Form 3160-3
(September 2001)

7049
0850

N.M. Oil Cons. DIV-Dist. 2
1301 W. Grand Avenue
Artesia, NM 88210

RECEIVED
AUG 22 2005
OCD-ARTESIA

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.: NM-029588

6. If Indian, Allottee or Tribe Name:

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

1a. Type of Work: ☑ DRILL ☐ REENTER

1b. Type of Well: ☐ Oil Well ☑ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone

8. Lease Name and Well No.: Quahada Ridge 5 Federal #1 35055

2. Name of Operator: Mewbourne Oil Company (14744)

9. API Well No.: 30-015-34291

3a. Address: P.O. Box 5270 Hobbs, NM 88240

3b. Phone No. *(include area code)*: 505-393-5905

10. Field and Pool, or Exploratory: Golden Lane Morrow

4. Location of Well *(Report location clearly and in accordance with any State requirements. *)*

At surface 990' FSL & 1650' FEL Unit #O

At proposed prod. zone

Secretary's Potash

11. Sec., T., R., M., or Blk. and Survey or Area: Sec 5-T21S-R29E

14. Distance in miles and direction from nearest town or post office*: 16 miles NE of Carlsbad on US 62/180

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) 990'

16. No. of Acres in lease: 320

17. Spacing Unit dedicated to this well: 320

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1650'

19. Proposed Depth: 12,900'

20. BLM/BIA Bond No. on file: NM-1693 Nationwide

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 3474' GL

22. Approximate date work will start*: ASAP

23. Estimated duration: 40 days

24. Attachments

Capitan Controlled Water Basin

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: 06/21/05

Title: Hobbs Regulatory

Approved by *(Signature)*: /s/ Linda S. C. Rundell — Name *(Printed/Typed)*: /s/ Linda S. C. Rundell — Date: AUG 18 2005

Title: STATE DIRECTOR — Office: NM STATE 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)

19.5

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS
ATTACHED

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
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

Form C-102
Revised March 17, 1999
Instruction on back
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
		Golden Lane Morrow

Property Code	Property Name	Well Number
	QUAHADA RIDGE "5" FEDERAL	1

OGRID No.	Operator Name	Elevation
14744	MEWBOURNE OIL COMPANY	3474

Surface Location

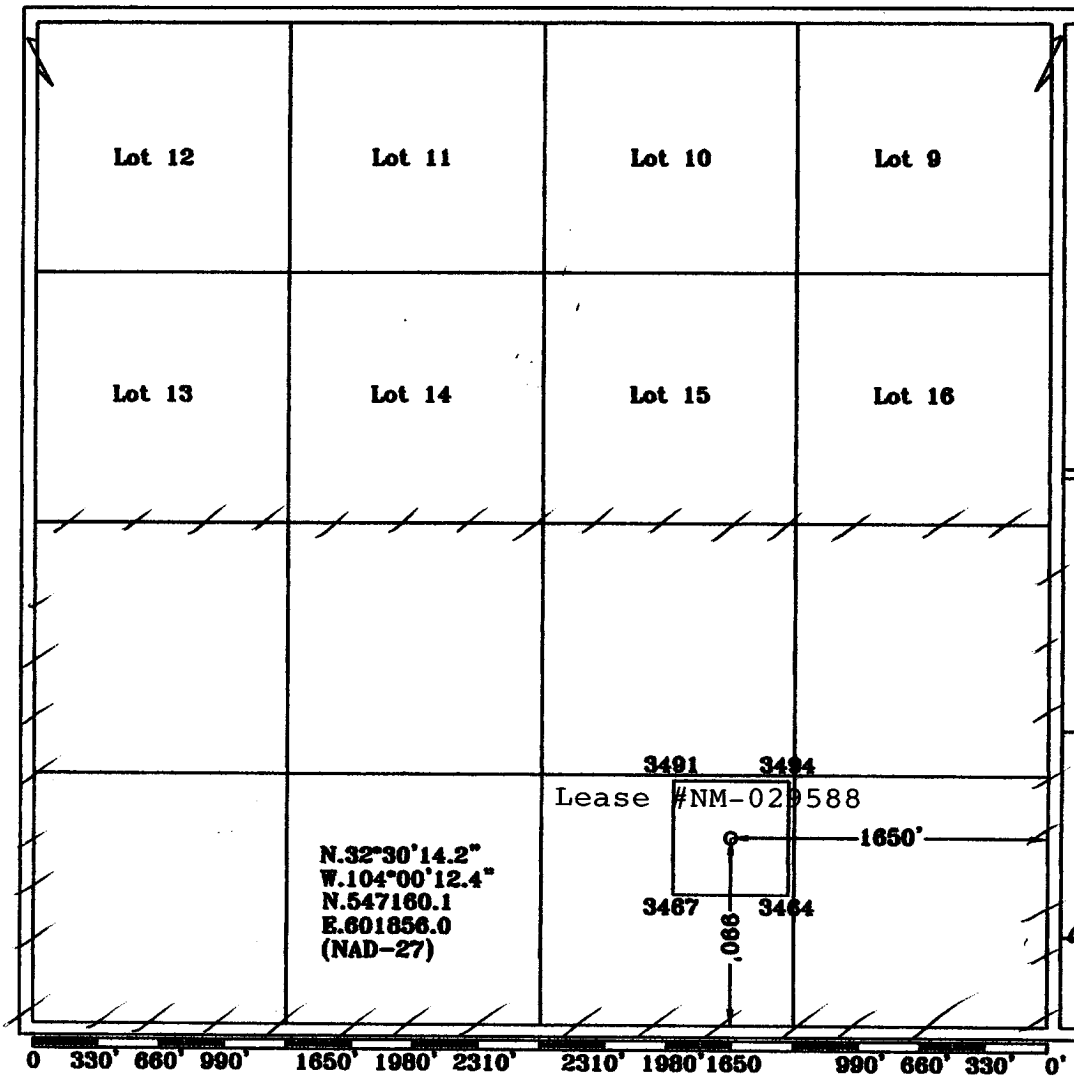
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	5	21S	29E		990	SOUTH	1650	EAST	EDDY

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

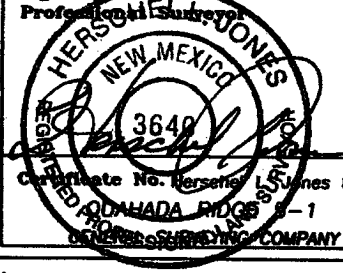
06/20/05
Date

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.

6/13/2005
Date Surveyed

Signature & Seal of Professional Surveyor



Certificate No. Herschel L. Jones RLS 3640

QUAHADA RIDGE 5-1
DIRECTIONAL SURVEYING COMPANY

MULTI-POINT SURFACE USE AND OPERATIONS PLAN
MEWBOURNE OIL COMPANY
Quahada Ridge 5 Federal #1
990' FSL & 1650' FEL
Section 5-T21S-R29E
Eddy County, 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. Exhibit #3A is a topographic map showing the location of the proposed well and access road. Existing roads are highlighted in red and proposed roads are highlighted in yellow.

B. Directions to location: NE from Carlsbad, NM on US 62/180 16 miles. Turn right (south) on lease road. Continue south 1.7 miles. Turn left (east) 0.1 miles to new location.

2. Proposed Access Road:

A Will need 700' of new road and 1.5 miles of existing lease road 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.

C. Access to location has an existing grade to facilitate adequate drainage.

3. Location of Existing Wells:

There are producing wells within the immediate vicinity of the well site. Exhibit #4 shows the proposed well and existing wells within a one mile radius.

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. If the well is productive, restoration plans are as follows:

i. The reserve pit will be back-filled after the contents of the pit are allowed to dry (within 10 months after the well is completed).

ii. 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.

Drilling Program
Mewbourne Oil Company
Quahada Ridge 5 Federal #1
990' FSL & 1650' FEL
Section 5-T21S-R29E
Eddy County, New Mexico

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

Strawn	11174'
Atoka	11585'
Morrow	12065'

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 2500# 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 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:**

Hole Size	Casing	Wt/Ft.	Grade	Depth
26"	20"	94#	K55	0-~~300'~~
17-1/2"	13-3/8"	54.5#	J55	0-~~1700'~~
12-1/4"	9-5/8"	40#	N80/J55	0-~~3000'~~
8-3/4"	5-1/2"	17#	P110/S95	0-12,600'

See COA JM.

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

ii. Deep Surface: 600 sacks Class C light cement containing ½#/sk cellophane flakes, 2% CaCl, 5#/sack gilsonite. 400 sacks Class "C" cement containing 2% CaCl.

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:** See COA

Interval	Type System	Weight	Viscosity	Fluid Loss
~~0'-300'~~	FW spud mud	8.6-9.4	32-34	NA
~~300'-1700'~~	Brine water	10.0	32-34	NA
~~1700'-3000'~~	Fresh water	8.8-9.2	28-30	NA
3000'-11000'	Cut brine water	9.2-10.0	28-30	NA
11000'-TD	Cut brine water	9.2-10.0	30-42	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
Quahada Ridge 5 Federal #1
990' FSL & 1650' FEL
Section 5-T21S-R29E
Eddy County, New Mexico

1. 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:

A. The hazards and characteristics of hydrogen sulfide gas.
B. The proper use of personal protective equipment and life support systems.
C. The proper use of hydrogen sulfide detectors, alarms, warning systems, briefing areas, evacuation procedures.
D. The proper techniques for first aid and rescue operations.

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

A. 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.
B. Corrective action and shut in procedures, blowout prevention, and well control procedures while drilling a well.
C. 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.

2. 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.

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

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

C. 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.

D. Visual Warning Systems
1. Wind direction indicators as indicated on the well site diagram.
2. 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.

3. 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.

4. 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.

5. Communications

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

6. 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.

7. General Requirements

MOC has researched this area and no high concentrations of H2S was found. MOC will have on location and working all H2S safety equipment before Yates formations.

Notes Regarding Blowout Preventer
Mewbourne Oil Company
Quahada Ridge 5 Federal #1
990' FSL & 1650' FEL
Section 5-T21S-R29E
Eddy County, New Mexico

1. 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.

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

3. 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.

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

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

6. 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

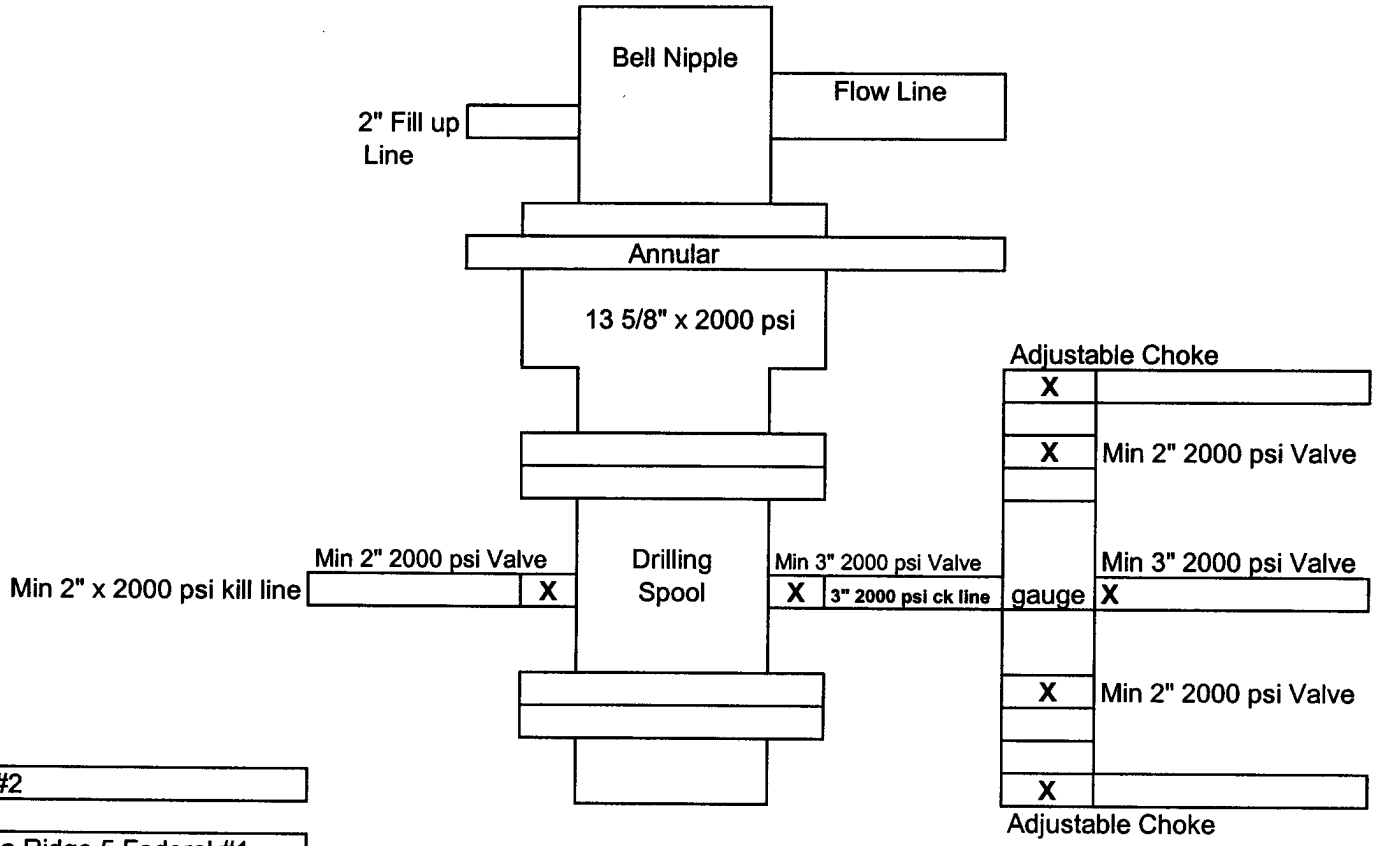


Exhibit #2

Quahada Ridge 5 Federal #1
990' FSL & 1650' FEL
Sec 5-T21S-R29E
Eddy, County
New Mexico

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

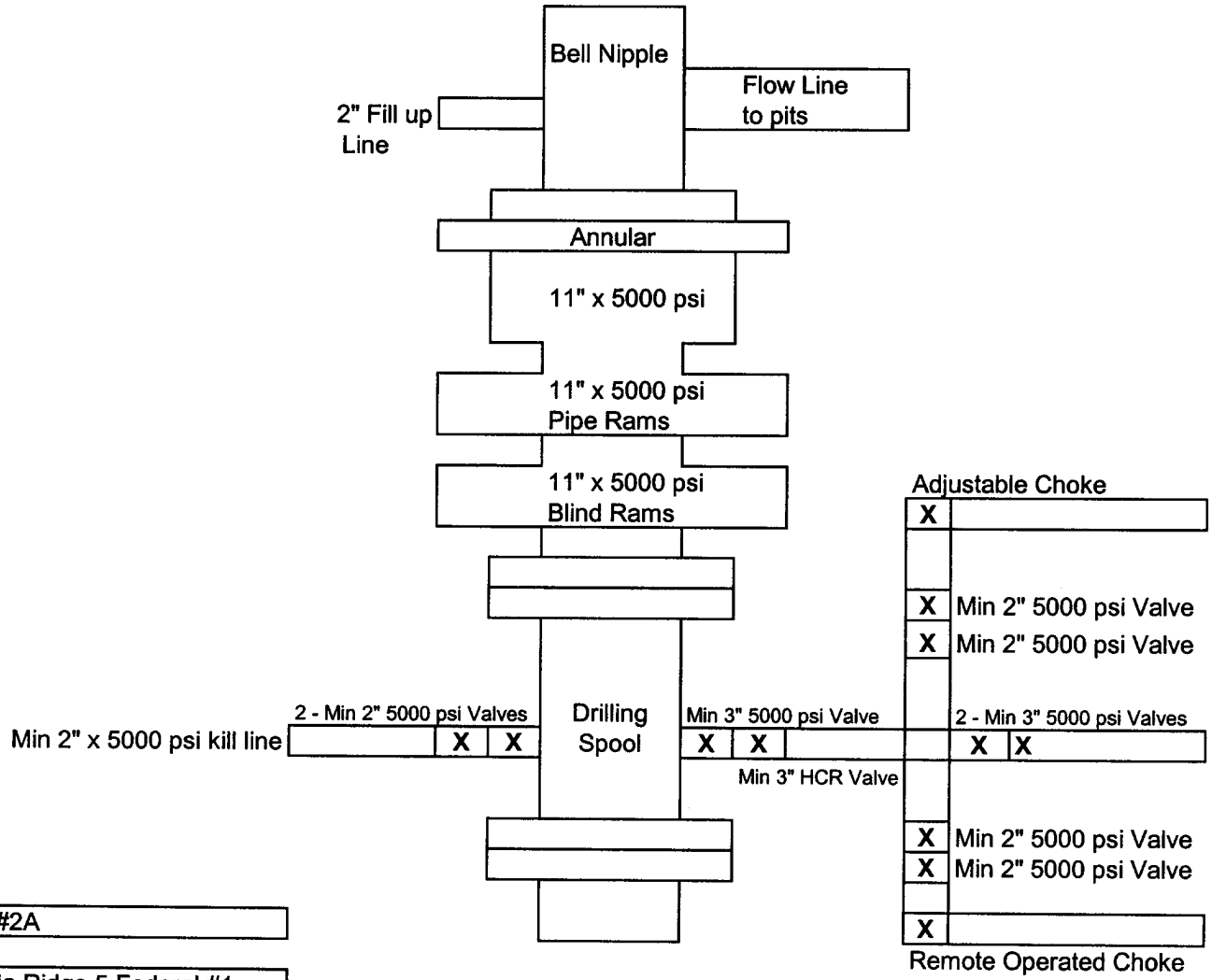


Exhibit #2A

Quahada Ridge 5 Federal #1
990' FSL & 1650' FEL
Sec 5-T21S-R29E
Eddy, County
New Mexico

Exhibit #4
Status of Wells in Immediate Vicinity
Mewbourne Oil Company
Quahada Ridge 5 Federal #1
990' FSL & 1650' FEL
Section 5-T21S-R29E
Eddy County, New Mexico

Section 5-T21S-R29E

Operator:	Meadco Properties LTD
Well Name:	Harris Federal #2
Unit letter:	Unit N
Status:	Plugged
Field:	Golden Lane Morrow

CONDITIONS OF APPROVAL - DRILLING

Operator's Name: Mewbourne Oil Company
Well Name & No: Quahada Ridge 5 Federal No 01
Location: Surface 990' FSL & 1650' FEL, Sec.05, T. 21 S. R. 29 E.
Lease: NMNM 029588
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: **20** inch, **13 ⅜** inch; **9 ⅝** inch; **5 ½** inch.

C. BOP Tests

2. A Hydrogen Sulfide (H2S) Drilling Plan shall be put into operations on this wellbore at the operator's discretion. There are no specific adjacent wells reporting formations with H2S production.

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 **20** inch **shall be set at 950 Feet** 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 **13 ⅜ inch 1st Intermediate casing shall be set at 1900 feet** with cement circulated to surface.

3. The **9 ⅝ inch 2nd Intermediate casing shall be set at 3100 feet** with cement circulated to surface.

4. The minimum required fill of cement behind the **5 ½** inch Production casing is to place TOC at approximately 6500 ft., at least 200 feet above the Top of the Bone Spring formation.

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.

2. Minimum working pressure of the blowout preventer and related equipment (BOPE) shall be **2M** **psi.** for the surface installation and a **3M BOPE** is required to 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.

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

Mark E. Fesmire, P.E.
Director
Oil Conservation Division

August 29, 2005
Mewbourne Oil Company
P.O. Box 5270
Hobbs, NM 88211
Attn: Ms. Kristi Green or to Whom It May Concern,

RE: Mewbourne Oil Company: Quahda Ridge 5 Federal #1, located in Unit O (990' FSL & 1650' FEL) of Section 5, Township 21 South Range 29 East Eddy County, New Mexico.

Dear Kristi or To Whom It may Concern,

In regards with the conditions for approval of the above captioned well, the New Mexico Oil Conservation Division (NMOCD) will require the following:
This is for Mewbourne Oil Company, to take samples from the flow line of the drilling mud every 100' in order to determine the chloride levels from the 1st intermediate casing setting depth of @ 1900' to the projected 9 5/8" intermediate casing setting depth of @ 3100'. Please note that we are aware that lost circulation in drilling of the reef may occur and the collection of samples may not be possible at times.
In addition, said well is to be drilled with a 'fresh water mud' system in the Capitan Reef from @ 1900' to the setting depth of @ 3100' as stated in your APD.
The results of this data are to be submitted to the NMOCD and the Bureau of Land Management.
Please call our office if you have any questions regarding this matter.

Respectfully yours,

Bryan G. Arrant
PES

CC:
Well File