AT5-07-143

OCD-HOBBS

Form 3160-3
(April 2004)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

# APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No. **LC-061446**

6. If Indian, Allotee or Tribe Name

1a. Type of work: [✓] DRILL [ ] REENTER

7. If Unit or CA Agreement, Name and No.

1b. Type of Well: [✓] Oil Well [ ] Gas Well [ ] Other [ ] Single Zone [ ] Multiple Zone

8. Lease Name and Well No. **Penrose #6** (301552)

2. Name of Operator **Range Operating New Mexico, Inc.** (227588)

9. API Well No. **30-025-38260**

3a. Address **777 Main St., Ste. 800, Fort Worth, TX 76102**

3b. Phone No. *(include area code)* **817-810-1916**

10. Field and Pool, or Exploratory (24180) **Eunice; San Andres, Southwest**

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface **1760' FNL & 330' FWL**
At proposed prod. zone **1760' FNL & 330' FWL**

11. Sec., T. R. M. or Blk. and Survey or Area **Unit E, Sec. 09, T22S, R37E**

14. Distance in miles and direction from nearest town or post office* **3 miles SE from Eunice**

12. County or Parish **Lea**

13. State **NM**

| 15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) **330** | 16. No. of acres in lease | 17. Spacing Unit dedicated to this well **40** |
|---|---|---|
| 18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. | 19. Proposed Depth **4300** | 20. BLM/BIA Bond No. on file **NM2399** |
| 21. Elevations (Show whether DF, KDB, RT, GL, etc.) **3416** | 22. Approximate date work will start* **01/30/2007** | 23. Estimated duration **9 days** |

JAN 2007 Received Hobbs OCD

## 24. Attachments

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

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

| 25. Signature | Name *(Printed/Typed)* | Date |
|---|---|---|
| | **Paula Hale** | **12/11/2006** |

Title **Sr. Reg. Sp.**

| Approved by *(Signature)* | Name *(Printed/Typed)* | Date |
|---|---|---|
| JMartinez | | JAN -9 2007 |
| Title **ACTING FIELD MANAGER** | Office **CARLSBAD FIELD OFFICE** | |

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.

**APPROVAL FOR 1 YEAR**

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)*

**SEE ATTACHED FOR CONDITIONS OF APPROVAL**

**CAPITAN CONTROLLED WATER BASIN**

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

United State Department of the Interior

Bureau of Land Management

ROSWELL FIELD OFFICE
2902 West Second Street
Roswell, New Mexico 88201

Statement Accepting Responsibility for Operations

| | |
|---|---|
| Operator Name: | Range Operating New Mexico, Inc. |
| Street or Box: | 777 Main Street, Suite 800 |
| City, State: | Fort Worth, TX |
| Zip Code: | 76102 |

The undersigned accepts all applicable terms, conditions, stipulations and restrictions concerning operations conducted on the leased land or portion thereof, as described below:

| | |
|---|---|
| Lease No.: | LC-061446 |
| Legal Description of Land: | Sec. 09, T22S, R37E<br>SW/4 NW/4 |
| Formations: | Eunice San Andres Southwest |
| Bond Coverage: (State, Nationwide or Individual) | Statewide |
| BLM Bond File No.: | NM2399 |

Authorized Signature: _____

Title: Petroleum Engineer

Date: 12/11/06

# PENROSE #6
# NOTICE TO SURFACE OWNER

**Surface Owner**

Charlie Bettis
P. O. Box 969
Eunice, NM 8823

**Notice Date**

12-11-06

***Range Operating New Mexico, Inc.***
777 MAIN STREET, SUITE 800
FORT WORTH, TEXAS 76102
817.870.2601
817.870.2316 (FAX)

December 11, 2006

United States Department of the Interior
Bureau of Land Management
Carlsbad Field Office
620 East Greene Street
Carlsbad, NM 88220-6292

**Re: Penrose Federal #6**
**SW/4 NW/4, Sec. 9, T22S, R37E**
**Lea County, NM**

Gentelmen:

The surface owner on the subject well is Charlie Bettis, P. O. Box 969, Eunice, NM 8823. Please accept this letter as my testimony that I have made a verbal agreement to pay surface damages to Mr. Charlie Bettis on the subject well. Please call me if you have any questions.

Thank you,

Robert Ebeier
Senior Landman
817.870.2601 (office)

DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240

DISTRICT II
1301 W. GRAND AVENUE, 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 Department

# OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

Form C-102
Revised October 12, 2005
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

## WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

| API Number | Pool Code | Pool Name |
|---|---|---|
| 30-025-38260 | 24180 | Eunice; San Andres, Southwest |

| Property Code | Property Name | Well Number |
|---|---|---|
| 301552 | PENROSE FEDERAL | 6 |

| OGRID No. | Operator Name | Elevation |
|---|---|---|
| 227588 | RANGE OPERATING NEW MEXICO, INC. | 3416' |

### Surface Location

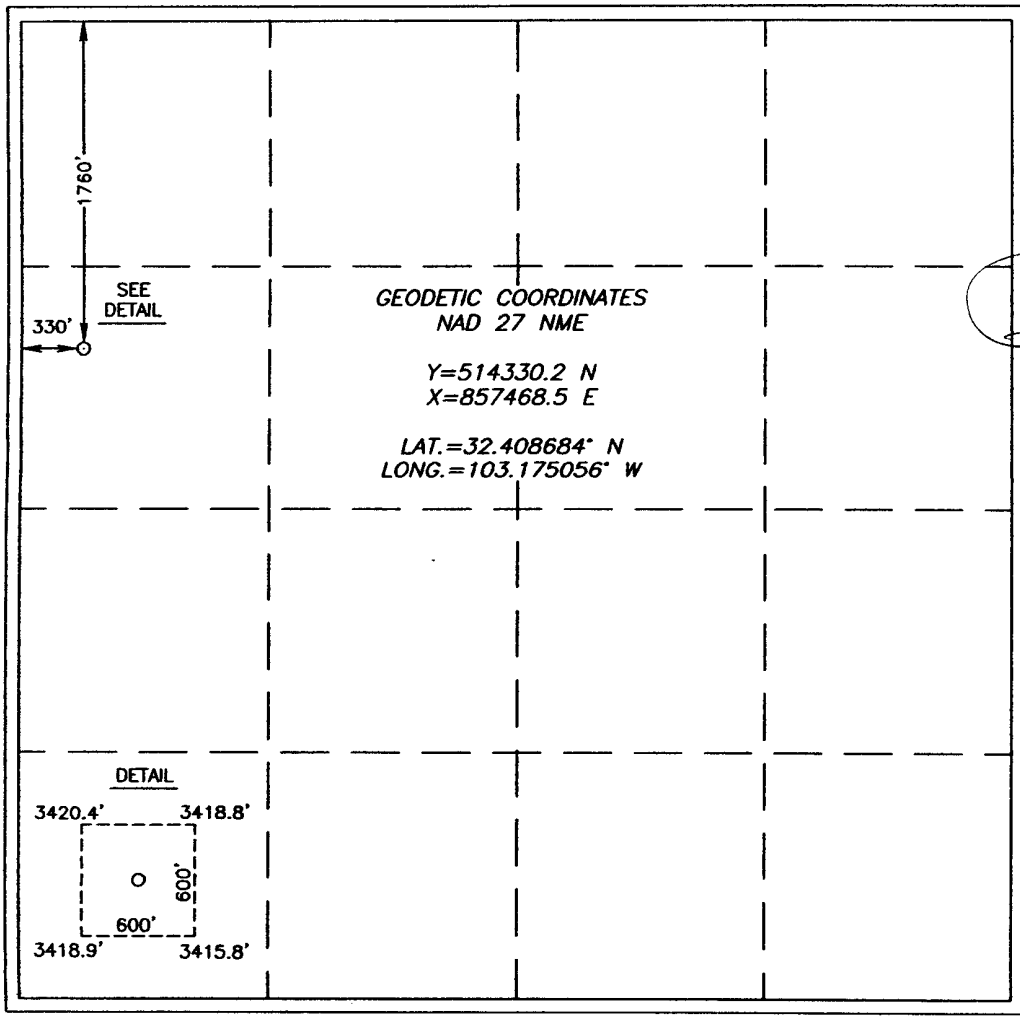
| UL or lot No. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---|---|---|---|---|---|---|---|---|---|
| E | 9 | 22-S | 37-E | | 1760 | NORTH | 330 | WEST | LEA |

### Bottom Hole Location If Different From Surface

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

| Dedicated Acres | Joint or Infill | Consolidation Code | Order No. |
|---|---|---|---|
| 40 | | | |

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION




### OPERATOR CERTIFICATION

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

Signature 12/11/06 Date

Paula Hale
Printed Name

### 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.*

SEPTEMBER 22, 2006
Date Surveyed MR

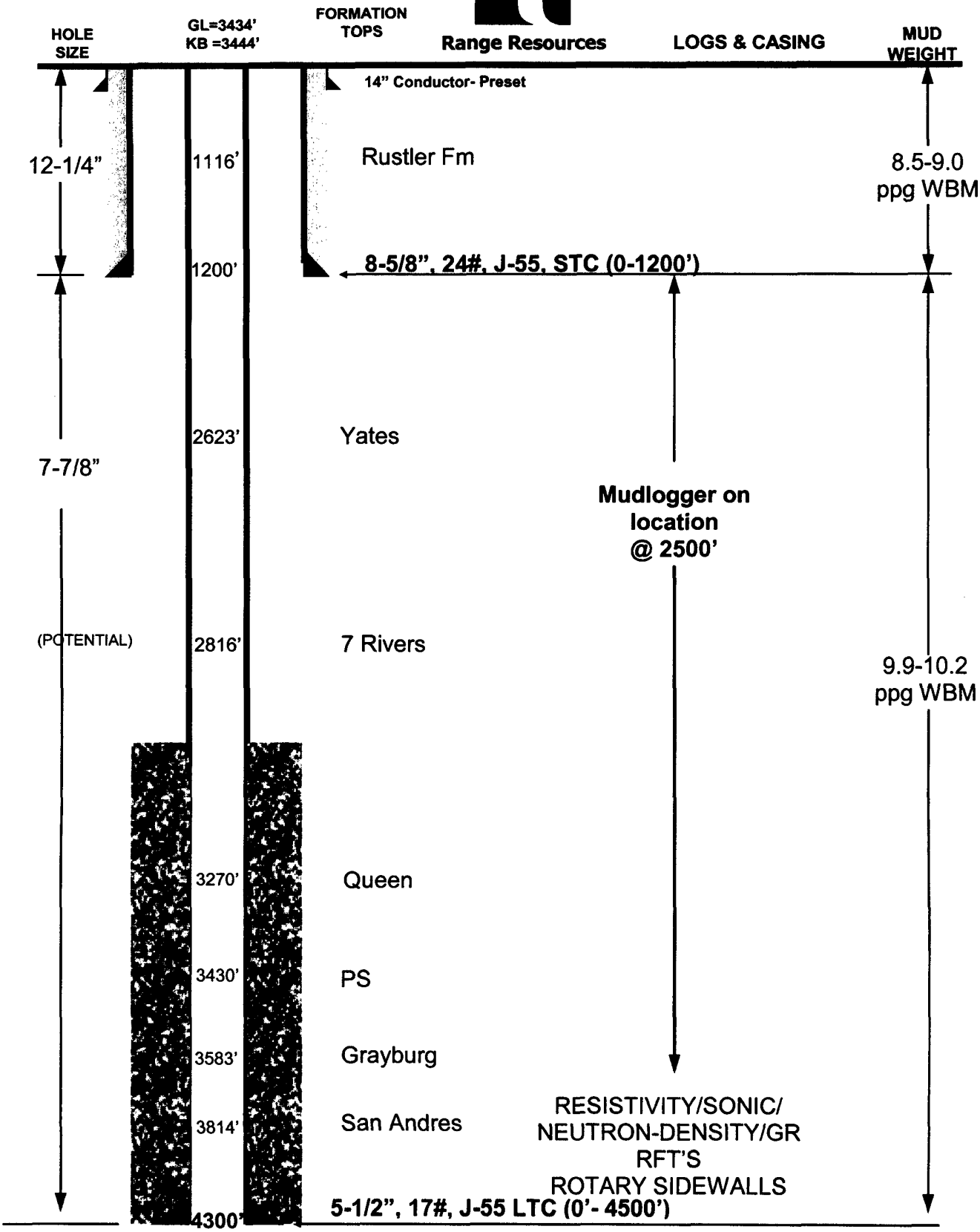
Signature & Seal of Professional Surveyor

RONALD J. EIDSON
NEW MEXICO
3239
REGISTERED PROFESSIONAL SURVEYOR

9/26/06
06.11.1506

Certificate No. GARY L. EIDSON 12641
RONALD J. EIDSON 3239

**WELL** : **Penrose #6**
**SL** : **1760' FNL & 330' FWL, Sec 09-T22S-R37E** **FIELD:Eunice San AndresSW**
**COUNTY** : **Lea County** **OBJECTIVE TD: 4300'**
**STATE** : **New Mexico**



Range Operating New Mexico

# Penrose #6
# Lea County, NM
## Drilling Program

Prepared 12/06/06

**PROPOSED DEPTH:** 4,300' MD / 4,300' TVD
**GROUND ELEVATION:** **3,416'**
**KB:** **17'**

**LOCATION:** 1760' FNL & 330' FEL, Section 09-T22S-R37E, Lea County, NM

**ANTICIPATED PRODUCTIVE FORMATION:** San Andres

**API NO:**

**GENERAL:**
The Penrose #6 will be a 4,300' San Andres test in Lea County, New Mexico drilled on a daywork basis by United Rig #24. An 12-1/4" surface hole will be drilled to +/-1200'. A string of 8-5/8" casing will be run and cemented to surface.

Nipple up BOPs and test same, drilling will continue with a 7-7/8" hole to a total depth of 4,400'. Actual TD will be spaced so that casing will be landed where the casing head can be screwed on. After electric-logging the open-hole interval, a string of 5-1/2" casing will be run and cemented from total depth to 1,000' and the tubing head installed.

**ESTIMATED FORMATION TOPS: (Log Depths)**

| | | | |
|---|---|---|---|
| Upper Permian Rustler Fm | +2310 ft | 1116 ft MD | |
| Upper Permian 7 Rivers Fm | +610 ft | 2816ft MD | |
| Upper Permian PS Fm | -4 ft | 3430 ft MD | + |
| Upper Permian San Andres Fm | -388 ft | 3814 ft MD | * |
| PTD | -874 ft | 4300 ft MD | |

*= Primary Reservoir Targets
+= Secondary Reservoir Targets

## DETAILED DRILLING PROCEDURE

TIMES AND EVENTS TO NOTE ON DRILLING REPORT:

A. SPUD (date and time)
B. TD (each interval date and time)
C. CEMENT IN PLACE (date and time)
D. RIG RELEASE (date and time)

## BOTTOM HOLE ASSEMBLIES

BHA #1: (0-1200') - Bit, (2) 8" DC, (10) 6.25" DC's

BHA #2: (1200'-4500') - Bit, (24) 6.25" DC's

## USE OF RT TOOL

No RT tools in use.

## MUD PROGRAM

| INTERVAL | MUD WEIGHT | FUNNEL VIS. | API Fluid Loss |
|---|---|---|---|
| 0' - 1200' | 8.4 – 9.4 | 32-34 | NC |
| 1200' - 4500' | 10.0 | 28 | NC |
| | | | |

1) Level and build an all-weather location and access road.

2) MIRU United Rig #24. Perform rig safety inspection and ensure that everything is in proper working order prior to spudding well.

3) Notify NMOCD of intent to spud, run casing and cement each 24 hours in advance 505-748-1283.

4) Spud well with 12-1/4" mill tooth bit. Drill to +/- 1200' with surveys at 500' and 1000' (Actual depth will be determined by the length of the casing). Circulate hole clean. Sweep and condition hole to run casing. Pull out of hole, lay down BHA.

**NOTE:** Mud through this interval will be a native spud mud supplemented with Bentonite. Lime may be used to flocculate the mud and increase the yield point to clean the hole. Mix paper for seepage control. Utilize all solids control equipment to control drill solids. Run as fine of mesh shaker screens as possible. Use water to control mud weight and viscosity. Maintain mud weight at 8.4 – 9.0 ppg.

5) Rig up casing crew and run 8-5/8", 24#, J-55 casing as follows:

1-8-5/8" Texas Pattern Shoe
1-8-5/8" Insert Float Collar
1-8-5/8" x 11" Centralizer 10' above shoe
1-8-5/8" x 11" Centralizer every other joint
1-8-5/8" Stop Ring

6) Circulate for at least bottoms up plus one casing volume with mud prior to cementing. Cement surface casing according to cement recommendation. NOTE: Have field bin, cement, and circulating equipment on location prior to casing job.

a) Review rates, pressures, displacement volumes and casing pressure rating with Service Company and rig personnel. All cement slurries are to be lab tested; both a pilot test and a test of the actual field blend. Report results, including 24 hour compressive strengths, to the office. **(See Cement Testing Requirements below).** Also keep two samples of each dry cement in the event that a problem is encountered while cementing. Discard this sample if all indications are positive.

b) Cement well as follows: Pump 20 bbl fresh water followed by **200** sks of Lead: 35/65 POZ:Class C + 6% D020 + 5% (BWOW) D044 + 1 pps D130, @ 12.8 ppg, followed by **180** sks Tail: Class C + 1% S001 + 0.1 pps D130 @ 14.8 ppg. Displace with fresh water, bump plug with w/ 500 psi over final pump pressure.

c) If cement is not circulated to surface, contact the office and the NMOCD and prepare to run 1" pipe and top out cement. Have 1" pipe on location for possible top-out.

d) If cement falls, fill 12-1/4" X 8-5/8" annulus with cement.

7) Release pressure and check for flow back. Set casing on bottom. If float is holding, base nipple up of wellhead and BOP on the surface cement samples. Well must stand at least 8 hours total before any testing of casing is performed as per NMOCD.

8) After cementing casing, weld on 8-5/8" flange type casing head. Test BOP blind rams & choke manifold to 250# low & 3000# high. Pick up Bit #2 (7-7/8") & BHA , trip in hole, test BOP pipe rams to 250# low & 3000#. **Pressure test casing to 1000 psi for 30 minutes prior to drilling out shoe.** Clearly report this test information of the daily drilling report.

**MUD NOTES: See Mud Program for details**

After cementing 8-5/8" casing circ pit with brine water. Mix paper for seepage control. Utilize pre-hydrated Gel/Lime sweeps for flushing the hole. Run all available solids control equipment to control weight. Add brine water as needed to maintain volume. Add LCM to system only as needed. Use batch LCM treatment if losses occur and maintain as needed.

9) Drill ahead with brine water in 7-7/8" hole taking deviation surveys every ± 500' or nearest bit run per NMOCD rules. Use sweeps as needed to clean hole. Drill to ± 4400; exact TD will be determined by the length of the casing. Sweep and condition hole in preparation for logging. Spot a 50 bbl, 40-42 visc pill prior to POOH for logs. Strap out of hole.

10) RU Wireline Truck and Tools. Log well as instructed by Range Operating NM. Rotary sidewall cores may be required along with RFT's.

11) Make a conditioning trip prior to running casing. Trip into hole with BHA and drill pipe, break circulation at 4500'. Ream last two stands to bottom. Circulate and condition hole. Maintain viscosity of 28. TOH laying down 4-1/2" drill pipe and drill collars. Clear floor and prepare to run casing.

12) Rig up casing crew and run 5-1/2", 17#, J-55, LT&C as follows:

a) Float shoe (thread-lock)
b) 1 jt. 5-1/2", 17#, J-55, LT&C casing (thread-lock)
c) Float collar (thread-lock)
d) 5-1/2", 17#, J-55, LT&C Casing to surface.

The two bottom joints of 5-1/2" casing and the float shoe and float collar should be thread-locked (do not weld pipe). Run 1 centralizer 5' above shoe with limit clamp, one on the next collar, one just below the float collar with limit clamp and one per joint up to 3300'.

13) Circulate mud for at least bottoms up plus one casing volume prior to cementing.

14) Cement the production casing as follows. Re-figure cement volumes on a basis of: caliper + 20% + 50 sx. Precede cement with 20 bbl fresh water, 500 gals superflush, 20 bbl fresh water.

**Lead (3,500' to 1,000'):**

450 sacks
Slurry: 35:65 Poz : Class C + 6% D20 + 5% D44 + 0.3% S1 + 4 pps D42 + 0.1 pps D130
Slurry Weight: 12.5 ppg Slurry Yield: 2.16 cuft/sk Water: 11.6 gals/sk

**Tail (4,500' to 3,500');**

250 sacks
Slurry: 50:50 Poz : Class C + 2% D20 + 5% D44
Slurry Weight: 14.2 ppg Slurry Yield: 1.36 cuft/sk Water: 6.33 gals/sk

Review rates, pressures, displacement volumes and casing pressure rating with Service Company and rig personnel. All cement slurries are to be lab tested; both a pilot test and a test of the actual field blend. Report results, including 24 hour compressive strengths, to the office. **(See Cement Testing Requirements below).** Also keep two samples of each dry cement.

a) Have additional water storage on location as necessary for mixing cement. Have water analyzed by cementing company for compatibility with cement and chemicals.

b) Reciprocate pipe during cement job. Take special care to move pipe very slowly on the down stroke. Pump spacer and cement at 7-8 BPM. When the last cement has been pumped, maintain rate at 7-8 BPM. Displace with fresh water. When reaching displacement to shoe joint minus 10 bbls slow pump rate to 2 barrels per minute or less prior to bumping plug. Bump plug with 500 psi over final displacement pressure and hold pressure for 15 minutes.

15) Release pressure and check for flow back. If floats are holding, continue to make preparations to hang 5-1/2" casing one (1) foot off bottom. If floats do not hold, wait 12 hours on cement.

16) Set 5-1/2" slips in "A" section with full string weight. Nipple down BOP, Nipple up well head.

17) Install cap. Clean mud pits and release rig.

**CEMENT TESTING REQUIREMENTS:**

Laboratory Blend: Obtain thickening time, rheology, water loss, and compressive strengths of the laboratory cement blend with a water sample of the actual water to be used in cementing for each cement slurry to be pumped.

Field Blend: Obtain thickening time of the field cement blend with a water sample of the actual water to be used in cementing for each slurry to be pumped. If the thickening time of the field blend is consistent with the thickening time of the laboratory blend, proceed with the cement job. If not, wait on the compressive strength results. Regardless of thickening time results, obtain all of the compressive strengths of field blend to compare with the compressive strengths of the laboratory blend.

| | | | | |
|---|---|---|---|---|
| Don Robinson | Drilling Manager | (469) 450-2281 | (972) 317-8345 | (817) 509-1506 |
| | | | | |
| Bryan Surles | Area Operations Mngr. | (817) 360-9663 | (817) 346-8188 | (817) 810-1971 |
| | | | | |
| Deanna Poindexter | District Engineer | (817) 422-8378 | (432) 638-9718 | (817) 509-1518 |
| | | | | |
| Martin Emery | Chief Geologist | (817) 366-3693 | (817) 430-4861 | (817) 870-2601 |
| | | | | |
| Paula Hale | Sr. Regulatory Sp. | ( 817) 773-6002 | | (817) 810-1916 |

| | | | |
|---|---|---|---|
| **United Rig Company,** Artesia, NM | Rig Company | Angel Salazar | (505) 623-7730 |
| **United Rig #24** | | | |
| | | | |
| **Nova Mud, Inc** - Hobbs, NM | Drlg Mud | Dale Welch | (800) 530-8786 |
| | | | |
| **Master Tubulars** – Midland, TX | Casing & Tubing | Randy Martin | (800) 682-8996 |
| | | | |
| **Suttles Logging, Inc.** – Midland, TX | Mudlogging | Sam Samford | (432) 687-3148 |
| **Schlumberger**-Artesia, NM | Cementing Service | Lynn Northcutt | (505)748-1392<br>cell (505) 365-7510 |
| | | | |
| **National** – Hobbs, NM | Well Heads | | (505) 393-9928 |
| | | | |
| | | | |
| **Weatherford** –Artesia, NM | Float Equipment | | |
| | | | |
| **Halliburton Logging** –Hobbs, NM | Open Hole Logs | Michael Escriva<br>Tommy Johnson | (505) 392-7543 |
| **Allen's Casing Crew** -Hobbs, TX | Csg Crew | | |
| | | | |
| **National** –Hobbs, NM | General Supplies | | (505) 393-9928 |
| **TFH** –Hobbs, NM | Fork Lift | | (505) 397-3270 |
| | | | |
| **Abbot Brothers** | Conductor setting | | |
| RTO Sales & Lease | Satellite Internet | | (432) 550-5678 |

# EUNICE SOUTHWEST PROSPECT (San Andres)
## Penrose Federal No. 6
## Well Objectives/Prognosis/Evaluation
## October 19, 2006

### I) GENERAL

| | | |
|---|---|---|
| Operator: | **Range Operating New Mexico, Inc. (100%)** | |
| Partners/WI: | none | |
| Proposed Well Designation: | Penrose Federal No. 6 | |
| API No.: | 30-025-XXXXX | |
| Well Classification: | PUD | |
| Confidentiality Status: | Restricted, no information release without approval | |
| PTD (Permit Depth): | 4300 ft MD | |
| Anticipated Spud Date: | 2007 | |
| Estimated Days to Drill: | 10 | |
| Drilling Contractor: | United Rig No. 24 | |
| Expected Type of Hydrocarbon: | Oil/Gas, Gravity and GOR variable | |
| Contacts: | Tom Brace, V.P. Geol | (817)810-1926 |
| | Martin Emery, Project Geologist | (817)810-1951 |
| | Steve Chapman, Reservoir Engineer | (817)810-1912 |
| | Bobby Ebeier, Landman | (817)810-1987 |
| | Don Robinson, Drilling Mgr. | (817)509-1506 |
| | Bryan Surles, Oper. Eng. | (817)810-1971 |
| | Rennie Hubnik, Geologist | (817)810-1982 |

### II) WELL OBJECTIVES

The objective of the well is to drill and evaluate the Queen - San Andres Formations and complete the well as a San Andres producer. The expected **San Andres EUR** for the well is **XXXX MMCFGE**. The expected **IP** is **XXX MCFG & XX BO/D**.

### III) LOCATION

| | |
|---|---|
| Surface Location: | **1760 ft FNL 330 ft FEL** |
| | **Section 9-T22S-R37E** |
| | Lea County, New Mexico |
| | **Lat: 32.408684 deg N** |
| | **Long: 103.175056 deg W** |
| Bottom-hole Location: | same, vertical |
| Elevation: | GL: 3416 ft |
| | KB: 3426 ft |
| Directions to Location: | From the intersection of Co. Rd E-21 (Delaware Basin Rd) and Co. Rd. E-33 (S. Legion Rd.), go north on Co. Rd. E-33 approx. 0.7 miles. Turn right and go east approximately 250 feet. This location is approximately 125 feet south. |
| Access to Location: | Unrestricted |

### IV) PROGNOSIS

| | | | |
|---|---|---|---|
| Upper Permian Rustler Fm | +2310 ft | 1116 ft MD | |
| [redacted] | [redacted] | [redacted] | [redacted] |
| Upper Permian 7 Rivers Fm | +610 ft | 2816 ft MD | |
| [redacted] | [redacted] | [redacted] | [redacted] |
| Upper Permian PS Fm | -4 ft | 3430 ft MD | + |
| [redacted] | [redacted] | [redacted] | [redacted] |
| Upper Permian San Andres Fm | -388 ft | 3814 ft MD | * |
| [redacted] | [redacted] | [redacted] | [redacted] |
| PTD | -874 ft | 4300 ft MD | |

*= Primary Reservoir Targets
+= Secondary Reservoir Targets

# EUNICE SOUTHWEST PROSPECT (San Andres)
## Penrose Federal No. 6
## Well Objectives/Prognosis/Evaluation

**V) PRIMARY RESERVOIR TARGETS**

Upper Permian **Grayburg DOL**

| | |
|---|---|
| Rock Type: | DOL |
| Thickness: | ~180 ft |
| Avg. Porosity: | 7%; ranges from 0-14+% |
| Avg. Perm.: | ? md |
| Est. Reservoir Temp.: | 100-110°F |
| Est. Reservoir Press.: | 1400-1450 psi (assuming no pressure depletion) |

Upper Permian **San Andres DOL**

| | |
|---|---|
| Rock Type: | DOL |
| Thickness: | ~250 ft |
| Avg. Porosity: | 10-13%; ranges from 3-20% |
| Avg. Perm.: | ? md |
| Est. Reservoir Temp.: | 100-110°F |
| Est. Reservoir Press.: | 1400-1450 psi (assuming no pressure depletion) |

**VI) SECONDARY RESERVOIR TARGETS**

Upper Permian **Queen &, Penrose-Skelly** Formations

**VII) PROPOSED WELL DESIGN**

Drilling Fluids/Additives: Brine, 10.1 lbs/gal

Casing Design:

**VIII ) EVALUATION**

Mud-Logging:

| | |
|---|---|
| Contractor: | **None** |
| Basic Requirements: | Cuttings lithology description/comments<br>Oil shows/fluorescence/cut description<br>Gas monitoring, chromatography, gas ratios<br>Penetration rate/depth, rig operations, bit and mud properties<br>One man unit |
| Correlation: | Please use the following logs for correlation and refer to Section **(X)** for offset well tops: |
| Sampling: | |
| Reporting: | E-mail/WWW or fax daily reports/logs to:<br>**Martin Emery** **(Primary)**<br>(817)810-1951 (wk) memery@rangeresources.com<br>(817)810-1988 (fax)<br>(817)430-4861 (hm)<br>(817)366-3693 (cell) |
| Distribution: | see attached distribution |

# EUNICE SOUTHWEST PROSPECT (San Andres)
# Penrose Federal No. 6
# Well Objectives/Prognosis/Evaluation

**VIII) EVALUATION (cont)**

Conventional Coring: None

Open-Hole DSTs:

| | |
|---|---|
| DST Contractor: | None |
| DST Program: | None |
| Distribution: | see attached distribution |

Open-Hole Logging:

| | | |
|---|---|---|
| Contractor: | **HALLIBURTON** | |
| Logging Program: | 2500-4300 ft MD (TD) | CSNG-DSN-SDL-DLL-Microguard (log GR-Neutron to surface) |
| Distribution: | see attached distribution | |

**IX) POTENTIAL HAZARDS/PITFALLS**

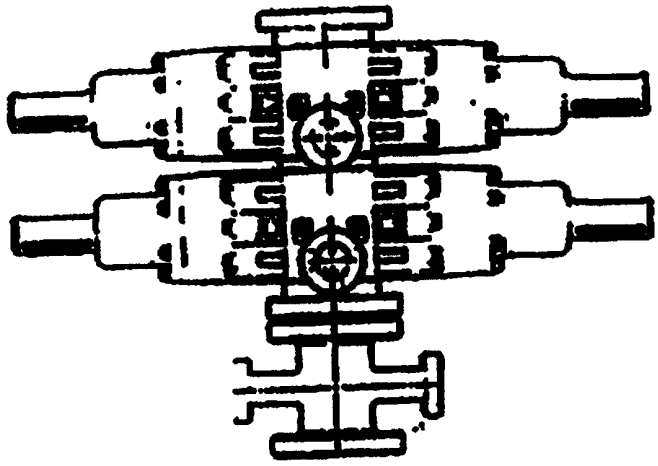
| | |
|---|---|
| Problematic Drilling Zones: | |
| Abnormal Pressure/Temperature Zones: | Possibility of partial depletion within Queen to San Andres Formations |
| Fractured/Lost Circulation Zones: | See above; **Please tag mud if circulation is lost in primary pay interval** |
| Presence of $H_2S$ or $CO_2$: | None expected |
| Faults Intersecting the Wellbore: | None expected |

**X) CORRELATION LOG TOPS:**

| Correlations |
|---|
| [redacted] |
| Upper Permian Yates Fm |
| [redacted] |
| Upper Permian Queen Fm |
| [redacted] |
| Upper Permian Grayburg Fm |
| [redacted] |
| [redacted] |

Prepared by: Rennie Hubnik
Date: October 19, 2006
Revised:

BLOW OUT PREVENTION EQUIPMENT



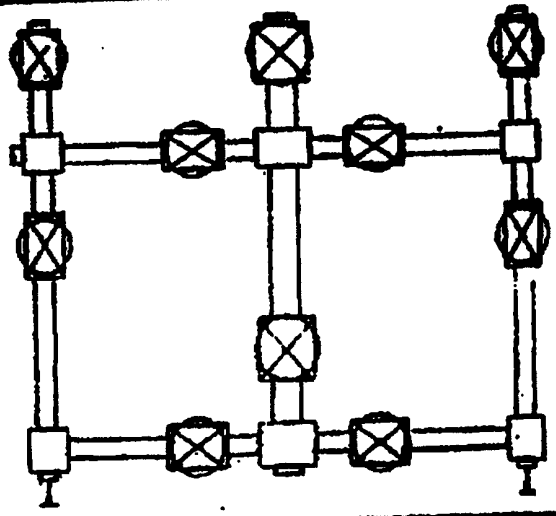
**BOP Stack**

— 1 Rucker Shaffer "B" double ram 10" - 3000 psi WP

**Closing Unit**

— Hydril model 80 three station accumulator
— Controls located in accumulator house and on rig floor

**CHOKE MANIFOLD**



· 900 Series, 3000 psi WP

PLAT #2

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-144
June 1, 2004

**For drilling and production facilities**, submit to appropriate NMOCD District Office.
**For downstream facilities**, submit to Santa Fe office

# Pit or Below-Grade Tank Registration or Closure

Is pit or below-grade tank covered by a "general plan"? Yes ☐ No ☐
Type of action: Registration of a pit or below-grade tank ☐ Closure of a pit or below-grade tank ☐

Operator: Range Operating New Mexico, Inc. Telephone: 817/810-1916 e-mail address: phale@rangeresources.com
Address: 777 Main St., Ste. 800, Ft. Worth, TX 76102
Facility or well name: Penrose #6 API #: 30-025- 38260 U/L or Qtr/Qtr E Sec 9 T 22S R 37E
County: Lea Latitude 32.408684" N Longitude 103.175056" W NAD: 1927 ☒ 1983 ☐
Surface Owner: Federal ☒ State ☐ Private ☐ Indian ☐

| **Pit** | **Below-grade tank** |
|---|---|
| Type: Drilling ☐ Production ☐ Disposal ☐<br>Workover ☐ Emergency ☐<br>Lined ☐ Unlined ☐<br>Liner type: Synthetic ☐ Thickness ___mil Clay ☐<br>Pit Volume _____bbl | Volume: _____bbl Type of fluid: _____<br>Construction material: _____<br>Double-walled, with leak detection? Yes ☐ If not, explain why not. |

| | | |
|---|---|---|
| Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of ground water.) | Less than 50 feet<br>50 feet or more, but less than 100 feet<br>100 feet or more | (20 points)<br>(10 points)<br>( 0 points) |
| Wellhead protection area: (Less than 200 feet from a private domestic water source, or less than 1000 feet from all other water sources.) | Yes<br>No | (20 points)<br>( 0 points) |
| Distance to surface water: (horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses.) | Less than 200 feet<br>200 feet or more, but less than 1000 feet<br>1000 feet or more | (20 points)<br>(10 points)<br>( 0 points) |
| | **Ranking Score (Total Points)** | |

**If this is a pit closure:** (1) Attach a diagram of the facility showing the pit's relationship to other equipment and tanks. (2) Indicate disposal location: (check the onsite box if your are burying in place) onsite ☐ offsite ☐ If offsite, name of facility_____. (3) Attach a general description of remedial action taken including remediation start date and end date. (4) Groundwater encountered: No ☐ Yes ☐ If yes, show depth below ground surface_____ft. and attach sample results.
(5) Attach soil sample results and a diagram of sample locations and excavations.

Additional Comments: We will not have a pit. We are using a closed loop system.

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

Date: 12-11-06
Printed Name/Title Paula Hale Signature Paula Hale

Your certification and NMOCD approval of this application/closure does not relieve the operator of liability should the contents of the pit or tank contaminate ground water or otherwise endanger public health or the environment. Nor does it relieve the operator of its responsibility for compliance with any other federal, state, or local laws and/or regulations.

Approval:
Printed Name/Title CHRIS WILLIAMS / DIST. SUPV Signature Chris Williams Date: 1/12/07