ATS-12-737

Form 3160-3
(August 2007)

FORM APPROVED
OMB No. 1004-0137
Expires July 31, 2010

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Hobbs
HOBBS OCD
NOV 27 2012
RECEIVED

# APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.: NM 63368 - SL, BHL

6. If Indian, Allotee or Tribe Name:

1a. Type of work: ☑ DRILL ☐ REENTER

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

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

8. Lease Name and Well No.: Norte "13" IL Federal #1H <39563?

2. Name of Operator: Mewbourne Oil Company <14744>

9. API Well No.: 30-025-40873

3a. Address: PO Box 5270, Hobbs, NM 88241

3b. Phone No. *(include area code)*: 575-393-5905

10. Field and Pool, or Exploratory: Lusk East Bone Spring <41442?

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

At surface: 1910' FSL & 150' FEL

At proposed prod. zone: 1980' FSL & 330' FWL

UNORTHODOX LOCATION

11. Sec., T. R. M. or Blk. and Survey or Area: Sec. 13 T19S R32E

14. Distance in miles and direction from nearest town or post office*: 34 miles West of Hobbs, NM

12. County or Parish: Lea

13. State: NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any): 150'

16. No. of acres in lease: 640

17. Spacing Unit dedicated to this well: 160

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: 330' (Tandem Energy Bondurant Fed #1)

19. Proposed Depth: 14,291' MD, 9,625' TVD

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

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 3630' GL

22. Approximate date work will start*: 09/01/2012

23. Estimated duration: 60 days

## 24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the BLM.

25. Signature: Bradley Bishop — Name *(Printed/Typed)*: Bradley Bishop — Date: 07/16/2012

Title:

Approved by *(Signature)*: /s/ James A. Amos — Name *(Printed/Typed)*: /s/ James A. Amos — Date: NOV 23 2012

Title: 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.

(Continued on page 2)

*(Instructions on page 2)

Capitan Controlled Water Basin

Approval Subject to General Requirements & Special Stipulations Attached

SEE ATTACHED FOR CONDITIONS OF APPROVAL

DEC 04 2012

**Drilling Program**
**Mewbourne Oil Company**
Norte "13" IL Federal #1H
1910' FSL & 150' FEL (SHL)
Sec 13-T19S-R32E
Lea County, New Mexico

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

| | |
|---|---|
| Rustler | 1250' |
| Salt | 1440' |
| Base of Salt | 1790' |
| Yates | 2950' |
| Seven Rivers | NP |
| Capitan | 3070'-may contain water |
| Queen | 4150' |
| Grayburg | NP |
| San Andres | NP |
| *Delaware | 5070' |
| *Bone Springs | 7650' |

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

| | |
|---|---|
| Water | Fresh water is anticipated @ 330' and will be protected by setting surface casing at 1275' and cementing to surface. |
| Hydrocarbons | Oil and gas are anticipated in the above (*) formations. These zones will be protected by casing as necessary. |

**3. Pressure control equipment:**

A 2000# WP Annular will be installed after running 13 ⅜" casing. A 3000# WP Double Ram BOP and 3000# WP Annular will be installed after running 9 ⅝" & 7" 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. BOPE 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 use.
Will test the 9 ⅝"& 7" BOPE to 3000# and all annulars to 1500# with a third party testing company before drilling below each shoe, but will test again, if needed, in 30 days from the previous test as per BLM Onshore Oil and Gas Order #2.

4. MOC proposes to drill a vertical wellbore to 9222' & kick off to horizontal @ 9700' TVD. The well will be drilled to 14,291' MD (9625' TVD). See attached directional plan.

**5. Proposed casing and cementing program:**

**A. Casing Program:**

See COA

| Hole Size | Casing | Wt/Ft. | Grade | Depth | Jt Type |
|---|---|---|---|---|---|
| 17 ½" | 13 ⅜" (new) | 48# | H40 | 0'-1275' | ST&C |
| 12 ¼" | 9 ⅝" (new) | 36# | K55 | 0'-3000' | LT&C |
| 12 ¼" | 9 ⅝" (new) | 40# | K55 | 3000'-4000' | LT&C |
| 12 ¼" | 9 ⅝" (new) | 40# | N80 | 4000'-4400' | LT&C |
| 8 ¾" | 7" (new) | 26# | P110 | 0'-9222' MD | LT&C |
| 8 ¾" | 7" (new) | 26# | P110 | 9222'-9980' MD | BT&C |
| 6 1/8" | 4 ½" (new) | 11.6# | P110 | 9700'-14291' MD | LT&C |

See COA

Minimum casing design factors: Collapse 1.125, Burst 1.0, Tensile strength 1.8.
*Subject to availability of casing.

**B. Cementing Program:**

i. Surface Casing: 540 sacks *Lite "C" (35:65:4) cement w/salt and lost circulation material additives. Yield at 2.15 cuft/sk. 200 sks class "C" w/1% CaCl2. Yield at 1.34 cuft/sk. Cmt circulated to surface w/25% excess.

ii. Intermediate Casing: 320 sacks *Lite "C" (35:65:4) cement w/lost circulation material additives. Yield at 2.15 cuft/sk. 400 sks class "C" neat. Yield at 1.33 cuft/sk. Cmt circulated to surface w/25% excess.

iii. Production Casing: 280 sacks *Lite "H" (35:65:6) cement w/salt and fluid loss additives. Yield at 2.47 cuft/sk. 400 sks class "H" w/salt and fluid loss additives. Yield at 1.18 cuft/sk. Cmt calculated to tieback into intermediate casing @ 2380' w/25% excess.

iv. Production Liner: This will be a Packer/Port completion from TD up inside 7" casing with packer type liner hanger.

*Referring to above blends of lite cement: (wt% fly ash : wt% cement : wt% bentonite of the total of first two numbers). Generic names of additives are used since the availability of specific company and products are unknown at this time.

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

**6. Mud Program:** * See COA

| Interval | Type System | Weight | Viscosity | Fluid Loss |
|---|---|---|---|---|
| 0'-1275' | FW spud mud | 8.6-9.0 | 32-34 | NA |
| 1275'-3000' | Brine water | 10.0-10.2 | 28-30 | NA |
| 3000'-9222' | Cut Brine | 8.3-8.6 | 28-30 | NA |
| 9222'- TD | Cut Brine w/Polymer | 8.5-8.7 | 32-35 | 15 |

**7. Evaluation Program:** * See COA

Samples: 10' samples from surface casing to TD
Logging: GR, Neutron, & Gyro from KOP (9222') to surface. GR from 9222' to TD.

**8. Downhole Conditions**

Zones of abnormal pressure: None anticipated
Zones of lost circulation: Anticipated in surface and intermediate holes
Maximum bottom hole temperature: 135 degree F
Maximum bottom hole pressure: 8.3 lbs/gal gradient or less

**9. Anticipated Starting Date:**

Mewbourne Oil Company intends to drill this well as soon as possible after receiving approval with approximately 60 days involved in drilling operations and an additional 20 days involved in completion operations on the project.

# Mewbourne Oil Co

**Lea County, NM**
**Sec 13-19S-32E**
**Norte 13 IL Fed #1H**



**Wellbore #1**

**Plan: Design #1**

# DDC Well Planning Report

**29 June, 2012**

DDC
The DIRECTIONAL DRILLING COMPANY

| | | | |
|---|---|---|---|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well Norte 13 IL Fed #1H |
| Company: | Mewbourne Oil Co | TVD Reference: | WELL @ 3650.0usft (Patterson) |
| Project: | Lea County, NM | MD Reference: | WELL @ 3650.0usft (Patterson) |
| Site: | Sec 13-19S-32E | North Reference: | Grid |
| Well: | Norte 13 IL Fed #1H | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | Design #1 | | |

**Project** Lea County, NM

| | | | |
|---|---|---|---|
| **Map System:** | US State Plane 1927 (Exact solution) | **System Datum:** | Mean Sea Level |
| **Geo Datum:** | NAD 1927 (NADCON CONUS) | | |
| **Map Zone:** | New Mexico East 3001 | | |

**Site** Sec 13-19S-32E

| | | | | | |
|---|---|---|---|---|---|
| **Site Position:** | | **Northing:** | 605,306.90 usft | **Latitude:** | 32° 39' 45.180 N |
| **From:** | Map | **Easting:** | 691,290.14 usft | **Longitude:** | 103° 42' 42.307 W |
| **Position Uncertainty:** | 0.0 usft | **Slot Radius:** | 13-3/16 " | **Grid Convergence:** | 0.34 ° |

**Well** Norte 13 IL Fed #1H

| | | | | | | |
|---|---|---|---|---|---|---|
| **Well Position** | **+N/-S** | -1,589.8 usft | **Northing:** | 603,717.14 usft | **Latitude:** | 32° 39' 29.439 N |
| | **+E/-W** | 191.3 usft | **Easting:** | 691,481.43 usft | **Longitude:** | 103° 42' 40.178 W |
| **Position Uncertainty** | | 0.0 usft | **Wellhead Elevation:** | | **Ground Level:** | 3,630.0 usft |

**Wellbore** Wellbore #1

| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
|---|---|---|---|---|---|
| | IGRF2010 | 6/29/2012 | 7.56 | 60.54 | 48,757 |

**Design** Design #1

**Audit Notes:**

| | | | | | |
|---|---|---|---|---|---|
| **Version:** | | **Phase:** | PLAN | **Tie On Depth:** | 0.0 |

| Vertical Section: | Depth From (TVD) (usft) | +N/-S (usft) | +E/-W (usft) | Direction (°) |
|---|---|---|---|---|
| | 0.0 | 0.0 | 0.0 | 270.61 |

**Plan Sections**

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | TFO (°) | Target |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 9,222.6 | 0.00 | 0.00 | 9,222.6 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 9,980.9 | 91.00 | 270.61 | 9,700.0 | 5.2 | -485.7 | 12.00 | 12.00 | -11.79 | 270.61 | |
| 14,291.4 | 91.00 | 270.61 | 9,625.0 | 51.2 | -4,795.3 | 0.00 | 0.00 | 0.00 | 0.00 | PBHL Norte 13 IL F |

| | | | |
|---|---|---|---|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well Norte 13 IL Fed #1H |
| Company: | Mewbourne Oil Co | TVD Reference: | WELL @ 3650.0usft (Patterson) |
| Project: | Lea County, NM | MD Reference: | WELL @ 3650.0usft (Patterson) |
| Site: | Sec 13-19S-32E | North Reference: | Grid |
| Well: | Norte 13 IL Fed #1H | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | Design #1 | | |

Planned Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 100.0 | 0.00 | 0.00 | 100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 200.0 | 0.00 | 0.00 | 200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 300.0 | 0.00 | 0.00 | 300.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 400.0 | 0.00 | 0.00 | 400.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 500.0 | 0.00 | 0.00 | 500.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 600.0 | 0.00 | 0.00 | 600.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 700.0 | 0.00 | 0.00 | 700.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 800.0 | 0.00 | 0.00 | 800.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 900.0 | 0.00 | 0.00 | 900.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,000.0 | 0.00 | 0.00 | 1,000.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,100.0 | 0.00 | 0.00 | 1,100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,200.0 | 0.00 | 0.00 | 1,200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,300.0 | 0.00 | 0.00 | 1,300.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,400.0 | 0.00 | 0.00 | 1,400.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,500.0 | 0.00 | 0.00 | 1,500.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,600.0 | 0.00 | 0.00 | 1,600.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,700.0 | 0.00 | 0.00 | 1,700.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,800.0 | 0.00 | 0.00 | 1,800.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,900.0 | 0.00 | 0.00 | 1,900.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 2,000.0 | 0.00 | 0.00 | 2,000.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 2,100.0 | 0.00 | 0.00 | 2,100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 2,200.0 | 0.00 | 0.00 | 2,200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 2,300.0 | 0.00 | 0.00 | 2,300.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 2,400.0 | 0.00 | 0.00 | 2,400.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 2,500.0 | 0.00 | 0.00 | 2,500.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 2,600.0 | 0.00 | 0.00 | 2,600.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 2,700.0 | 0.00 | 0.00 | 2,700.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 2,800.0 | 0.00 | 0.00 | 2,800.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 2,900.0 | 0.00 | 0.00 | 2,900.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 3,000.0 | 0.00 | 0.00 | 3,000.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 3,100.0 | 0.00 | 0.00 | 3,100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 3,200.0 | 0.00 | 0.00 | 3,200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 3,300.0 | 0.00 | 0.00 | 3,300.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 3,400.0 | 0.00 | 0.00 | 3,400.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 3,500.0 | 0.00 | 0.00 | 3,500.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 3,600.0 | 0.00 | 0.00 | 3,600.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 3,700.0 | 0.00 | 0.00 | 3,700.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 3,800.0 | 0.00 | 0.00 | 3,800.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 3,900.0 | 0.00 | 0.00 | 3,900.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 4,000.0 | 0.00 | 0.00 | 4,000.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 4,100.0 | 0.00 | 0.00 | 4,100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 4,200.0 | 0.00 | 0.00 | 4,200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 4,300.0 | 0.00 | 0.00 | 4,300.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 4,400.0 | 0.00 | 0.00 | 4,400.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 4,500.0 | 0.00 | 0.00 | 4,500.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 4,600.0 | 0.00 | 0.00 | 4,600.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 4,700.0 | 0.00 | 0.00 | 4,700.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 4,800.0 | 0.00 | 0.00 | 4,800.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 4,900.0 | 0.00 | 0.00 | 4,900.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 5,000.0 | 0.00 | 0.00 | 5,000.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 5,100.0 | 0.00 | 0.00 | 5,100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 5,200.0 | 0.00 | 0.00 | 5,200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 5,300.0 | 0.00 | 0.00 | 5,300.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |

| | | | |
|---|---|---|---|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well Norte 13 IL Fed #1H |
| Company: | Mewbourne Oil Co | TVD Reference: | WELL @ 3650.0usft (Patterson) |
| Project: | Lea County, NM | MD Reference: | WELL @ 3650.0usft (Patterson) |
| Site: | Sec 13 19S 32E | North Reference: | Grid |
| Well: | Norte 13 IL Fed #1H | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | Design #1 | | |

Planned Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---|---|---|---|---|---|---|---|---|---|
| 5,400.0 | 0.00 | 0.00 | 5,400.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 5,500.0 | 0.00 | 0.00 | 5,500.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 5,600.0 | 0.00 | 0.00 | 5,600.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 5,700.0 | 0.00 | 0.00 | 5,700.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 5,800.0 | 0.00 | 0.00 | 5,800.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 5,900.0 | 0.00 | 0.00 | 5,900.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 6,000.0 | 0.00 | 0.00 | 6,000.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 6,100.0 | 0.00 | 0.00 | 6,100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 6,200.0 | 0.00 | 0.00 | 6,200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 6,300.0 | 0.00 | 0.00 | 6,300.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 6,400.0 | 0.00 | 0.00 | 6,400.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 6,500.0 | 0.00 | 0.00 | 6,500.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 6,600.0 | 0.00 | 0.00 | 6,600.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 6,700.0 | 0.00 | 0.00 | 6,700.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 6,800.0 | 0.00 | 0.00 | 6,800.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 6,900.0 | 0.00 | 0.00 | 6,900.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 7,000.0 | 0.00 | 0.00 | 7,000.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 7,100.0 | 0.00 | 0.00 | 7,100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 7,200.0 | 0.00 | 0.00 | 7,200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 7,300.0 | 0.00 | 0.00 | 7,300.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 7,400.0 | 0.00 | 0.00 | 7,400.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 7,500.0 | 0.00 | 0.00 | 7,500.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 7,600.0 | 0.00 | 0.00 | 7,600.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 7,700.0 | 0.00 | 0.00 | 7,700.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 7,800.0 | 0.00 | 0.00 | 7,800.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 7,900.0 | 0.00 | 0.00 | 7,900.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 8,000.0 | 0.00 | 0.00 | 8,000.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 8,100.0 | 0.00 | 0.00 | 8,100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 8,200.0 | 0.00 | 0.00 | 8,200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 8,300.0 | 0.00 | 0.00 | 8,300.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 8,400.0 | 0.00 | 0.00 | 8,400.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 8,500.0 | 0.00 | 0.00 | 8,500.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 8,600.0 | 0.00 | 0.00 | 8,600.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 8,700.0 | 0.00 | 0.00 | 8,700.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 8,800.0 | 0.00 | 0.00 | 8,800.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 8,900.0 | 0.00 | 0.00 | 8,900.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 9,000.0 | 0.00 | 0.00 | 9,000.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 9,100.0 | 0.00 | 0.00 | 9,100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 9,200.0 | 0.00 | 0.00 | 9,200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| Build 12°/100' @ 9223' MD | | | | | | | | | |
| 9,222.6 | 0.00 | 0.00 | 9,222.6 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 9,300.0 | 9.29 | 270.61 | 9,299.7 | 0.1 | -6.3 | 6.3 | 12.00 | 12.00 | 0.00 |
| 9,400.0 | 21.29 | 270.61 | 9,395.9 | 0.3 | -32.6 | 32.6 | 12.00 | 12.00 | 0.00 |
| 9,500.0 | 33.29 | 270.61 | 9,484.7 | 0.8 | -78.3 | 78.3 | 12.00 | 12.00 | 0.00 |
| 9,600.0 | 45.29 | 270.61 | 9,561.9 | 1.5 | -141.5 | 141.5 | 12.00 | 12.00 | 0.00 |
| 9,700.0 | 57.29 | 270.61 | 9,624.3 | 2.3 | -219.4 | 219.4 | 12.00 | 12.00 | 0.00 |
| 9,800.0 | 69.29 | 270.61 | 9,669.2 | 3.3 | -308.6 | 308.6 | 12.00 | 12.00 | 0.00 |
| 9,900.0 | 81.29 | 270.61 | 9,694.6 | 4.3 | -405.1 | 405.1 | 12.00 | 12.00 | 0.00 |
| EOB @ 9981' MD / 91° Inc / 270.61° Azm / 9700' TVD | | | | | | | | | |
| 9,980.9 | 91.00 | 270.61 | 9,700.0 | 5.2 | -485.7 | 485.8 | 12.00 | 12.00 | 0.00 |
| 10,000.0 | 91.00 | 270.61 | 9,699.7 | 5.4 | -504.8 | 504.9 | 0.00 | 0.00 | 0.00 |
| 10,100.0 | 91.00 | 270.61 | 9,697.9 | 6.5 | -604.8 | 604.8 | 0.00 | 0.00 | 0.00 |
| 10,200.0 | 91.00 | 270.61 | 9,696.2 | 7.5 | -704.8 | 704.8 | 0.00 | 0.00 | 0.00 |

| | | | |
|---|---|---|---|
| Database: | EDM 5000.1 Single User Db | Local Co-ordinate Reference: | Well Norte 13 IL Fed #1H |
| Company: | Mewbourne Oil Co | TVD Reference: | WELL @ 3650.0usft (Patterson) |
| Project: | Lea County, NM | MD Reference: | WELL @ 3650.0usft (Patterson) |
| Site: | Sec 13-19S-32E | North Reference: | Grid |
| Well: | Norte 13 IL Fed #1H | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | Wellbore #1 | | |
| Design: | Design #1 | | |

Planned Survey

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---|---|---|---|---|---|---|---|---|---|
| 10,300.0 | 91.00 | 270.61 | 9,694.4 | 8.6 | -804.8 | 804.8 | 0.00 | 0.00 | 0.00 |
| 10,400.0 | 91.00 | 270.61 | 9,692.7 | 9.7 | -904.7 | 904.8 | 0.00 | 0.00 | 0.00 |
| 10,500.0 | 91.00 | 270.61 | 9,691.0 | 10.7 | -1,004.7 | 1,004.8 | 0.00 | 0.00 | 0.00 |
| 10,600.0 | 91.00 | 270.61 | 9,689.2 | 11.8 | -1,104.7 | 1,104.8 | 0.00 | 0.00 | 0.00 |
| 10,700.0 | 91.00 | 270.61 | 9,687.5 | 12.9 | -1,204.7 | 1,204.8 | 0.00 | 0.00 | 0.00 |
| 10,800.0 | 91.00 | 270.61 | 9,685.7 | 13.9 | -1,304.7 | 1,304.7 | 0.00 | 0.00 | 0.00 |
| 10,900.0 | 91.00 | 270.61 | 9,684.0 | 15.0 | -1,404.6 | 1,404.7 | 0.00 | 0.00 | 0.00 |
| 11,000.0 | 91.00 | 270.61 | 9,682.3 | 16.1 | -1,504.6 | 1,504.7 | 0.00 | 0.00 | 0.00 |
| 11,100.0 | 91.00 | 270.61 | 9,680.5 | 17.1 | -1,604.6 | 1,604.7 | 0.00 | 0.00 | 0.00 |
| 11,200.0 | 91.00 | 270.61 | 9,678.8 | 18.2 | -1,704.6 | 1,704.7 | 0.00 | 0.00 | 0.00 |
| 11,300.0 | 91.00 | 270.61 | 9,677.0 | 19.3 | -1,804.6 | 1,804.7 | 0.00 | 0.00 | 0.00 |
| 11,400.0 | 91.00 | 270.61 | 9,675.3 | 20.3 | -1,904.5 | 1,904.6 | 0.00 | 0.00 | 0.00 |
| 11,500.0 | 91.00 | 270.61 | 9,673.6 | 21.4 | -2,004.5 | 2,004.6 | 0.00 | 0.00 | 0.00 |
| 11,600.0 | 91.00 | 270.61 | 9,671.8 | 22.5 | -2,104.5 | 2,104.6 | 0.00 | 0.00 | 0.00 |
| 11,700.0 | 91.00 | 270.61 | 9,670.1 | 23.5 | -2,204.5 | 2,204.6 | 0.00 | 0.00 | 0.00 |
| 11,800.0 | 91.00 | 270.61 | 9,668.3 | 24.6 | -2,304.5 | 2,304.6 | 0.00 | 0.00 | 0.00 |
| 11,900.0 | 91.00 | 270.61 | 9,666.6 | 25.7 | -2,404.4 | 2,404.6 | 0.00 | 0.00 | 0.00 |
| 12,000.0 | 91.00 | 270.61 | 9,664.9 | 26.7 | -2,504.4 | 2,504.6 | 0.00 | 0.00 | 0.00 |
| 12,100.0 | 91.00 | 270.61 | 9,663.1 | 27.8 | -2,604.4 | 2,604.5 | 0.00 | 0.00 | 0.00 |
| 12,200.0 | 91.00 | 270.61 | 9,661.4 | 28.9 | -2,704.4 | 2,704.5 | 0.00 | 0.00 | 0.00 |
| 12,300.0 | 91.00 | 270.61 | 9,659.6 | 29.9 | -2,804.4 | 2,804.5 | 0.00 | 0.00 | 0.00 |
| 12,400.0 | 91.00 | 270.61 | 9,657.9 | 31.0 | -2,904.3 | 2,904.5 | 0.00 | 0.00 | 0.00 |
| 12,500.0 | 91.00 | 270.61 | 9,656.2 | 32.1 | -3,004.3 | 3,004.5 | 0.00 | 0.00 | 0.00 |
| 12,600.0 | 91.00 | 270.61 | 9,654.4 | 33.1 | -3,104.3 | 3,104.5 | 0.00 | 0.00 | 0.00 |
| 12,700.0 | 91.00 | 270.61 | 9,652.7 | 34.2 | -3,204.3 | 3,204.5 | 0.00 | 0.00 | 0.00 |
| 12,800.0 | 91.00 | 270.61 | 9,650.9 | 35.3 | -3,304.2 | 3,304.4 | 0.00 | 0.00 | 0.00 |
| 12,900.0 | 91.00 | 270.61 | 9,649.2 | 36.3 | -3,404.2 | 3,404.4 | 0.00 | 0.00 | 0.00 |
| 13,000.0 | 91.00 | 270.61 | 9,647.5 | 37.4 | -3,504.2 | 3,504.4 | 0.00 | 0.00 | 0.00 |
| 13,100.0 | 91.00 | 270.61 | 9,645.7 | 38.5 | -3,604.2 | 3,604.4 | 0.00 | 0.00 | 0.00 |
| 13,200.0 | 91.00 | 270.61 | 9,644.0 | 39.5 | -3,704.2 | 3,704.4 | 0.00 | 0.00 | 0.00 |
| 13,300.0 | 91.00 | 270.61 | 9,642.2 | 40.6 | -3,804.1 | 3,804.4 | 0.00 | 0.00 | 0.00 |
| 13,400.0 | 91.00 | 270.61 | 9,640.5 | 41.7 | -3,904.1 | 3,904.3 | 0.00 | 0.00 | 0.00 |
| 13,500.0 | 91.00 | 270.61 | 9,638.8 | 42.7 | -4,004.1 | 4,004.3 | 0.00 | 0.00 | 0.00 |
| 13,600.0 | 91.00 | 270.61 | 9,637.0 | 43.8 | -4,104.1 | 4,104.3 | 0.00 | 0.00 | 0.00 |
| 13,700.0 | 91.00 | 270.61 | 9,635.3 | 44.9 | -4,204.1 | 4,204.3 | 0.00 | 0.00 | 0.00 |
| 13,800.0 | 91.00 | 270.61 | 9,633.5 | 45.9 | -4,304.0 | 4,304.3 | 0.00 | 0.00 | 0.00 |
| 13,900.0 | 91.00 | 270.61 | 9,631.8 | 47.0 | -4,404.0 | 4,404.3 | 0.00 | 0.00 | 0.00 |
| 14,000.0 | 91.00 | 270.61 | 9,630.1 | 48.1 | -4,504.0 | 4,504.3 | 0.00 | 0.00 | 0.00 |
| 14,100.0 | 91.00 | 270.61 | 9,628.3 | 49.1 | -4,604.0 | 4,604.2 | 0.00 | 0.00 | 0.00 |
| 14,200.0 | 91.00 | 270.61 | 9,626.6 | 50.2 | -4,704.0 | 4,704.2 | 0.00 | 0.00 | 0.00 |
| TD @ 14291' MD / 9625' TVD | | | | | | | | | |
| 14,291.4 | 91.00 | 270.61 | 9,625.0 | 51.2 | -4,795.3 | 4,795.6 | 0.00 | 0.00 | 0.00 |

Design Targets

| Target Name - hit/miss target - Shape | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude | Longitude |
|---|---|---|---|---|---|---|---|---|---|
| PBHL Norte 13 IL Fec - plan hits target center - Point | 0.00 | 0.00 | 9,625.0 | 51.2 | -4,795.3 | 603,768.30 | 686,686.10 | 32° 39' 30.219 N | 103° 43' 36.264 W |

| | | | |
|---|---|---|---|
| **Database:** | EDM 5000.1 Single User Db | **Local Co-ordinate Reference:** | Well Norte 13 IL Fed #1H |
| **Company:** | Mewbourne Oil Co | **TVD Reference:** | WELL @ 3650.0usft (Patterson) |
| **Project:** | Lea County, NM | **MD Reference:** | WELL @ 3650.0usft (Patterson) |
| **Site:** | Sec 13-19S-32E | **North Reference:** | Grid |
| **Well:** | Norte 13 IL Fed #1H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | Wellbore #1 | | |
| **Design:** | Design #1 | | |

**Plan Annotations**

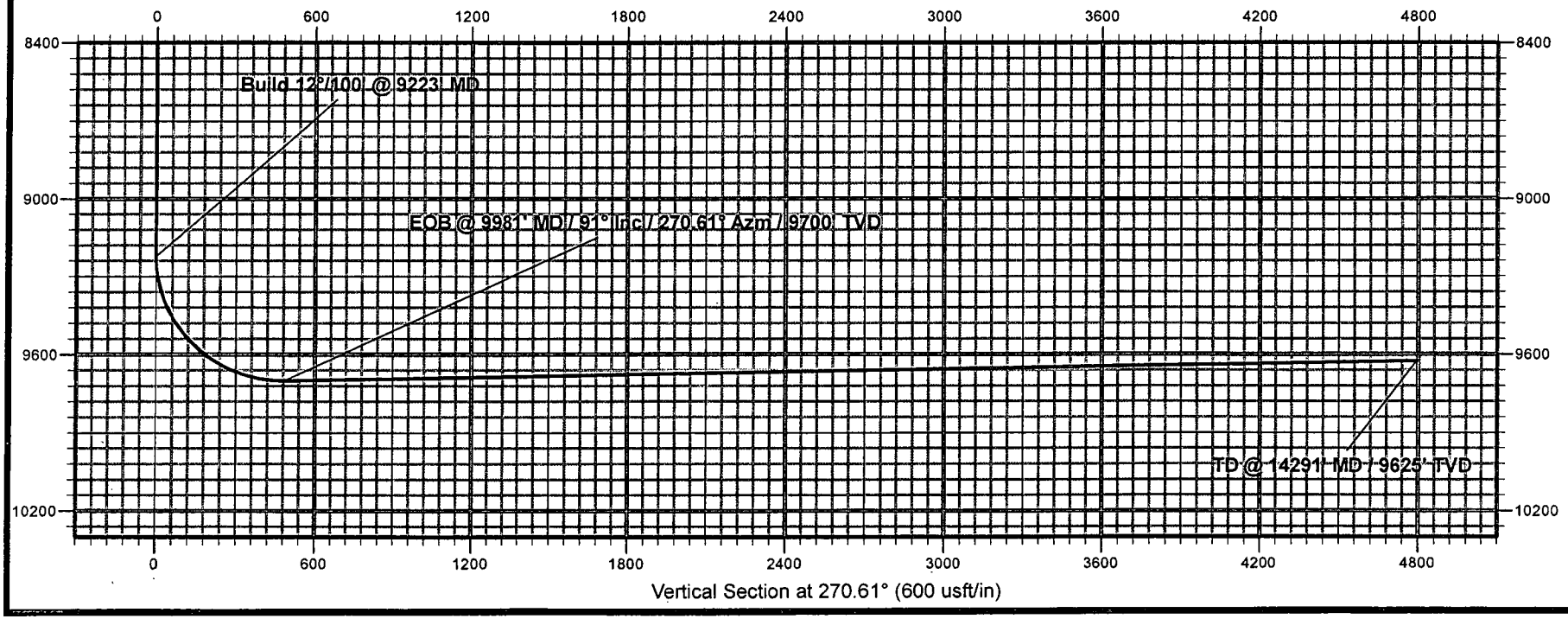
| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates +N/-S (usft) | Local Coordinates +E/-W (usft) | Comment |
|---|---|---|---|---|
| 9,222.6 | 9,222.6 | 0.0 | 0.0 | Build 12°/100' @ 9223' MD |
| 9,980.9 | 9,700.0 | 5.2 | -485.7 | EOB @ 9981' MD / 91° Inc / 270.61° Azm / 9700' TVD |
| 14,291.4 | 9,625.0 | 51.2 | -4,795.3 | TD @ 14291' MD / 9625' TVD |

# Mewbourne Oil Company

**Lea County, NM**

**Norte 13 IL Fed #1H**

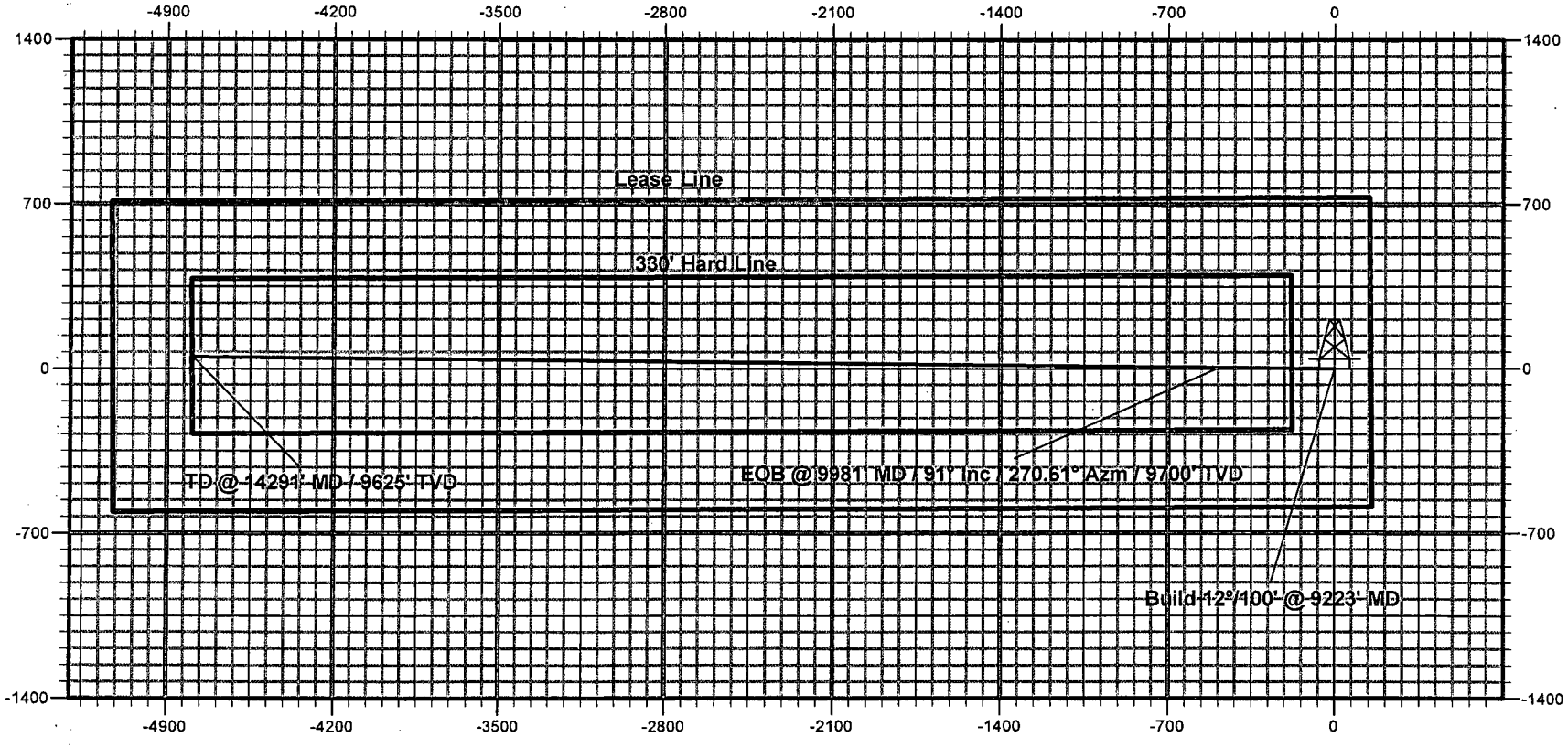
**Quote 120506**



# Mewbourne Oil Company

Lea County, NM
Norte 13 IL Fed #1H
Quote 120506

The DIRECTIONAL DRILLING COMPANY



**Notes Regarding Blowout Preventer**
**Mewbourne Oil Company**
Norte "13" IL Federal #1H
1910' FSL & 150' FEL (SHL)
Sec 13-T19S-R32E
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 3/8" casing and 3000 psi working pressure on 9 5/8" & 7".

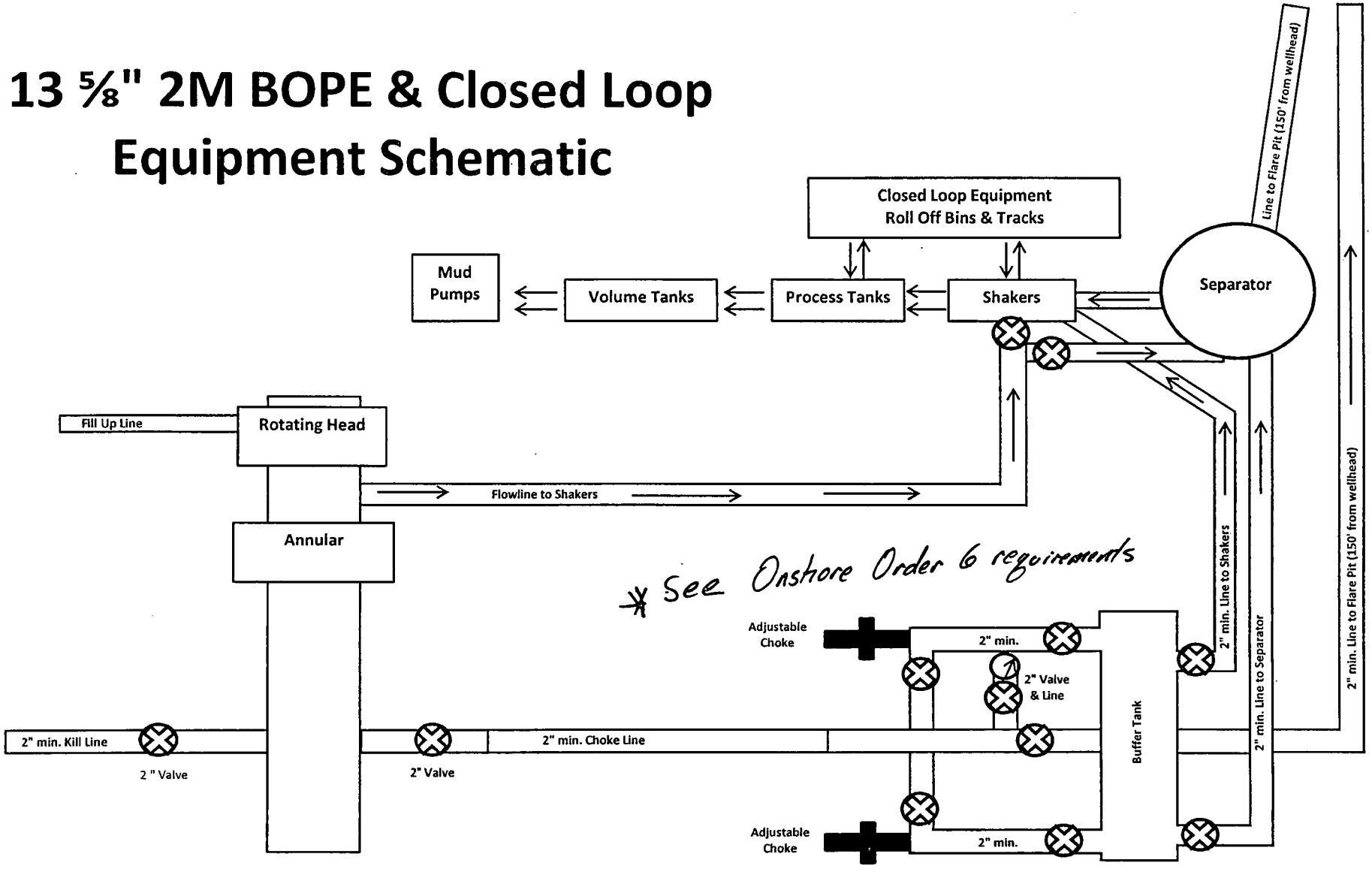
III. Safety valve must be available on the rig floor at all times with proper connections to install in the drill string. Valve must be full bore with minimum 3000 psi working pressure.

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

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

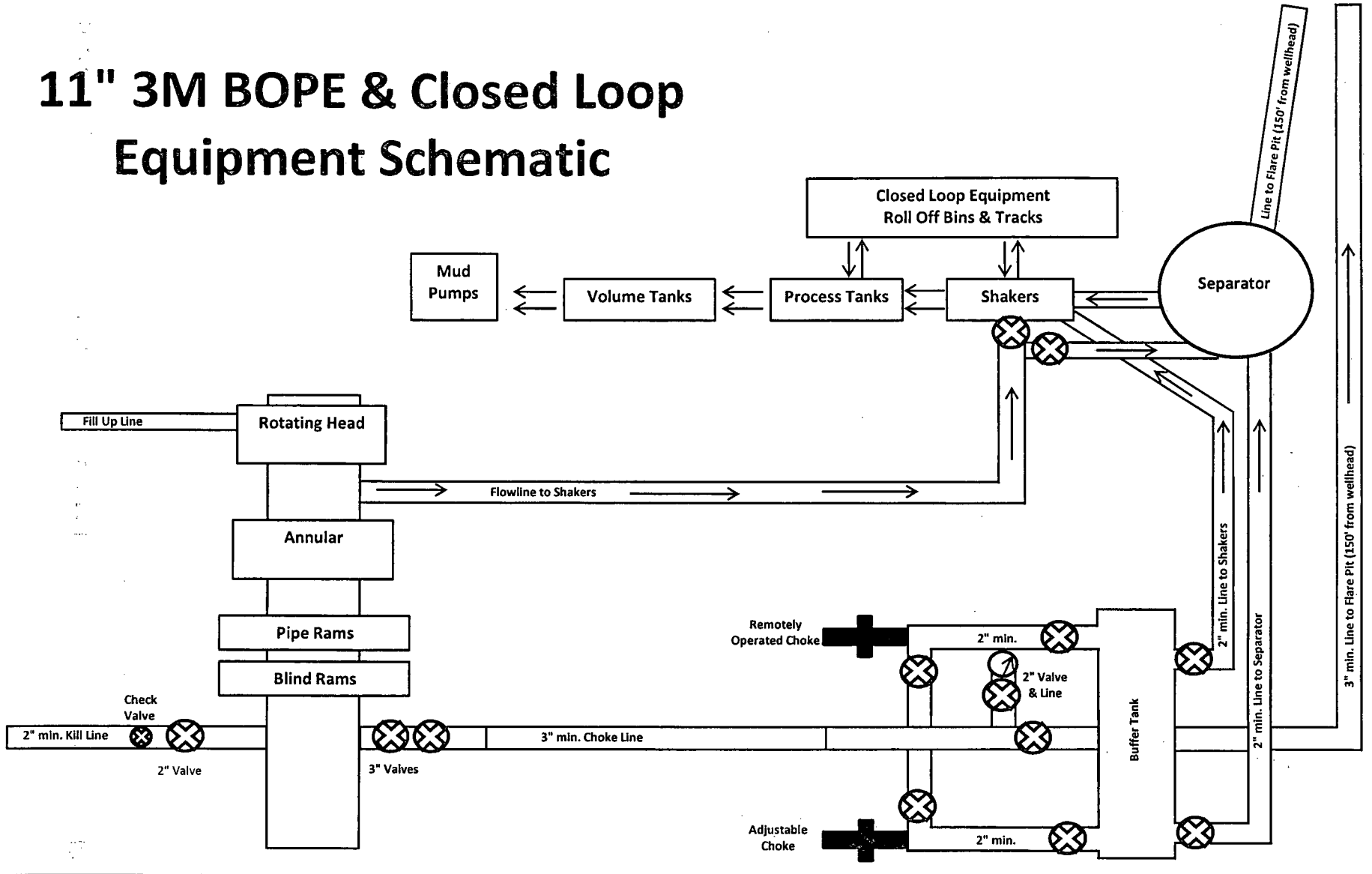
Blowout preventer closing equipment to include and accumulator of at least 40 gallon capacity, two independent sources of pressure on closing unit, and meet all other API specifications.

# 13 5/8" 2M BOPE & Closed Loop Equipment Schematic




| Exhibit 2 |
| --- |
| Well Name: Norte "13" IL Federal #1H |

# 11" 3M BOPE & Closed Loop Equipment Schematic




| Exhibit "2" |
| --- |
| Well Name: Norte "13" IL Federal #1H |

Note: All valves & lines on choke manifold are 3" unless otherwise noted. Exact manifold configuration may vary.

H2S Diagram
Closed Loop Pad Dimensions 280' x 320'

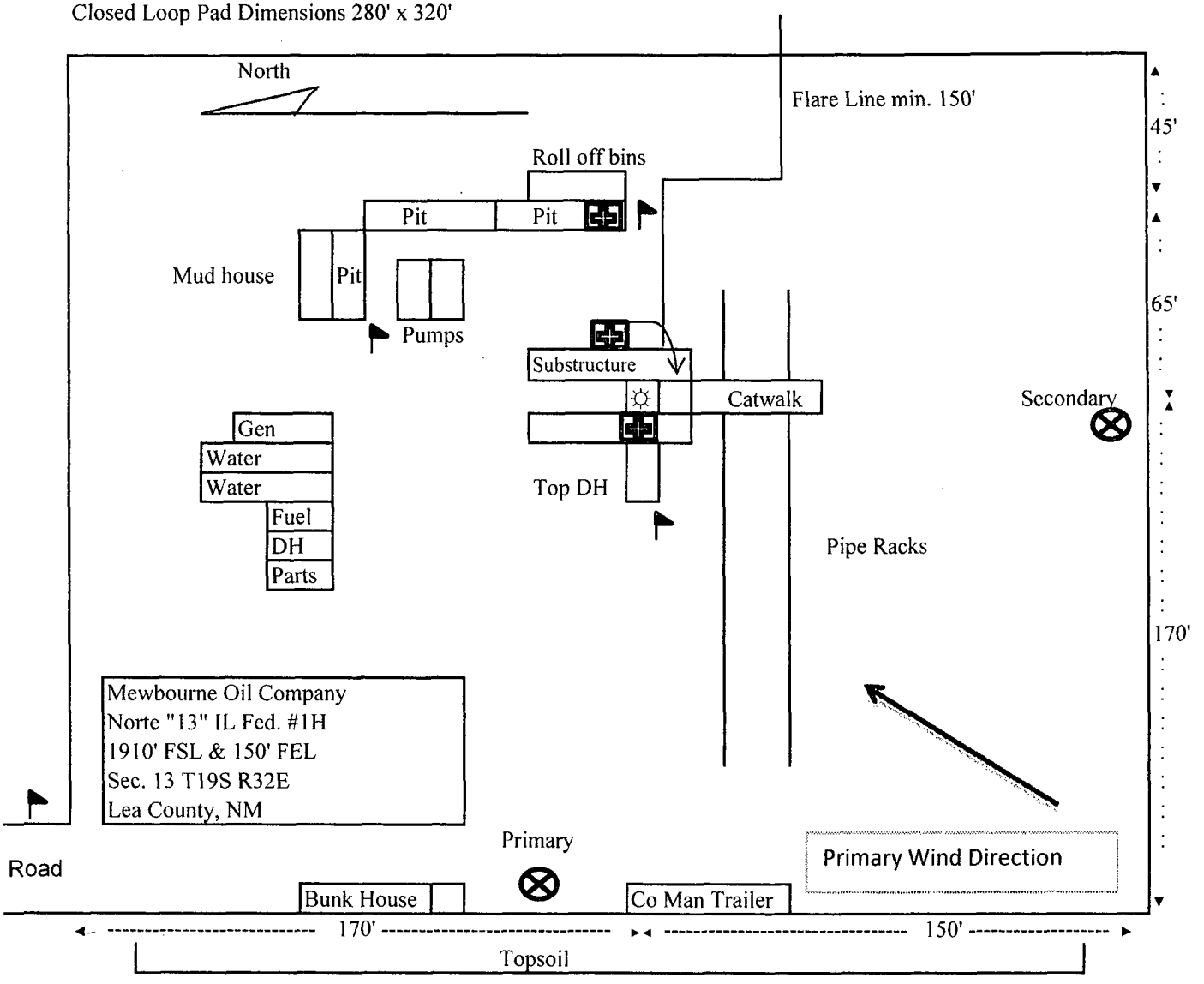



Exhibit 5

= Safety Stations

= Wind Markers

= H2S Monitors