

OCD-HOBBS

RECEIVED

ATS-08-870

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SEP 11 2008

HOBBS OCD

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

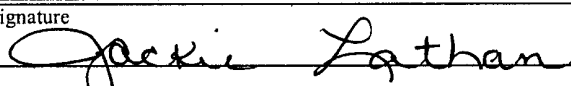

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work. <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		7. If Unit or CA Agreement, Name and No.	
1b. Type of Well <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		8. Lease Name and Well No. <b>37389</b> Norte 19 Fed Com #1	
2. Name of Operator Mewbourne Oil Company - 14744		9. API Well No. 30-025-39160	
3a. Address PO Box 5270 Hobbs, NM 88241		10. Field and Pool, or Exploratory Gem Morrow Gas	
3b. Phone No. (include area code) 575-393-5905		11. Sec., T., R., M., or Blk. and Survey or Area Sec 19 - T19S-R33E	
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface 1650' FNL & 710' FEL Unit H At proposed prod. zone		12. County or Parish Lea	
14. Distance in miles and direction from nearest town or post office* 19 miles SE of Loco Hills, NM		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 80	17. Spacing Unit dedicated to this well 322.75	
18. Distance from proposed* location to nearest well, drilling, completed, applied for, on this lease, ft. 450'	19. Proposed Depth 13800'	20. BLM/BIA Bond No. on file NM1693, Nationwide	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3614' 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.  | 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) Jackie Lathan	Date 07/16/08
Title Hobbs Regulatory		
Approved by (Signature) 	Name (Printed/Typed) Don Peterson	Date SEP 09 2008
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 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)

**CAPTAN CONTROLLED WATER BASIN**

**APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS  
AND SPECIAL STIPULATIONS  
ATTACHED**

**SEE ATTACHED FOR  
CONDITIONS OF APPROVAL**

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-064790

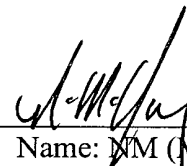
Legal Description of Land: Section 19, T19S, R33E Lea County, New Mexico.  
Location @ 1650' FNL & 710' FEL.

Formation (if applicable): Morrow

Bond Coverage: \$150,000

BLM Bond File: NM1693, Nationwide

Authorized Signature: \_\_\_\_\_



Name: NM (Mickey) Young  
Title: District Manager  
Date: July 16, 2008

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number <b>30-025-39160</b>	Pool Code <b>7737D</b>	Pool Name <b>Gem Morrow Gas</b>
Property Code <b>37389</b>	Property Name <b>NORTE "19" FEDERAL COM</b>	Well Number <b>1</b>
OGRID No. <b>14744</b>	Operator Name <b>MEWBOURNE OIL COMPANY</b>	Elevation <b>3614'</b>

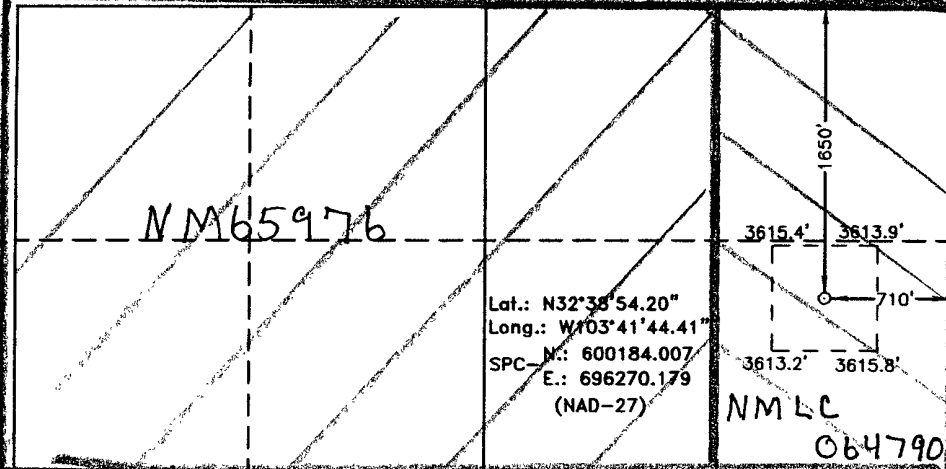
Surface Location

UL or lot No. <b>H</b>	Section <b>19</b>	Township <b>19 S</b>	Range <b>33 E</b>	Lot Idn	Feet from the <b>1650</b>	North/South line <b>NORTH</b>	Feet from the <b>710</b>	East/West line <b>EAST</b>	County <b>LEA</b>
---------------------------	----------------------	-------------------------	----------------------	---------	------------------------------	----------------------------------	-----------------------------	-------------------------------	----------------------

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 <b>320</b>	Joint or Infill	Consolidation Code	Order No.						

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

	<b>OPERATOR CERTIFICATION</b> <p>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.</p> <p><i>Jackie Lathan</i> 7/16/08 Signature Date</p> <p><i>Jackie Lathan</i> Printed Name</p>
	<b>SURVEYOR CERTIFICATION</b> <p>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.</p> <p>DATE SURVEYED: 7/16/08 SIGNATURE: [Signature] Professional Surveyor</p> <p>W.D. 20018</p> <p>Certificate No. Gary L. Jones 7977</p> <p>BASIN SURVEYS</p>

**Drilling Program**  
**Mewbourne Oil Company**  
 Norte 19 Fed Com #1  
 1650' FNL & 710' FEL  
 Sec 19-T19S-R33E  
 Lea County, New Mexico

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

*Yates	2950'	*Wolfcamp	10600'
*Capitan	3250'	*Strawn	12100'
*Delaware	6250'	*Atoka	12500'
*Bone Springs	7650'	*Morrow	12900'
		*Barnett	13600'

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

Water	Fresh water will be protected by setting surface casing at <sup>1300'</sup> 250' and cemented to surface.
Hydrocarbons	Oil and Gas are anticipated in the above (*) formations. These zones will be protected by casing and cementing as necessary.

**3. Pressure control equipment:**

A 2000# working pressure annular BOP will be installed on the 13 3/8" surface casing. A 5000# WP Double Ram BOP and 5000# WP Annular will be installed after running 9 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 deep 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. A 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 used.

SEE COA MOC would like to waive the low pressure test on the 13 3/8" BOPE stack and test with rig pump to 70% of burst rate. Will test the 9 5/8" BOPE to 5000# and Annular to 2500# with a third party testing company before drilling below 9 5/8" shoe, but will test again, if needed, in 30 days from the 1<sup>st</sup> test as per BLM Onshore Oil and Gas Order #2.

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

**A. Casing Program:**

Hole Size	Casing	Wt/Ft.	Grade	Depth	Jt Type
17 1/2"	13 3/8" (new)	48.0#	H40	0-1200'	ST&C
	13 3/8" (new)	54.5#	J55	1200'-1350'	ST&C
12 1/4"	9 5/8" (new)	40#	N80	0-100'	LT&C
	9 5/8" (new)	40#	J55	100'-4000'	LT&C
	9 5/8" (new)	40#	HCK55	4000'-5000'	LT&C
8 3/4"	5 1/2" (new)	17#	HCP110	0-3000'	LT&C
	5 1/2" (new)	17#	N80	3000'-6000'	LT&C
	5 1/2" (new)	17#	HCP110	6000'-13800'	LT&C

Minimum casing design factors: Collapse 1.125, Burst 1.0, Tensile strength 1.8.

\*Subject to availability of casing.

as per  
comparisons  
w/ Fracture  
Mewbourne  
Jury Tent  
12/2/10

**B. Cementing Program:**

- i. Surface Casing: 700 sacks Class C light cement containing 1/2#/sk cellophane flakes, 5#/sk gilsonite. Yield at 1.98 cuft/sk. 400 sks Class C cement containing Yield at 1.34 cuft/sk. Cmt circulated to surface.
- ii. Intermediate Casing: 1500 sacks Class C light cement containing 6% gel, 5# sk gilsonite. Yield at 1.98 cuft/sk 400 sacks Class C cement. Yield at 1.34 cuft/sk Cmt circulated to surface.
- iii. Production Casing: 500 sacks Class H cement containing fluid loss additive, friction reducer additive, compressive strength enhancer and CaCl. 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.

SEE COA

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

**5. Mud Program:**

<u>Interval</u>	<u>Type System</u>	<u>Weight</u>	<u>Viscosity</u>	<u>Fluid Loss</u>
0'-1350' 4800'	FW spud mud	8.6-9.4	32-34	NA
1350'-5000'	Brine water	10.0-10.2	28-30	NA
4800'-5000'-11000'	Cut Brine water	8.4-9.4	28-30	NA
11000'-TD'	BW/Starch	9.4-9.8	30-40	8-15

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

*It may become necessary to drill thru the Capitan reef with air-assist to maintain circulation.*

**6. Evaluation Program:**

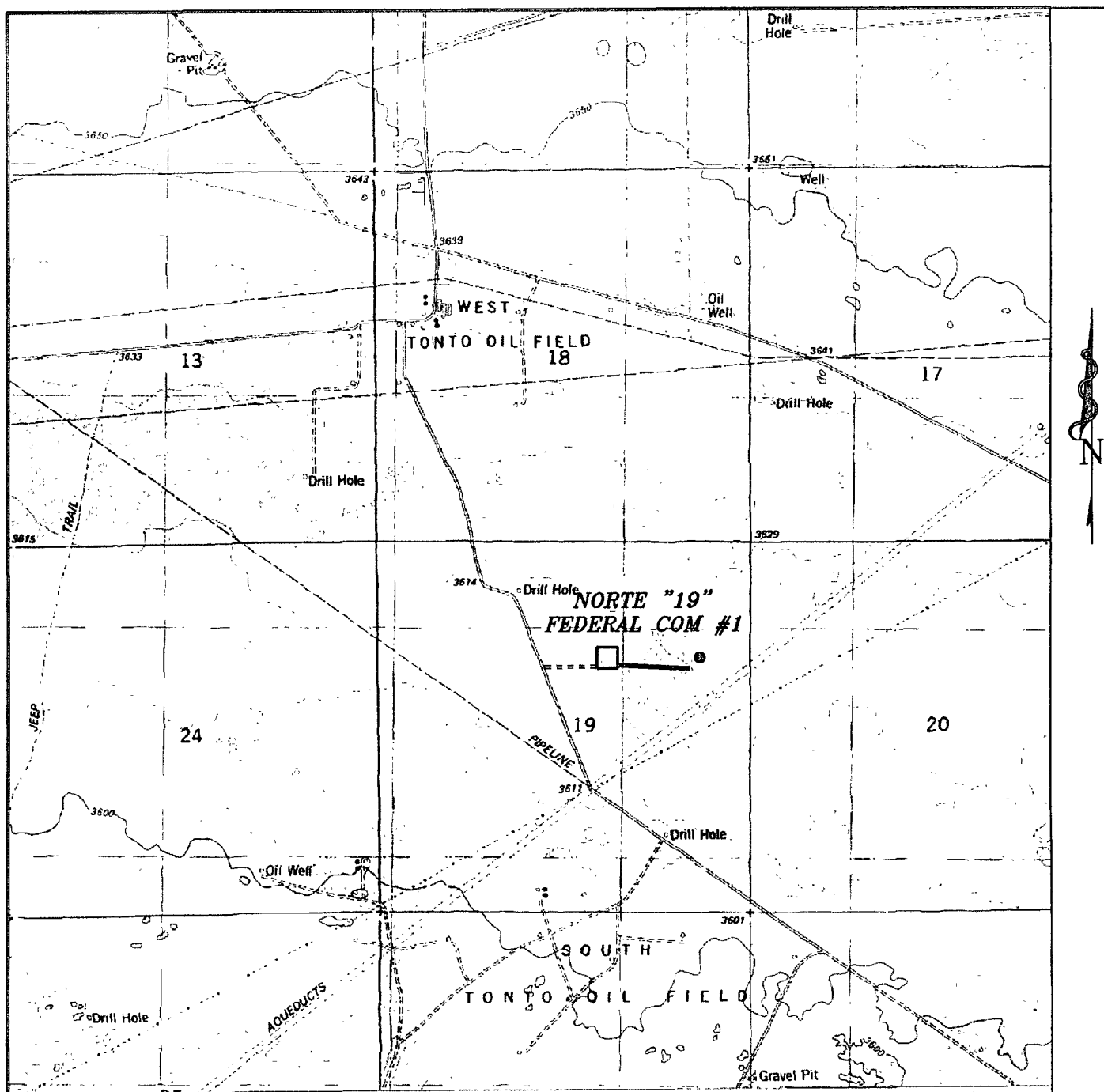
Samples:	10' samples from intermediate casing to TD
Logging:	Compensated density and dual laterlog from intermediate casing to TD.
Coring:	As needed for evaluation
Drill Stem Tests:	As needed for evaluation

**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.



**NORTE "19" FEDERAL COM #1** Exhibit 3  
 Located 1650' FNL and 710' FEL  
 Section 19, Township 19 South, Range 33 East,  
 N.M.P.M., Lea County, New Mexico.

**basin**  
**surveys**  
 focused on excellence  
 in the oilfield

P.O. Box 1786  
 1120 N. West County Rd.  
 Hobbs, New Mexico 88241  
 (505) 393-7316 - Office  
 (505) 392-3074 - Fax  
 basinsurveys.com

W.O. Number.	20018 JMS
Survey Date	07-15-2008
Scale.	1" = 2000'
Date	07-15-2008

**MEWBOURNE**  
**OIL CO.**

SECTION 19, TOWNSHIP 19 SOUTH, RANGE 33 EAST, N.M.P.M.,  
LEA COUNTY, NEW MEXICO.

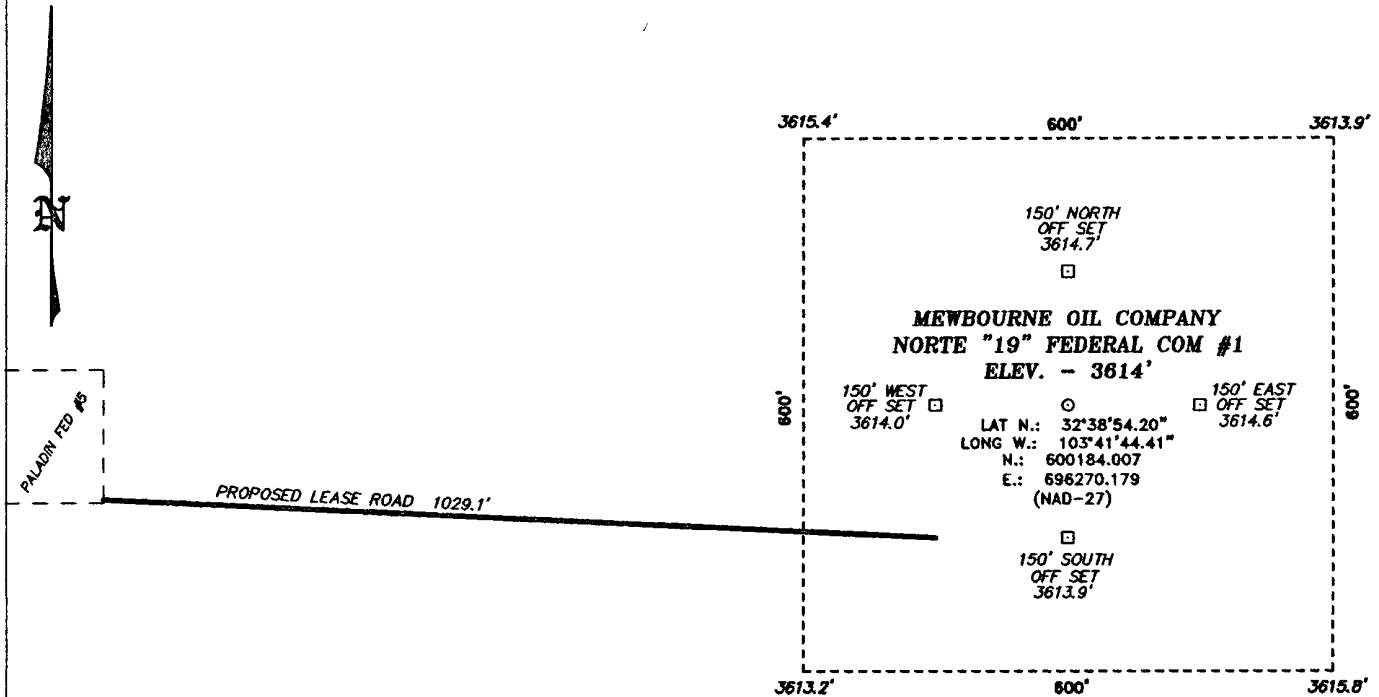
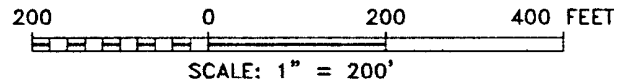


Exhibit 3A



DRIVING DIRECTIONS:

FROM THE JUNCTION OF MALJAMAR AND DRY LAKE, GO  
NORTHEAST ON LEASE ROAD FOR 4.8 MILES TO PROPOSED  
LEASE ROAD.

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

W.O. Number: 20018

Drawn By: J. SMALL

Date: 07-15-2008

Disk: JMS 20018

**MEWBOURNE OIL COMPANY**

REF: NORTE "19" FEDERAL COM #1 / WELL PAD TOPO

THE NORTE "19" FEDERAL COM #1 LOCATED 1650'  
FROM THE NORTH LINE AND 710' FROM THE EAST LINE OF  
SECTION 19, TOWNSHIP 19 SOUTH, RANGE 33 EAST,  
N.M.P.M., LEA COUNTY, NEW MEXICO.

Survey Date: 07-15-2008

Sheet 1 of 1 Sheets

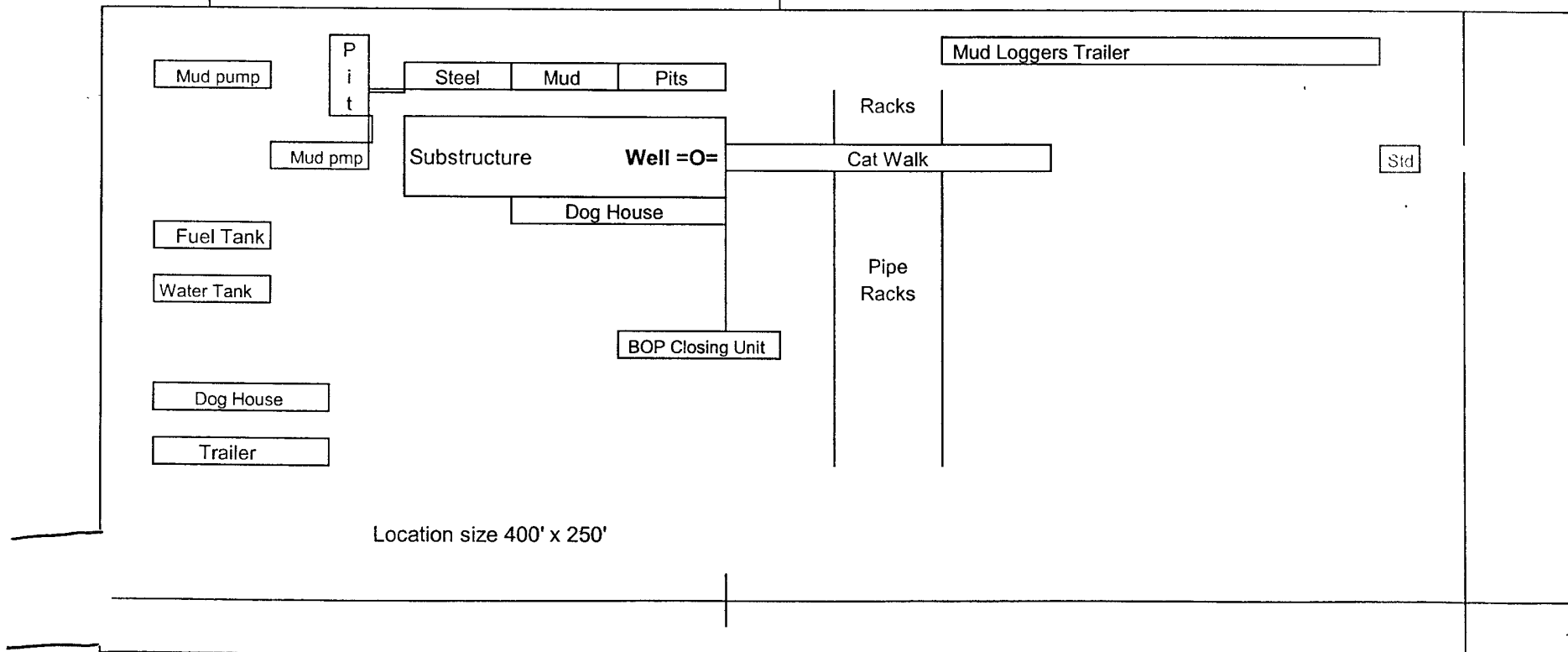
# Mewbourne Oil Company

## Exhibit #5

Well Name Norte 19 Federal Com #1  
Footages 1650' FNL & 710' FEL  
STR Sec 19-T19S-R33E  
County Lea, County  
State New Mexico



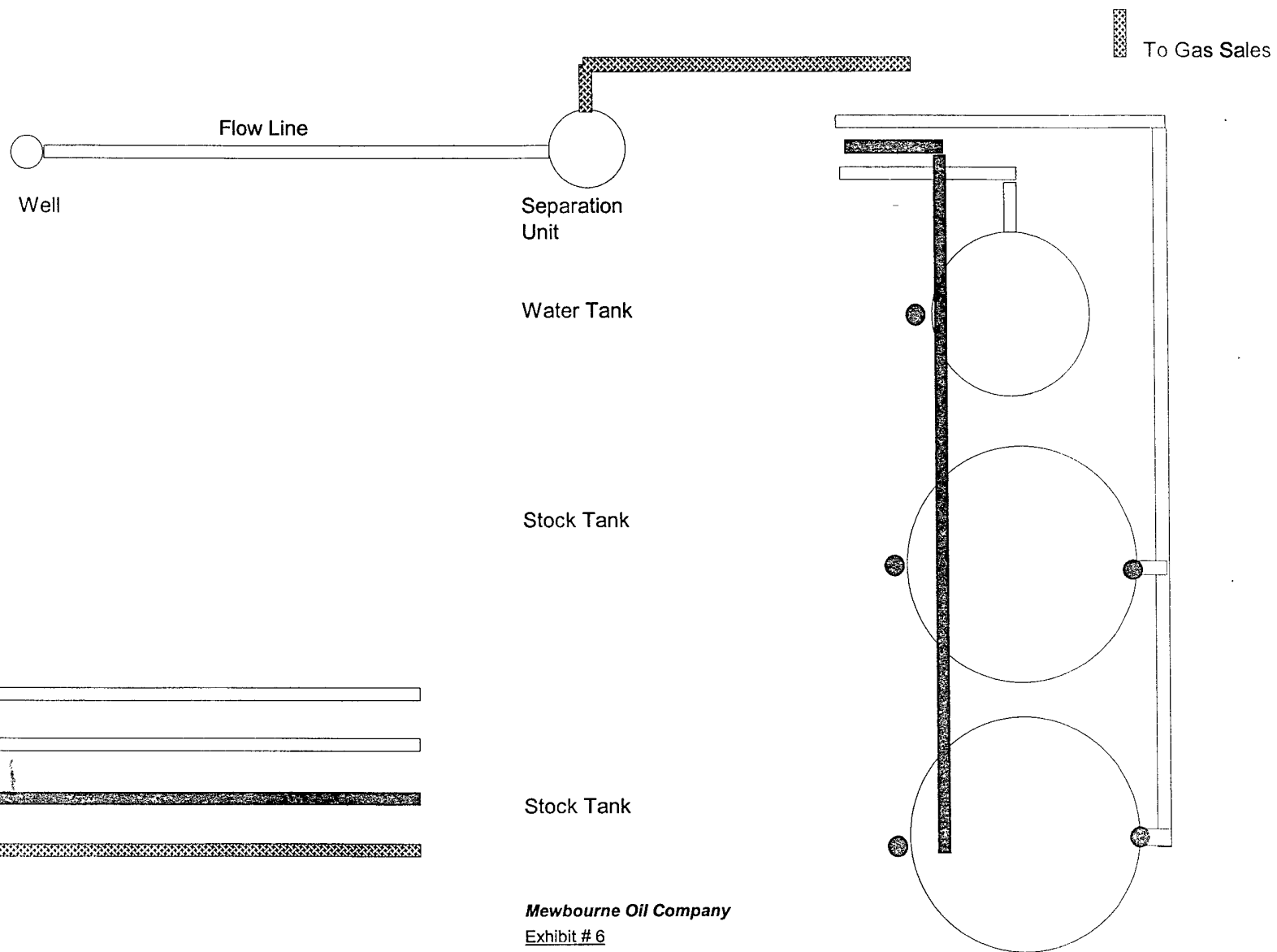
Reserve Pit  
150' x 150'



Rig Location Schematic



# Proposed Production Facilities Schematic



**Mewbourne Oil Company**

Exhibit # 6

Proposed Production Facilities Schematic

Norte 19 Federal Com #1  
1650' FWL & 710' FEL  
Sec 19-T19S-R33E  
Lea, County  
New Mexico

**Notes Regarding Blowout Preventer**

**Mewbourne Oil Company**

Norte 19 Federal Com #1

1650' FNL & 710' FEL

Sec 19-T19S-R33E

Lea 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 2000 PSI working pressure on 13  $\frac{3}{8}$ " casing and 5000 PSI working pressure on 9  $\frac{5}{8}$ " casing.
- 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 Schematic for  
12 1/4" Hole

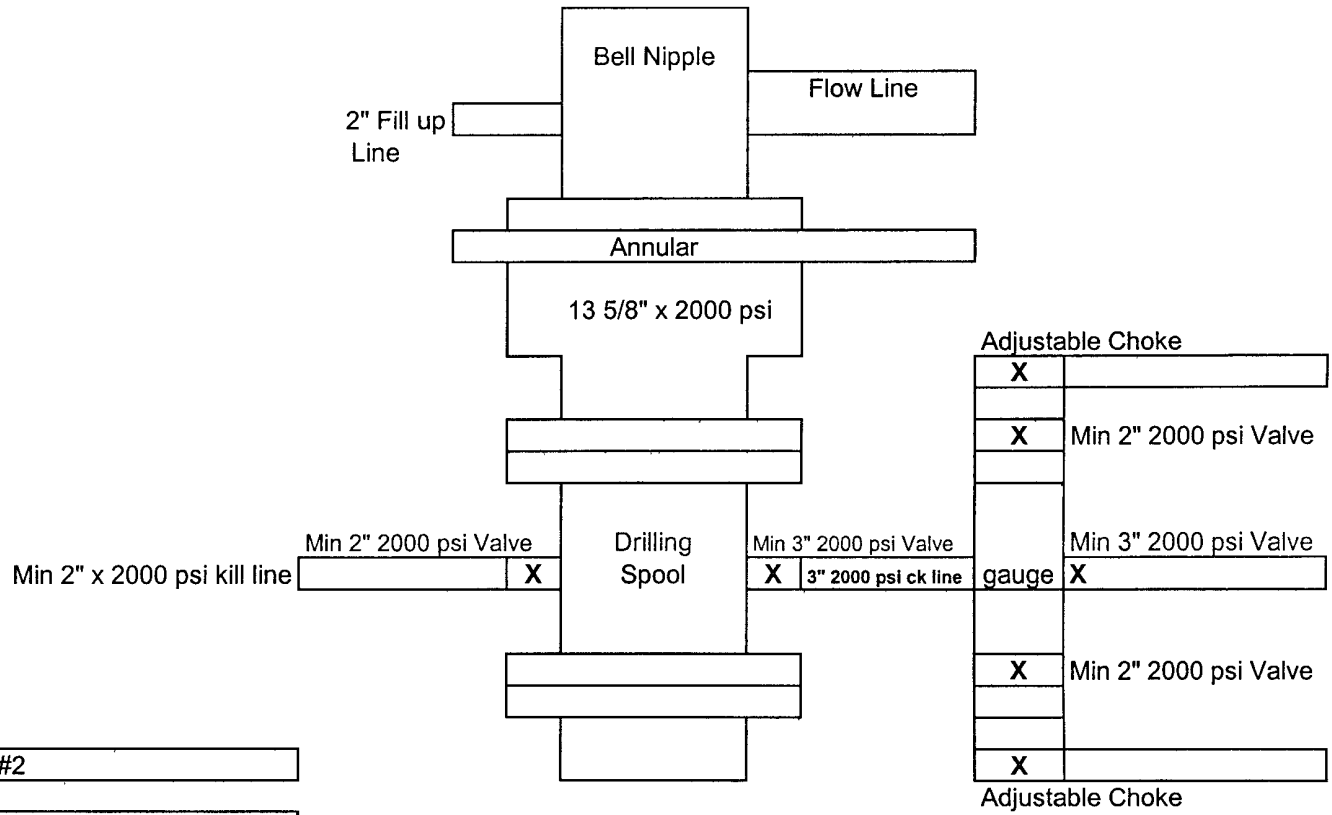


Exhibit #2

Norte 19 Federal Com #1  
1650' FNL & 710' FEL  
Sec 19-T19S-R33E  
Lea, County  
New Mexico

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

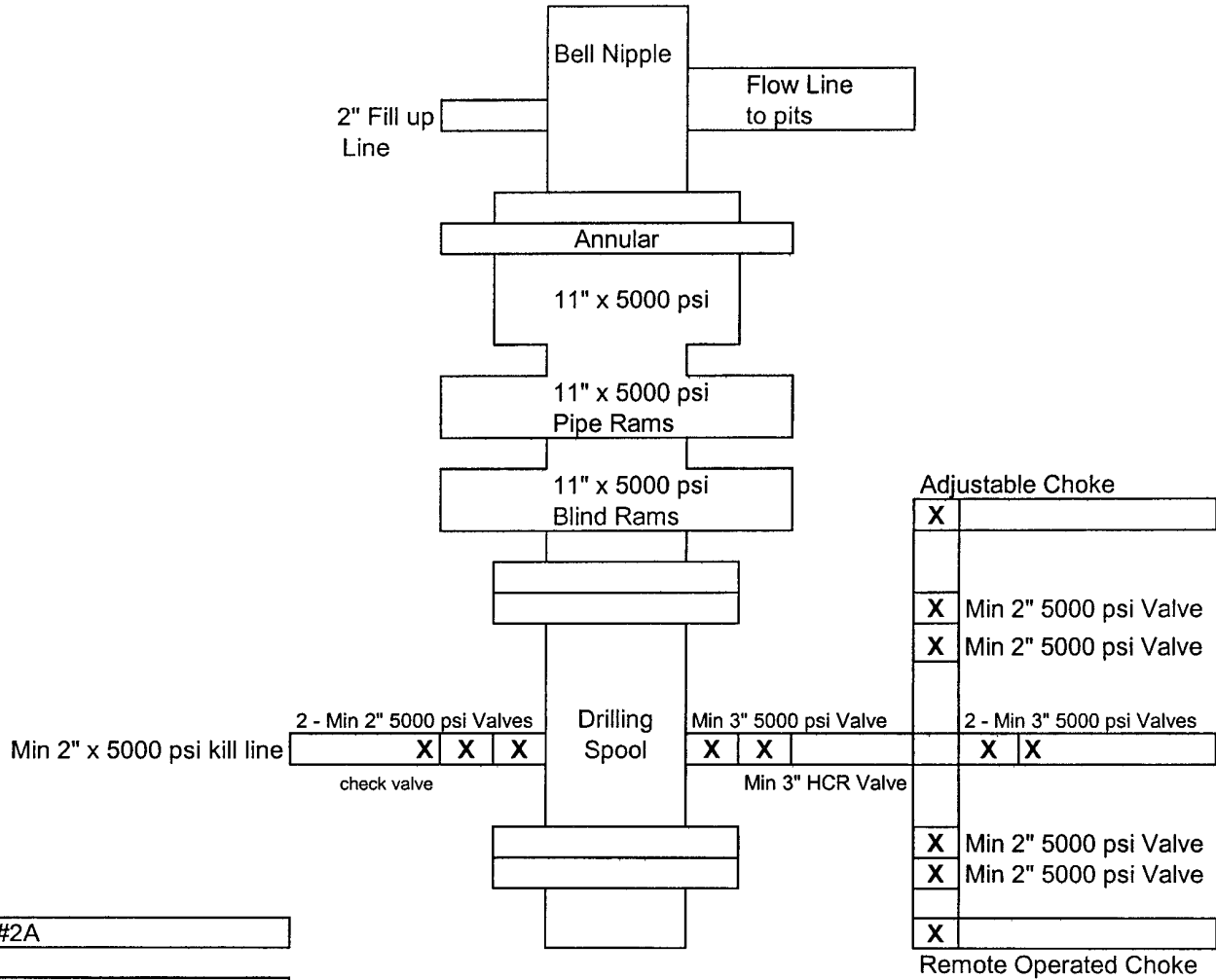


Exhibit #2A

Norte 19 Federal Com #1  
1650' FNL & 710' FEL  
Sec 19-T19S-R33E  
Lea, County  
New Mexico

## Hydrogen Sulfide Drilling Operations Plan

### **Mewbourne Oil Company**

Norte 19 Federal Com #1

1650' FNL & 710' FEL

Sec 19-T19S-R33E

Lea 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 H<sub>2</sub>S were found. MOC will have on location and working all H<sub>2</sub>S safety equipment before the Yates formation 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.

#### 8. **Emergency Phone Numbers**

<b>Lea County Sheriff's Office</b>	<b>911 or 575-393-2515</b>
<b>Ambulance Service</b>	<b>911 or 575-397-9308</b>
<b>Hobbs Fire Dept</b>	<b>911 or 575-397-9308</b>
<b>Loco Hills Volunteer Fire Dept.</b>	<b>911 or 575-677-3266</b>
<b>Closest Medical Facility</b>	<b>Lea Regional Medical Center of Hobbs 575-492-5000</b>

<b>Mewbourne Oil Company</b>	<b>Hobbs District Office</b>	<b>575-393-5905</b>
	<b>Fax</b>	<b>575-397-6252</b>
	<b>2<sup>nd</sup> Fax</b>	<b>575-393-7259</b>

<b>District Manager</b>	<b>Micky Young</b>	<b>575-390-0999</b>
<b>Drilling Superintendent</b>	<b>Frosty Lathan</b>	<b>575-390-4103</b>
<b>Drilling Foreman</b>	<b>Wesley Noseff</b>	<b>575-441-0729</b>

## **MULTI-POINT SURFACE USE AND OPERATIONS PLAN**

### **MEWBOURNE OIL COMPANY**

Norte 19 Federal Com #1

1650' FNL & 710' FEL

Sec 19-T19S-R33E

Lea 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 and proposed road is highlighted in blue. Exhibit #3A is a topographic map showing the location of the proposed well and access road. Existing and proposed roads are highlighted in black.
- B. **Directions to location from Hobbs NM: West on US 62/180 approx 36 miles to NM 243. Turn right (North) and continue north then west 4.6 miles to CR126. Turn right (north) and continue north 6 miles. Turn right (east) and continue east 5.2 miles. Turn right (south) and continue 1.0 mile. Turn left (east) & continue east 0.5 miles to location.**

#### **2. Proposed Access Road:**

- A. Approx 1030' of 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 is in the process of being conducted on the proposed 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 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  
575-393-5905

## **Mewbourne Oil Company**

PO Box 5270  
Hobbs, NM 88241  
(575) 393-5905

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route for the Norte 19 Federal Com #1, 1650' FNL & 710' FEL of Sec 19-T19S- R33E, Lea County, New Mexico; 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.

Signature: 

Date: 7/22/08

Print: NM Young

**Hobbs District Manager**

**Exhibit #4**  
**Status of Wells in Immediate Vicinity**  
**Mewbourne Oil Company**  
Norte 19 Federal Com #1  
1650' FNL & 710' FEL  
Sec 19-T19S-R33E  
Lea County, New Mexico

**Section 19-T19S-R33E**

Operator: Ray Westall Operating  
Well Name: Paladin Federal #5  
Unit letter: Unit G  
Status: Flowing  
Field: Crazy Horse Deleware

**Section 19-T19S-R33E**

Operator: Tandem Energy Corporation  
Well Name: Federal 19 #1  
Unit letter: M  
Status: Flowing  
Field: South Tonto Yates Sevin Rivers

**Section 19-T19S-R33E**

Operator: Ray Westall Operating  
Well Name: Maverick Federal  
Unit letter N  
Status: SWD  
Field: Tonto Bone Springs, South

# PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Mewbourne Oil Company
LEASE NO.:	NMLC065790
WELL NAME & NO.:	Norte 19 Fed Com # 1
SURFACE HOLE FOOTAGE:	1650' FNL & 710' FEL
BOTTOM HOLE FOOTAGE	
LOCATION:	Section 19, T. 19 S., R 33 E., NMPM
COUNTY:	Lea County, New Mexico

## TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☒ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
  - Lesser Prairie Chicken
  - Cultural
- ☒ **Construction**
  - Notification
  - Topsoil
  - Reserve Pit
  - Federal Mineral Material Pits
  - Well Pads
  - Roads
- ☐ **Road Section Diagram**
- ☒ **Drilling**
- ☐ **Production (Post Drilling)**
- ☐ **Reserve Pit Closure/Interim Reclamation**
- ☐ **Final Abandonment/Reclamation**

## **I. GENERAL PROVISIONS**

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

## **II. PERMIT EXPIRATION**

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

## **III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES**

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

## **IV. NOXIOUS WEEDS**

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

## **V. SPECIAL REQUIREMENT(S)**

Timing Limitation Stipulation/Condition of Approval for Lesser Prairie-Chicken: Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1 through June 15 annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

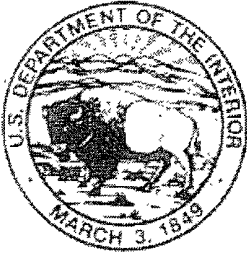


EXHIBIT NO. 1

Date of Issue:  
9/4/2008

Bureau of Land Management, Carlsbad Field Office  
620 E. Greene Street Carlsbad, NM 88220

Cultural and Archaeological Resources

BLM Report No.

08-NM-523-929

## NOTICE OF STIPULATIONS

**Historic properties in the vicinity of this project are protected by federal law. In order to ensure that they are not damaged or destroyed by construction activities, the project proponent and construction supervisors shall ensure that the following stipulations are implemented.**

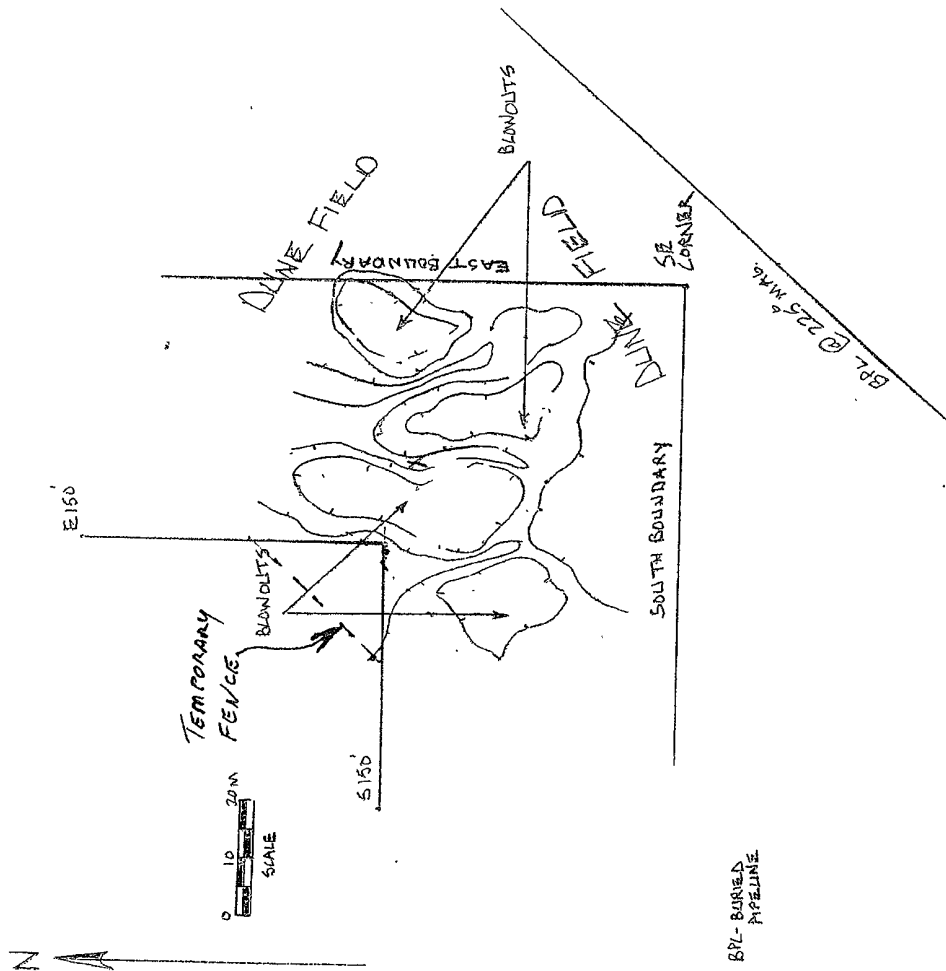
<b>Project Name:</b>	<b>Norte "19" Federal Com No. 1 Location and Access</b>
<b>REQUIRED</b>	<b>1. A 3-day preconstruction call-in notification.</b> Contact BLM Inspection and Enforcement at (505) 234-5977, 5909, or 5995, to establish a construction start date.
<b>REQUIRED</b>	<b>2. Professional archaeological monitoring.</b> Contact your project archaeologist, or BLM's Cultural Resources Section at (505) 234-5980, 5917, or 5986, for assistance. <b>A.</b> <input checked="" type="checkbox"/> These stipulations must be given to your monitor at least <b>5 days</b> prior to the start of construction. <b>B.</b> <input checked="" type="checkbox"/> No construction, including vegetation removal or other site prep may begin prior to the arrival of the monitor.
<b>REQUIRED</b>	<b>3. Cultural site barrier fencing.</b> (Your monitor will assist you). <b>A.</b> <input checked="" type="checkbox"/> <b>A temporary site protection barrier(s)</b> shall be erected prior to all ground-disturbing activities. The minimum barrier(s) shall consist of upright wooden survey lath spaced no more than ten (10) feet apart and marked with blue ribbon flagging or blue paint. There shall be no construction activities or vehicular traffic past the barrier(s) at any time. <b>B.</b> <input type="checkbox"/> <b>A permanent, 4-strand barbed wire fence</b> strung on standard "T-posts" shall be erected prior to all ground-disturbing activities. No construction activities or vehicle traffic are allowed past the fence.
	<b>4. The archaeological monitor shall:</b> <b>A.</b> <input checked="" type="checkbox"/> Ensure that all site protection barriers are located as indicated on the attached map(s). <b>B.</b> <input checked="" type="checkbox"/> Observe all ground-disturbing activities within 100 feet of cultural site no. (s) <u>LA160289</u> , as shown on the attached map(s). <b>C.</b> <input type="checkbox"/> Ensure that all reroutes are adhered to avoid cultural site no.(s) LA <b>D.</b> <input type="checkbox"/> Ensure the proposed _____ is/are located as shown on the attached map(s). <b>E.</b> <input checked="" type="checkbox"/> Submit a brief monitoring report within 30 days of completion of monitoring.  The temporary barrier should be placed diagonally across the southeast corner of the well pad as indicated on the attached sketch map. No earthmoving should take place southeast of the temporary barrier. The well pad construction should be monitored
<b>Other:</b>	

**Site Protection and Employee Education:** It is the responsibility of the project proponent and his construction supervisor to inform all employees and subcontractors that cultural and archaeological sites are to be avoided by all personnel, vehicles, and equipment; and that it is illegal to collect, damage, or

**disturb cultural resources on Public Lands.**

For assistance, contact Martin Stein (575) 234-5980  
BLM Cultural Resources: George MacDonell (575) 234-2228 Bruce Boeke (575) 234-5917 James Smith (575) 234-5986

Exhibit 2 – Location of Temporary Barrier





## **VI. CONSTRUCTION**

### **A. NOTIFICATION**

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (505) 234-5972 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

### **B. TOPSOIL**

There is no measurable soil on this well pad to stockpile. No topsoil stockpile is required.

### **C. RESERVE PITS**

The reserve pit shall be constructed and closed in accordance with the NMOCD rules.

The reserve pit shall be constructed 150' X 150' on the North side of the well pad.

The reserve pit shall be constructed, so that upon completion of drilling operations, the dried pit contents shall be buried a minimum depth of three feet below ground level. Should the pit content level not meet the three foot minimum depth requirement, the excess contents shall be removed until the required minimum depth of three feet below ground level has been met. The operator shall properly dispose of the excess contents at an authorized disposal site.

The reserve pit shall be constructed and maintained so that runoff water from outside the location is not allowed to enter the pit. The berms surrounding the entire perimeter of the pit shall extend a minimum of two (2) feet above ground level. At no time will standing fluids in the pit be allowed to rise above ground level.

The reserve pit shall be fenced on three (3) sides during drilling operations. The fourth side shall be fenced immediately upon rig release.

### **D. FEDERAL MINERAL MATERIALS PIT**

If the operator elects to surface the access road and/or well pad, mineral materials extracted during construction of the reserve pit may be used for surfacing the well pad and access road and other facilities on the lease.

Payment shall be made to the BLM prior to removal of any additional federal mineral materials from any site other than the reserve pit. Call the Carlsbad Field Office at (505) 234-5972.

## **E. WELL PAD SURFACING**

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation.

The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

## **F. ON LEASE ACCESS ROADS**

### **Road Width**

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed thirty (30) feet.

### **Surfacing**

Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

### **Crowning**

Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

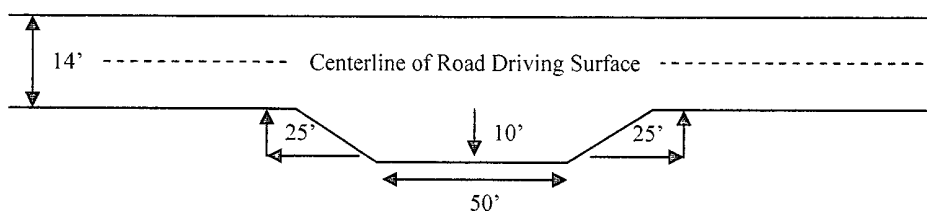
### **Ditching**

Ditching shall be required on both sides of the road.

### **Turnouts**

Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:

### Standard Turnout – Plan View

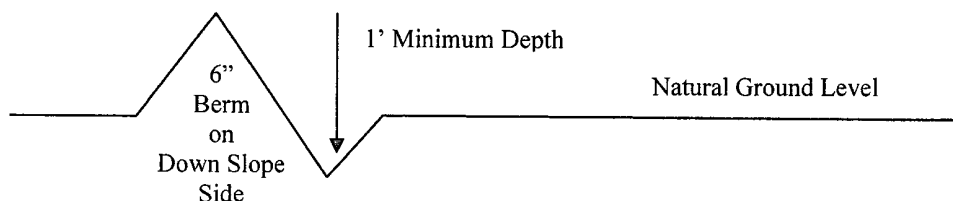


### Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outslowing and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

### Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

### Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

$$400 \text{ foot road with } 4\% \text{ road slope: } \frac{400'}{4\%} + 100' = 200' \text{ lead-off ditch interval}$$

### Culvert Installations

Appropriately sized culvert(s) shall be installed at the deep waterway channel flow crossing.

### Cattleguards

An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s).

Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations.

A gate shall be constructed and fastened securely to H-braces.

**Fence Requirement**

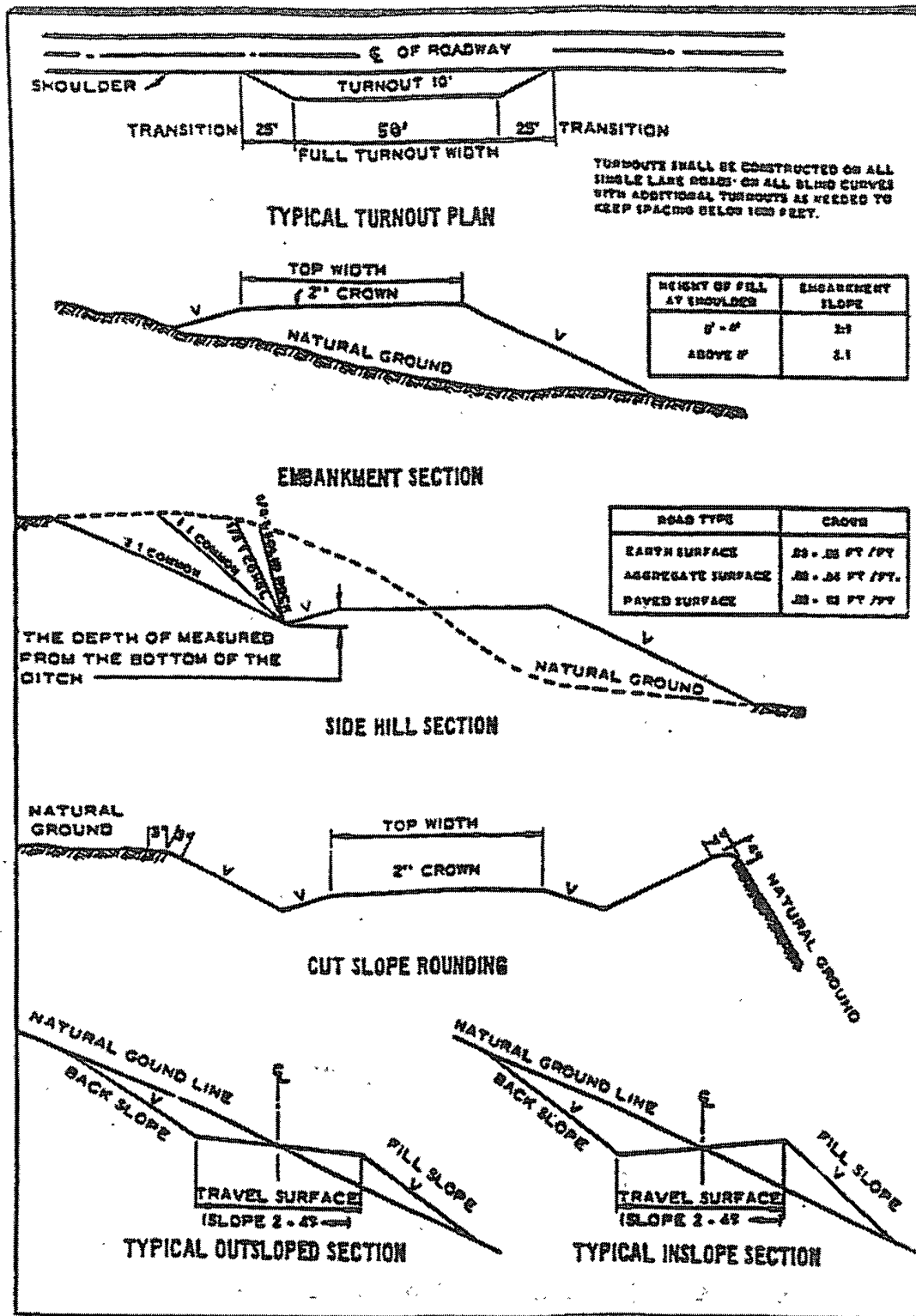
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

**Public Access**

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Figure 1 – Cross Sections and Plans For Typical Road Sections



## VII. DRILLING

### A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

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

☒ **Lea County**

**Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240,  
(575) 393-3612**

1. A Hydrogen Sulfide (H<sub>2</sub>S) Drilling Plan should be activated **500** feet prior to drilling into the **Yates** formation. If Hydrogen Sulfide is encountered please report measured amounts and formations to the BLM.
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. Floor controls are required for 3M or Greater systems. These 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

**Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.**

**Centralizers required on surface casing per Onshore Order 2.III.B.1.f.**

**Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string.**

**No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.**

**Possible lost circulation in the Grayburg and San Andres Formations  
Possible high pressure gas bursts in the Wolfcamp Formation  
Pennsylvanian Section may be overpressured**

1. The **13-3/8** inch surface casing shall be set at **approximately 1350 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt)** and cemented to the surface.
  - 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 cementing will be done prior to drilling out that string.

**Formation below the 9-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i.**

**Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole.**

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:
  - ☒ Cement to surface. If cement does not circulate see B.1.a-d above. **If lost circulation occurs in the reef, the operator will change drilling fluid to fresh water from the lost circulation zone to the 9-5/8 inch setting depth at 4800 feet. Upon loss of circulation in the Capitan Reef, the operator will notify the Hobbs Field Station at (575) 393-3612 to arrange for witnessing of the change to fresh water.**
3. 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.**

**If a DV tool is used, submit sundry for approval prior to performing cement job.**

4. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If 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 will be installed prior to continuing drilling operations.

#### **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 4 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.
  - e. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp Formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.
  - f. **The variance for testing of the BOP/BOPE on the surface casing is not approved due to the inaccuracy of rig pump pressure readings and safety concerns when exceeding 1000 psi and the MASP for the next hole calculates to approximately 1290 psi using the heaviest mud for the surface casing.**

#### **D. DRILLING MUD**



Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the **Wolfcamp** Formation, and shall be used until production casing is run and cemented.

**E. DRILL STEM TEST**

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

**LB 8/20/08**

## **VIII. PRODUCTION (POST DRILLING)**

### **A. WELL STRUCTURES & FACILITIES**

#### **Placement of Production Facilities**

Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

#### **Containment Structures**

The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

#### **Painting Requirement**

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color  
Shale Green, Munsell Soil Color Chart # 5Y 4/2

## **IX. INTERIM RECLAMATION & RESERVE PIT CLOSURE**

### **A. INTERIM RECLAMATION**

If the well is a producer, interim reclamation shall be conducted on the well site in accordance with the orders of the Authorized Officer. The operator shall submit a Sundry Notices and Reports on Wells (Notice of Intent), Form 3160-5, prior to conducting interim reclamation.

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

At the time reserve pits are to be reclaimed, operators should work with BLM surface management specialists to devise the best strategies to reduce the size of the location. Any reductions should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

### **B. RESERVE PIT CLOSURE**

The reserve pit, when dried and closed, shall be recontoured, all trash removed, and reseeded as follows:

### Seed Mixture for LPC Sand/Shinnery Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)\* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed\* per acre:

<u>Species</u>	<u>lb/acre</u>
Plains Bristlegrass	5lbs/A
Sand Bluestem	5lbs/A
Little Bluestem	3lbs/A
Big Bluestem	6lbs/A
Plains Coreopsis	2lbs/A
Sand Dropseed	1lbs/A

\*\*Four-winged Saltbush 5lbs/A

\* This can be used around well pads and other areas where caliche cannot be removed.

\*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed

## **X. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS**

Upon abandonment of the well and/or when the access road is no longer in service the Authorized Officer shall issue instructions and/or orders for surface reclamation and restoration of all disturbed areas.

On private surface/federal mineral estate land the reclamation procedures on the road and well pad shall be accomplished in accordance with the private surface land owner agreement.