

Drilling Program Mewbourne Oil Company Upland 23 Federal Com #1 990' FNL & 990' FWL-Section 23-T20S-R35E Lea County, New Mexico

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

*Yates	3800'	*Wolfcamp	11100'
*Delaware	5900'	*Strawn	12000'
*Bone Springs	8300'	*Atoka	12200'
		*Morrow	12500'

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

Water Fresh water will be protected by setting surface casing at 2000' and cement to surface.

Oil and Gas Hydrocarbons

Oil and Gas are anticipated in the above (\*) formations. These zones will be protected by setting casing and cementing as necessary.

## 3. Pressure control equipment:

A 2000# working pressure annular BOP will be installed on the 13 %" surface casing. A 5000# WP Double Ram BOP and 5000# WP Annular will be installed after running 9 %" casing. Pressure tests will be conducted prior to drilling out under all casing strings. Testing of 2000# annular will be with rig pump to 70% of csg burst. BOP controls will be installed prior to drilling under surface casing and will remain in use until completion of drilling operations. BOP's will be inspected and operated daily to insure mechanical integrity and the inspection will be recorded on the daily drilling report.

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

## 4. Proposed casing and cementing program:

A. Casi	ng Program:				
<u>Hole Size</u>	<u>Casing</u>	<u>Wt/Ft.</u>	Grade	Depth	<u>Jt Type</u>
17 1⁄2"	13 ¾ " (new)	54.5#	J55	0-2000'	ST&C
12 ¼"	9 %" (new)	40#	N80	0-100'	LT&C
	9 5∕₃" (new)	40#	J55	100-4000'	LT&C
	9 ¾" (new)	40#	HCK55	4000-5600'	LT&C
8 ¾"	5 ½" (new)	17#	HCP110	0-2300'	LT&C
	5 ½" (new)	17#	N80	2300-9300'	LT&C
	5 ½" (new)	17#	HCP110	9300-TD	LT&C
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Minimum casing design factors: Collapse 1.125, Burst 1.0, Tensile strength 1.8 (API standard).

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## **B.** Cementing Program

- Surface Casing: 700 sacks Class C light cement containing 1/2#/sk cellophane i. flakes, 5% salt, 5#/sack gilsonite, 4% gel. Yield at 2.02 cuft/sk. 400 sks Class,C cement containing 2% CaCl. Yield at 1.34 cuft/sk Cmt circulated-to-surface:
- Intermediate Casing: 1100 sacks Class C light cement containing 4% gel, 5 % ii. salt, 5#/sack gilsonite. Yield at 2.02 cuft/sk. 400 sacks Class C cement containing 2% CaCl. Yield at 1.34 cuft/skie Cmt circulated to surface
- Production Casing: 500 sacks Class H cement containing fluid loss additive, iii. friction reducer additive, compressive strength enhancer, and NaCl. Yield at 1.28 SEE COA and cementing with a light cement slure.

Viceosity

Eluid Loop

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

#### 5. Mud Program:



	Interval	Type System	<u>vveignt</u>	VISCOSILY	FILIO LOSS
	0'-2000'	FW spud mud	8.6-9.4	32-34	NA
	2000'-5600'	Brine water	10.0-10.2	28-30	NA
	5600'-12200'	Cut Brine	8.4-9.4	28-30	NA
	12200'-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.)					

Mainh.

### 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.



**Rig Location Schematic** 

# **Proposed Production Facilities Schematic**



## Notes Regarding Blowout Preventer Mewbourne Oil Company Upland 23 Federal Com #1 990' FNL & 990' FWL Section 23-T20S-R35E Lea County, New Mexico

- 1. Drilling nipple (bell nipple) to be constructed so that it can be removed without the use of a welder through the opening of the rotary table, with minimum internal diameter equal to blowout preventer bore.
- 2. Blowout preventer and all fittings must be in good condition with a minimum 5000 psi working pressure on 9 <sup>5</sup>/<sub>8</sub>" csg.
- 3. Safety valve must be available on the rig floor at all times with proper connections to install in the drill string. Valve must be full bore with minimum 5000 psi working pressure.
- 4. Equipment through which bit must pass shall be at least as large as internal diameter of the casing.
- 5. A kelly cock shall be installed on the kelly at all times.
- 6. Blowout preventer closing equipment to include and accumulator of at least 40 gallon capacity, two independent sources of pressure on closing unit, and meet all other API specifications.

## Mewbourne Oil Company BOP Scematic for 12 ¼" Hole



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



Lea, County New Mexico





