

OCD-ARTESIA

AT5-09-519 RM  
FORM APPROVED  
OMB No. 1004-0136  
Expires January 31, 2004UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

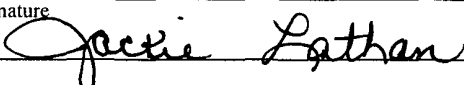
## APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5 Lease Serial No. <b>NM 7752</b>
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		6 If Indian, Allottee or Tribe Name
2 Name of Operator <b>Mewbourne Oil Company - 14744</b>		7 If Unit or CA Agreement, Name and No
3a. Address <b>PO Box 5270 Hobbs, NM 88241</b>	3b Phone No. (include area code) <b>575-393-5905</b>	8 Lease Name and Well No. <b>Skyhawk 12 Federal Com #1</b>
4. Location of Well (Report location clearly and in accordance with any State requirements) At surface <b>925' FNL &amp; 815' FEL Unit A</b> At proposed prod zone		9 API Well No. <b>30-015-37558</b>
14. Distance in miles and direction from nearest town or post office* <b>4 miles NW of Loco Hills</b>		10. Field and Pool, or Exploratory <b>Grayburg Morrow</b>
15. Distance from proposed* location to nearest property or lease line, ft (Also to nearest drig. unit line, if any) <b>815'</b>	16. No. of Acres in lease <b>160</b>	11 Sec, T, R, M., or Blk. and Survey or Area <b>Sec 12-T17S-R29E</b>
18 Distance from proposed location* to nearest well; drilling, completed, applied for, on this lease, ft <b>NA</b>	19 Proposed Depth <b>11200'</b>	12 County or Parish <b>Eddy</b>
21. Elevations (Show whether DF, KDB, RT, GL, etc ) <b>3660' GL</b>	22 Approximate date work will start* <b>ASAP</b>	13. State <b>NM</b>
23 Estimated duration <b>45 days</b>		

## 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) <b>Jackie Lathan</b>	Date <b>08/28/09</b>
Title <b>Hobbs Regulatory</b>		
Approved by (Signature) <b>/s/ Don Peterson</b>	Name (Printed/Typed)	Date <b>NOV 9 2009</b>
Title <b>FIELD MANAGER</b>		
Office <b>CARLSBAD FIELD OFFICE</b>		

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)

**Roswell Controlled Water Basin****Approval Subject to General Requirements  
& Special Stipulations Attached****SEE ATTACHED FOR  
CONDITIONS OF APPROVAL**

**United States Department of the Interior  
Bureau of Land Management  
Carlsbad Field Office  
620 E Greene Street  
Carlsbad, 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 #NM7752

Legal Description of Land: Section 12, T-17S, R-29E Eddy County, New Mexico.  
Location @ 925' FNL & 815' FWL.

Formation (if applicable): Morrow

Bond Coverage: \$150,000

BLM Bond File: NM1693, Nationwide

Authorized Signature: *NM Young by Jackie Lathan*  
Name: NM (Mickey) Young  
Title: District Manager  
Date: August 27, 2009

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

DISTRICT II  
1301 W. Grand Avenue, Artesia, NM 88210

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

DISTRICT IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-102  
Revised October 12, 2005

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30015-37558	Pool Code 77840	Pool Name Grayburg Morrow
Property Code 38086	Property Name SKYHAWK "12" FEDERAL COM	Well Number 1
OGRID No. 14744	Operator Name MEWBOURNE OIL COMPANY	Elevation 3660'

Surface Location

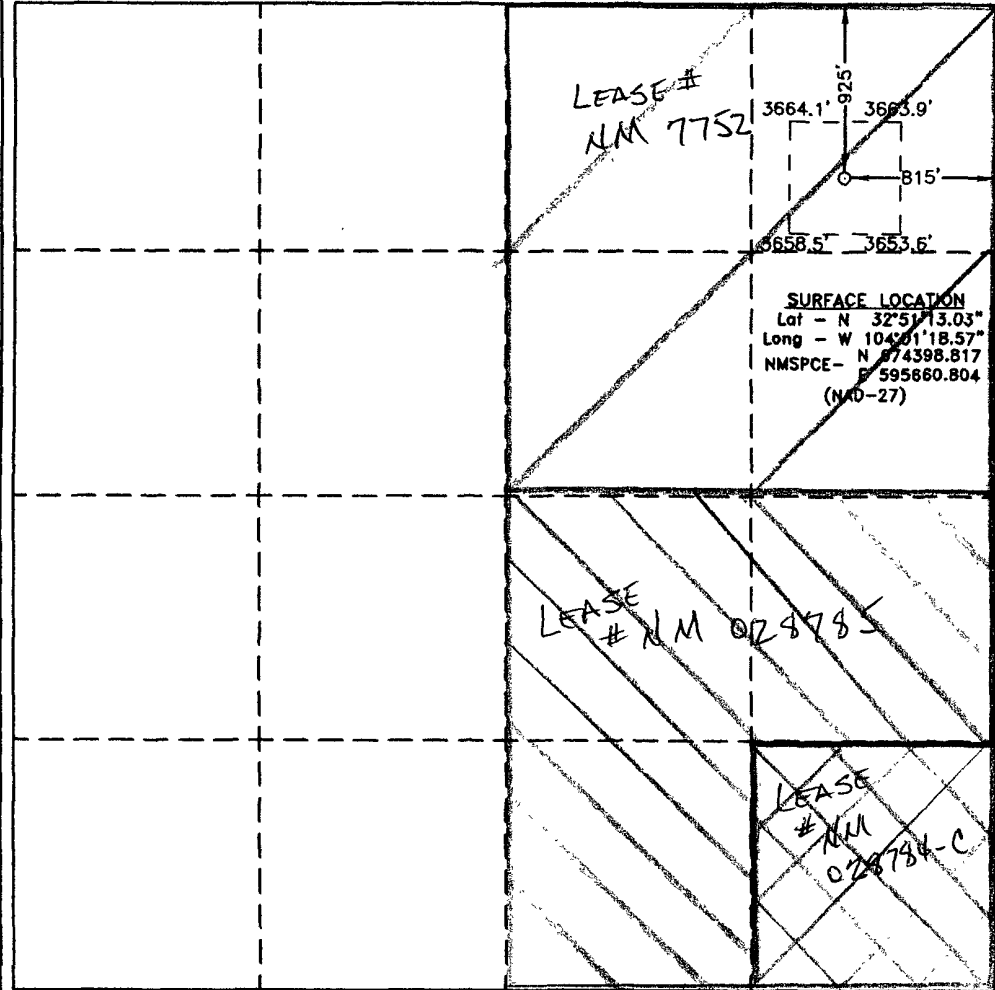
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	12	17 S	29 E		925	NORTH	815	EAST	EDDY

Bottom Hole Location If Different From Surface

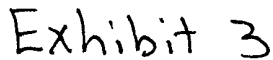
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

Dedicated Acres 320	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

	<p><b>OPERATOR CERTIFICATION</b></p> <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>Signature: Jackie Lathan Date: 8/27/09</p> <p>Printed Name: Jackie Lathan</p>
	<p><b>SURVEYOR CERTIFICATION</b></p> <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: JULY 27 2008</p> <p>Signature &amp; Seal: [Signature] Professional Surveyor</p>
	<p>Certificate No. Gary L. Jones 7977</p> <p>BASIN SURVEYS</p>

N



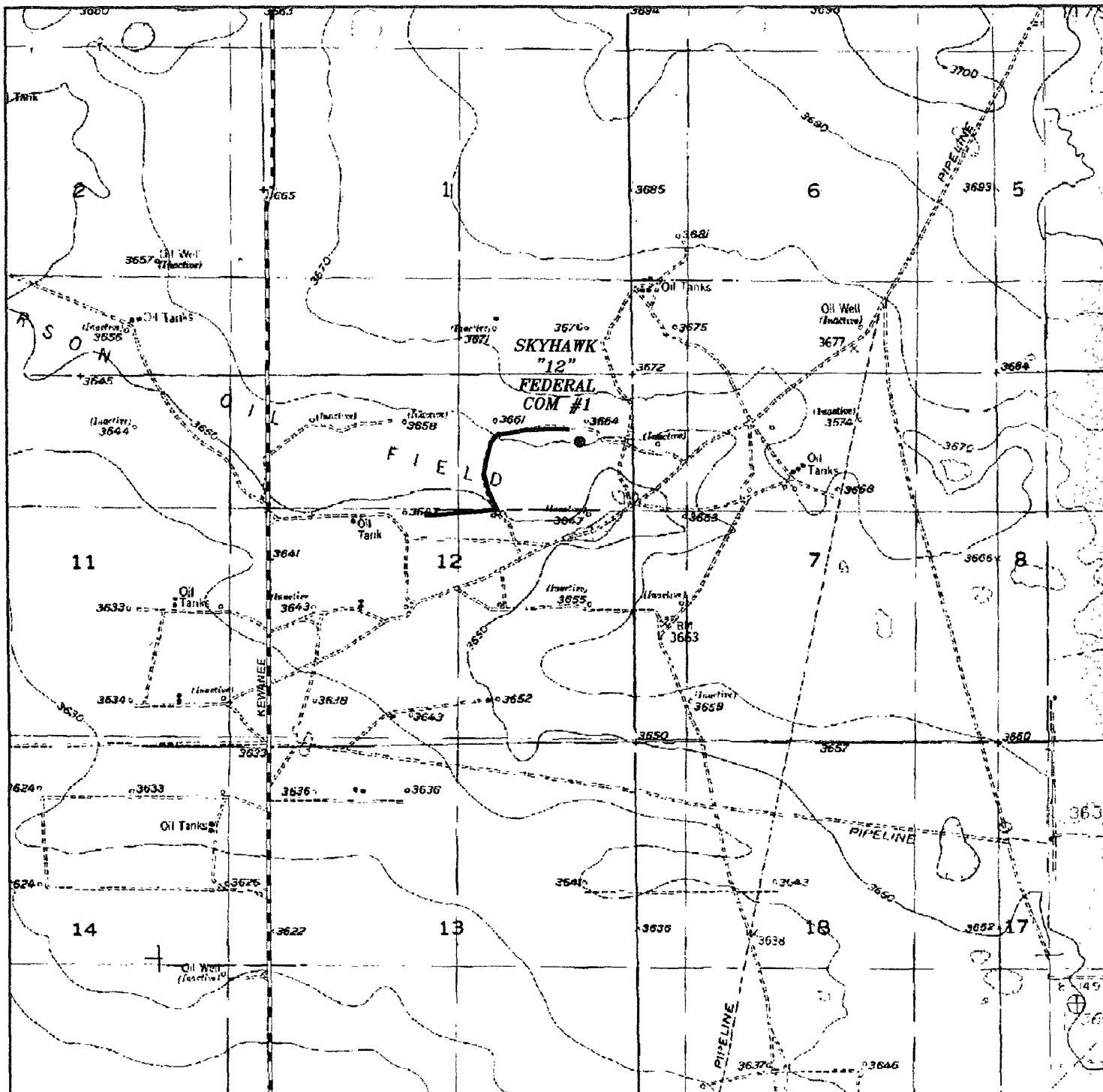
FROM THE JUNCTION OF US HWY 82 AND KEWANEE,  
GO NORTH ON KEWANEE 2.0 MILES TO LEASE ROAD,  
ON LEASE ROAD GO EAST 0.2 MILES TO WELL PAD  
AND PROPOSED LEASE ROAD.

200 0 200 400 FEET

SCALE: 1" = 200'

N.M.P.M., EDDY COUNTY, NEW MEXICO.

Survey Date: 07-27-2009	Sheet 1 of 1 Sheets
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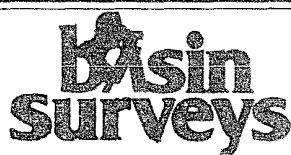


# SKYHAWK "12" FEDERAL COM #1

Exhibit 3A

Located 925' FNL and 815' FEL

Section 12, Township 17 South, Range 29 East,  
N.M.P.M., Eddy County, New Mexico.



focused on excellence  
in the oilfield

P.O. Box 1786  
1120 N. West County Rd.  
Hobbs, New Mexico 88241  
(575) 393-7316 - Office  
(575) 392-2206 - Fax  
basinsurveys.com

W.O. Number: JMS 21580

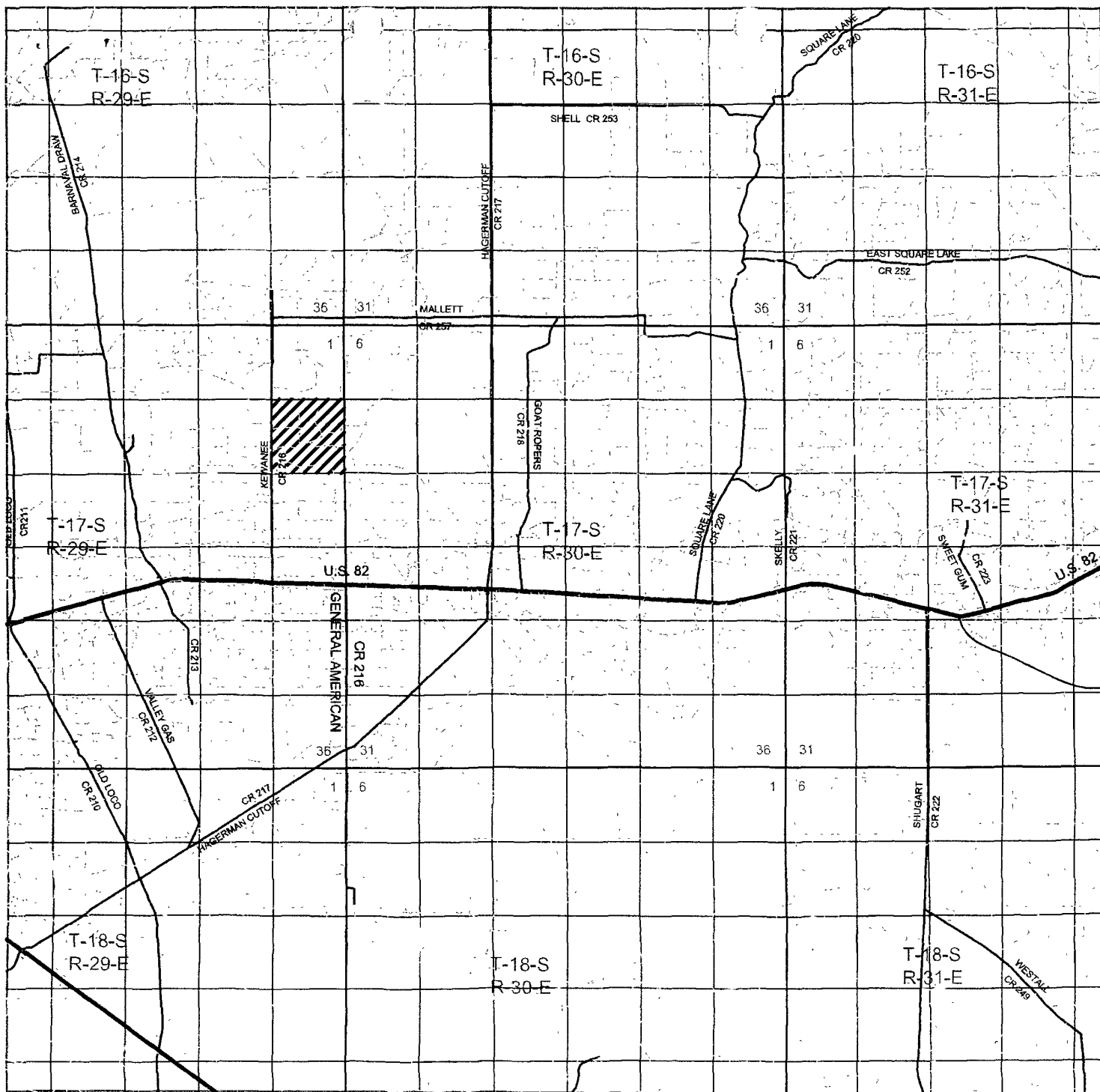
Survey Date: 07-27-2009

Scale: 1" = 2000'

Date: 07-29-2009



MEWBOURNE  
OIL COMPANY



SKYHAWK "12" FEDERAL COM #1

Located 925' FNL and 815' FEL

Section 12, Township 17 South, Range 29 East,  
N.M.P.M., Eddy County, New Mexico.

Exhibit 3B

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

P.O. Box 1786  
1120 N. West County Rd.  
Hobbs, New Mexico 88241  
(575) 393-7316 - Office  
(575) 392-2206 - Fax  
basinsurveys.com

W O Number JMS 21580

Survey Date 07-27-2009

Scale 1" = 2 Miles

Date: 07-29-2009

**MEWBOURNE**  
**OIL COMPANY**

**Exhibit #4**  
**Status of Wells in Immediate Vicinity**  
**Mewbourne Oil Company**  
Skyhawk 12 Federal Com #1  
925' FNL & 815' FEL  
Sec 12-T17S-R29E  
Eddy County, New Mexico

**Section 12-T17S-R29E**

Operator: Tandem Energy Corporation  
Well Name: Square Lake 12 Unit 105  
Unit letter: Unit B  
Status: Injection  
Field: Square Lake G-SA

**Section 12-17S-R29E**

Operator: Tandem Energy Corporation  
Well Name: Square Lake 12 Unit #109  
Unit letter: G  
Status: Flowing  
Field: Square Lake G-SA

**Drilling Program**  
**Mewbourne Oil Company**  
 Skyhawk 12 Federal Com #1  
 925' FNL & 815' FEL  
 Sec 12-T17S-R29E  
 Eddy County, New Mexico

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

*Yates	1145'	*Atoka	10291'
*Queen	2030'	*Morrow	10736'
*Grayburg	2432'	*Barnett	10947'
*San Andres	2850'	*Chester	11190'
*Wolfcamp	7450'		
*Strawn	10077'		

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

Water	Fresh water will be protected by setting surface casing at 400' 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 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: *See COA***

<u>Hole Size</u>	<u>Casing</u>	<u>Wt/Ft.</u>	<u>Grade</u>	<u>Depth</u> <i>See COA</i>	<u>Jt Type</u>
17 1/2"	13 3/8" (new)	48#	H40	0- <del>400'</del> 390'	ST&C
12 1/4"	9 5/8" (new)	40#	N80	0-120'	LT&C
12 1/4"	9 5/8" (new)	40#	J55	120'-2900'	LT&C
8 3/4"	4 1/2" (new)	11.6#	HCP110	0'-11200'	LT&C

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



## B. Cementing Program:

- i. Surface Casing: 450 sks Class C cement containing 2% CaC<sub>2</sub>. Yield at 1.34 cuft/sk. Cmt circulated to surface.
- ii. Intermediate Casing: 800 sacks Class C light cement with additives. Yield at 1.96 cuft/sk 400 sacks Class C cement containing 1% CaCl. Yield at 1.34 cuft/sk Cmt circulated to surface.
- iii. Production Casing: 425 sacks Class H Lite cement with additives. Yield at 1.95 cuft/sk, and w/400 sks Class H w/additives. Yield at 1.28 cuft/sk. ~~Cmt top to be 500' above Wolfcamp.~~ 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.

See  
COA

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'-400'	FW spud mud	8.6-9.4	32-34	NA
400'-2900'	Brine water	10.0-10.2	28-30	NA
2900'-TD	Cut Brine water	9.5-10.0	30-35	6-10 WL

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

## 6. Evaluation Program: See COA

~~This well is planned to be a directional well per exhibit #7~~ Not per plat

Samples: 10' samples from intermediate casing to TD  
Logging: Compensated density and dual laterlog from intermediate casing to TD. Gamma Ray Newtron to surface.  
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: 150 degree F  
Maximum bottom hole pressure: 8.6 lbs/gal gradient or less

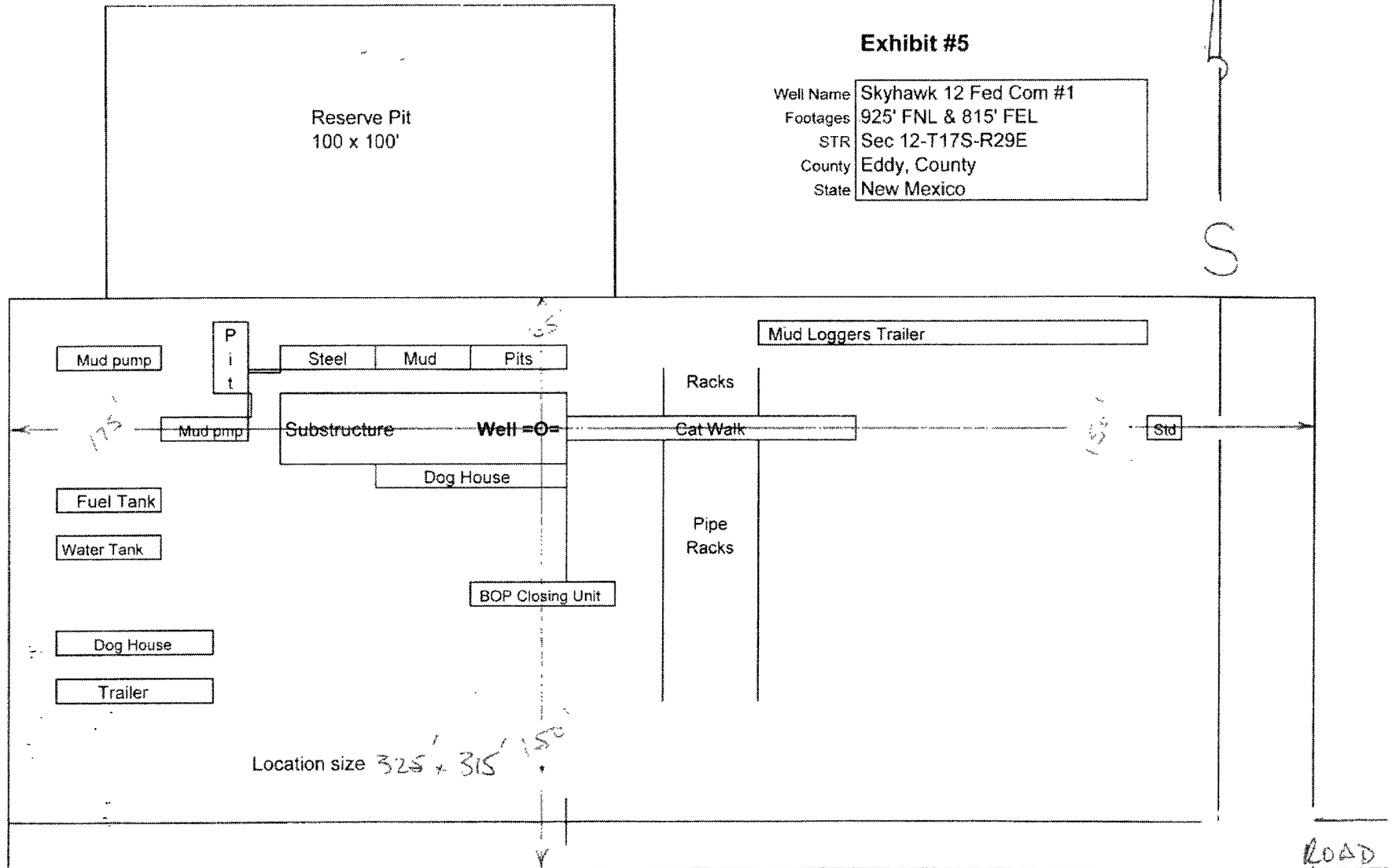
## 8. Anticipated Starting Date:

Mewbourne Oil Company intends to drill this well as soon as possible after receiving approval with approximately 35 days involved in drilling operations and an additional 10 days involved in completion operations on the project.

# Mewbourne Oil Company

## Exhibit #5

Well Name Skyhawk 12 Fed Com #1  
Footages 925' FNL & 815' FEL  
STR Sec 12-T17S-R29E  
County Eddy, County  
State New Mexico



Rig Location Schematic

## **Notes Regarding Blowout Preventer**

### **Mewbourne Oil Company**

Skyhawk 12 Federal Com #1

925' FNL & 815' FEL

Sec 12-T17S-R29E

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 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 an 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

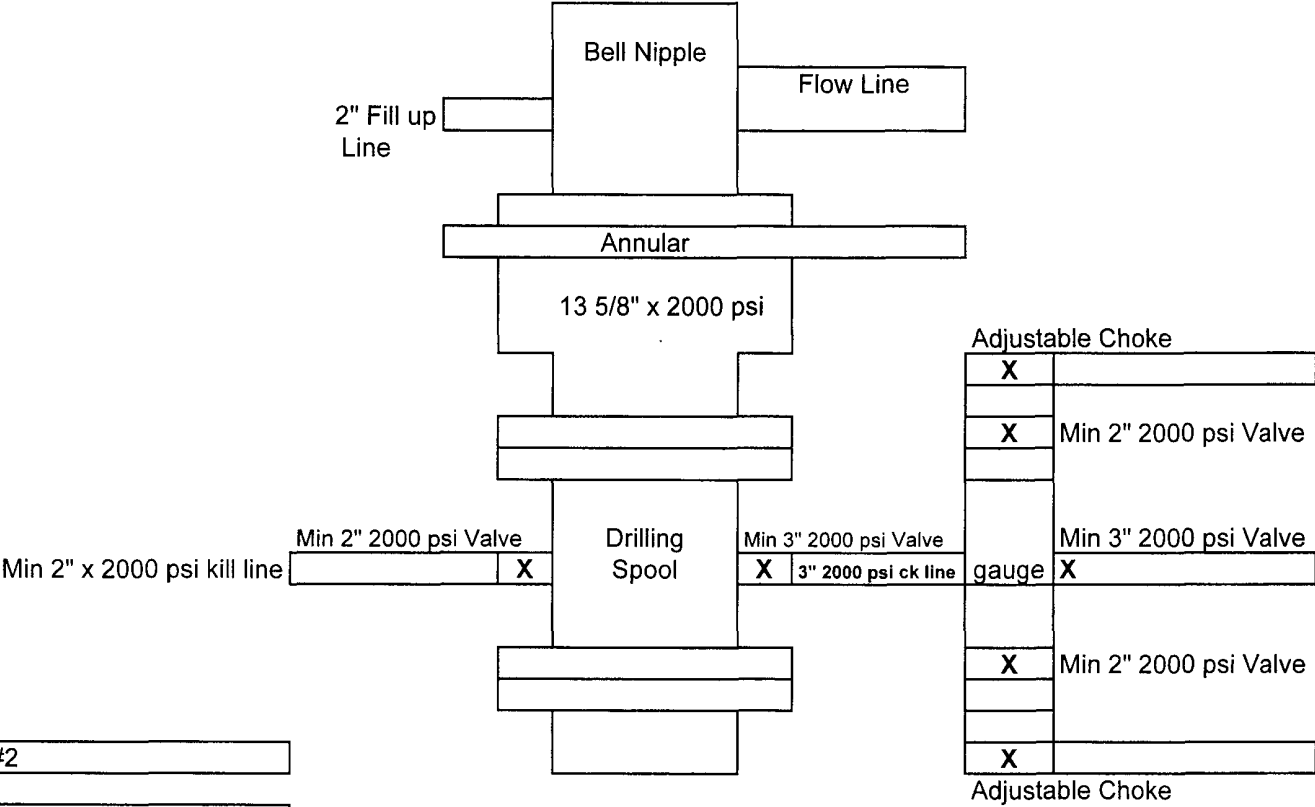


Exhibit #2

Skyhawk 12 Federal Com #1  
925' FNL & 815' FEL  
Sec 12-T17S-R29E  
Eddy, County  
New Mexico

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

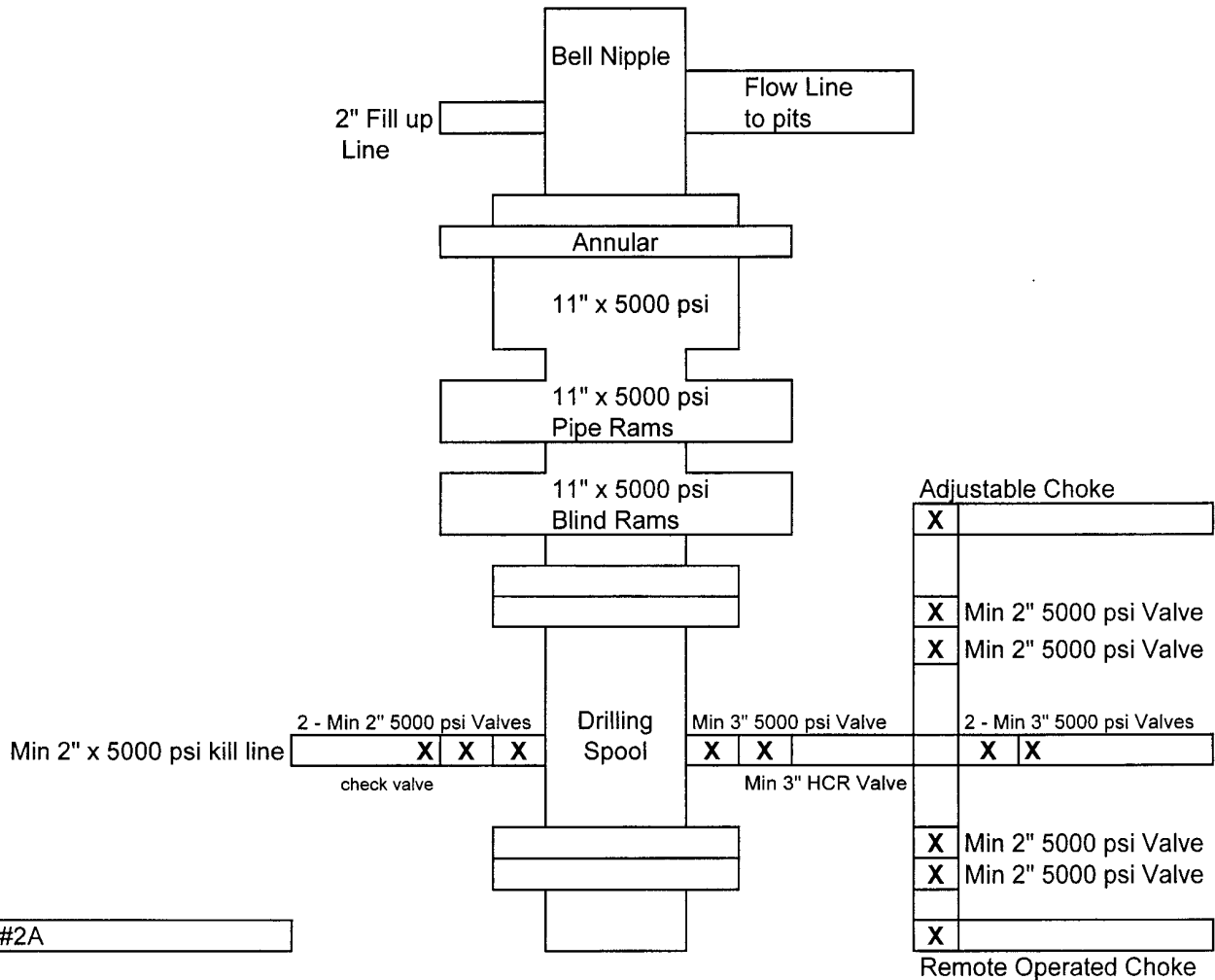
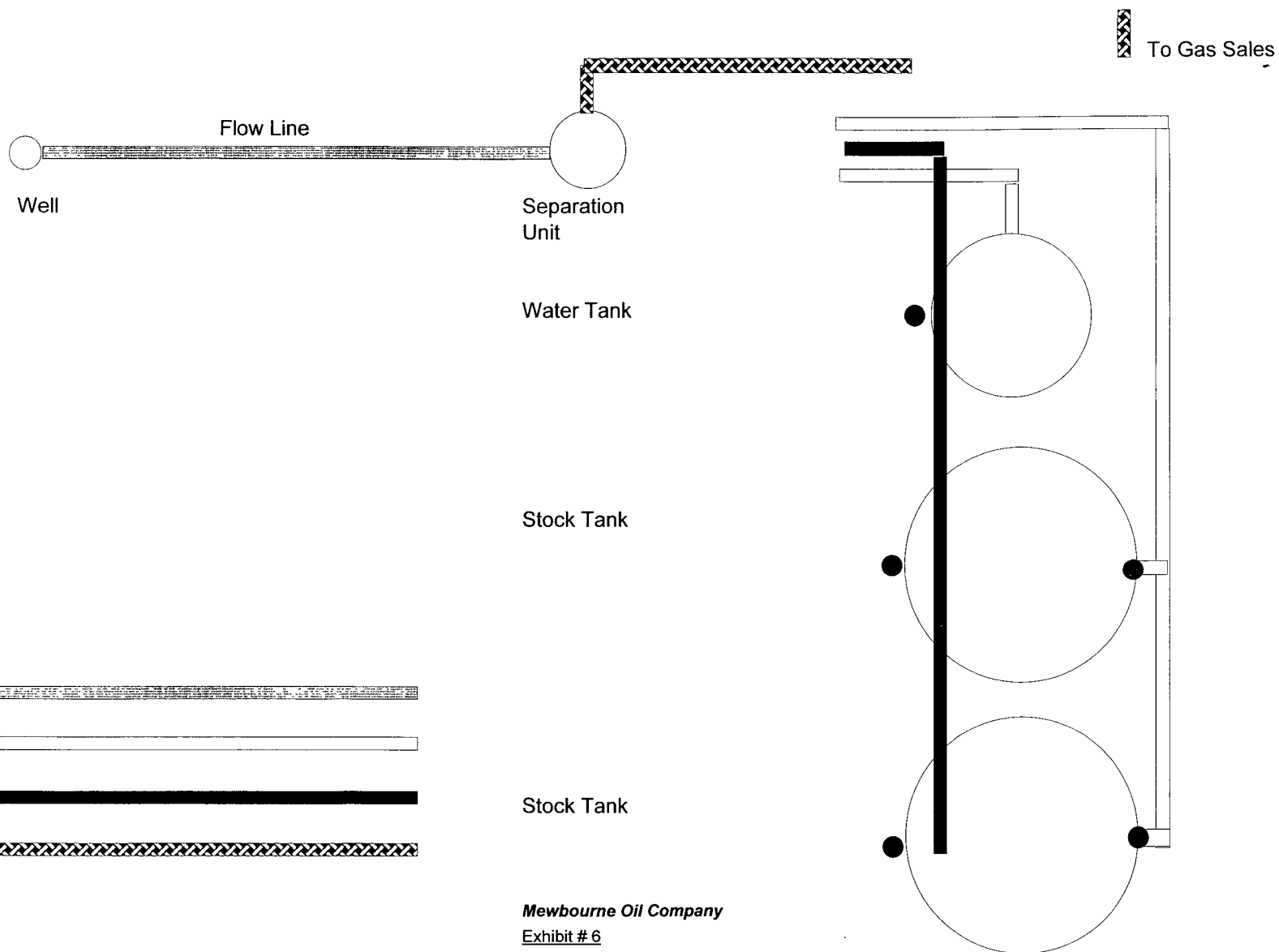


Exhibit #2A

Skyhawk 12 Federal Com #1  
925' FNL & 815' FEL  
Sec 12-T17S-R29E  
Eddy, County  
New Mexico

# Proposed Production Facilities Schematic



**Mewbourne Oil Company**  
 Exhibit # 6  
 Proposed Production Facilities Schematic

Skyhawk 12 Federal Com #1  
 925' FNL & 815' FEL  
 Sec 12-T17S-R29E  
 Eddy, County  
 New Mexico

## Hydrogen Sulfide Drilling Operations Plan

**Mewbourne Oil Company**  
Skyhawk 12 Federal Com #1  
925' FNL & 815' FEL  
Sec 12-T17S-R29E  
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 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**

Eddy County Sheriff's Office	575-746-9888
Ambulance Service	911 or 575-746-5051
Artesia Fire Dept	911 or 575-746-5051
Loco Hills Volunteer Fire Dept.	911 or 575-677-3266
Closest Medical Facility Artesia General Hospital	575-748-3333

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

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



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

### **MEWBOURNE OIL COMPANY**

Skyhawk 12 Federal Com #1

925' FNL & 815' FEL

Sec 12-T17S-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. 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 Loco Hills: West on US 82, for 3 miles. Turn right (North) on Eddy Co 215 (Kewanee Rd). Continue North 2.0 miles. Turn Right (East) & continue East 0.6 miles. Turn Left (North) & continue North 0.2 miles. Turn Right (east) & continue east 0.2 miles to location.**

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

- A. 1052' 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.

# PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Mewbourne Oil Company
LEASE NO.:	NM7752
WELL NAME & NO.:	1 Skyhawk, 12 Fed Com
SURFACE HOLE FOOTAGE:	925' FNL & 815' FEL
BOTTOM HOLE FOOTAGE:	1' F L & 1' F L
LOCATION:	Section 12, T. 17 S., R. 29 E., NMPM
COUNTY:	Eddy 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
  - Ground-level Abandoned Well Marker
  - V-door
  - Communitization Agreement
- ☐ Construction
  - Notification
  - Topsoil
  - Reserve Pit
  - Federal Mineral Material Pits
  - Well Pads
  - Roads
- ☐ Road Section Diagram
- ☒ Drilling
  - H2S Requirements, Onshore Order #6
  - Logging Requirements
  - Casing Depth Change
- ☒ Production (Post Drilling)
  - Well Structures & Facilities
- ☐ 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 1st through June 15th 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.

**Ground-level Abandoned Well Marker to avoid raptor perching:** Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Galsbad Field Office at 575-234-5972.

**V-door: West / Reserve Pits – South**

### **Communitization Agreement**

**A Communitization Agreement covering the acreage dedicated to this well must be filed for approval with the BLM. The effective date of the agreement shall be prior to any sales. Operator to supply NMOCD order, which details the vertical and horizontal extent of pool to verify that requested communitization is within an approved and established pool.**

## **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 (575) 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**

The operator shall stockpile the topsoil of the well pad. The topsoil shall not be used to backfill the reserve pit and will be used for interim and final reclamation.

### **C. RESERVE PITS**

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

The reserve pit shall be constructed 100' X 100' on the South 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 berm 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 (575) 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.

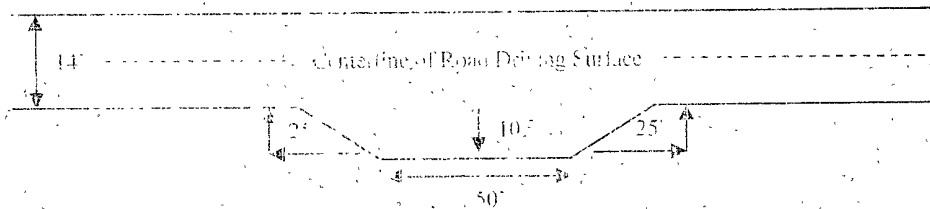
##### **Ditching**

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

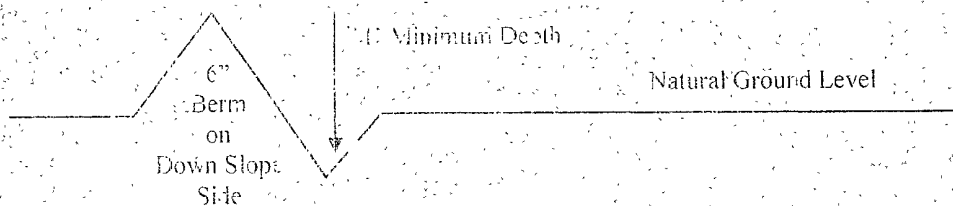


### Drainage

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 shoulder is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

$$400 \text{ feet road with } 4\% \text{ road slope: } \frac{400'}{2\%} + 100' = 200' \text{ lead-off ditch interval}$$

### **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.

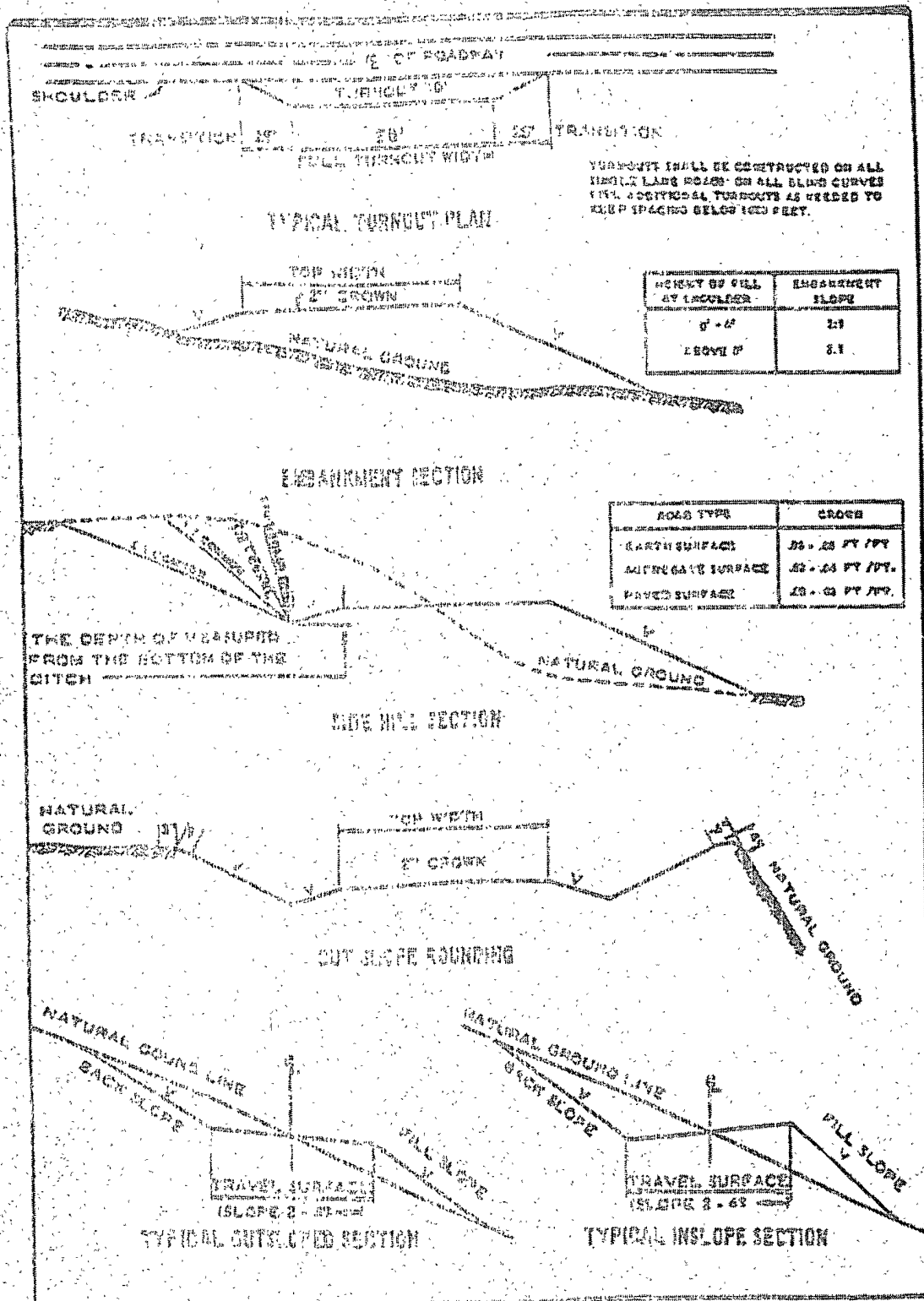
The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

### **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. Sealing and/or Cementing of all casing strings
- c. BOPE tests

☒ Eddy County

Call the Carlsbad Field Office 320 East Greene St., Carlsbad, NM 88220,  
(575) 561-2822

1. A Hydrogen Sulfide (H<sub>2</sub>S) Drilling Plan should be activated 500 feet prior to drilling into the Grayburg formation. As a result, the **Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values 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.
4. **The record of the drilling rate along with the CAL/GR/N well log run from TD to surface will be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

### 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.**

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 for all casing strings. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. See individual casing strings for details regarding lead cement slurry requirements.

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

Possible water flows in the Salado and Artesia Groups.

Possible lost circulation in the Grayburg and San Andres Formations.

1. The 13-3/8 inch surface casing shall be set at approximately 390 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. If the salt is encountered set the casing 25 feet above the top of salt.
  - 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 is to include the lead cement slurry.
  - 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. Report results to BLM office.

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, c-d above.

3. The minimum required fill of cement behind the 4-1/2 inch production casing is:

- ☒ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification. **Additional cement may be required, as the excess calculated to be less than 0%. If a multistage cement program is used a summary must be submitted and approved prior to commencing work.**

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. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M) psi.**
3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 9-5/8" intermediate casing shoe shall be **5000 (5M) psi.** 5M system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. 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 may 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. Effective November 1, 2008, no variances will be granted on reduced pressure tests on the surface casing and BOP/BOPE. Onshore Order 2 requirements will be in effect.

**D. DRILLING MUD**

Mud system monitoring equipment, with density 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.

CRW 092709

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

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

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

Production facilities should be placed on the west side of the well pad (west of the well hole) to allow for maximum interim recontouring and revegetation of the east side of the well location.

#### **Containment Structures**

The containment structure will 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 7.5Y 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 LPO 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 Salthush	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.

Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level or a plate containing the pertinent information for the plugged well.

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.