

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

NOV 09 2007

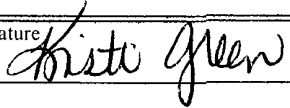

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No NMLC-065680
1b. Type of Well. <input checked="" type="checkbox"/> Oil Well <input 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
2. Name of Operator Mewbourne Oil Company - 14744		7. If Unit or CA Agreement, Name and No
3a. Address PO Box 5270 Hobbs, NM 88240		8. Lease Name and Well No Geronimo 24 Federal #4
3b. Phone No. (include area code) 505-393-5905		9. API Well No 30-015-35919
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface 1978' FSL & 779' FWL Unit L At proposed prod. zone		10. Field and Pool, or Exploratory Tamano Bone Spring
14. Distance in miles and direction from nearest town or post office* 10.5 miles SE of Loco Hills, NM		11. Sec., T., R., M., or Bk. and Survey or Area Sec 24-T18S-R31E
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig unit line, if any) 779'	16. No. of Acres in lease 160	17. Spacing Unit dedicated to this well 40 acres
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 200'	19. Proposed Depth 9300'	20. BLM/BIA Bond No on file NM1693, Nationwide
21. Elevations (Show whether DF, KDB, RT, GL, etc) 3690' GL	22. Approximate date work will start* ASAP	23. Estimated duration 30

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. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan | 5. Operator certification |
| 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). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

25. Signature 	Name (Printed/Typed) Kristi Green	Date 09/17/07
Title Hobbs Regulatory		
Approved by (Signature) 	Name (Printed/Typed) James A. Ames	Date NOV 7 2007
Title FOR 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 TWO YEARS

Title 18 U S C Section 1001 and Title 43 U S C Section 1212, make States any false, fictitious or fraudulent statements or representation:

*(Instructions on reverse)

If earthen pits are used in association with the drilling of this well, an OCD pit permit must be obtained prior to pit construction.

Capitan Controlled Water Basin

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

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

Mewbourne Oil Company of Hobbs, NM is a field office of Mewbourne Oil Company, 3901 S Broadway, Tyler TX 75701. **Mail connected to this APD should be directed to the Hobbs address.** 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 #NMLC-065680

Legal Description of Land: Unit L of Section 24, T-18S, R-31E Eddy County, New Mexico.
Location @ 1978' FSL & 779' FWL.

Formation (if applicable):

Bond Coverage: \$150,000

BLM Bond File: NM1693, Nationwide

Authorized Signature: _____

NM Young by Kristi Green

Name: NM (Micky) Young

Title: District Manager

Date: September 12, 2007

DISTRICT IV
1820 S. St. Francis Dr., Santa Fe, NM 87505

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

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

☐ AMENDED REPORT

API Number	Pool Code S8C40	Pool Name Tamaro Bone Springs
Property Code 316775	Property Name GERONIMO "24" FEDERAL	Well Number 4
OGHD No. 14744	Operator Name MEWBOURNE OIL COMPANY	Elevation 3690'

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	24	18 S	31 E		1978	SOUTH	779	WEST	EDDY

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
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Dedicated Acres 40	Joint or Infill	Consolidation Code	Order No.
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	<p>ST MARY'S BLACKHAWK FED #3 (V, R, Q, GS INJECTOR)</p>	<p>OPERATOR CERTIFICATION</p> <p><i>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 pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the Division.</i></p> <p><i>Kristi Green</i> 9/17/07</p> <p>Signature _____ Date _____</p> <p><i>Kristi Green</i></p> <p>Printed Name _____</p>
<p>1978</p> <p>Lat.: N32°43'52.4" Long.: W103°49'42.9" N.: 630084.028 E.: 655212.445 (NAD-27)</p>		<p>SURVEYOR CERTIFICATION</p> <p><i>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.</i></p> <p>MARCH 13, 2007</p> <p>Date Surveyed _____ Signature _____ Professional Surveyor</p> <p></p> <p>Certificate No. Gary L. Jones 7977</p> <p>Basin Surveys</p>

Drilling Program
Mewbourne Oil Company
Geronimo 24 Federal #4
1978' FSL & 779' FWL
Sec 24-T18S-R31E
Eddy County, New Mexico

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

Yates	2300'
Queen	3500'
San Andres	4300'
Delaware	4800'
Bone Springs	6400'

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

Water	Fresh water will be protected by setting surface casing at 800' and cement to surface
Hydrocarbons	All hydrocarbon bearing zones below the top of the Yates will be protected by setting production casing thru zones and cement as necessary.

3. Pressure control equipment:

A 3000 psi WP Double Ram BOP and a 3000 psi WP Annular will be installed after running 8 5/8" 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 as recommended in Onshore Order #2 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:

See COA →

Hole Size	Casing	Wt/Ft.	Grade	Depth	Jt Type
12 1/4"	8 5/8" (new)	32#	J55	0-800'	LT&C
8 3/4"	5 1/2" (new)	17#	N80	0-1500'	LT&C
	5 1/2" (new)	17#	J55	1500-8000'	LT&C
	5 1/2" (new)	17#	N80	8000-9300'	LT&C

Minimum casing design factors: Collapse 1.125, Burst 1.0, Tensile strength 1.8 (API standard).

B. Cementing Program

- i Surface Casing: 100 sacks Class C light cement containing 1/2#/sk cellophane flakes, 2% CaCl, 5#/sk gilsonite. Yield at 1.98 cuft/sk. 400 sks Class C cement containing 2% CaCl. Yield at 1.34 cuft/sk. Cmt circulated to surface.
- ii Production Casing: 400 sacks Class H cement containing fluid loss additive, friction reducer additive, compressive strength enhancer, and NaCl. Yield at 1.28 cuft/sk. 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. Cmt top to be 500' above Wolfcamp. to tie back

*Mewbourne Oil Company reserves the right to change cement designs as hole conditions may warrant.

per operator
10-4-07
WUI

See COA →

5. Mud Program:

See COA →

<u>Interval</u>	<u>Type System</u>	<u>Weight</u>	<u>Viscosity</u>	<u>Fluid Loss</u>
0'-800'	FW spud mud	8.6-9.4	32-34	NA
800'-9300'	Brine water	10.0-10.2	28-30	NA

6. Evaluation Program:

Samples:	10' samples from top of Bonesprings
Logging:	Compensated density and dual laterlog from intermediate casing to TD <i>Surface - per operator</i>
Coring:	As needed for evaluation <i>10-4-07 WWI</i>
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 30 days involved in drilling operations and an additional 10 days involved in completion operations on the project

Mewbourne Oil Company

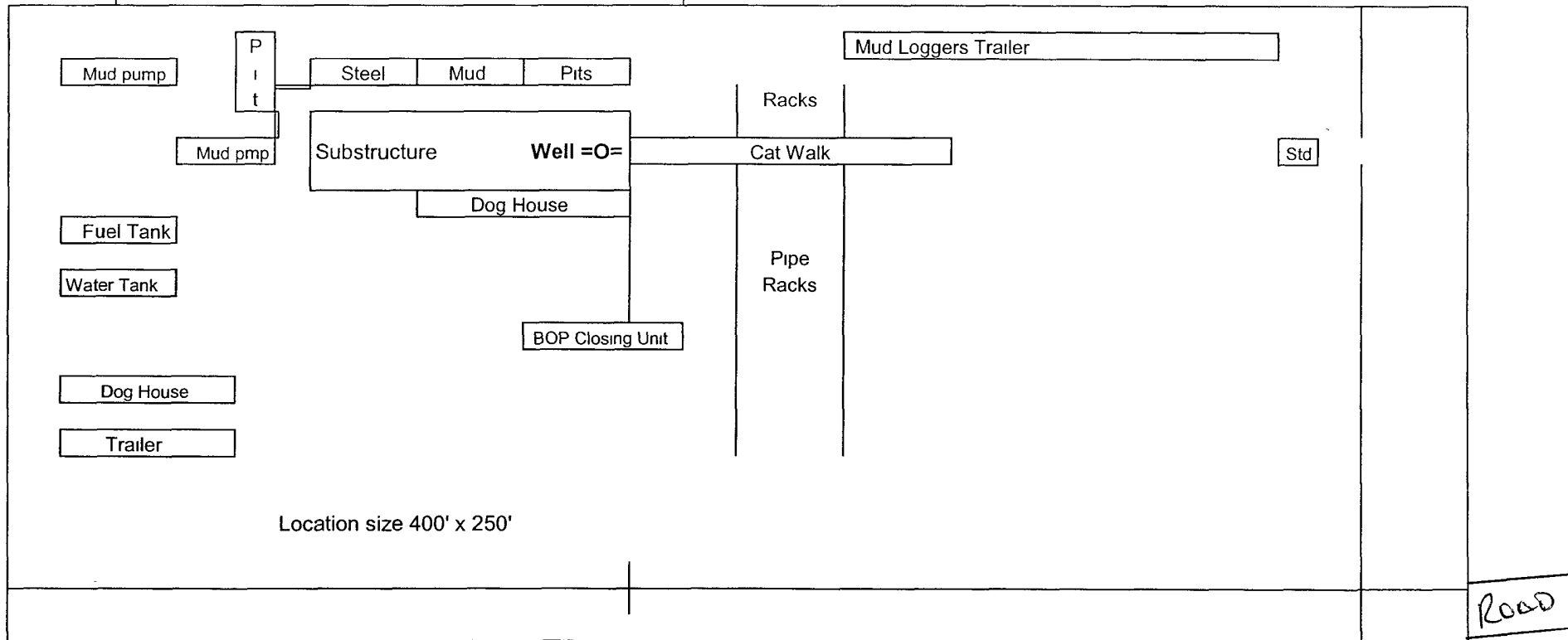
*See COA
Pit North
V-Deer East*

Exhibit #5

Well Name	Geronimo 24 Federal #4
Footages	1978' FSL & 779' FWL
STR	Sec 24-T18S-R31E
County	Eddy County
State	New Mexico

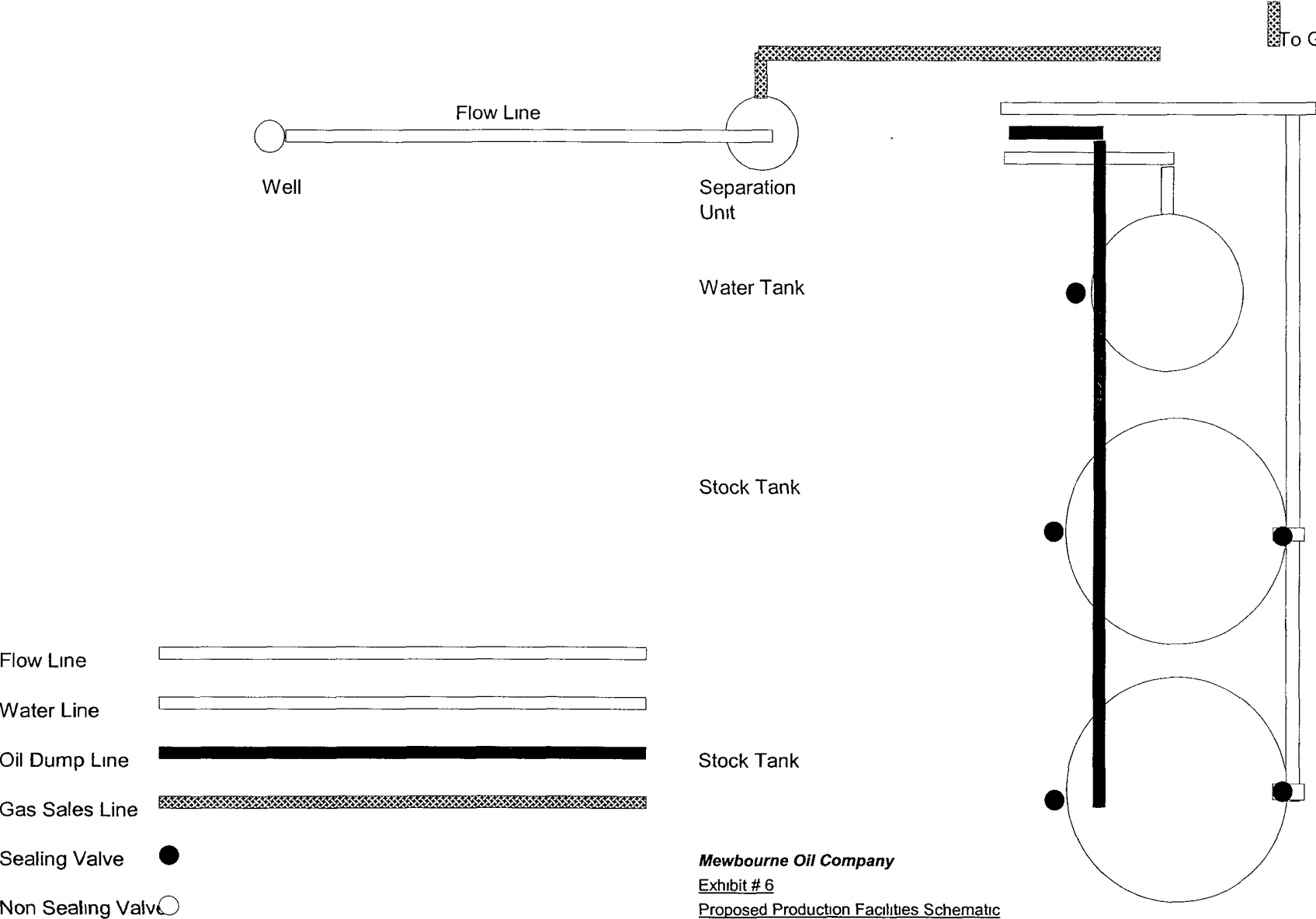


Reserve Pit
100 x 100'



Rig Location Schematic

Proposed Production Facilities Schematic



Mewbourne Oil Company
Exhibit # 6
Proposed Production Facilities Schematic

Geronimo 24 Federal #4
1978' FSL & 779' FWL
Sec 24-T18S-R31E
Eddy County, NM

Notes Regarding Blowout Preventer

**Mewbourne Oil Company
Geronimo 24 Federal #4
1978' FSL & 779' FWL
Sec 24-T18S-R31E
Eddy County, 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 3000 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 3000 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 Schematic for

8 3/4" or 7 7/8" Hole

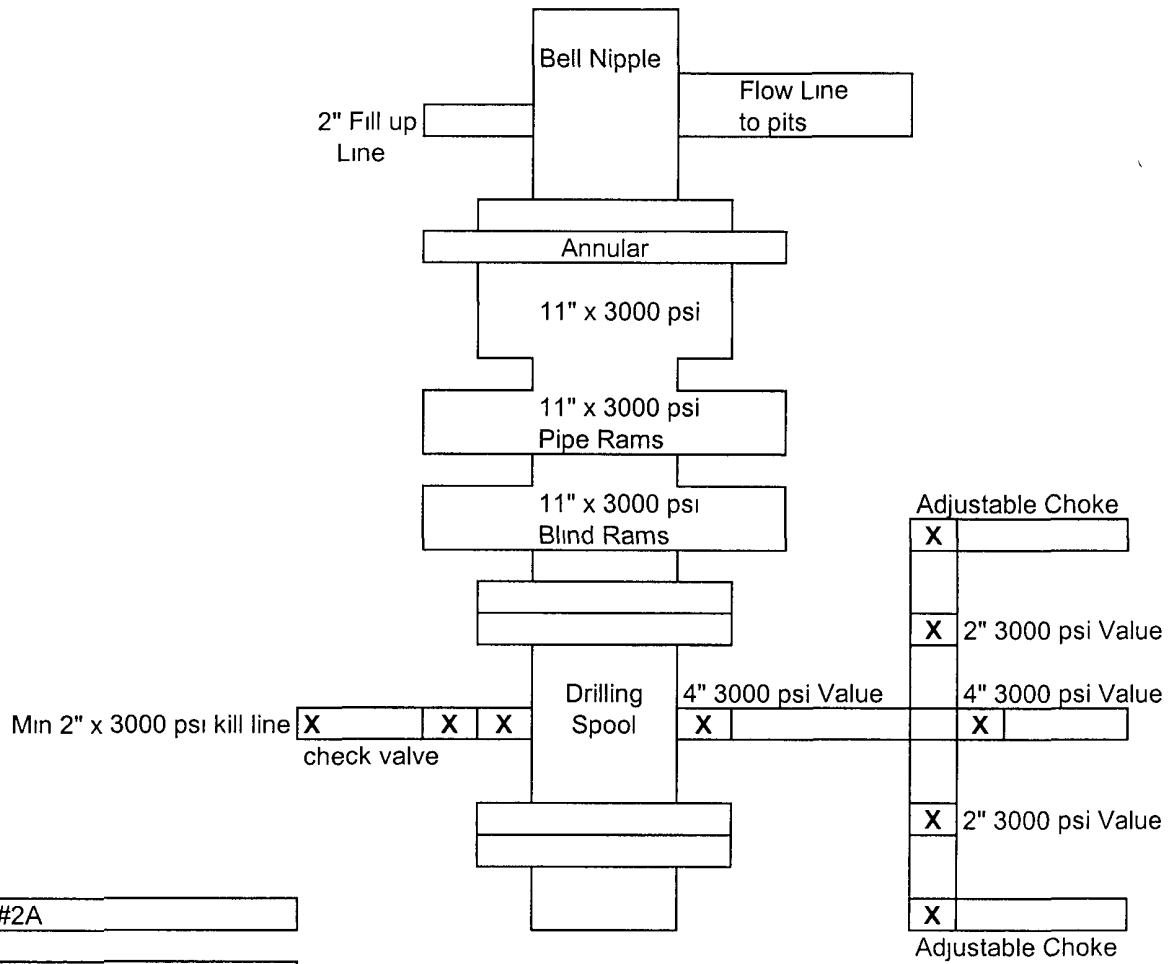


Exhibit #2A

Geronimo 24 Federal #4
1978' FSL & 779' FWL
Sec 24-T18S-R31E
Eddy County, NM

Hydrogen Sulfide Drilling Operations Plan

Mewbourne Oil Company
Geronimo 24 Federal #4
1978' FSL & 779' FWL
Sec 24-T18S-R31E
Eddy County, 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 known 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.

MULTI-POINT SURFACE USE AND OPERATIONS PLAN
MEWBOURNE OIL COMPANY
Geronimo 24 Federal #4
1978' FSL & 779' FWL
Sec 24-T18S-R31E
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 (existing roads are highlighted in black). Exhibit #3A is a topographic map showing the location of the proposed well and access road (existing road is highlighted in black).
- B. **Directions to location from Hobbs, NM: Go west on US 62/180 13 miles to Hwy NM529. Turn right and continue West/NW approx 24 miles to Lusk plant Rd (CR126). Turn left and continue south approx 4.3 miles. Turn right and continue West/SW on main road approx 1 ½ miles to large tank battery on right. Turn right (west) around south side of battery. Then north to next road. Turn left and continue west 0.2 miles. Turn left and continue south 0.1 miles to battery and dry hole marker. Turn right around marker and continue west/SW 0.2 miles to new location.**

2. Proposed Access Road:

- A. No new road will be needed.
- 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 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. 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 (NMCRIS #104303) has been conducted on the proposed access road and location pad (attached).

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 OCD 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: Located entirely on federal surface.

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: _____ 09/17/07 _____

Signature: NM Young by Krista Green

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

SECTION 24, TOWNSHIP 18 SOUTH, RANGE 31 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.

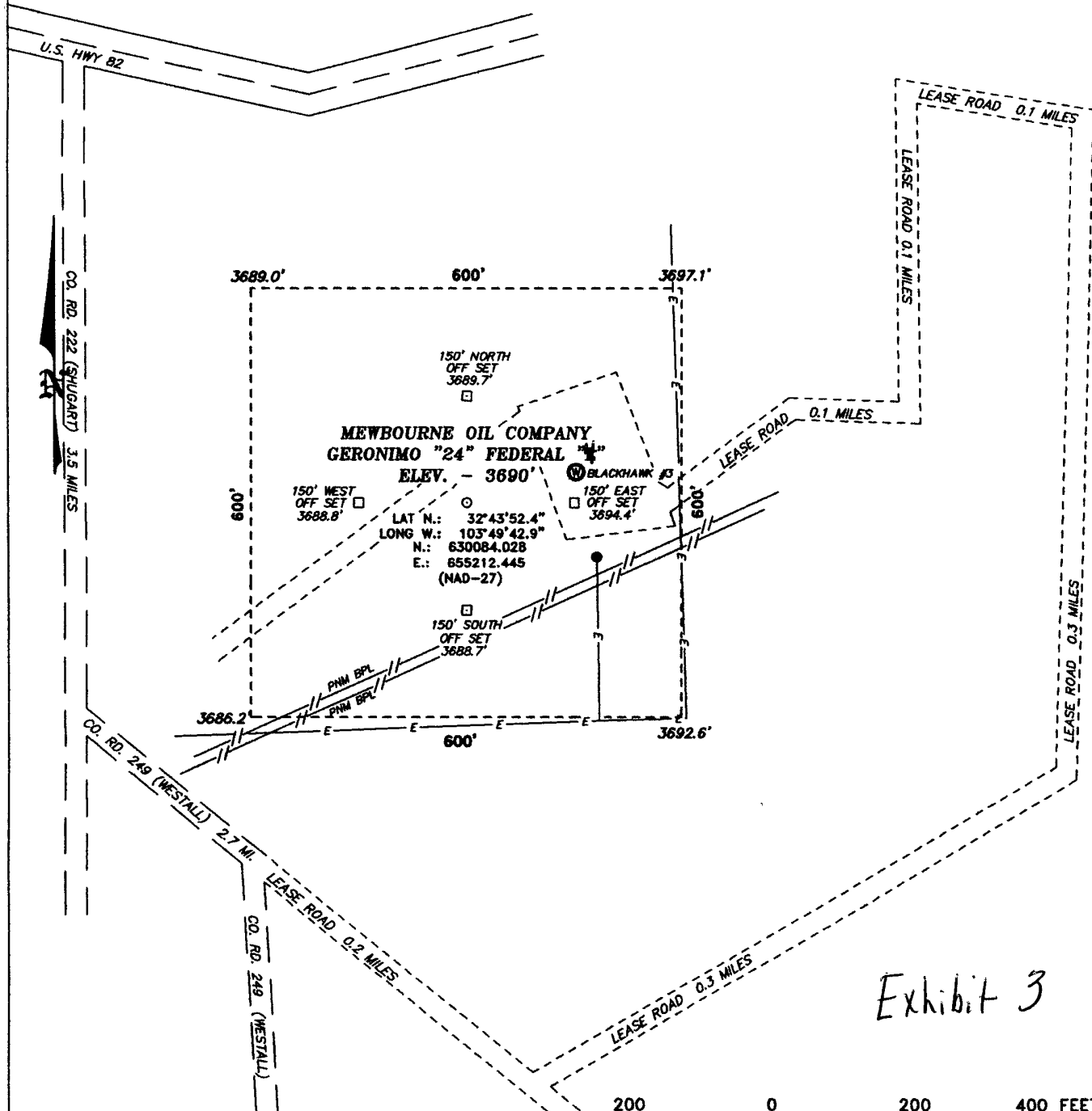
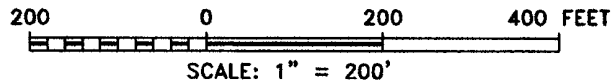


Exhibit 3

DIRECTIONS TO LOCATION:

FROM THE JUNCTION OF U.S. HWY 82 AND CO. RD. 222 (SHUGART), GO SOUTH ON CO. RD. 222 FOR 3.5 MILES TO CO. RD. 249 (WESTALL), ON CO. RD. 249 GO SOUTHEAST 2.9 MILES TO A "T", CONTINUE SOUTHEAST 0.2 MILES TO LEASE ROAD, ON LEASE ROAD PROCEED NORTHEAST 0.3 MILES, THENCE NORTH 0.3 MILES, THENCE WEST 0.1 MILES; THENCE SOUTH 0.1 MILES, THENCE WEST WINDING SOUTHWEST 0.1 MILES TO PROPOSED LOCATION.



MEWBOURNE OIL COMPANY

REF: GERONIMO "24" FEDERAL "L" / WELL PAD TOPO

THE GERONIMO "24" FEDERAL No. "L" LOCATED 1978'
FROM THE SOUTH LINE AND 779' FROM THE WEST LINE OF
SECTION 24, TOWNSHIP 18 SOUTH, RANGE 31 EAST,
N.M.P.M., EDDY COUNTY, NEW MEXICO.

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

W.O. Number: 17843

Drawn By: J. SMALL

Date: 03-14-2007

Disk: JMS 17843W

Survey Date: 03-13-2007

Sheet 1 of 1 Sheets

Exhibit #4
Status of Wells in Immediate Vicinity
Mewbourne Oil Company
Geronimo 24 Federal #4
1978' FSL & 779' FWL
Sec 24-T18S-R31E
Eddy County, New Mexico

Section 24-T18S-R31E

Operator: Mewbourne Oil Company
Well Name: Geronimo 24 Federal #1
Unit letter: K
Status: Pumping
Field: Tamano Bone Spring

Operator: Mewbourne Oil Company
Well Name: Geronimo 24 Federal #2
Unit letter: M
Status: Pumping
Field: Tamano Bone Spring

Operator: St Mary Land & Exploration
Well Name: Blackhawk Federal #3
Unit letter: L
Status: Injection
Field: Shugart

VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 2 hours in advance for a representative to witness:

- a. Spudding well
- b. Setting and/or Cementing of all casing strings
- c. BOPE tests

☒ **Eddy County**

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
(505) 361-2822

- 1. A Hydrogen Sulfide (H₂S) Drilling Plan should be activated 500 feet prior to drilling into the **Queen** formation. **H₂S has been reported in this township measuring 200-2000 ppm in gas streams and 20-2600 ppm in STVs.**
- 2. 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.
- 3. When floor controls are required, (3M or Greater) controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

B. CASING

- 1. The **8-5/8** inch surface casing shall be set **a minimum of 25 feet into the Rustler Anhydrite and above the salt at approximately 830 feet** and cemented to the surface. **Fresh water mud to be used to this setting depth.**
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement).

- c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
- d. If cement falls back, remedial action will be done prior to drilling out that string.

Possible lost circulation in the Grayburg and San Andres formations.

Possible water flows in the Salado Group and the Premier member of the San Andres Formation.

- 2. The minimum required fill of cement behind the 5-1/2 inch production casing is:

☒ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification. **Additional cement will be required to reach this height.**

- 3. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If will be installed prior to continuing drilling operations. metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe

C. PRESSURE CONTROL

- 1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
- 2. The appropriate BLM office shall be notified a minimum of 2 hours in advance for a representative to witness the tests.
 - a. The tests shall be done by an independent service company.
 - b. The results of the test shall be reported to the appropriate BLM office.
 - c. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
 - d. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.

D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

Engineer on call phone (after hours): Carlsbad: (505) 706-2779

WWI 100907