G-00-49

Form 3160-3
(September 2001)

FORM APPROVED
OMB No. 1004-0136
Expires January 31, 2004

4/24/06

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD-ARTESIA

RECEIVED

JUN 07 2006

OCD-ARTESIA

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: ☑ DRILL ☐ REENTER	5. Lease Serial No. NMNM-2938
	6. If Indian, Allottee or Tribe Name
1b. Type of Well: ☐ Oil Well ☑ Gas Well ☐ Other ☐ Single Zone ☐ Multiple Zone	7. If Unit or CA Agreement, Name and No.
2. Name of Operator: Mewbourne Oil Company - 14744	8. Lease Name and Well No.: Geronimo 23 Federal Com #1 35785
3a. Address: PO Box 5270 Hobbs, NM 88240	3b. Phone No. *(include area code)*: 505-393-5905
	9. API Well No.: 30-015-34925
	10. Field and Pool, or Exploratory: Shugart Morrow
4. Location of Well *(Report location clearly and in accordance with any State requirements. *)* At surface 660' FNL & 660' FWL Unit D At proposed prod. zone Same CAPITAN CONTROLLED WATER BASIN	11. Sec., T., R., M., or Blk. and Survey or Area: Sec 23-T18S-R31E
14. Distance in miles and direction from nearest town or post office*: approx 8 1/2 miles SW of Maljamar, NM	12. County or Parish: Eddy; 13. State: NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 660'	16. No. of Acres in lease: 160	17. Spacing Unit dedicated to this well: 320
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: 1320'	19. Proposed Depth: 12300'	20. BLM/BIA Bond No. on file: NM1693, Nationwide
21. Elevations (Show whether DF, KDB, RT, GL, etc.): 3683' GL	22. Approximate date work will start*: ASAP	23. Estimated duration: 45

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: Kristi Green	Name *(Printed/Typed)*: Kristi Green	Date: 04/18/06
Title: Hobbs Regulatory		
Approved by *(Signature)*: /s/ Russell E. Sorenson	Name *(Printed/Typed)*: /s/ Russell E. Sorenson	Date: JUN 06 2006
Title: 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 reverse)

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

WITNESS
Surface Cementing

Sa IT
29.5

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

DISTRICT II
811 South First, Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

2040 South Pacheco
Santa Fe, New Mexico 87504-2088

Form C-102
Revised March 17, 1999

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
	85300	Shugart Morrow

Property Code	Property Name	Well Number
	GERONIMO 23 FEDERAL COM	1

OGRID No.	Operator Name	Elevation
14744	MEWBOURNE OIL COMPANY	3683'

Surface Location

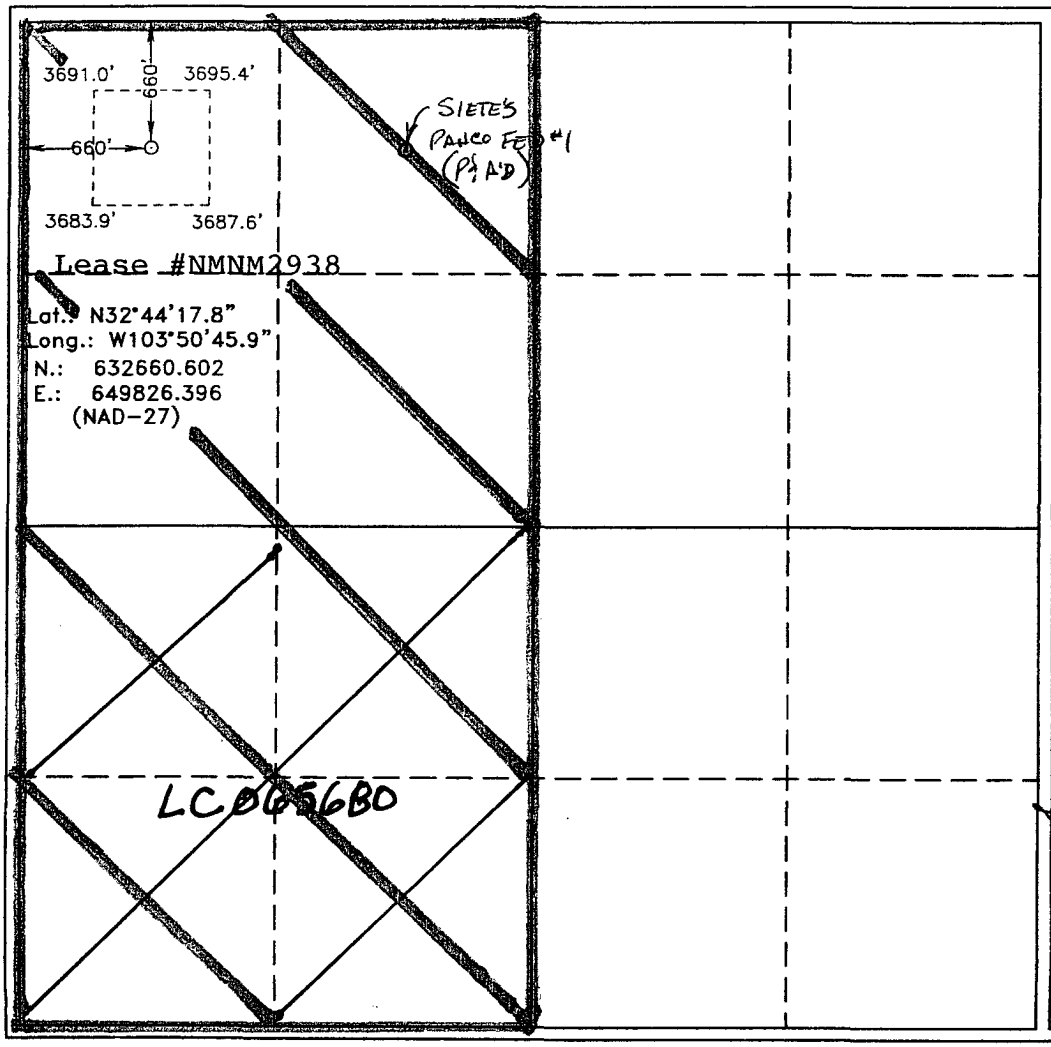
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	23	18 S	31 E		660'	NORTH	660'	WEST	EDDY

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.
320			

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 the the information contained herein is true and complete to the best of my knowledge and belief.

Kristi Green
Signature

Kristi Green
Printed Name

Hobbs Regulatory
Title

4/18/06
Date

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 supervison, and that the same is true and correct to the best of my belief.

APRIL 17, 2006
Date Surveyed

Signature & Seal of Professional Surveyor

NEW MEXICO — GARY L. JONES — 7977 — REGISTERED PROFESSIONAL LAND SURVEYOR

W.O. No. 6493

Certificate No. Gary L. Jones 7977

BASIN SURVEYS

MULTI-POINT SURFACE USE AND OPERATIONS PLAN
MEWBOURNE OIL COMPANY

Geronimo 23 Federal Com #1
660' FNL & 660' FWL
Sec 23-T18S-R31E
Eddy, New Mexico

This plan is submitted with Form 3160-3, Application for Permit to Drill, Covering the above described well. The purpose of this plan is to describe the location of the proposed well, the proposed construction activities and operations plan, the magnitude of the surface disturbance involved, and the procedures to be followed in restoring the surface so that a complete appraisal can be made of the environmental impact associated with the proposed operations.

1. Existing Roads:

A. Exhibit #3 is a road map showing the location of the proposed well (existing roads are highlighted in black and new roads are highlighted in blue). Exhibit #3A is a topographic map showing the location of the proposed well and access road (new road is highlighted in blue).

B. Directions to location from Hobbs: US62/180 to SR529 to US82. Turn left on US82 and go ½ mile. Turn south on CR222 and go 4 miles to CR249. Turn left on CR249 and go 2.2 miles. Turn left on existing lease road and go 0.5 miles. Turn left on new lease road to new location.

2. Proposed Access Road:

A Approx 400' of new road will be needed and some existing road will be improved.

B. The access to the location will be limited to 16' in width and will adequately drain runoff and control erosion as presently constructed.

3. Location of Existing Wells:

There are producing wells within the immediate vicinity of this well site shown on Exhibit 4.

4. Location of Existing and/or Proposed Facilities:

A. There are no production facilities on this lease at the present time.

B. In the event that the well is productive, production facilities will be located on the well pad.

C. All production vessels left on location will be painted to conform with BLM painting stipulations within 180 days of installation.

5. Location and Type of Water Supply

The well will be drilled with a combination of fresh water and brine water based mud systems. The water will be obtained from commercial suppliers in the area and/or hauled to the location by transport trucks over existing and proposed roads as indicated in Exhibit #3.

6. Source of Construction Materials

All material required for construction of the drill pad and access roads will be obtained from private, state, or federal pits. The construction contractor will be solely responsible for securing construction materials required for this operation and paying any royalties that may be required on those materials.

7. Methods of Handling Waste Disposal:

A. Drill cuttings not retained for evaluation purposed will be disposed of in the reserve pit.
B. Drilling fluids will be allowed to evaporate in the reserve pit prior to closure.
C. Water produced during operations will be disposed of in the reserve pit.
D. If any liquid hydrocarbons are produced during operations, those liquids will be stored in suitable tanks until sold.
E. Current regulations regarding the proper disposal of human waste will be followed.
F. All trash, junk, and other waste materials will be stored in proper containers to prevent dispersal and will be removed to an appropriate facility within one week of cessation of drilling and completion activities.

8. Ancillary Facilities

There are no ancillary facilities within the immediate vicinity of the proposed well site.

9. Well Site Layout

A A diagram of the drill pad is shown in Exhibit #5. Dimensions of the pad, pits, and location of major rig components are shown.
B. The reserve pit will be lined with a high quality plastic sheeting to prevent migration of fluids.
C. The pad dimension of 400' X 250' has been staked and flagged.
D. An archaeological survey has been conducted on the proposed access road and location pad.

10. Plans for Restoration of Surface

A. Upon cessation of the proposed operations, if the well is abandoned, the location and road will be ripped and re-seeded. The reserve pit area, after allowing to dry will be leveled. The entire location will be restored to the original contour as much as reasonable possible. All trash, garbage, and pit lining will be hauled to appropriate disposal to assure the location is aesthetically pleasing as reasonable possible. All restoration work will be completed within 180 days of cessation of activities.
B. The disturbed area will be restored by re-seeding during the proper growing season.
C. Three sides of the reserve pit will be fenced prior to and during drilling operations. The reserve pit will be fenced on the fourth side after the drilling rig is removed to prevent the endangerment of livestock. The fence will remain in place until the pit area has been leveled and restored.

D. Upon cessation of the proposed operations, if the well is not abandoned, the reserve pit area will be restored as per BLM guidelines. Any additional caliche required for production facilities will be obtained from a source as described in Section 6.

E. Within 90 days of cessation of drilling and completion operations, all equipment not necessary for production operations will be removed. The location will be cleaned of all trash and junk to assure the well site is left as aesthetically pleasing as reasonably possible.

11. Surface Ownership:

The surface is owned by: USA

12. Other Information:

A. Topography: Refer to the archaeological report for a detailed description of flora, fauna, soil characteristics, dwellings, and historical or cultural sites.

B. The primary use of the surface at the location is for grazing of livestock.

13. Operator's Representative:

A. Through APD approval, drilling, completion and production operations:

N.M. Young, District Manager
Mewbourne Oil Company
PO Box 5270
Hobbs, NM 88241
505-393-5905

14. Certification

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which currently exist; that the statements made in this plan are to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed by Mewbourne Oil Company, its contractors and subcontractors, in accordance with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

Date: 04/18/06 Signature: 

N.M. Young, District Manager
Mewbourne Oil Company
PO Box 5270
Hobbs, NM 88241
(505) 393-5905

Drilling Program
Mewbourne Oil Company
Geronimo 23 Federal Com #1
660' FNL & 660' FWL
Section 23-T18S-R31E
Eddy County, New Mexico

1. **The estimated top of geological markers are as follows:**

Rustler	730'
Salado	978'
Yates	2312'
Seven Rivers	2660'
Queen	3345'
Penrose	3754'
Grayburg	3805'
Delaware	4434'
Bone Spring	6365'
Wolfcamp	9715'
Strawn	10690'
Atoka	11010'
Morrow	11340'
Barnett	11908'

2. **Estimated depths of anticipated fresh water, oil, or gas:**

Water	Below 200'
Hydrocarbons	All zones below Delaware

3. **Pressure control equipment:**

A 2000# working pressure annular BOP will be installed on the 13 ⅜" surface casing. A 5000# WP Double Ram BOP and a 3000# WP Annular will be installed after running 9 ⅝" casing. Pressure tests will be conducted prior to drilling out under all casing strings. BOP controls will be installed prior to drilling under surface casing and will remain in use until completion of drilling operations. BOP's will be inspected and operated daily to insure mechanical integrity and the inspection will be recorded on the daily drilling report.

Kelly cock and a sub equipped with a full opening valve sized to fit the drill pipe and collars will be available on the rig floor in the open position when the kelly is not in use.

4. **Proposed casing and cementing program:**

A. **Casing Program:**

WITNESS ; Surface Cementing

Hole Size	Casing	Wt/Ft.	Grade	Depth
17-1/2"	13-3/8"	48#	H40	0-500' (Lea County alternative conditions of approval)
12-1/4"	9-5/8"	40#	N80/J55	0-4500'
8-3/4"	5-1/2"	17#	P110/N80	0-12,300'

Minimum casing design factors: Collapse 1.2, Burst 1.1, Tensile strength 2.0.

B. Cementing Program

i. Surface Casing: 300 sacks Class C light cement containing ½#/sk cellophane flakes, 2% CaCl, 5#/sk gilsonite. 200 sks Class C cement containing 2% CaCl

WITNESS iii. Intermediate Casing: 900 sacks 35:65 pozmix cement containing 6% gel, 5#/sack gilsonite. 400 sacks Class C cement containing 2% CaCl.

iv. Production Casing: 600 sacks Class H cement containing fluid loss additive, friction reducer additive, compressive strength enhancer, and NaCl. Shallower productive zones may be protected by utilizing a multiple stage cementing tool in the production casing below potentially productive zones and cementing with a light cement slurry.
**Mewbourne Oil Company reserves the right to change cement designs as hole conditions may warrant.*

5. Mud Program:

Interval	Type System	Weight	Viscosity	Fluid Loss
0'-500'	FW spud mud	8.6-9.4	32-34	NA
500'-4500'	FW spud mud/Brine water	8.6-10.0	28-30	NA
4500'-11100'	Cut brine water	8.8-9.2	28-30	NA
11100-12300'	Cut brine water	9.2-9.8	32-42	8-12

(Note: Any Weight Above 8.6#/gallon would be to hold back Wolfcamp shale, rather than abnormal BHP.)

6. Evaluation Program:

Samples:	10' samples from intermediate casing to TD
Logging:	Compensated density and dual laterlog from intermediate casing to TD
Coring:	As needed for evaluation
Drill Stem Tests:	As needed for evaluation

7. Downhole Conditions

Zones of abnormal pressure:	None anticipated
Zones of lost circulation:	Anticipated in surface and intermediate holes
Maximum bottom hole temperature:	180 degree F
Maximum bottom hole pressure:	9.0 lbs/gal gradient or less

8. Anticipated Starting Date:

Mewbourne Oil Company intends to drill this well as soon as possible after receiving approval with approximately 45 days involved in drilling operations and an additional 10 days involved in completion operations on the project.

Hydrogen Sulfide Drilling Operations Plan

Mewbourne Oil Company
Geronimo 23 Federal Com #1
660' FNL & 660' FWL
Sec 23-T18S-R31E
Eddy, New Mexico

1. General Requirements

Rule 118 does not apply to this well because MOC has researched this area and no high concentrations of H2S were found. MOC will have on location and working all H2S safety equipment before the Yates formation @ 2300' for purposes of safety and insurance requirements.

2. Hydrogen Sulfide Training

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will have received training from a qualified instructor in the following areas prior to entering the drilling pad area of the well:

1. The hazards and characteristics of hydrogen sulfide gas.
2. The proper use of personal protective equipment and life support systems.
3. The proper use of hydrogen sulfide detectors, alarms, warning systems, briefing areas, evacuation procedures.
4. The proper techniques for first aid and rescue operations.

Additionally, supervisory personnel will be trained in the following areas:

1 The effects of hydrogen sulfide on metal components. If high tensile tubular systems are utilized, supervisory personnel will be trained in their special maintenance requirements.
2 Corrective action and shut in procedures, blowout prevention, and well control procedures while drilling a well.
3 The contents of the Hydrogen Sulfide Drilling Operations Plan.

There will be an initial training session prior to encountering a know hydrogen sulfide source. The initial training session shall include a review of the site specific Hydrogen Sulfide Drilling Operations Plan.

3. Hydrogen Sulfide Safety Equipment and Systems

All hydrogen sulfide safety equipment and systems will be installed, tested, and operational prior to drilling below the intermediate casing.

1. Well Control Equipment
   - A. Flare line with automatic igniter or continuous ignition source.
   - B. Choke manifold with minimum of one adjustable choke.
   - C. Blowout preventers equipped with blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit
   - D. Auxiliary equipment including rotating head and annular type blowout preventer.

2. Protective Equipment for Essential Personnel
   Thirty minute self contained work unit located at briefing area as indicated on wellsite diagram.

3. Hydrogen Sulfide Protection and Monitoring Equipment
Two portable hydrogen sulfide monitors positioned on location for optimum coverage and detection. The units shall have audible sirens to notify personnel when hydrogen sulfide levels exceed 20 ppm.

4. Visual Warning Systems
A. Wind direction indicators as indicated on the wellsite diagram.
B. Caution signs shall be posted on roads providing access to location. Signs shall be painted a high visibility color with lettering of sufficient size to be readable at reasonable distances from potentially contaminated areas.

4. Mud Program

The mud program has been designed to minimize the amount of hydrogen sulfide entrained in the mud system. Proper mud weight, safe drilling practices, and the use of hydrogen sulfide scavengers will minimize hazards while drilling the well.

5. Metallurgy

All tubular systems, wellheads, blowout preventers, drilling spools, kill lines, choke manifolds, and valves shall be suitable for service in a hydrogen sulfide environment when chemically treated.

6. Communications

State & County Officials phone numbers are posted on rig floor and supervisors trailer. Communications in company vehicles and toolpushers are either two way radios or cellular phones.

7. Well Testing

Drill stem testing is not an anticipated requirement for evaluation of this well. A drill stem test is required, it will be conducted with a minimum number of personnel in the immediate vicinity. The test will be conducted during daylight hours only.

United States Department of the Interior
Bureau of Land Management
Roswell Field Office
2909 West Second Street
Roswell, New Mexico 88201-1287

Statement Accepting Responsibility for Operations

Operator Name: Mewbourne Oil Company
Street or Box: P.O. Box 5270
City, State: Hobbs, New Mexico
Zip Code: 88241

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

Lease Number: Lease Number #NMNM-2938

Legal Description of Land: Unit D of Section 23, T-18S, R-31E Eddy County, New Mexico. Location @ 660' FNL & 660' FWL.

Formation (if applicable):

Bond Coverage: $150,000

BLM Bond File: NM1693, Nationwide

Authorized Signature: _____

Name: NM (Micky) Young
Title: District Manager
Date: April 18, 2006

Notes Regarding Blowout Preventer

Mewbourne Oil Company

Geronimo 23 Federal Com #1
660' FNL & 660' FWL
Sec 23-T18S-R31E
Eddy, New Mexico

I. Drilling nipple (bell nipple) to be constructed so that it can be removed without the use of a welder through the opening of the rotary table, with minimum internal diameter equal to blowout preventer bore.

II. Blowout preventer and all fittings must be in good condition with a minimum 5000 psi working pressure.

III. Safety valve must be available on the rig floor at all times with proper connections to install in the drill string. Valve must be full bore with minimum 5000 psi working pressure.

IV. Equipment through which bit must pass shall be at least as large as internal diameter of the casing.

V. A kelly cock shall be installed on the kelly at all times.

Blowout preventer closing equipment to include and accumulator of at least 40 gallon capacity, two independent sources of pressure on closing unit, and meet all other API specifications.

Mewbourne Oil Company
BOP Scematic for
12 ¼" Hole

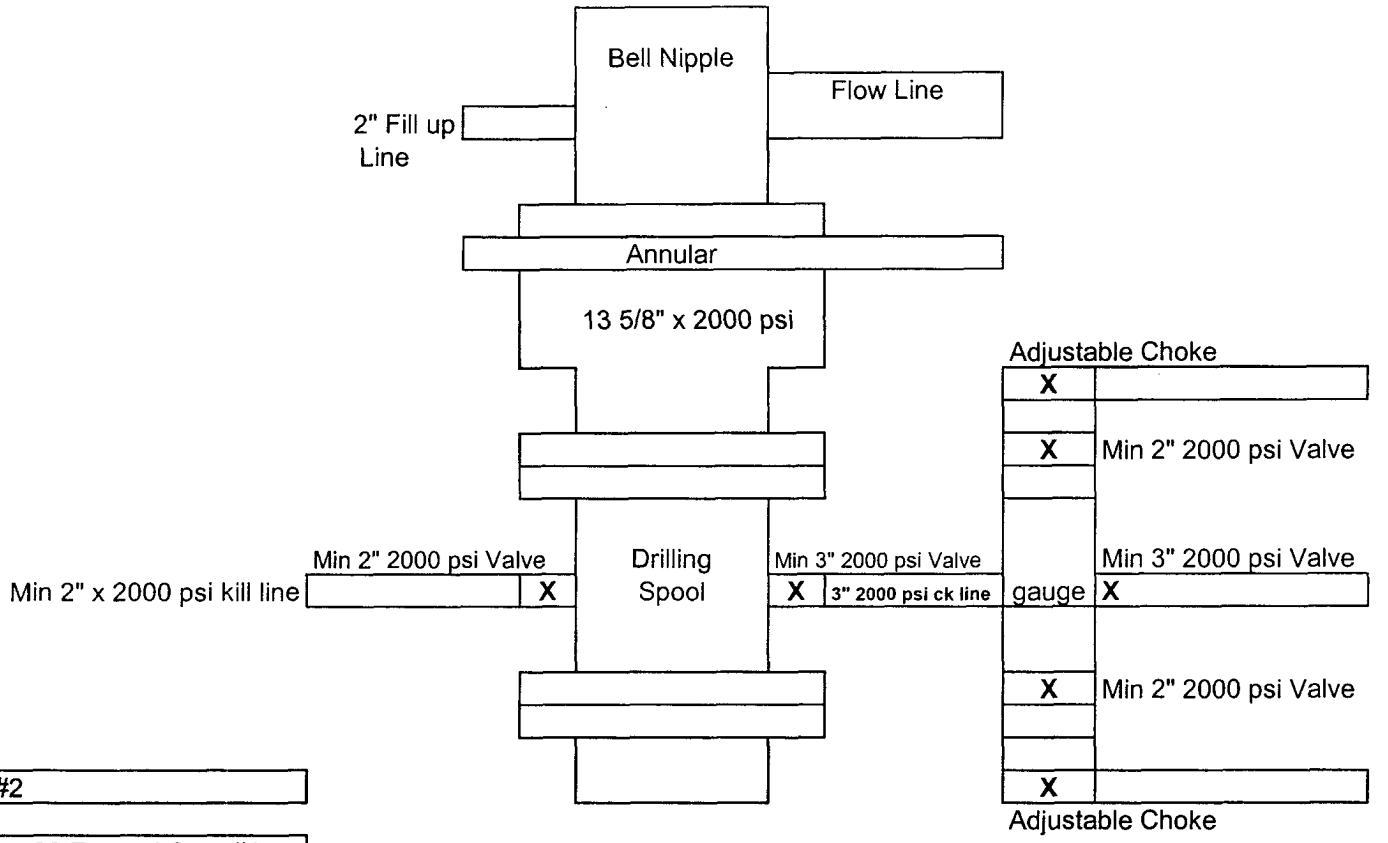


Exhibit #2

Geronimo 23 Federal Com #1
660' FNL & 660' FWL
Sec 23-T18S-R31E
Eddy, County
New Mexico

Mewbourne Oil Company
BOP Scematic for
8 3/4" or 7 7/8" Hole

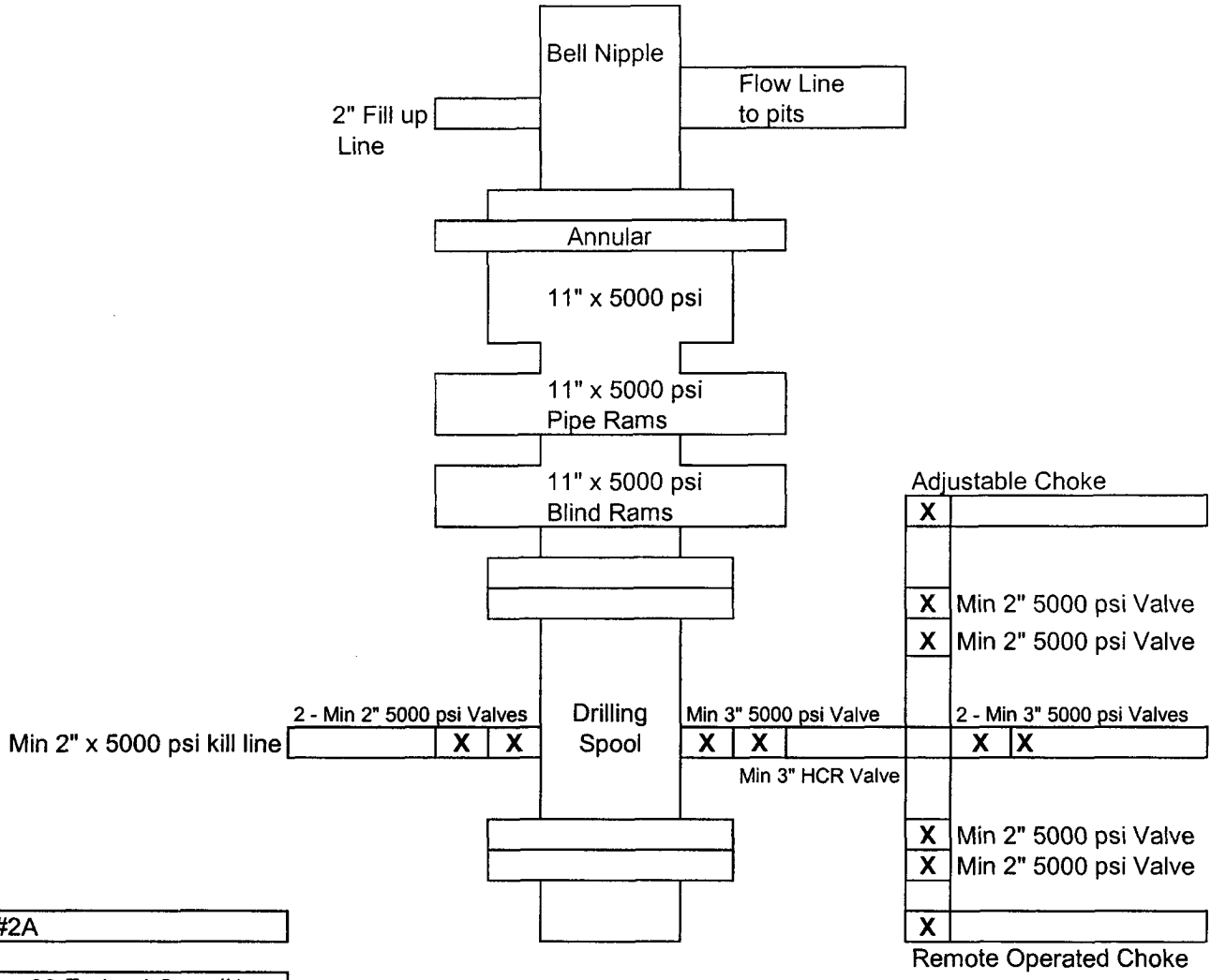
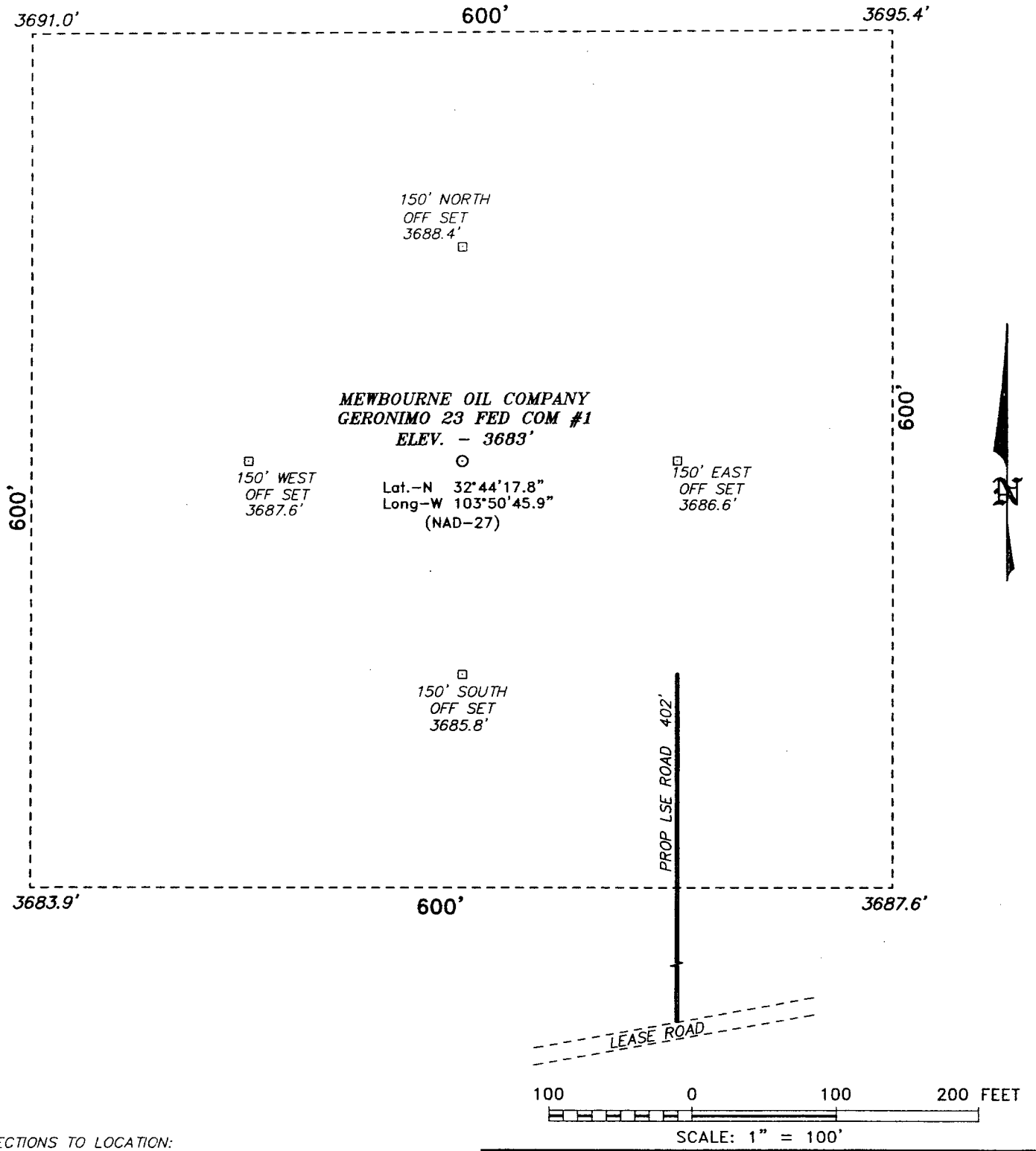


Exhibit #2A

Geronimo 23 Federal Com #1
660' FNL & 660' FWL
Sec 23-T18S-R31E
Eddy, County
New Mexico

SECTION 23, TOWNSHIP 18 SOUTH, RANGE 31 EAST, N.M.P.M.,

EDDY COUNTY, NEW MEXICO.



DIRECTIONS TO LOCATION:

FROM THE JUNCTION OF HWY U.S. 82 AND C.R. 222 (SHUGART), GO SOUTH TO THE JUNCTION OF C.R. 222 AND C.R. 249 (WESTALL), CONTINUE SOUTHEAST FOR APPROX 2.0 MILES TO AN EXISTING LEASE ROAD, ON LEASE ROAD PROCEED APPROX. 2600 FEET TO PROPOSED LEASE ROAD.

BASIN SURVEYS P.O. BOX 1786 - HOBBS, NEW MEXICO

W.O. Number: 6493	Drawn By: J. SMALL		
Date: 04-17-2006	Disk: JMS 6493A	Survey Date: 04-13-2006	Sheet 1 of 1 Sheets

MEWBOURNE OIL COMPANY

REF: GERONIMO 23 FED COM #1 / Well Pad Topo

THE GERONIMO 23 FED COM #1 LOCATED 660' FROM THE NORTH LINE AND 660' FROM THE WEST LINE OF SECTION 23, TOWNSHIP 18 SOUTH, RANGE 31 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO.

Exhibit #4
Status of Wells in Immediate Vicinity
Mewbourne Oil Company
Geronimo 23 Federal Com #1
660' FNL & 660' FWL
Sec 23-T18S-R31E
Eddy County, New Mexico

Section 23-T18S-R31E

Operator:	Arco Oil & Gas
Well Name:	Panco Federal #3
Unit letter:	E
Status:	P&A
Field:	Shugart 7 Rivers

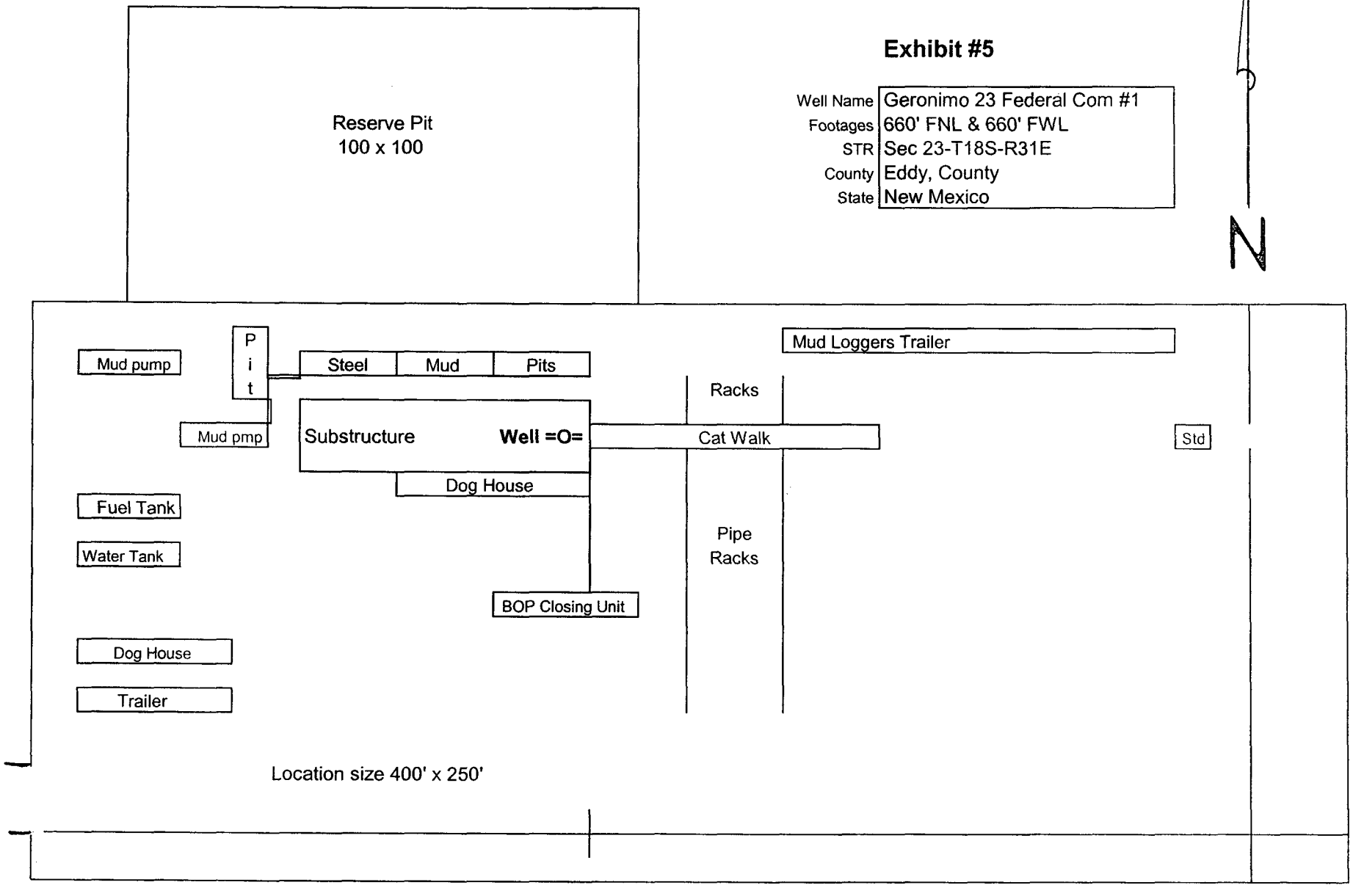
Operator:	Ray Westall
Well Name:	Koehane Federal #3
Unit letter:	N
Status:	Producing
Field:	7 Rivers

Operator:	Ray Westall
Well Name:	Koehane Federal #2
Unit letter:	M
Status:	Producing
Field:	Shugart Yates 7 Rivers

Mewbourne Oil Company

Exhibit #5

Well Name	Geronimo 23 Federal Com #1
Footages	660' FNL & 660' FWL
STR	Sec 23-T18S-R31E
County	Eddy, County
State	New Mexico



Rig Location Schematic

CONDITIONS OF APPROVAL - DRILLING

Operator's Name: Mewbourne Oil Company
Well Name & No: Geronimo 23 Federal Com 01
Location: Surface 660' FNL & 660' FWL, Sec.23, T. 28 S. R. 31 E.
Lease: NMNM 2938
Eddy County, New Mexico

I. DRILLING OPERATIONS REQUIREMENTS:

1. The Bureau of Land Management (BLM) is to be notified at the Roswell Field Office, 2909 West Second St., Roswell, NM 88201, (505) 627-0272 for wells in Chaves and Roosevelt Counties; the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (505) 361-2822 for wells in Eddy County; and the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (505) 393-3612 for wells in Lea County, in sufficient time for a representative to witness:

A. Spudding

B. Cementing casing: 13 ⅜ inch; 9 ⅝ inch; 5 ½ inch.

C. BOP Tests

2. A Hydrogen Sulfide (H2S) Drilling Plan shall be in operations three days or 500 feet prior to drilling into the Top of the **Queen** formation estimated to be at 3200 ft. is not required for this well bore.

3. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

4. Submit a Sundry Notice (Form 3160-5, one original and five copies) for each casing string, describing the casing and cementing operations. Include pertinent information such as; spud date, hole size, casing (size, weight, grade and thread type), cement (type, quantity and top), water zones and problems or hazards encountered. The Sundry shall be submitted within 15 days of completion of each casing string. The reports may be combined into the same Sundry if they fall within the same 15 day time frame.

5. The API No. assigned to the well by NMOCD shall be included on the subsequent report of setting the first casing string.

II. CASING:

1. The 13 ⅜ inch shall be set at **500 Feet using the Lea County Alternative Mud Program (attached)** with cement circulated to the surface. If cement does not circulate to the surface the appropriate BLM office shall be notified and a temperature survey or cement bond log shall be run to verify the top of the cement. Remedial cementing shall be completed prior to drilling out that string.

2. The minimum required fill of cement behind the 9 ⅝ inch Intermediate casing is to **circulate to surface.**

3. The minimum required fill of cement behind the 5 ½ inch Production casing is to **place TOC at least 200 ft above any potential hydro-carbon bearing formations.**

III. PRESSURE CONTROL:

1. All BOP systems and related equipment shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2. The BOP and related equipment shall be installed and operational before drilling below the 13 ⅜ inch casing shoe and shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.

(III Cont):

2. Minimum working pressure of the blowout preventer and related equipment (BOPE) shall be **5 M psi.** A 2 M BOPE is approved to set on the 13 3/8 inch surface casing and utilize to 4500 ft . A 5 M BOPE shall be in operations prior to drilling below the 9 ⅝ inch shoe.

3. The appropriate BLM office shall be notified in sufficient time for a representative to witness the test.

-The test shall be done by an independent service company
-The results of the test shall be reported to the appropriate BLM office.
-Testing fluid must be water or an appropriate clear liquid suitable for sub-freezing temperatures.
-Use of drilling mud for testing is not permitted since it can mask small leaks.
-Testing must be done in safe workman-like manner. Hard line connections shall be required.
-Both low pressure and high pressure testing of BOPE is required.

G. Gourley **RFO 05/03/06**

ALTERNATIVE CONDITIONS OF APPROVAL - DRILLING

Drilling Fluids, Casing and Cementing Requirements for Most of Lea County:

Casing and Cementing

Surface casing is to be set at a sufficient depth to protect useable water zones and cement circulated to surface. In areas where the salt section (Salado) is present, surface casing should be set at least 25 feet into the top of the Rustler Anhydrite and cement circulated to the surface.

As an alternative, surface casing may be set through the Santa Rosa Formation or other potable water bearing zones and circulate cement to surface. For wells requiring an intermediate casing string, such string shall be cemented to the ground surface. In the case where intermediate casing is not required the operator shall case and cement the production hole to the ground surface.

While drilling from the surface casing to the Rustler formation it is recommended that operators periodically sweep the hole with viscous low water loss pills to help build a filter cake across useable water zones in the redbeds.

Drilling Fluid

Fresh water or fresh water spud mud shall be used to drill to surface casing depth. If surface casing is set at a lesser depth than the top of the Rustler formation., fresh water spud mud may be used to drill down to the first salt in the Rustler Formation. after which brine or fresh water may be used.

Non-toxic or biodegradable water based polymers, drilling paper, starch and gels may be used in the mud system in order to retard seepage into the redbeds.

Two to five percent diesel or crude oil may be used in the redbed section in order to control heaving shales and mudstones.

Caustics and Lime shall not be used in the red beds but may be added when the Rustler formation is reached. However, sodium carbonate maybe used for alkalinity or ph control while drilling the redbeds above the Rustler formation.

Additionally, questions of whether an additive may be used should be referred to the Roswell Field office.