of the drying pad associated with a closed loop system or the contents of a temporary pit after treatment or stabilization, if treatment or stabilization is required, to demonstrate that benzene, as determined by EPA SW-846 method 8021-B or 8260B, does not exceed 0.2 mg/kg; total BTEX, as determined by EPA SW-846 method 8021-B or 8260B, does not exceed 50 mg/kg; TPH, as determined by EPA SW-846 method 418.1 or other EPA method approved that the division approves, does not exceed 2500 mg/kg; the GRO and DRO combined fraction, as determined by EPA SW-846 method 8015M, does not exceed 500 mg/kg; and chlorides, as determined by EPA method 300.1, do not exceed 500 mg/kg or the background concentration, whichever is greater. The operator may collect the composite sample prior to treatment or stabilization to demonstrate that the contents do not exceed these concentrations. However, if the contents collected prior to treatment or stabilization exceed the specified concentrations the operator shall collect a second five point, composite sample of the contents after treatment or stabilization to demonstrate that the contents do not exceed these concentrations.~~

Rosetta Resources Operating LP
Tsah Tah 11 #3R temporary pit
1047' FSL & 1200' FWL Sec. 11, T. 24 N., R. 10 W.
San Juan County, New Mexico
API # 30-045-34713

PAGE 12

(d) Where the ground water will be more than 100 feet below the bottom of the buried waste, the operator shall collect at a minimum, a five point, composite sample of the contents of the drying pad associated with a closed-loop system or the contents of a temporary pit after treatment or stabilization, if treatment or stabilization is required, to demonstrate that benzene, as determined by EPA SW-846 method 8021B or 8260B, does not exceed 0.2 mg/kg; total BTEX, as determined by EPA SW-846 method 8021B or 8260B, does not exceed 50 mg/kg; the GRO and DRO combined fraction, as determined by EPA SW-846 method 8015M, does not exceed 500 mg/kg; TPH, as determined by EPA method 418.1 or other EPA method that the division approves, does not exceed 2500 mg/kg; and chlorides, as determined by EPA method 300.1, do not exceed 1000 mg/kg or the background concentration, whichever is greater. The operator may collect the composite sample prior to treatment or stabilization to demonstrate that the contents do not exceed these concentrations. However, if the contents collected prior to treatment or stabilization exceed the specified concentrations the operator shall collect a second five point, composite sample of the contents after treatment or stabilization to demonstrate that the contents do not exceed these concentrations.

(e) Upon closure of a temporary pit, or closure of a temporary pit that the operator constructs for burial of the contents of a drying pad associated with a closed-loop system, the operator shall cover the geomembrane lined, filled, temporary pit with compacted, non-waste containing, earthen material; construct a division-prescribed soil cover; recontour and revegetate the site. The division-prescribed soil cover, recontouring and revegetation shall comply with Subsections G, H and I of 19.15.17.13 NMAC.

G. Reclamation of pit locations, on-site burial locations and drying pad locations.

(1) Once the operator has closed a pit or trench or is no longer using a drying pad, below-grade tank or an area associated with a closed-loop system, pit, trench or below-grade tank, the operator shall reclaim the pit location, drying pad location, below-grade tank location or trench location and all areas associated with the closed-loop system, pit, trench or below-grade tank including associated access roads to a safe and stable condition that blends with the surrounding undisturbed area. The operator shall substantially restore the impacted surface area to the condition that existed prior to oil and gas operations by placement of the soil cover as provided in Subsection H of 19.15.17.13 NMAC, recontour the location and associated areas to a

Rosetta Resources Operating LP
Tsah Tah 11 #3R temporary pit
1047' FSL & 1200' FWL Sec. 11, T. 24 N., R. 10 W.
San Juan County, New Mexico
API # 30-045-34713

PAGE 13

contour that approximates the original contour and blends with the surrounding topography and revegetate according to Subsection I of 19.15.17.13 NMAC.

(2) The operator may propose an alternative to the revegetation requirement if the operator demonstrates that the proposed alternative effectively prevents erosion, and protects fresh water, human health and the environment. The proposed alternative shall be agreed upon by the surface owner. The operator shall submit the proposed alternative, with written documentation that the surface owner agrees to the alternative, to the division for approval.

H. Soil cover designs.

(1) The soil cover for closures where the operator has removed the pit contents or remediated the contaminated soil to the division's satisfaction shall consist of the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater.

(2) The soil cover for burial-in-place or trench burial shall consist of a minimum of four feet of compacted, non-waste containing, earthen material. The soil cover shall include either the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater.

(3) The operator shall construct the soil cover to the site's existing grade and prevent ponding of water and erosion of the cover material.

I. Re-vegetation.

(1) The first growing season after the operator closes a pit or trench or is no longer using a drying pad, below-grade tank or an area associated with a closed-loop system, pit or below-grade tank including access roads, the operator shall seed or plant the disturbed areas.

(2) The operator shall accomplish seeding by drilling on the contour whenever practical or by other division-approved methods. The operator shall obtain vegetative cover that equals 70% of the native perennial vegetative cover (un-impacted by overgrazing, fire or other intrusion damaging to native vegetation) consisting of at least three native plant species, including at least one grass, but not including noxious weeds, and maintain that cover through two successive growing seasons. During the two growing seasons that prove viability, there shall be no artificial irrigation of the vegetation.

(3) The operator shall repeat seeding or planting until it successfully achieves

Rosetta Resources Operating LP
Tsah Tah 11 #3R temporary pit
1047' FSL & 1200' FWL Sec. 11, T. 24 N., R. 10 W.
San Juan County, New Mexico
API # 30-045-34713

PAGE 14

the required vegetative cover.

(4) When conditions are not favorable for the establishment of vegetation, such as periods of drought, the division may allow the operator to delay seeding or planting until soil moisture conditions become favorable or may require the operator to use additional cultural techniques such as mulching, fertilizing, irrigating, fencing or other practices.

(5) The operator shall notify the division when it has seeded or planted and when it successfully achieves re-vegetation.

J. Closure notice.

(1) The operator shall notify the surface owner by certified mail, return receipt requested, that the operator plans to close a temporary pit, a permanent pit, a below-grade tank or where the operator has approval for on-site closure. Evidence of mailing of the notice to the address of the surface owner shown in the county tax records is sufficient to demonstrate compliance with this requirement.

(2) The operator of a temporary pit or below-grade tank or an operator who is approved for on-site closure shall notify the appropriate division district office verbally or by other means at least 72 hours, but not more than one week, prior to any closure operation. The notice shall include the operator's name and the location to be closed by unit letter, section, township and range. If the closure is associated with a particular well, then the notice shall also include the well's name, number and API number.

K. Closure report. Within 60 days of closure completion, the operator shall submit a closure report on form C-144, with necessary attachments to document all closure activities including sampling results; information required by 19.15.17 NMAC; a plot plan; and details on back-filling, capping and covering, where applicable. In the closure report, the operator shall certify that all information in the report and attachments is correct and that the operator has complied with all applicable closure requirements and conditions specified in the approved closure plan. If the operator used a temporary pit, the operator shall provide a plat of the pit location on form C-105 within 60 days of closing the temporary pit.

The operator shall file a deed notice identifying the exact location of the on-site burial with the county clerk in the county where the on-site burial occurs.

New Mexico Office of the State Engineer
POD Reports and Downloads

Township: 24N Range: 10W Sections:

NAD27 X: Y: Zone: Search Radius:

County: Basin: Number: Suffix:

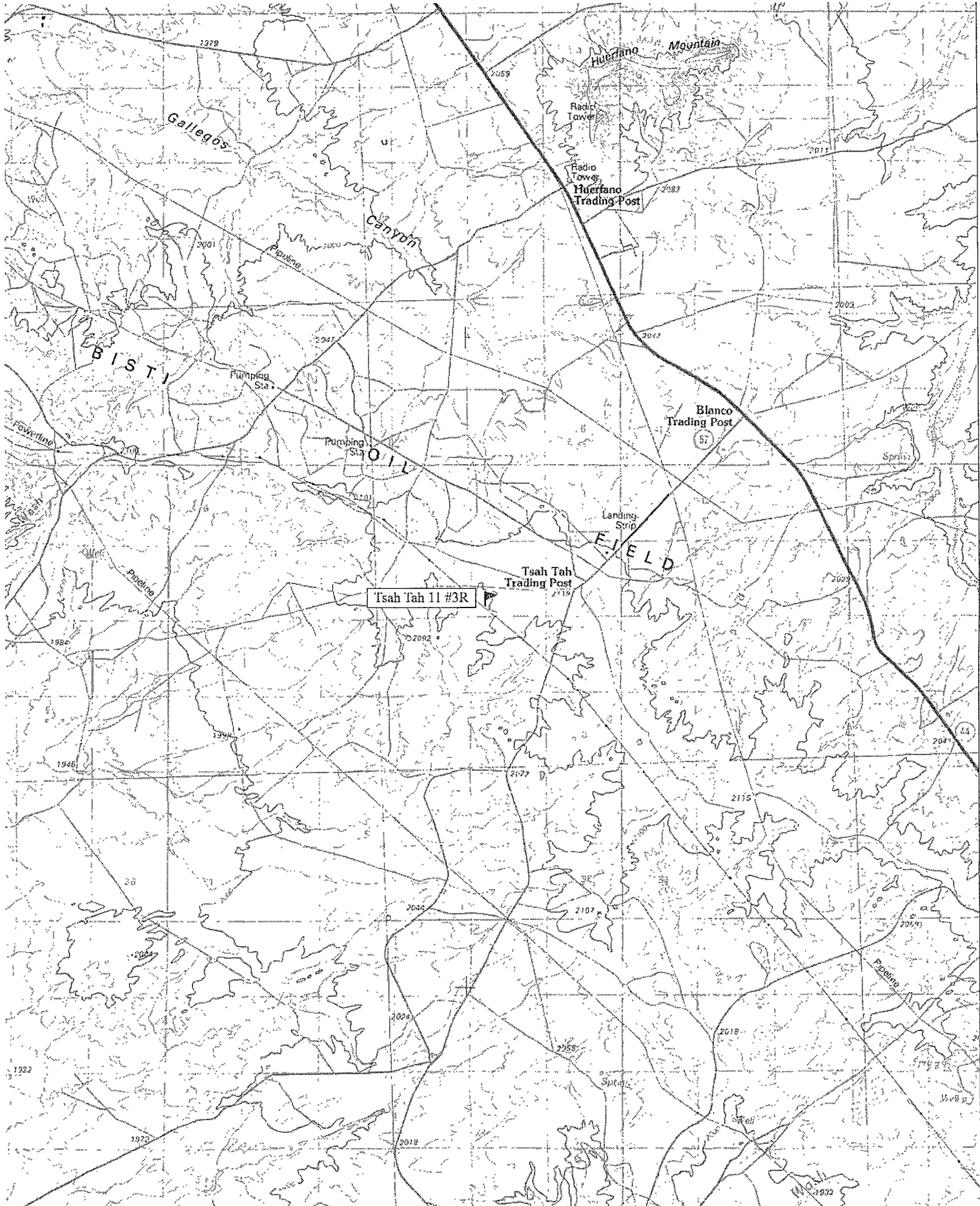
Owner Name: (First) (Last) ☐ Non-Domestic ☐ Domestic ☒ All☐ Surface Data Report ☐ Avg Depth to Water Report ☐ Water Column Report

POD / SURFACE DATA REPORT 07/27/2008

(acre ft per annum)				(quarters are 1=NW 2=NE 3=SW 4=SE)										UTM are in Meters)			Start	Finish	Depth	Depth (in f	
DB File Nbr	Use	Diversion	Owner	POD Number	Source	Tw	Rng	Sec	q	q	q	Zone	X	Y	UTM_Zone	Easting	Northing	Date	Date	Well	Water
SJ 01713	STK	6	U.S. DEPT. OF INTERIOR	SJ 01713	Shallow	24N	10W	33	4	4		13	239936	4017203	07/12/1963	01/28/1964			373		
SJ 01714	STK	5	U.S. DEPT. OF INTERIOR	SJ 01714	Shallow	24N	10W	36	4	3		13	244334	4017107	08/06/1963	01/29/1964			442	284	
SJ 02223	STK	3	THOMAS & SARAH YAZZIE	SJ 02223		24N	10W	11	4	1	3	13	242849	4023900							
SJ 03141	STK	3	E.R. BLANCETT	SJ 03141	Shallow	24N	10W	29	1	2	3	13	237520	4019956	02/28/2002	03/25/2002			640	595	

Record Count: 4

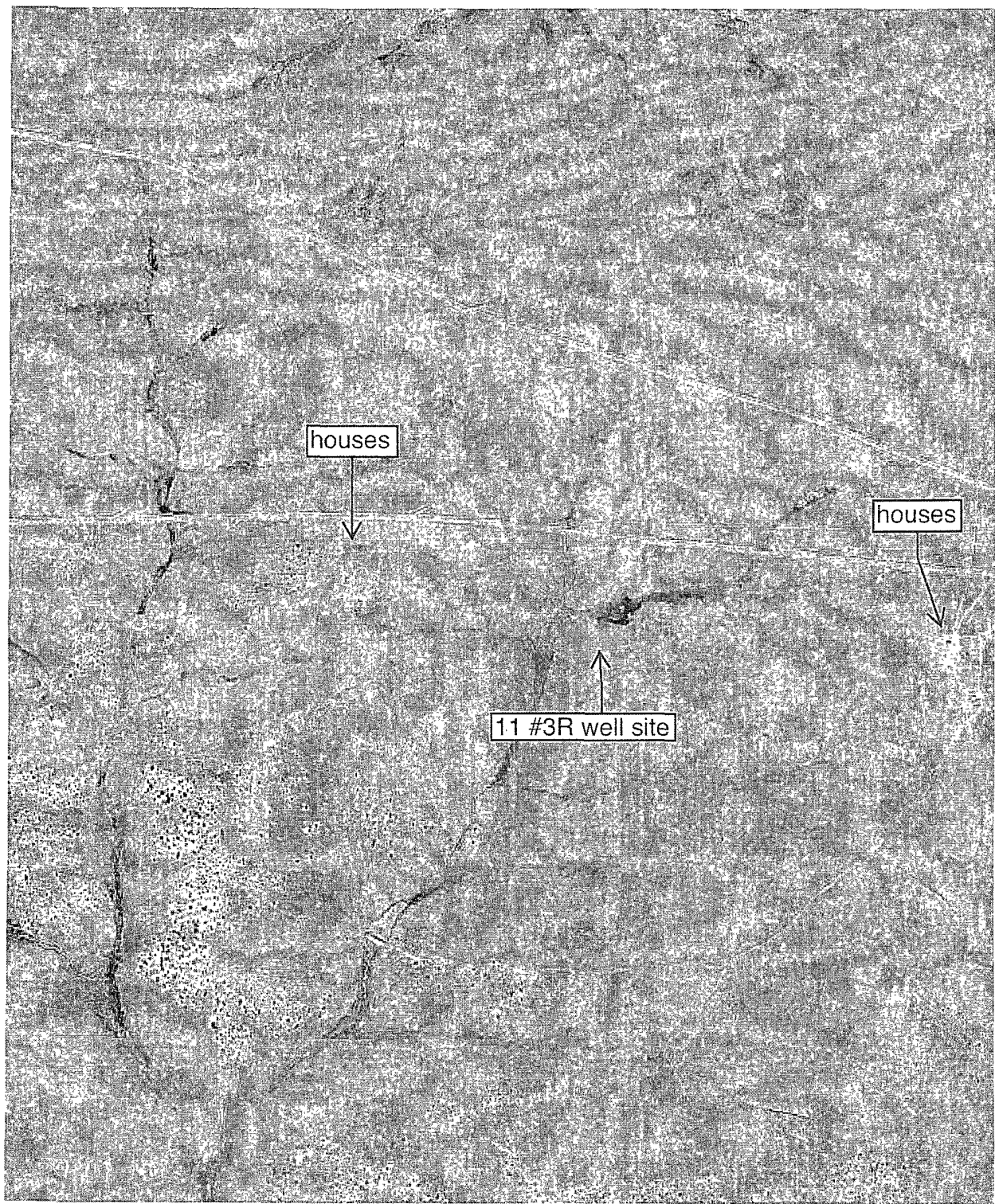
EXHIBIT A



N
MN
104°

0.0 0.5 1.0 1.5 2.0 2.5 3.0 3.5 miles
0 1 2 3 4 5 km
Map created with: TOPO!® ©2003 National Geographic (www.nationalgeographic.com/topo)

EXHIBIT B



0 1 2 3 4 5 km

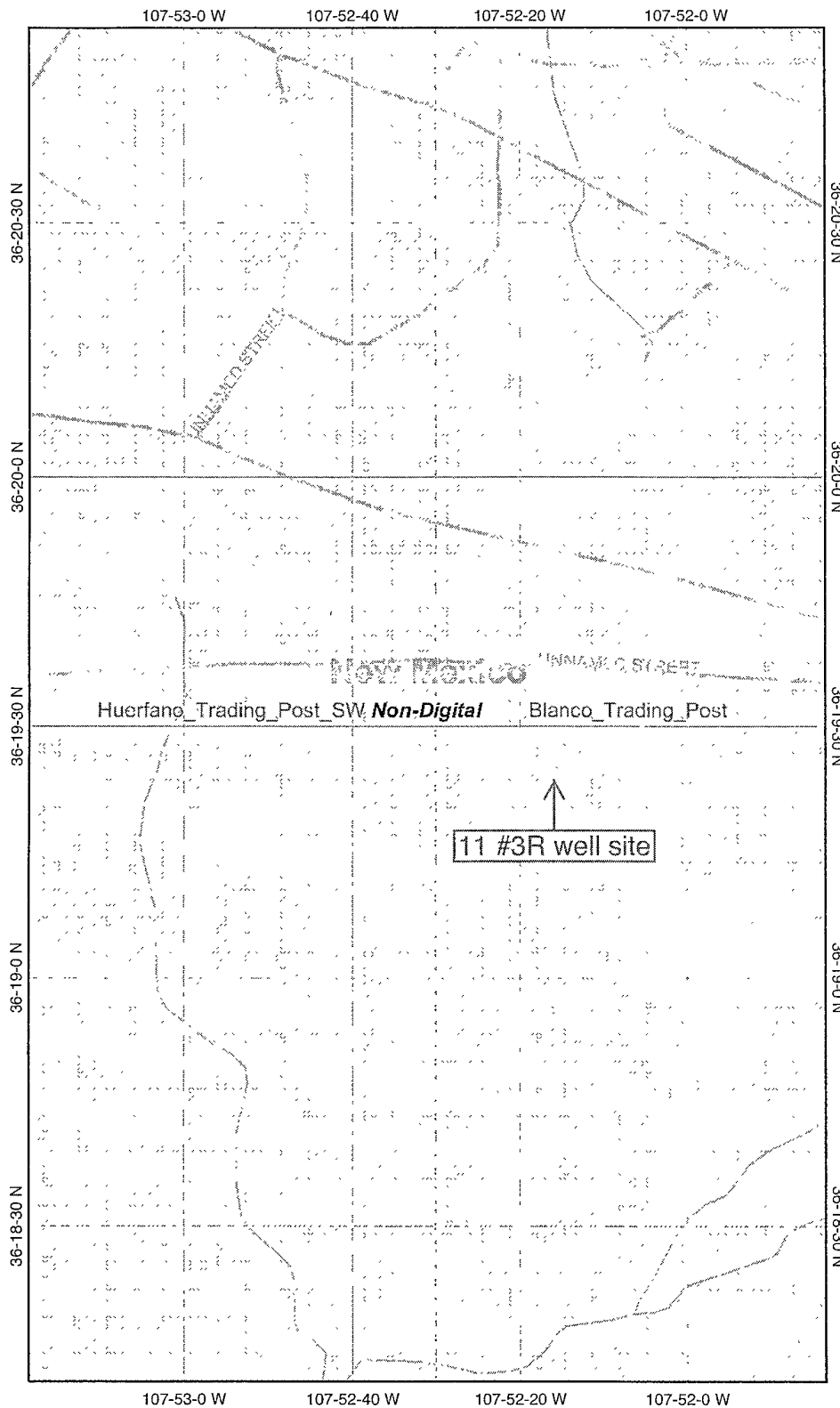
0 1 2 3 4 5 mi

Image courtesy of the U.S. Geological Survey

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EXHIBIT D

Tsah Tah 11 #3R wetlands (none)



Legend

- Interstate
- Major Roads
- Other Road
- Interstate
- State highway
- US highway
- Roads
- Cities
- USGS Quad Index 24K
- Lower 48 Wetland Polygons
- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine
- Lower 48 Available Wetland Data
- Non-Digital
- Digital
- No Data
- Scan
- NHD Streams
- Counties 100K
- States 100K
- South America
- North America

EXHIBITE



Scale: 1:24,000

Map center: 36° 19' 33" N, 107° 52' 31" W

This map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. THIS MAP IS NOT TO BE USED FOR NAVIGATION.

MMQonline Public Version

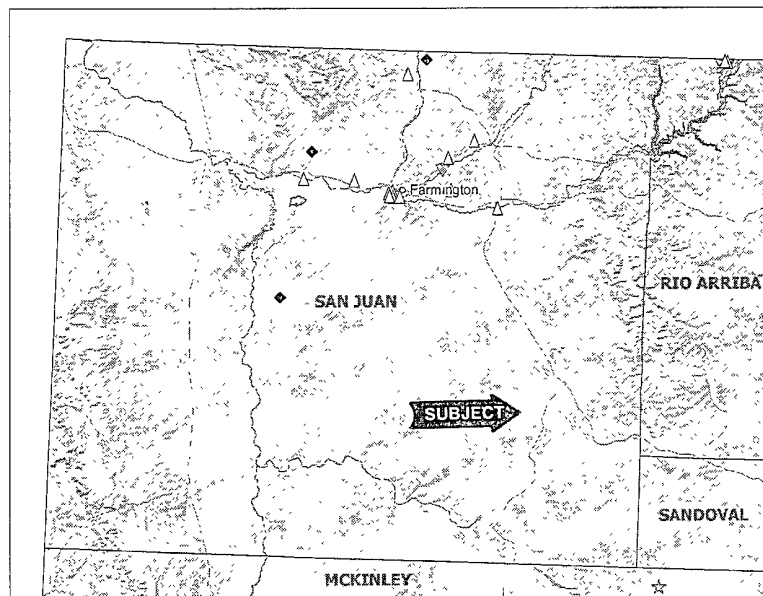
Mines, Mills & Quarries Commodity Groups

-  Aggregate & Stone Mines
-  Coal Mines
-  Industrial Minerals Mines
-  Industrial Minerals Mills
-  Metal Mines and Mill Concentrate
-  Potash Mines & Refineries
-  Smelters & Refinery Ops.
-  Uranium Mines
-  Uranium Mills

Population

-  Cities - major

Transportation



SCALE 1 : 1,578,815

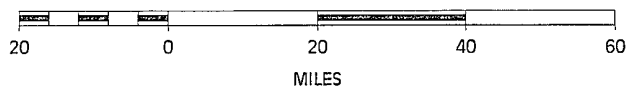


EXHIBIT F

LATITUDE: 36.32412°N
LONGITUDE: 107.87049°W
DATUM: NAD 83

ROSETTA RESOURCES OPERATING LP

TSAH TAH 11 #3 R
1047' FSL & 1200' FWL
LOCATED IN THE SW/4 SW/4 OF SECTION 11,
T24N, R10W, N.M.P.M.,
SAN JUAN COUNTY, NEW MEXICO
GROUND ELEVATION: 6882', NAVD 88
FINISHED PAD ELEVATION: 6881.5', NAVD 88

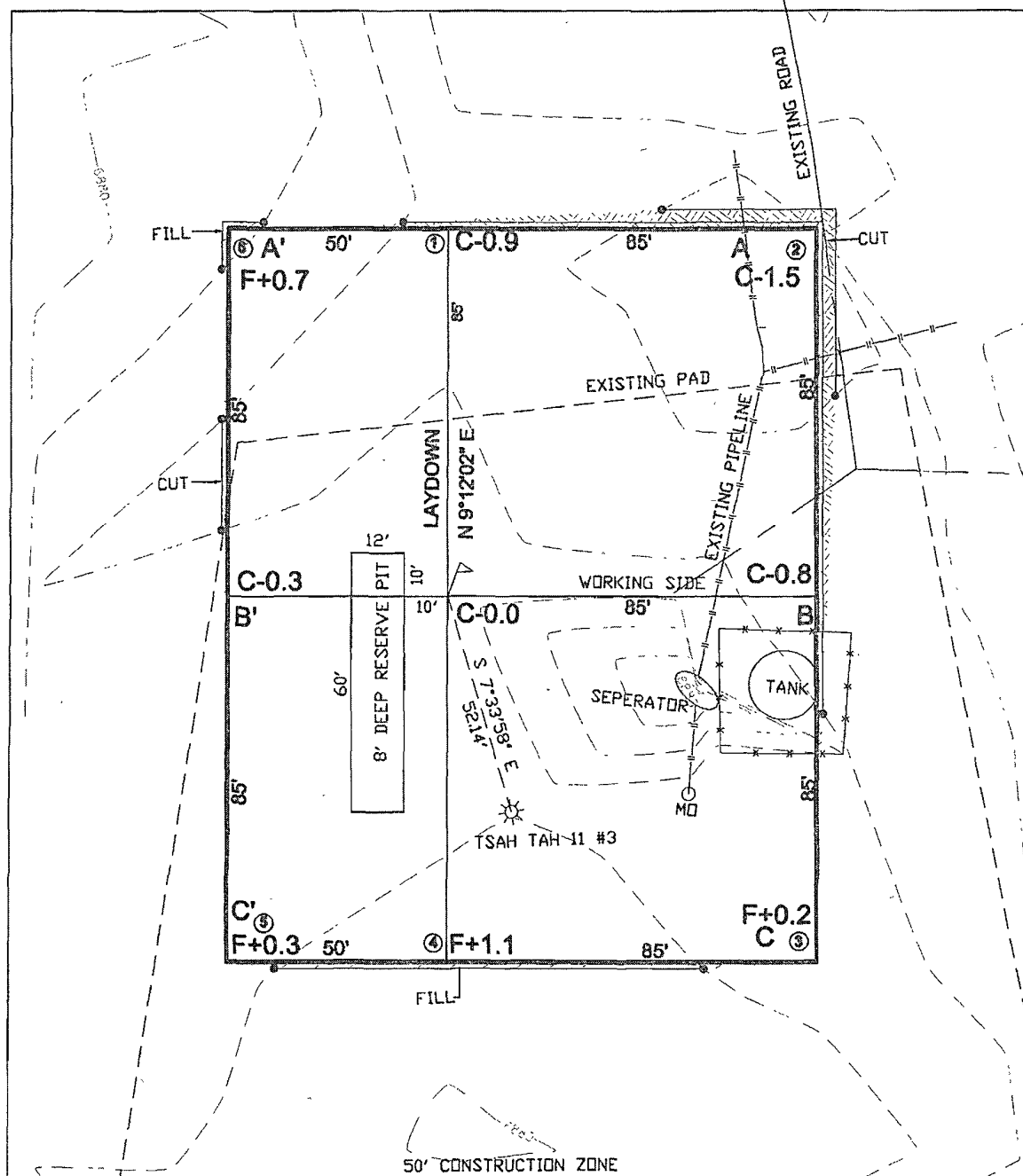
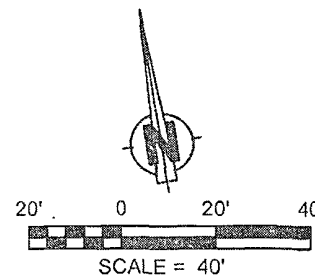


EXHIBIT G

1 FOOT CONTOUR INTERVAL SHOWN
SCALE: 1" = 40'
JOB No.: RRO035
DATE: 04/16/08



Russell Surveying
1409 W. Aztec Blvd. #2
Aztec, New Mexico 87410
(505) 334-8637

ROSETTA RESOURCES OPERATING LP

TSAH TAH 11 #3 R

1047' FSL & 1200' FWL

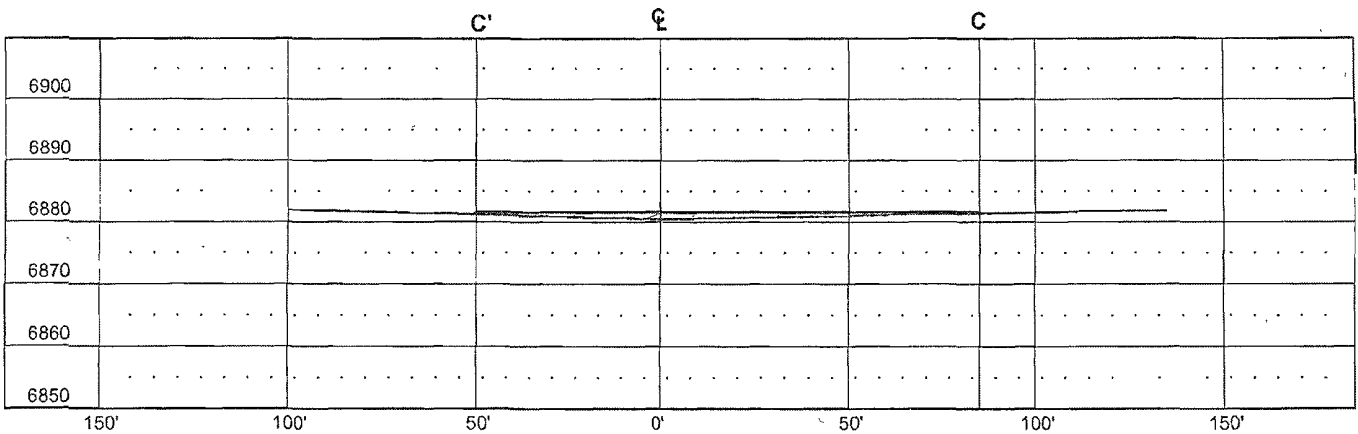
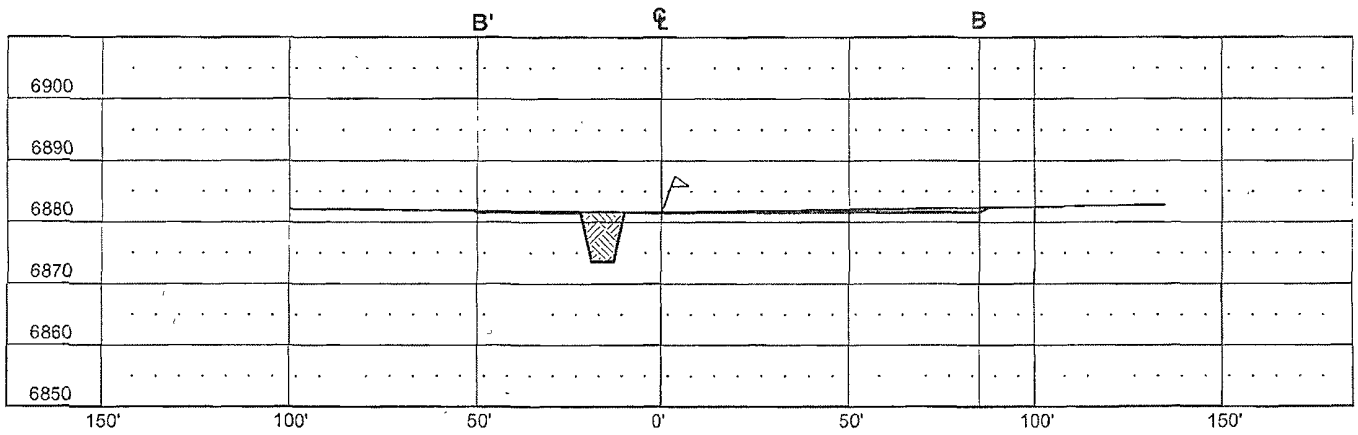
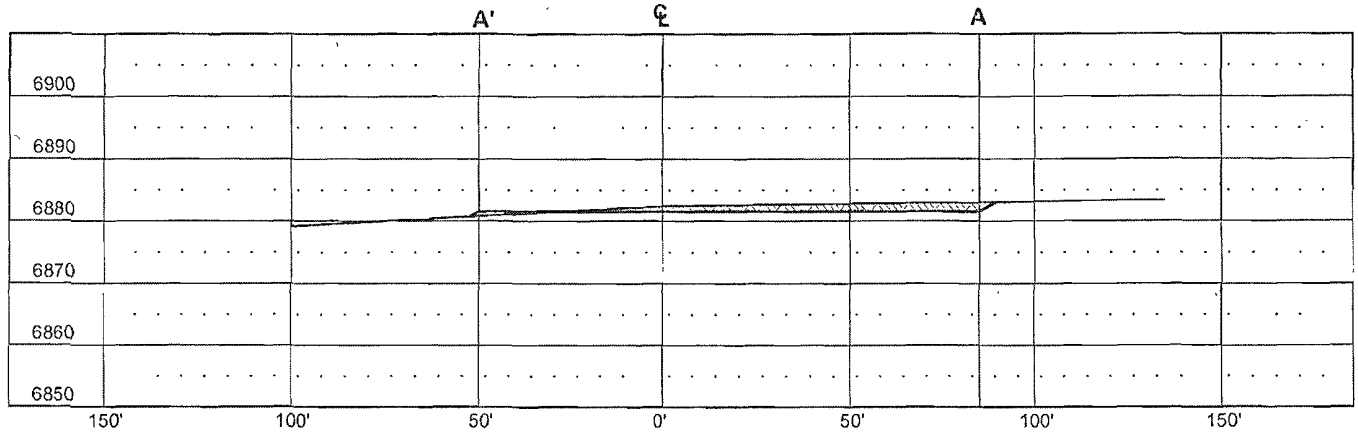
LOCATED IN THE SW/4 SW/4 OF SECTION 11,

T24N, R10W, N.M.P.M.,

SAN JUAN COUNTY, NEW MEXICO

GROUND ELEVATION: 6882', NAVD 88

FINISHED PAD ELEVATION: 6881.5', NAVD 88



VERT. SCALE: 1" = 30'
 HORZ. SCALE: 1" = 50'
 JOB No.: RRO035
 DATE: 04/16/08



EXHIBIT G

Russell Surveying
 1409 W. Aztec Blvd. #2
 Aztec, New Mexico 87410
 (505) 334-8637

Rosetta Resources Operating LP
Tsah Tah 11 3-R
1047' FSL & 1200' FWL
Sec. 11, T. 24 N., R. 10 W.
San Juan County, New Mexico

NORTH



1" ≈ 40'

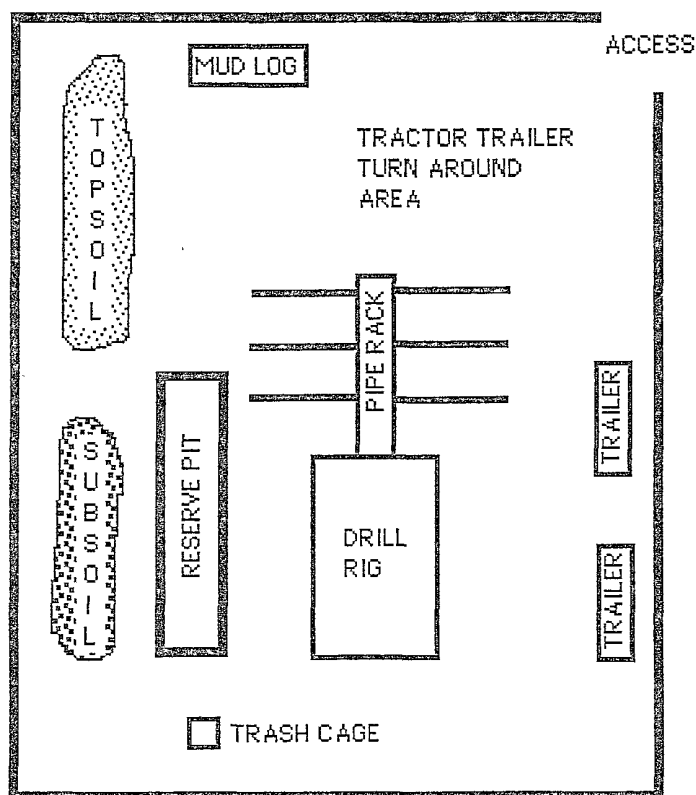
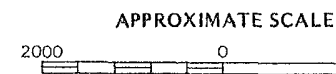


EXHIBIT H



**FIRM
FLOOD INSURANCE RATE MAP**

**SAN JUAN COUNTY,
NEW MEXICO
UNINCORPORATED AREAS**

PANEL 1075 OF 1450
(SEE MAP INDEX FOR PANELS NOT PRINTED)



COMMUNITY-PANEL NUMBER
350064 1075

EFFECTIVE DATE:
AUGUST 4, 1988



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.

DISTRICT II
1301 W. Grand Avenue, Artesia, N.M. 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 87410

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number		2 Pool Code		3 Pool Name	
4 Property Code		5 Property Name TSAH TAH 11			6 Well Number 3 R
7 OGRID No.		8 Operator Name ROSETTA RESOURCES OPERATING LP			9 Elevation 6882'

¹⁰ Surface Location

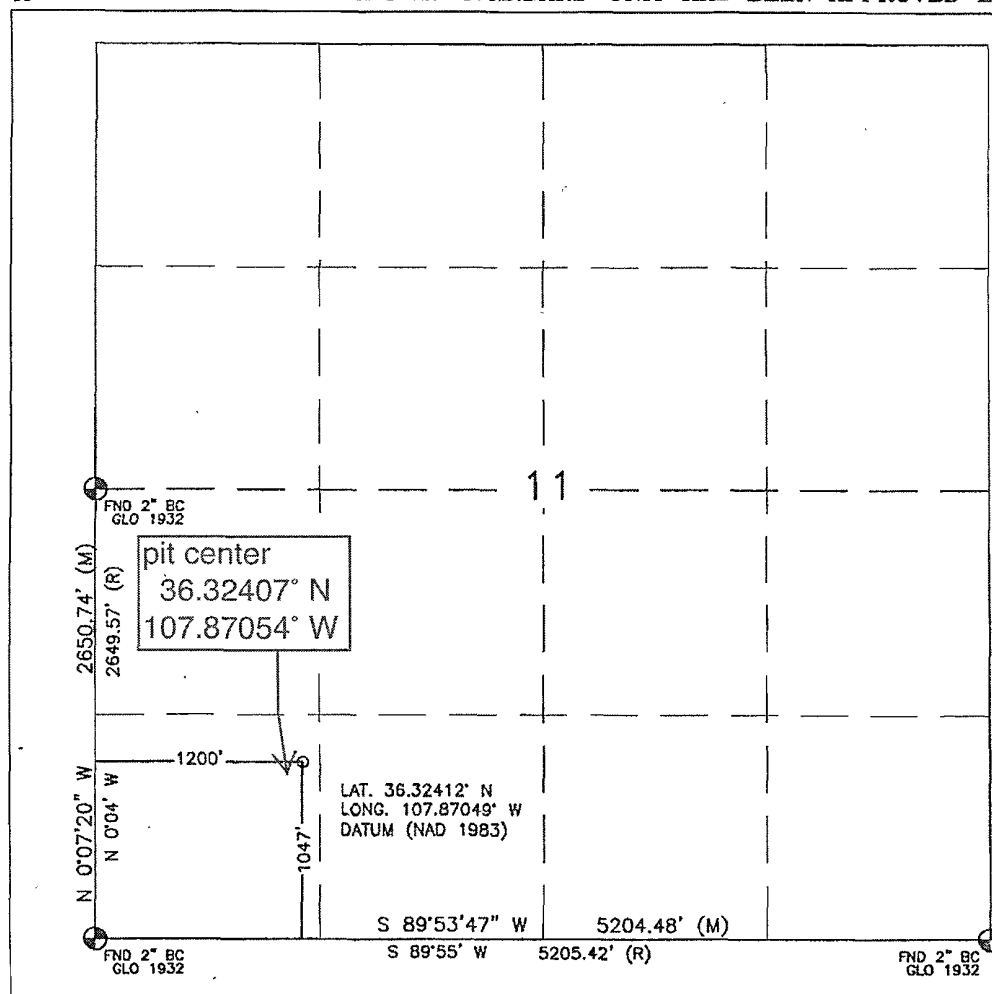
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	11	24N	10W		1047'	SOUTH	1200'	WEST	SAN JUAN

¹¹ 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
¹² Dedicated Acres			¹³ Joint or Infill		¹⁴ Consolidation Code		¹⁵ Order No.		

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

16



17 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 or a compulsory pooling order heretofore entered by the division.

Signature _____

Date _____

Printed Name _____

18 SURVEYOR CERTIFICATION

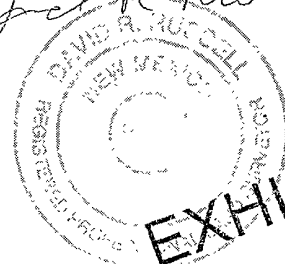
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

APRIL 1, 2008

Date of Survey

Signature and Seal of Professional Surveyor:

Phil R. Russell



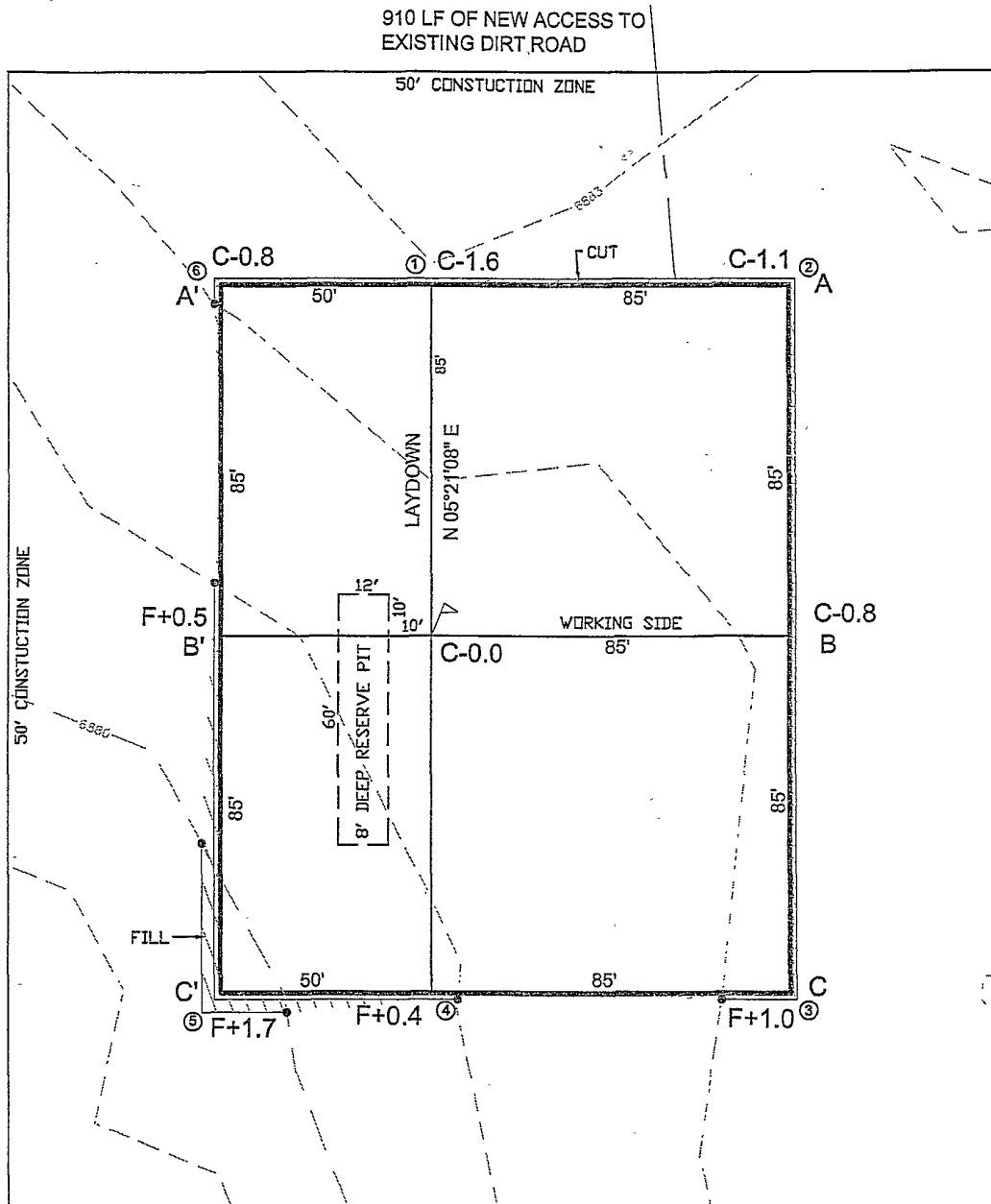
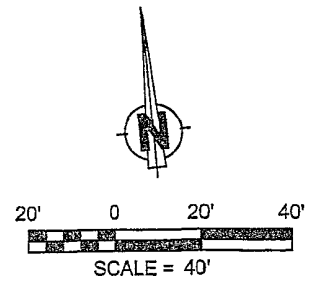
DAVID RUSSELL

Certificate Number 10201

LATITUDE: 36.32400°N
LONGITUDE: 107.87047°W
DATUM: NAD 83

ROSETTA RESOURCES OPERATING LP

TSAH TAH 11 #3
1000' FSL & 1205' FWL
LOCATED IN THE SW/4 SW/4 OF SECTION 11,
T24N, R10W, N.M.P.M.,
SAN JUAN COUNTY, NEW MEXICO
GROUND ELEVATION: 6881', NAVD 88
FINISHED PAD ELEVATION: 6881.3', NAVD 88



1 FOOT CONTOUR INTERVAL SHOWN
SCALE: 1" = 40'
JOB No.: RRO011
DATE: 09/26/06

EXHIBIT K



Russell Surveying
1409 W. Aztec Blvd. #5
Aztec, New Mexico 87410
(505) 334-8637

Rosetta Resources Operating LP
Tsah Tah 11 3-R
1047' FSL & 1200' FWL
Sec. 11, T. 24 N., R. 10 W.
San Juan County, New Mexico

PAGE 7

9. WELL SITE LAYOUT

See Pages 11 - 13 for drawings of the well pad, cross section, cut and fill diagram, reserve pit, trash cage, access onto the location, parking, living facilities, and rig orientation.

10. RECLAMATION

Reclamation starts once the reserve pit is dry, at which point it will be back filled. Initially, the reserve pit, and any areas not needed for work overs will be reclaimed. Slopes will be no steeper than 3 to 1. Once the well is plugged, then the road and remainder of the pad will be contoured to a natural shape, soil spread evenly over disturbed areas, and disturbed areas ripped or harrowed. A seed mix will be drilled as prescribed by BLM.

11. SURFACE OWNER

All construction will be on lease and on BLM.

12. OTHER INFORMATION

Scott Hall (BLM) and Charles Black (Permits West) decided on May 12 that an on site inspection is not needed. (Page 11 shows that ~80% of the proposed pad overlaps the existing pad.)

The closest hospital is a ~3/4 hour drive to southwest Farmington.

Complete Archaeological Service Associates will file the archaeology report.

PERMITS WEST
PROVIDING PERMITS FOR LAND USERS

EXHIBIT L

Form 3160-3
(April 2004)

RECEIVED

MAY 15 2008

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Farmington Field Office

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a Type of work. <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER	2 If Unit or CA Agreement, Name and No. N/A	3 Lease Serial No. NMNM-112955
1b Type of Well. <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone	8 Lease Name and Well No. TSAH TAH 11 3-R	9 API Well No. 30-045-34713
2 Name of Operator ROSSETTA RESOURCES OPERATING LP	10 Field and Pool, or Exploratory BASIN FRUITLAND COAL GAS	11 Sec. T. R. M. or Bk. and Survey or Area 11-24N-10W NMMPM
3a Address 1200 17th ST., SUITE 770 DENVER, CO 80202	3b Phone No. (include area code) (720) 359-9144	12 County or Parish SAN JUAN
4 Location of Well (Report location clearly and in accordance with any State requirements) At surface 1047' FSL & 1200' FWL At proposed prod. zone SAME	13 State NM	
14 Distance in miles and direction from nearest town or post office* 8 AIR MILES NW OF NAGEEZI, NM	15 Distance from proposed location to nearest property or lease line, ft (Also to nearest dig. unit line, if any) 1,047'	16 No. of acres in lease 1,761.69
17 Spacing Unit dedicated to this well W2 (= 320 acres)	18 Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft 52' (to be plugged)	19 Proposed Depth 1,900'
20 BLM/BIA Band No. on file BLM STATE WIDE NM0000371	21 Elevations (Show whether DF, KDB, RT, GL, etc.) 6,882' GL	22 Approximate date work will start* 06/01/2008
23 Estimated duration 2 WEEKS	24 Attachments	

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form

- Well plat certified by a registered surveyor.
- A Drilling Plan
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office)
- Bond to cover the operations unless covered by an existing bond on file (see item 20 above)
- Operator certification
- Such other site specific information and/or plans as may be required by the authorized officer

25 Signature *B. Wood* Name (Printed/Typed) BRIAN WOOD Date 05/13/2008

Title CONSULTANT PHONE: (505) 466-3120 FAX: (505) 466-9682

Approved by (Signature) *[Signature]* Name (Printed/Typed) Office Date 7/24/08

Title *FEED*

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon. Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

BLM'S APPROVAL OR ACCEPTANCE OF THIS ACTION DOES NOT RELIEVE THE LESSEE AND OPERATOR FROM OBTAINING ANY OTHER AUTHORIZATION REQUIRED FOR OPERATIONS ON FEDERAL AND INDIAN LANDS

NOTIFY AZTEC OCD 24 HRS. PRIOR TO CASING & CEMENT. NMOC

HOLD C104 FOR Change in status for Tsah Tah 11 #3

This action is subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4

JUL 30 2008

DRILLING OPERATIONS AUTHORIZED ARE SUBJECT TO COMPLIANCE WITH ATTACHED "GENERAL REQUIREMENTS"