

Form 3160-3  
(April 2004)

RECEIVED

MAR 27 2008

FORM APPROVED  
OMB No. 1004-0137  
Expires March 31, 2007

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

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		5. Lease Serial No. NMNM-62970
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		6. If Indian, Allottee or Tribe Name N/A
2. Name of Operator ROSETTA RESOURCES OPERATING LP		7. If Unit or CA Agreement, Name and No. N/A
3a. Address 1200 17th ST., SUITE 770 DENVER, CO 80202	3b. Phone No. (include area code) (720) 359-9144	8. Lease Name and Well No. TSAH TAH 4 #1
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface 1302' FNL & 1177' FEL At proposed prod. zone SAME		9. API Well No. 30-045-34672
14. Distance in miles and direction from nearest town or post office* 10 AIR MILES NW OF NAGEEZI, NM		10. Field and Pool, or Exploratory BASIN FRUITLAND COAL GAS
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 1,177'		11. Sec., T. R. M. or Blk. and Survey or Area A 4-24N-10W NMPM
16. No. of acres in lease 322.00	17. Spacing Unit dedicated to this well SE4, S2NE4, and LOTS 1 & 2 (= 322.00 acres) E/2	12. County or Parish SAN JUAN
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 875' (oil well 4-32)	19. Proposed Depth 1,900'	13. State NM
20. BLM/BIA Bond No. on file BLM STATE WIDE NMB000371	21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6,847' GL	22. Approximate date work will start* 04/15/2008
23. Estimated duration 2 WEEKS		

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

24. Attachments

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

- 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 *Brian Wood* Name (Printed/Typed) BRIAN WOOD Date 03/22/2008

Title CONSULTANT PHONE: (505) 466-8120 FAX: (505) 466-9682

Approved by (Signature) *[Signature]* Name (Printed/Typed) Date 4/21/08

Title AEM Office FEO

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)

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

NMOCD  
B

APR 24 2008

AV

DISTRICT I  
1625 N. French Dr., Hobbs, N.M. 88240

State of New Mexico  
Energy, Minerals & Natural Resources Department

Form C-102  
Revised October 12, 2005

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

MAR 27 2008

☐ AMENDED REPORT

Bureau of Land Management  
Field Office

WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number <b>30-045-34672</b>	<sup>2</sup> Pool Code <b>71629</b>	<sup>3</sup> Pool Name <b>BASIN FRUITLAND COAL</b>
<sup>4</sup> Property Code <b>37128</b>	<sup>5</sup> Property Name <b>TSAH TAH 4</b>	<sup>6</sup> Well Number <b>1</b>
<sup>7</sup> GRID No. <b>239235</b>	<sup>8</sup> Operator Name <b>ROSETTA RESOURCES OPERATING LP</b>	<sup>9</sup> Elevation <b>6847'</b>

<sup>10</sup> Surface Location

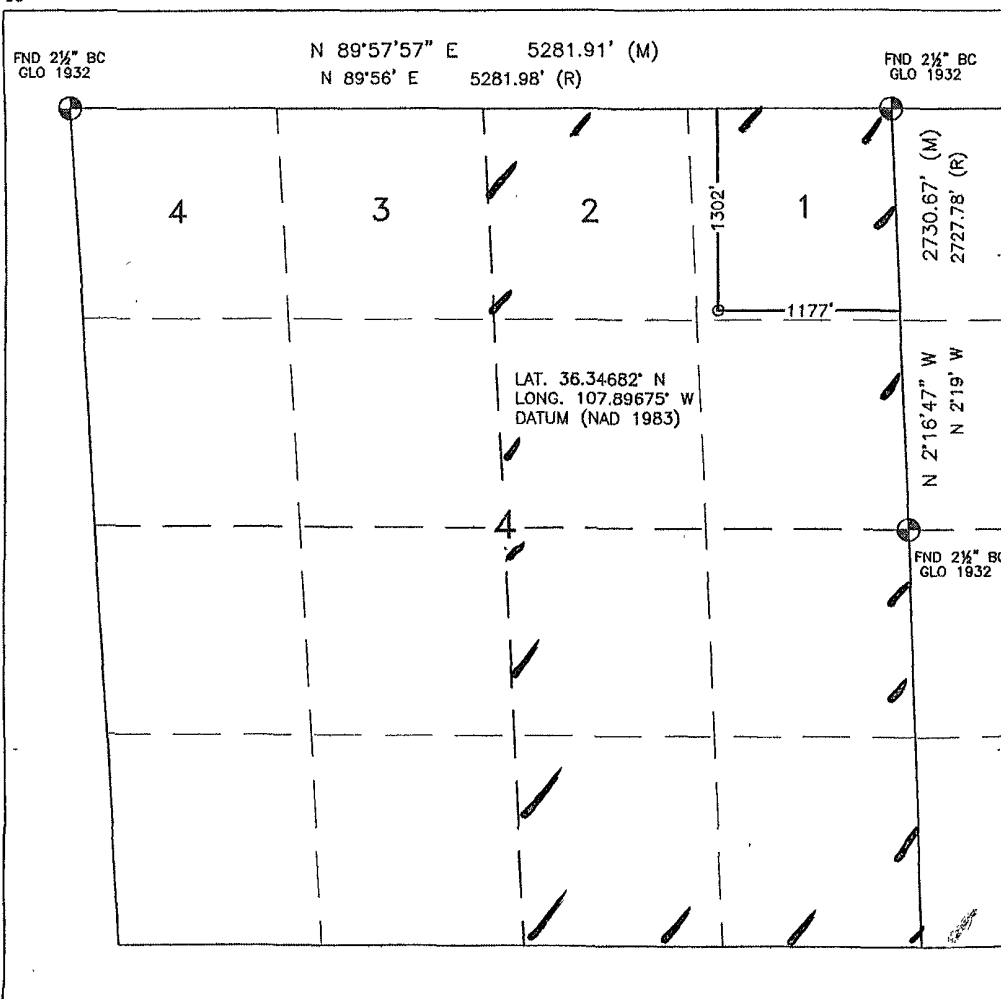
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	4	24N	10W	①	1302'	NORTH	1177'	EAST	SAN JUAN

<sup>11</sup> 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
<sup>12</sup> Dedicated Acres <b>322.00</b>					<sup>13</sup> Joint or Infill		<sup>14</sup> Consolidation Code		<sup>15</sup> 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.

*Brian Wood* 3-22-08

Signature

Date

**BRIAN WOOD**

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.

JANUARY 4, 2008

Date of Survey

Signature and Seal of Professional Surveyor:

*David Russell*



**DAVID RUSSELL**

Certificate Number

**10201**

Submit 3 Copies To Appropriate District Office  
District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Ave., Artesia, NM 88210  
District III  
1000 Rio Brazos Rd , Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals and Natural Resources

Form C-103  
May 27, 2004

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

WELL API NO. 30-045- <u>341072</u>
5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No. NMNM-62970
7. Lease Name or Unit Agreement Name TSAH TAH 4
8. Well Number #1
9. OGRID Number 239235
10. Pool name or Wildcat BASIN FRUITLAND COAL GAS

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

2. Name of Operator  
ROSETTA RESOURCES OPERATING LP

3. Address of Operator  
1200 17<sup>th</sup> ST., SUITE 770, DENVER, CO 80202

4. Well Location

Unit Letter: LOT 1

1302' FNL & 1177' FEL

Section 4

Township 24 N

Range 10 W

NMPM

SAN JUAN

County

11. Elevation (Show whether DR, RKB, RT, GR, etc.)  
6,847' GL

Pit or Below-grade Tank Application ☒ or Closure ☐

Pit type: DRILLING Depth to Groundwater: >500' Distance from nearest fresh water well: >1,000' Distance from nearest surface water: >200'

Pit Liner Thickness: 12 mil

Below-Grade Tank: Volume

bbbs

Construction Material: SYNTHETIC

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

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐  
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐  
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐  
COMMENCE DRILLING OPNS. ☐ P AND A ☐  
CASING/CEMENT JOB ☐

OTHER: DRILLING PIT ☒

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 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOC guidelines ☒, a general permit ☐ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE Brian Wood TITLE: CONSULTANT

DATE: MARCH 22, 2008

Type or print name: BRIAN WOOD

E-mail address: brian@permitswest.com

Telephone No.: (505) 466-8120

For State Use Only

Deputy Oil & Gas Inspector,  
District #3

APPROVED BY: [Signature] TITLE

DATE APR 24 2008

Conditions of Approval (if any):

Rosetta Resources Operating LP  
Tsah Tah 4 #1  
1302' FNL & 1177' FEL  
Sec. 3, T. 24 N., R. 10 W.  
San Juan County, New Mexico

PAGE 1

## Drilling Program

### 1. ESTIMATED FORMATION TOPS

<u>Formation</u>	<u>GL Depth</u>	<u>KB Depth</u>	<u>Elevation</u>
Nacimiento	0'	5'	+6,847'
Fruitland Coal	1,642'	1,647'	+5,205'
Pictured Cliffs	1,657'	1,662'	+5,190'
Lewis Shale	1,847'	1,852'	+5,000'
Total Depth (TD)	1,900'	1,905'	+4,947'

### 2. NOTABLE ZONES

<u>Oil &amp; Gas Zones</u>	<u>Water Zone</u>	<u>Coal Zone</u>
Fruitland	Nacimiento	Fruitland
Pictured Cliffs		

Water zones will be protected with casing, cement, and fresh water weighted mud. Fresh water encountered during drilling will be recorded by depth, cased, and cemented. Oil and gas shows will be tested for commercial potential based on the well site geologist's recommendations.

### 3. PRESSURE CONTROL

The drilling contract has not yet been awarded, thus the exact BOP model to be used is not yet known. (A typical 2,000 psi model is on PAGE 3.) BOP and choke manifold system will be installed and tested to  $\approx 500$  psi before drilling surface casing plug. It will remain in use until the well is completed or abandoned. A safety valve and sub with a full opening valve to fit the drill pipe and collars will be available on the rig floor in the open position at all times for use when kelly is not in use.

Rosetta Resources Operating LP  
Tsah Tah 4 #1  
1302' FNL & 1177' FEL  
Sec. 3, T. 24 N., R. 10 W.  
San Juan County, New Mexico

PAGE 2

All BOP mechanical and pressure tests will be recorded on the driller's log. BOPs will be inspected and opened and closed at least daily to check mechanical working order. Inspections will be recorded on the daily drilling report. Pressure tests will be conducted before drilling out from under all casing strings which are set and cemented in place.

#### 4. CASING & CEMENT

<u>Hole Size</u>	<u>O. D.</u>	<u>Weight</u>	<u>Grade</u>	<u>Type</u>	<u>Age</u>	<u>Depth Set</u>
8-3/4"	7"	23#	J-55	S T & C	New	120'
6-1/4"	4-1/2"	10.5#	J-55	L S S T & C	New	1,900'

Surface casing will be cemented to the surface with  $\approx 35$  cubic feet ( $\approx 30$  sacks) Class B with 1/4 pound per sack cellophane + 2%  $\text{CaCl}_2$ . Yield = 1.18 cubic feet per sack. Weight = 15.2 pounds per gallon. Volume = 100% excess. Centralizers will be installed on the middle of the shoe joint and every other centralizer thereafter. Thread lock the guide shoe and bottom of float collar only. Will use API casing dope.

Production casing will be cemented to the surface with  $\approx 348$  cubic feet ( $\approx 295$  sacks) Class B with 1/4 pound per sack cellophane + 2%  $\text{CaCl}_2$ . Yield = 1.18 cubic feet per sack. Weight = 15.2 pounds per gallon. Five or more centralizers will be used. Volume = 75% excess.

#### 5. MUD PROGRAM

A nine pound polymer and fresh water mud system with a viscosity of  $\approx 35$  will be used. Sufficient material to maintain mud qualities, control lost circulation, and contain a blowout will be available at the well while drilling.

Rosetta Resources Operating LP  
Tsah Tah 4 #1  
1302' FNL & 1177' FEL  
Sec. 3, T. 24 N., R. 10 W.  
San Juan County, New Mexico

PAGE 4

6. CORES, TESTS, & LOGS

No cores or drill stem tests are planned. DIL/GR log may be run from TD to surface. CNL/FSC log may be run over certain intervals.

7. DOWN HOLE CONDITIONS

No abnormal pressures, temperatures, nor hydrogen sulfide are expected. Maximum expected bottom hole pressure will be  $\leq 760$  psi.

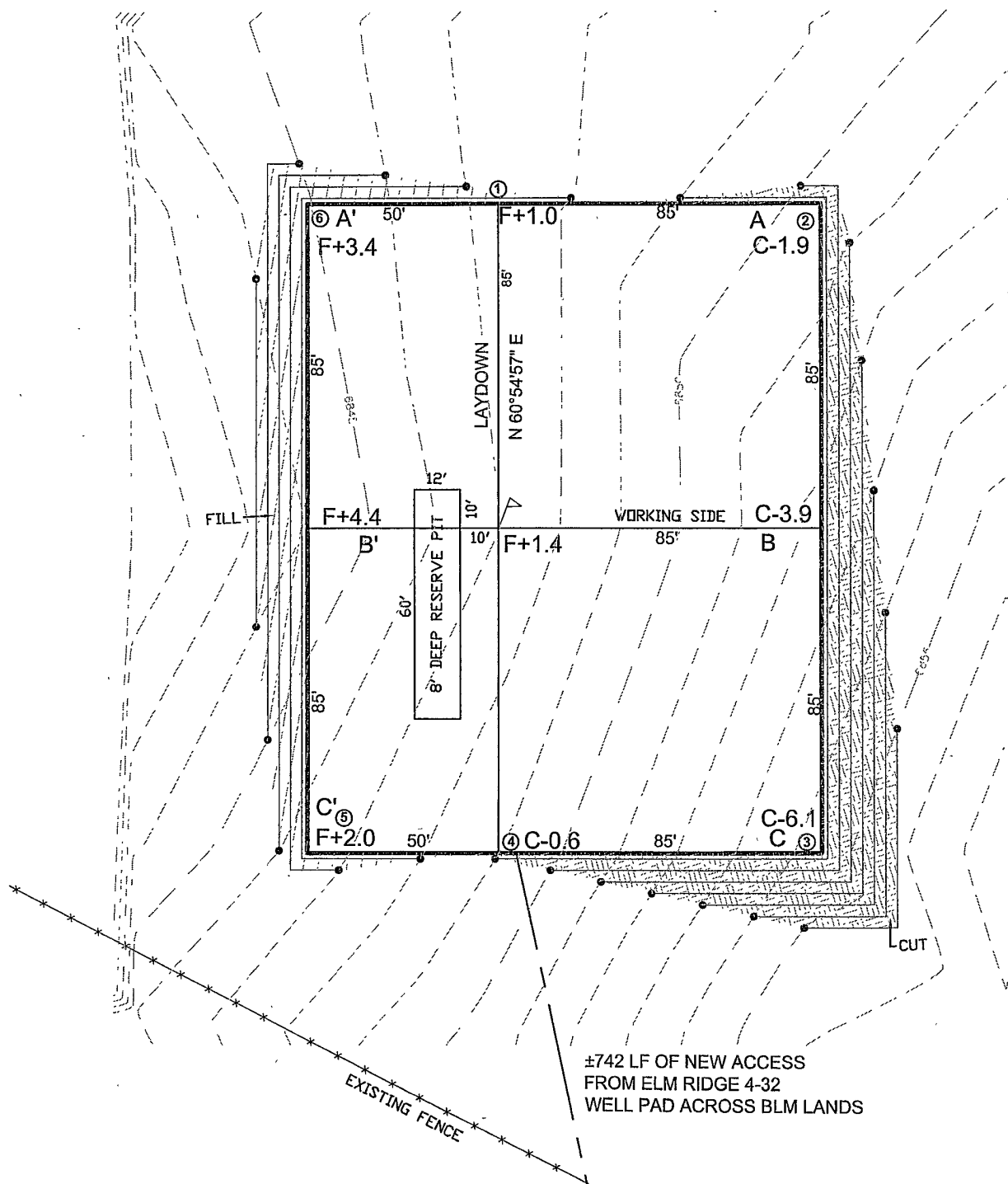
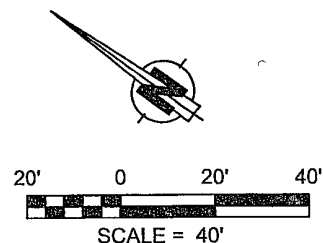
8. OTHER INFORMATION

The anticipated spud date is upon approval. It is expected it will take  $\approx 2$  weeks to drill and complete the well.

LATITUDE: 36.34682°N  
LONGITUDE: 107.89675°W  
DATUM: NAD 83

# ROSETTA RESOURCES OPERATING LP

TSAH TAH 4 #1  
1302' FNL & 1177' FEL  
LOCATED IN THE NE/4 NE/4 OF SECTION 4,  
T24N, R10W, N.M.P.M.,  
SAN JUAN COUNTY, NEW MEXICO  
GROUND ELEVATION: 6847', NAVD 88  
FINISHED PAD ELEVATION: 6848.4', NAVD 88



1 FOOT CONTOUR INTERVAL SHOWN  
SCALE: 1" = 40'  
JOB No.: RRO033  
DATE: 01/16/08

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

# ROSETTA RESOURCES OPERATING LP

TSAH TAH 4 #1

1302' FNL & 1177' FEL

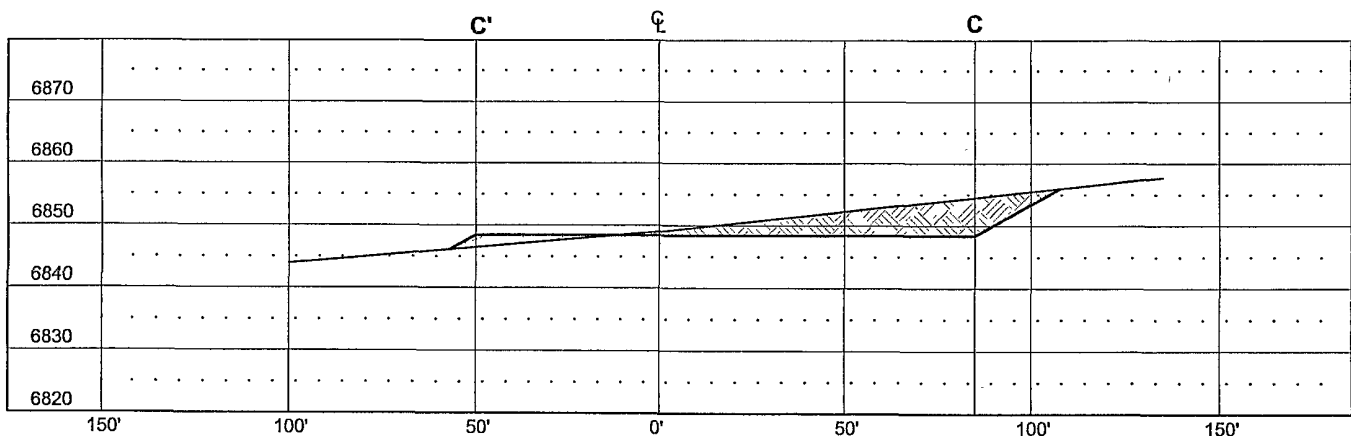
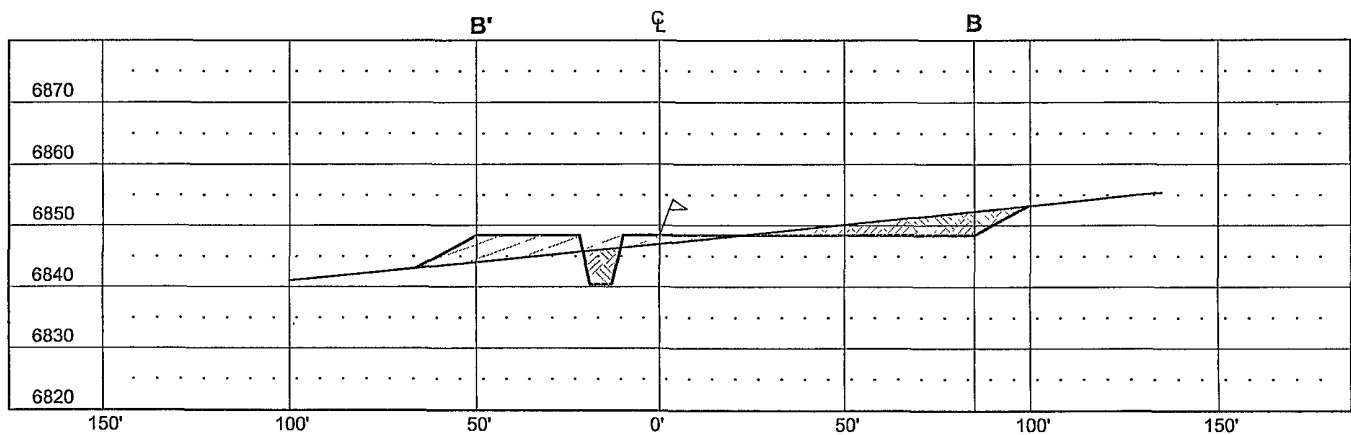
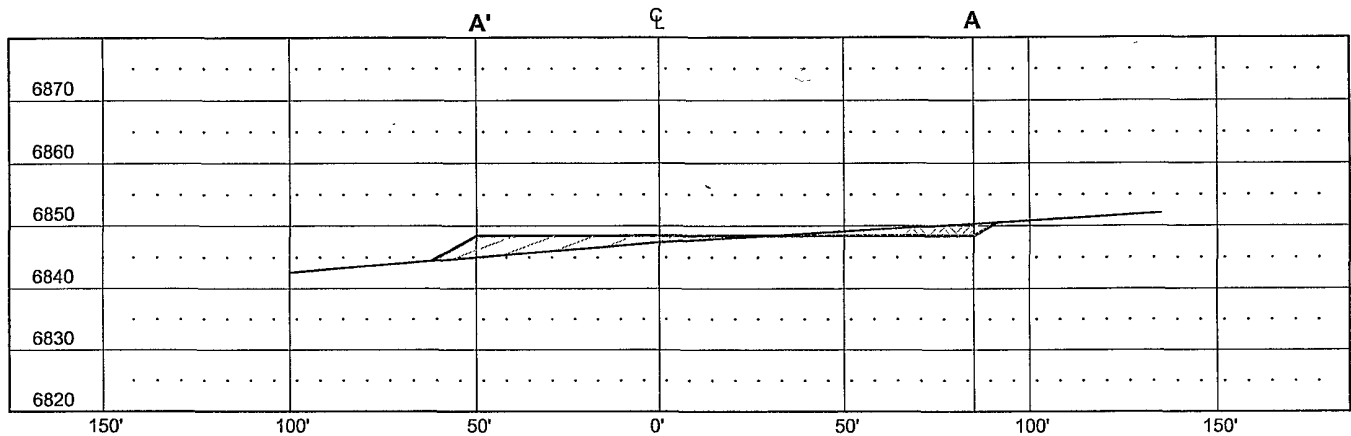
LOCATED IN THE NE/4 NE/4 OF SECTION 4,

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

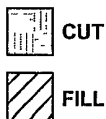
SAN JUAN COUNTY, NEW MEXICO

GROUND ELEVATION: 6847', NAVD 88

FINISHED PAD ELEVATION: 6848.4', NAVD 88



VERT. SCALE: 1" = 30'  
 HORZ. SCALE: 1" = 50'  
 JOB No.: RRO033  
 DATE: 01/16/08



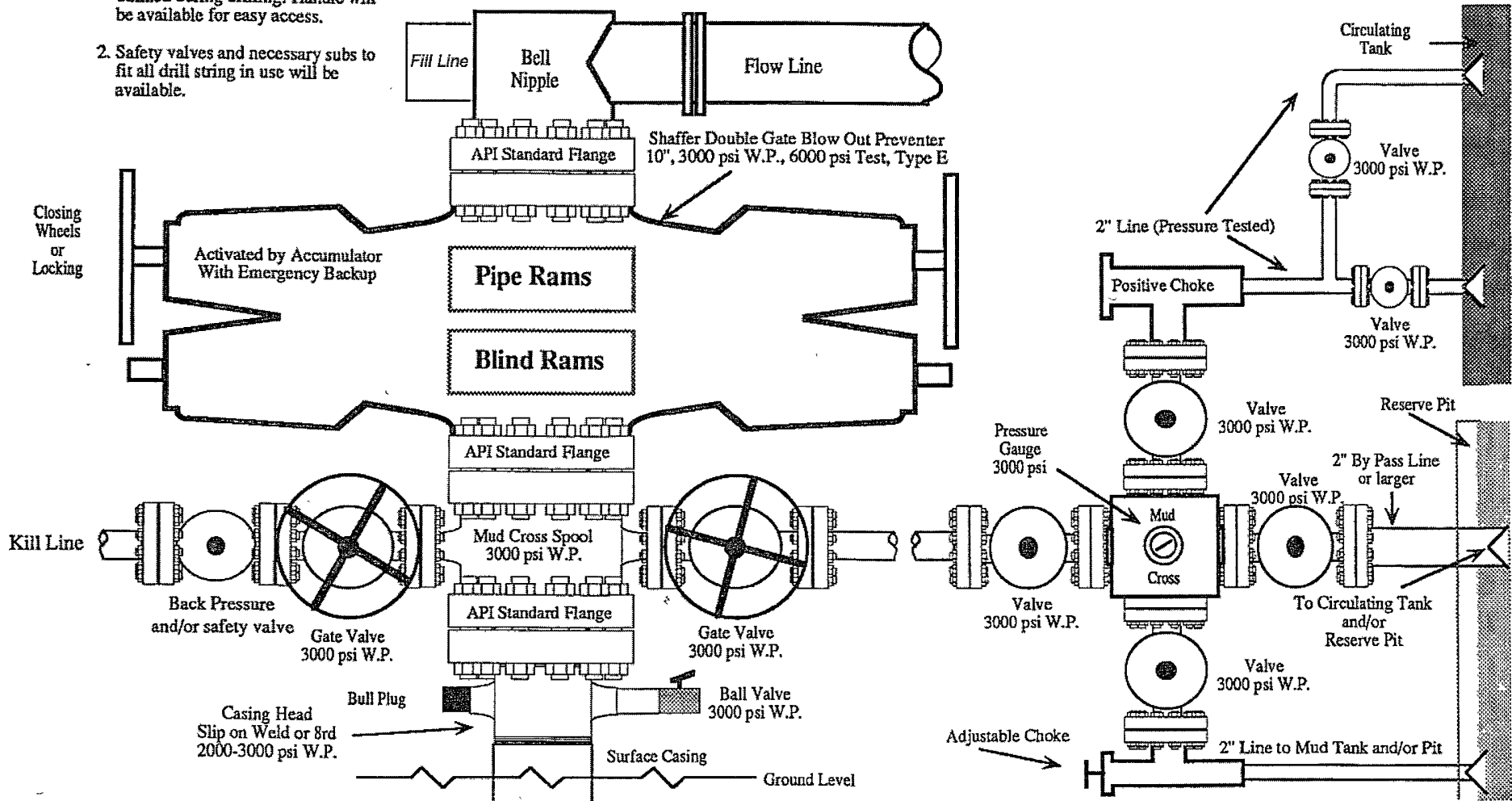
**Russell Surveying**  
 1409 W. Aztec Blvd. #2  
 Aztec, New Mexico 87410  
 (505) 334-8637



# 2,000 PSI BOP SYSTEM

Note: 1. An upper Kelly cock valve will be utilized during drilling. Handle will be available for easy access.

2. Safety valves and necessary subs to fit all drill string in use will be available.



Note: This equipment is designed to meet requirements for a 2-M rating standard per 43 CFR part 3160 (amended). Proper operation and testing of equipment will be carried out per standard. 2,000 psi equipment can be substituted in the drawing to meet minimum requirements per standard.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

RECEIVED

APR 18 2008

FORM APPROVED  
OMB No. 1004-0137  
Expires: March 31, 2007SUNDRY NOTICES AND REPORTS ON WELLS  
Bureau of Land Management  
Birmingham Field Office

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

## SUBMIT IN TRIPLICATE- Other instructions on reverse side.

1. Type of Well <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other		5. Lease Serial No. NMNM-62970
2. Name of Operator ROSETTA RESOURCES OPERATING LP		6. If Indian, Allottee or Tribe Name N/A
3a. Address 1200 17th ST., SUITE 770, DENVER, CO 80202	3b. Phone No. (include area code) 720 359-9144	7. If Unit or CA/Agreement, Name and/or No. N/A
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) 1302' FNL & 1177' FEL 4-24N-10W NMPM		8. Well Name and No. TSAH TAH 4#1
		9. API Well No. 30-045-34672
		10. Field and Pool, or Exploratory Area BASIN FRUITLAND COAL GAS
		11. County or Parish, State SAN JUAN COUNTY, NM

## 12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

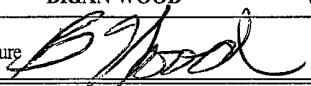
TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other CHANGE BOP
	<input checked="" type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

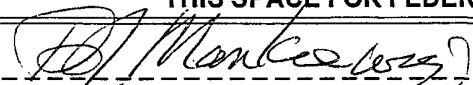
CHANGE BOP

RCVD APR 23 '08  
OIL CONS. DIV.  
DIST. 3

cc: BLM, Campbell

14. I hereby certify that the foregoing is true and correct Name (Printed/Typed) BRIAN WOOD (PHONE 505 466-8120)		Title CONSULTANT (FAX 505 466-9682)
Signature 		Date 04/12/2008

## THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by 	Title AEA	Date 4/21/08
Conditions of approval, if any, are attached. Approval of this notice 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.	Office FEU	

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)

NMOCD

Chihuahua Rig #201  
BOP Testing Procedure.

Refer to the attached diagram for the bradenhead and BOP configuration. No mud cross will be utilized. The choke manifold will be connected to one side of the bradenhead. Connect the third-party testing company's test truck to the opposite side of the bradenhead.

**Kill Line Valve:**

Connect the test truck to the kill line valve and pressure test the valve to 250 psig low and 1,000 psig high. Test each pressure for 10 minutes.

**Blind Rams:**

Close the blind rams and open the bradenhead valve to the choke manifold. Have all three of the choke manifold valves closed. Pressure test the blind rams, casing, bradenhead, and choke manifold to 250 psig low and 1,000 psig high. Test each pressure for 30 minutes. A successful test will not have more than a 10% drop during the 30 minute test period.

If the test is successful proceed with the pipe ram test.

If the test is not successful, open the blind rams and install the test plug at the bottom of the bradenhead (the test plug seal is below the two valves on the bradenhead). Close the bradenhead valve to the choke manifold. Pressure test the blind rams and bradenhead to 250 psig low and 1,000 psig high. Open the bradenhead valve to the choke manifold and repeat the test. If these test fail with no obvious leaks at either the blind rams or the choke manifold, remove the test plug and run a 7" packer into the first joint of casing and repeat both tests. Use caution when pulling the test plug if pressure is trapped below the plug. Recommend closing the pipe rams and opening the bradenhead valve to the choke manifold before trying to pull the test plug.

**Pipe Rams:**

Install the TIW valve on the bottom of one joint of drill pipe. Run the one joint into the well and close the pipe rams. Chain down the joint of drill pipe but leave the top of the pipe open. With the bradenhead valve open and the test truck still connected to the other side of the bradenhead, test the pipe rams to 250 psig low and 1,000 psig high. Hold each pressure for 30 min with no more than a 10% drop during the test period.

**Upper Kelly Cock:**

Install the TIW valve to the bottom of the Kelly. Install the test truck to the TIW Valve. With the TIW valve closed, pressure test the TIW valve to 250 psig low and 1,000 psig high for 10 minutes. Open and the TIW valve and close the upper Kelly cock. Pressure test the Kelly and upper Kelly cock to 250 psig low and 1,000 psig high. Hold each pressure for 10 minutes with 0% drop during the test.

## "2M" BLOWOUT PREVENTER SYSTEM

