Form 3160-3
(September 2001)

OCD-ARTESIA

ATS-11-681

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

BH

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
Fee & NMNM-4025 SH

6. If Indian, Allottee 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.
Pine Box 21 MD Fed Com #1H

2. Name of Operator
Mewbourne Oil Company - 14744 ✓

9. API Well No
30-015-39390

3a Address
PO Box 5270 Hobbs, NM 88241

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

10. Field and Pool, or Exploratory
N. Seven Rivers Glorieta Yeso

4 Location of Well *(Report location clearly and in accordance with any State requirements *)*
At surface 90' FSL & 650' FWL (SL) Unit M
At proposed prod zone 330' FNL & 350' FWL (BHL) Unit D surface

UNORTHODOX LOCATION

11 Sec., T., R., M., or Blk. and Survey or Area
Sec 21 - T20S - R25E

14 Distance in miles and direction from nearest town or post office*
16 miles NW of Carlsbad

12. County or Parish
Eddy

13. State
NM

15 Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig unit line, if any) 90'	16. No. of Acres in lease	17 Spacing Unit dedicated to this well
	160	160
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 570'	19. Proposed Depth 7308' MD 2667' TVD ✓ OK	20. BLM/BIA Bond No on file NM1693, Nationwide
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3510' GL ✓	22. Approximate date work will start* ASAP	23. Estimated duration 15

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.
2 A Drilling Plan
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)
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 authorized officer.

25. Signature Jackie Lathan	Name *(Printed/Typed)* Jackie Lathan	Date 05/12/11
Title Hobbs Regulatory		
Approved by *(Signature)* /s/ Don Peterson	Name *(Printed/Typed)*	Date AUG 19 2011
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.

**(Instructions on reverse)*

RECEIVED
AUG 24 2011
NMOCD ARTESIA

Roswell Controlled Water Basin

SEE ATTACHED FOR CONDITIONS OF APPROVAL

Approval Subject to General Requirements & Special Stipulations Attached

Drilling Program
Mewbourne Oil Company
Pine Box "21" MD Federal Com #1H
90' FSL & 650' FWL (SHL)
Sec 21-T20S-R25E
Eddy County, New Mexico

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

Grayburg	500'
*San Andres	795'
*Glorietta	2435'
*Yeso	2615'

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

Water	Fresh water is anticipated @ 150' and will be protected by setting surface casing at 805' 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 BOP will be installed after running 9 ⅝" & 7" casing. Pressure tests will be conducted and BOPE will remain in use until completion of drilling operations. The BOP will be inspected and operated daily to ensure mechanical integrity and the inspection will be recorded on the daily drilling report. OK
Will test the BOPE to ~~1500~~# with a third party testing company before drilling below shoe as per BLM Onshore Oil and Gas Order #2.

4. MOC proposes to drill a vertical wellbore to 2094' & kick off to horizontal @ 2667' TVD. The well will be drilled to 7308' MD (2657' TVD). See attached directional plan.

5. Proposed casing and cementing program:

A. Casing Program:

Hole Size	Casing	Wt/Ft.	Grade	Depth	Jt Type
12 ¼"	9 ⅝" (new)	36#	J55	0'-820'	LT&C
8 ¾"	7" (new)	26#	J55	0'-2100'	LT&C
8 ¾"	7" (new)	26#	J55	2100'-3000' MD	BT&C
6 1/8"	4 ½" (new)	11.6#	J55	2800'-7308' MD	LT&C

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

See COA

B. Cementing Program:

i. Surface Casing: 375 sacks sacks class "C" w/2% CaCl2. Yield at 1.34 cuft/sk. Cmt circulated to surface with 100% excess.

See COA

ii. Intermediate Casing: 150 sacks *Lite "C" (35:65:4) cement w/lost circulation material additives. Yield at 2.15 cuft/sk. 200 sacks Class C cement w/fluid loss additives. Yield at 1.33 cuft/sk Cmt circulated to surface with 25% excess.

iii. 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.

See COA

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

6. Mud Program:

Interval	Type System	Weight	Viscosity	Fluid Loss
0'-820'	FW spud mud	8.6-9.0	32-34	NA
820'-2000' (KOP-100')	Fresh water	8.4-8.6	28-30	NA
1930'- TD	FW w/Polymer	8.5-8.7	32-35	20

7. Evaluation Program:

Samples:	10' samples from surface casing to TD.
Logging:	Gyro, CN,& GR Surface to 2000'. GR 2000'- TVD

8. Downhole Conditions

Zones of abnormal pressure:	None anticipated
Zones of lost circulation:	Anticipated in surface and intermediate holes
Maximum bottom hole temperature:	100 degree F
Maximum bottom hole pressure:	8.4 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 15 days involved in drilling operations and an additional 10 days involved in completion operations on the project.

Mewbourne Oil Co

Eddy County, New Mexico
Section 21-20S-25E
Pine Box 21 MD Fed Com #1H

Wellbore #1

Plan: Design #1

DDC Well Planning Report

02 May, 2011

The DIRECTIONAL DRILLING COMPANY

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Pine Box 21 MD Fed Com #1H
Company:	Mewbourne Oil Co	**TVD Reference:**	WELL @ 3522.0usft (Patterson UTI #101)
Project:	Eddy County, New Mexico	**MD Reference:**	WELL @ 3522.0usft (Patterson UTI #101)
Site:	Section 21-20S-25E	**North Reference:**	Grid
Well:	Pine Box 21 MD Fed Com #1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project Eddy County, New Mexico

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 Section 21-20S-25E

Site Position:		**Northing:**	569,825.22 usft	**Latitude:**	32° 33' 58.393 N
From:	Map	**Easting:**	410,431.75 usft	**Longitude:**	104° 37' 26.646 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	-0.16 °

Well Pine Box 21 MD Fed Com #1H

Well Position	**+N/-S**	-4,965.2 usft	**Northing:**	564,860.02 usft	**Latitude:**	32° 33' 9.215 N
	+E/-W	-1,610.7 usft	**Easting:**	408,821.03 usft	**Longitude:**	104° 37' 45.307 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**		**Ground Level:**	3,503.0 usft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/2/2011	8.11	60.31	48,705

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	356.27

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	
2,094.0	0.00	0.00	2,094.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,995.3	90.13	356.27	2,667.0	573.1	-37.4	10.00	10.00	-0.41	356.27	
7,308.0	90.13	356.27	2,657.0	4,876.6	-318.2	0.00	0.00	0.00	0.00	PBHL Pine Box 21

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Pine Box 21 MD Fed Com #1H
Company:	Mewbourne Oil Co	TVD Reference:	WELL @ 3522.0usft (Patterson UTI #101)
Project:	Eddy County, New Mexico	MD Reference:	WELL @ 3522.0usft (Patterson UTI #101)
Site:	Section 21-20S-25E	North Reference:	Grid
Well:	Pine Box 21 MD Fed Com #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
Build 10°/100' @ 2094' MD									
2,094.0	0.00	0.00	2,094.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.60	356.27	2,100.0	0.0	0.0	0.0	10.00	10.00	0.00
2,200.0	10.60	356.27	2,199.4	9.8	-0.6	9.8	10.00	10.00	0.00
2,300.0	20.60	356.27	2,295.6	36.6	-2.4	36.6	10.00	10.00	0.00
2,400.0	30.60	356.27	2,385.7	79.6	-5.2	79.8	10.00	10.00	0.00
2,500.0	40.60	356.27	2,466.9	137.6	-9.0	137.9	10.00	10.00	0.00
2,600.0	50.60	356.27	2,536.7	208.8	-13.6	209.3	10.00	10.00	0.00
2,700.0	60.60	356.27	2,593.2	291.1	-19.0	291.7	10.00	10.00	0.00
2,800.0	70.60	356.27	2,634.4	381.8	-24.9	382.6	10.00	10.00	0.00
2,900.0	80.60	356.27	2,659.3	478.4	-31.2	479.4	10.00	10.00	0.00
EOB @ 2995' MD / 90.13° Inc / 356.27° Azm / 2667' TVD									
2,995.3	90.13	356.27	2,667.0	573.1	-37.4	574.3	10.00	10.00	0.00
3,000.0	90.13	356.27	2,666.9	577.7	-37.7	579.0	0.00	0.00	0.00
3,100.0	90.13	356.27	2,666.7	677.5	-44.2	679.0	0.00	0.00	0.00
3,200.0	90.13	356.27	2,666.5	777.3	-50.7	779.0	0.00	0.00	0.00
3,300.0	90.13	356.27	2,666.3	877.1	-57.2	879.0	0.00	0.00	0.00
3,400.0	90.13	356.27	2,666.0	976.9	-63.8	979.0	0.00	0.00	0.00
3,500.0	90.13	356.27	2,665.8	1,076.7	-70.3	1,079.0	0.00	0.00	0.00
3,600.0	90.13	356.27	2,665.6	1,176.5	-76.8	1,179.0	0.00	0.00	0.00
3,700.0	90.13	356.27	2,665.3	1,276.2	-83.3	1,279.0	0.00	0.00	0.00
3,800.0	90.13	356.27	2,665.1	1,376.0	-89.8	1,379.0	0.00	0.00	0.00
3,900.0	90.13	356.27	2,664.9	1,475.8	-96.3	1,479.0	0.00	0.00	0.00
4,000.0	90.13	356.27	2,664.6	1,575.6	-102.8	1,579.0	0.00	0.00	0.00
4,100.0	90.13	356.27	2,664.4	1,675.4	-109.3	1,679.0	0.00	0.00	0.00
4,200.0	90.13	356.27	2,664.2	1,775.2	-115.8	1,779.0	0.00	0.00	0.00
4,300.0	90.13	356.27	2,663.9	1,875.0	-122.4	1,879.0	0.00	0.00	0.00
4,400.0	90.13	356.27	2,663.7	1,974.8	-128.9	1,979.0	0.00	0.00	0.00
4,500.0	90.13	356.27	2,663.5	2,074.5	-135.4	2,079.0	0.00	0.00	0.00
4,600.0	90.13	356.27	2,663.3	2,174.3	-141.9	2,179.0	0.00	0.00	0.00
4,700.0	90.13	356.27	2,663.0	2,274.1	-148.4	2,279.0	0.00	0.00	0.00
4,800.0	90.13	356.27	2,662.8	2,373.9	-154.9	2,379.0	0.00	0.00	0.00
4,900.0	90.13	356.27	2,662.6	2,473.7	-161.4	2,479.0	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Pine Box 21 MD Fed Com #1H
Company:	Mewbourne Oil Co	TVD Reference:	WELL @ 3522.0usft (Patterson UTI #101)
Project:	Eddy County, New Mexico	MD Reference:	WELL @ 3522.0usft (Patterson UTI #101)
Site:	Section 21-20S-25E	North Reference:	Grid
Well:	Pine Box 21 MD Fed Com #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)
5,000.0	90.13	356.27	2,662.3	2,573.5	-167.9	2,579.0	0.00	0.00	0.00
5,100.0	90.13	356.27	2,662.1	2,673.3	-174.5	2,679.0	0.00	0.00	0.00
5,200.0	90.13	356.27	2,661.9	2,773.1	-181.0	2,779.0	0.00	0.00	0.00
5,300.0	90.13	356.27	2,661.6	2,872.8	-187.5	2,879.0	0.00	0.00	0.00
5,400.0	90.13	356.27	2,661.4	2,972.6	-194.0	2,979.0	0.00	0.00	0.00
5,500.0	90.13	356.27	2,661.2	3,072.4	-200.5	3,079.0	0.00	0.00	0.00
5,600.0	90.13	356.27	2,660.9	3,172.2	-207.0	3,179.0	0.00	0.00	0.00
5,700.0	90.13	356.27	2,660.7	3,272.0	-213.5	3,279.0	0.00	0.00	0.00
5,800.0	90.13	356.27	2,660.5	3,371.8	-220.0	3,379.0	0.00	0.00	0.00
5,900.0	90.13	356.27	2,660.3	3,471.6	-226.6	3,479.0	0.00	0.00	0.00
6,000.0	90.13	356.27	2,660.0	3,571.4	-233.1	3,578.9	0.00	0.00	0.00
6,100.0	90.13	356.27	2,659.8	3,671.1	-239.6	3,678.9	0.00	0.00	0.00
6,200.0	90.13	356.27	2,659.6	3,770.9	-246.1	3,778.9	0.00	0.00	0.00
6,300.0	90.13	356.27	2,659.3	3,870.7	-252.6	3,878.9	0.00	0.00	0.00
6,400.0	90.13	356.27	2,659.1	3,970.5	-259.1	3,978.9	0.00	0.00	0.00
6,500.0	90.13	356.27	2,658.9	4,070.3	-265.6	4,078.9	0.00	0.00	0.00
6,600.0	90.13	356.27	2,658.6	4,170.1	-272.1	4,178.9	0.00	0.00	0.00
6,700.0	90.13	356.27	2,658.4	4,269.9	-278.6	4,278.9	0.00	0.00	0.00
6,800.0	90.13	356.27	2,658.2	4,369.7	-285.2	4,378.9	0.00	0.00	0.00
6,900.0	90.13	356.27	2,657.9	4,469.4	-291.7	4,478.9	0.00	0.00	0.00
7,000.0	90.13	356.27	2,657.7	4,569.2	-298.2	4,578.9	0.00	0.00	0.00
7,100.0	90.13	356.27	2,657.5	4,669.0	-304.7	4,678.9	0.00	0.00	0.00
7,200.0	90.13	356.27	2,657.2	4,768.8	-311.2	4,778.9	0.00	0.00	0.00
7,300.0	90.13	356.27	2,657.0	4,868.6	-317.7	4,878.9	0.00	0.00	0.00
TD @ 7308' MD / 2657' TVD									
7,308.0	90.13	356.27	2,657.0	4,876.6	-318.2	4,886.9	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 Pine Box 21 MI - plan hits target center - Point	0.00	0.00	2,657.0	4,876.6	-318.2	569,736.58	408,502.79	32° 33' 57.464 N	104° 37' 49.184 W

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
2,094.0	2,094.0	0.0	0.0	Build 10°/100' @ 2094' MD
2,995.3	2,667.0	573.1	-37.4	EOB @ 2995' MD / 90.13° Inc / 356.27° Azm / 2667' TVD
7,308.0	2,657.0	4,876.6	-318.2	TD @ 7308' MD / 2657' TVD

Mewbourne Oil Company

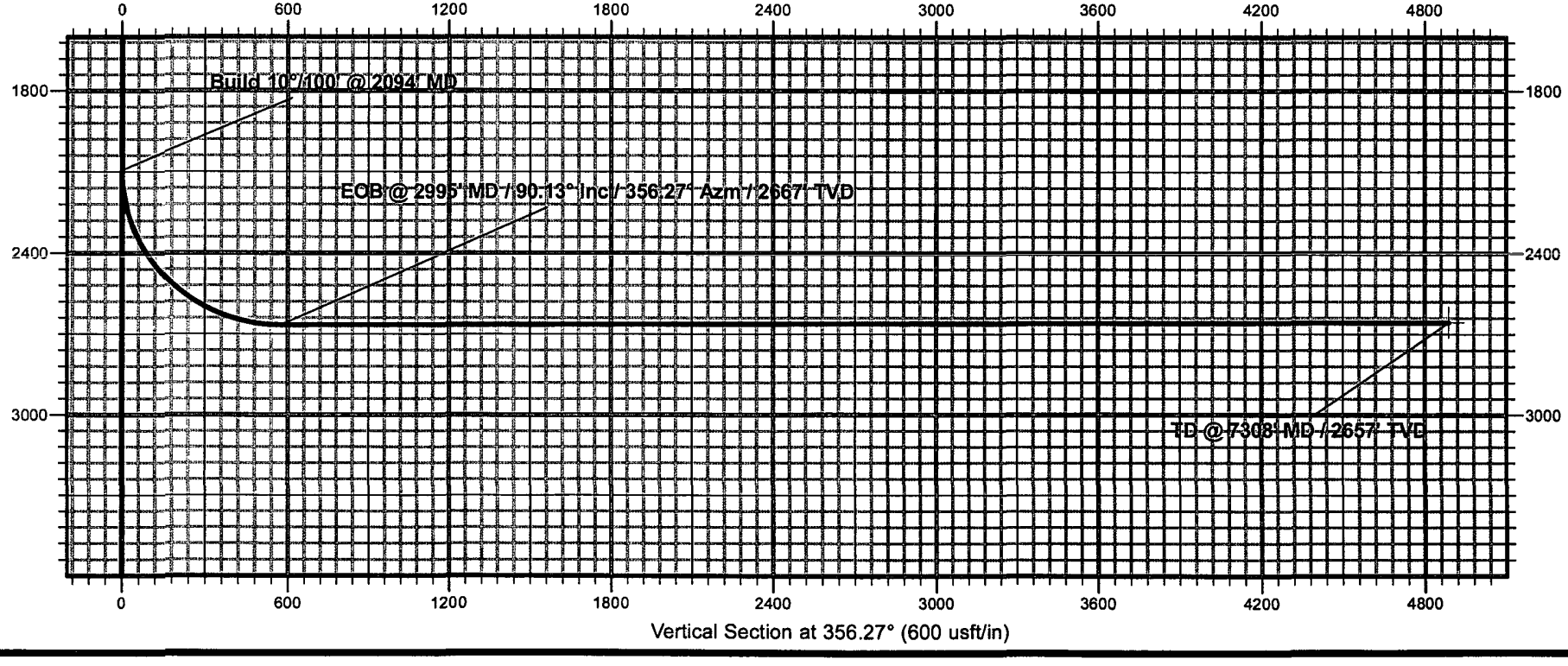
Eddy County, New Mexico

Pine Box 21 MD Fed Com #1H

Quote 110334

RDC

The DIRE NAL DRILLING COMPANY



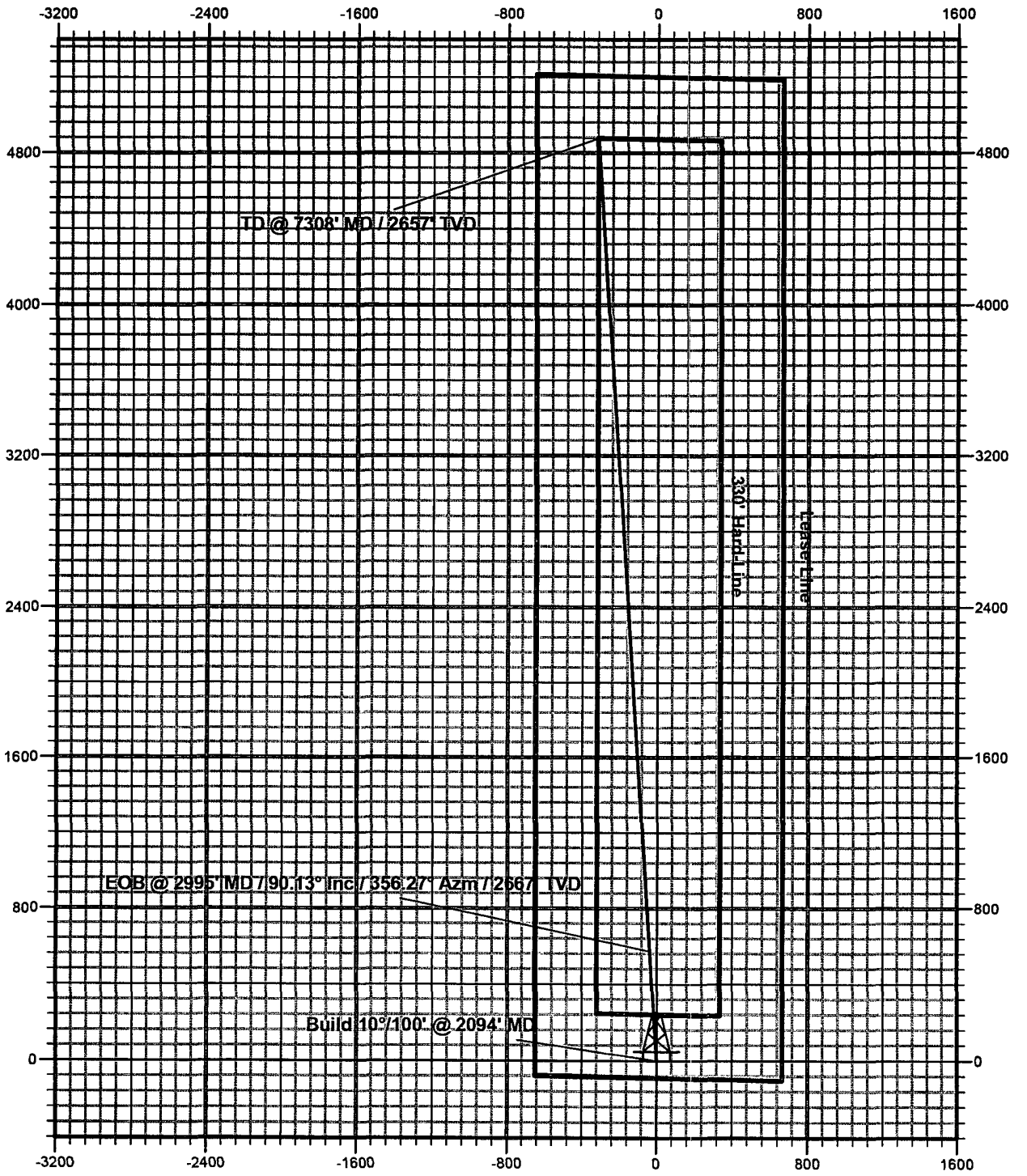
Mewbourne Oil Company

Eddy County, New Mexico

Pine Box 21 MD Fed Com #1H

Quote 110334

The DIRECTIONAL DRILLING COMPANY



Mewbourne Oil Company
BOP Scematic for
8 3/4" & 6 1/8" Hole

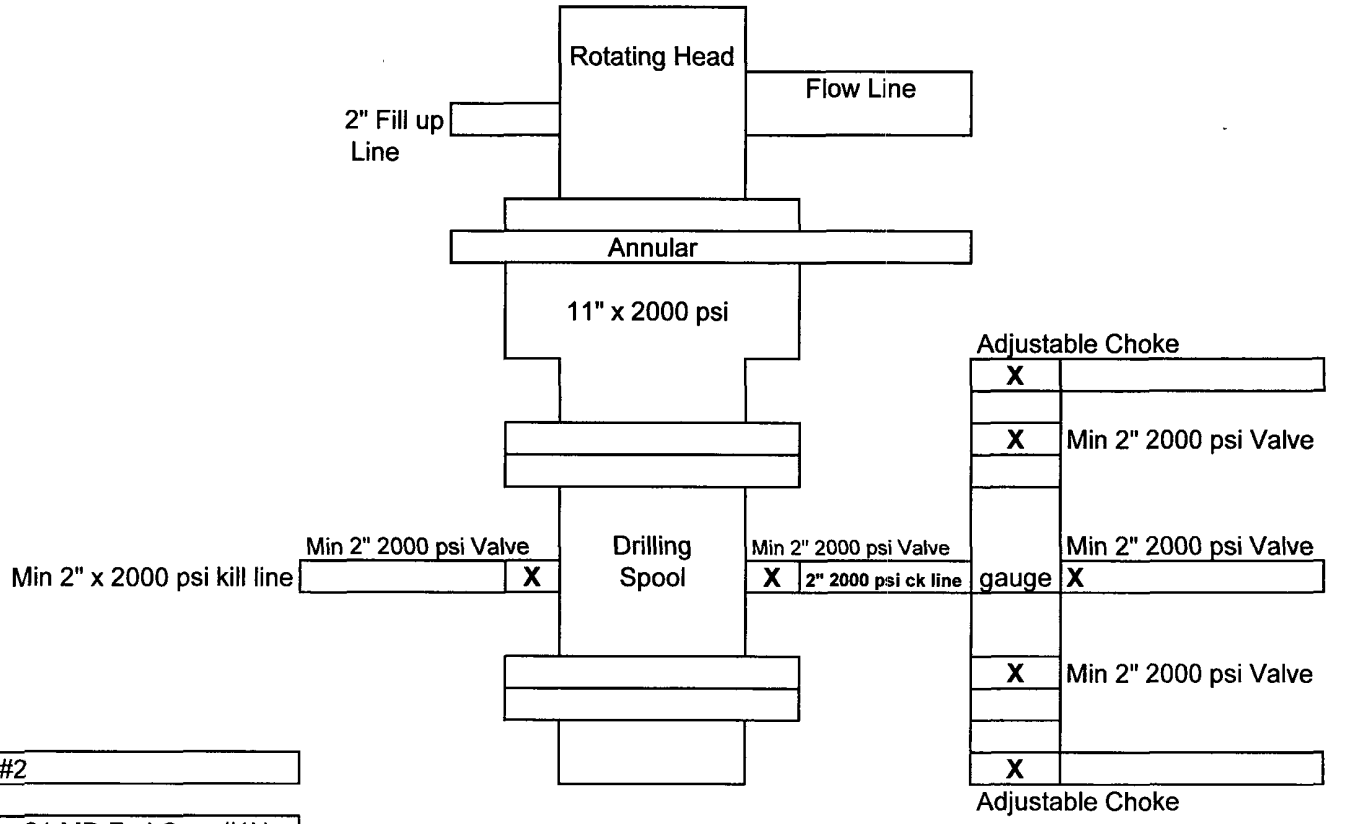
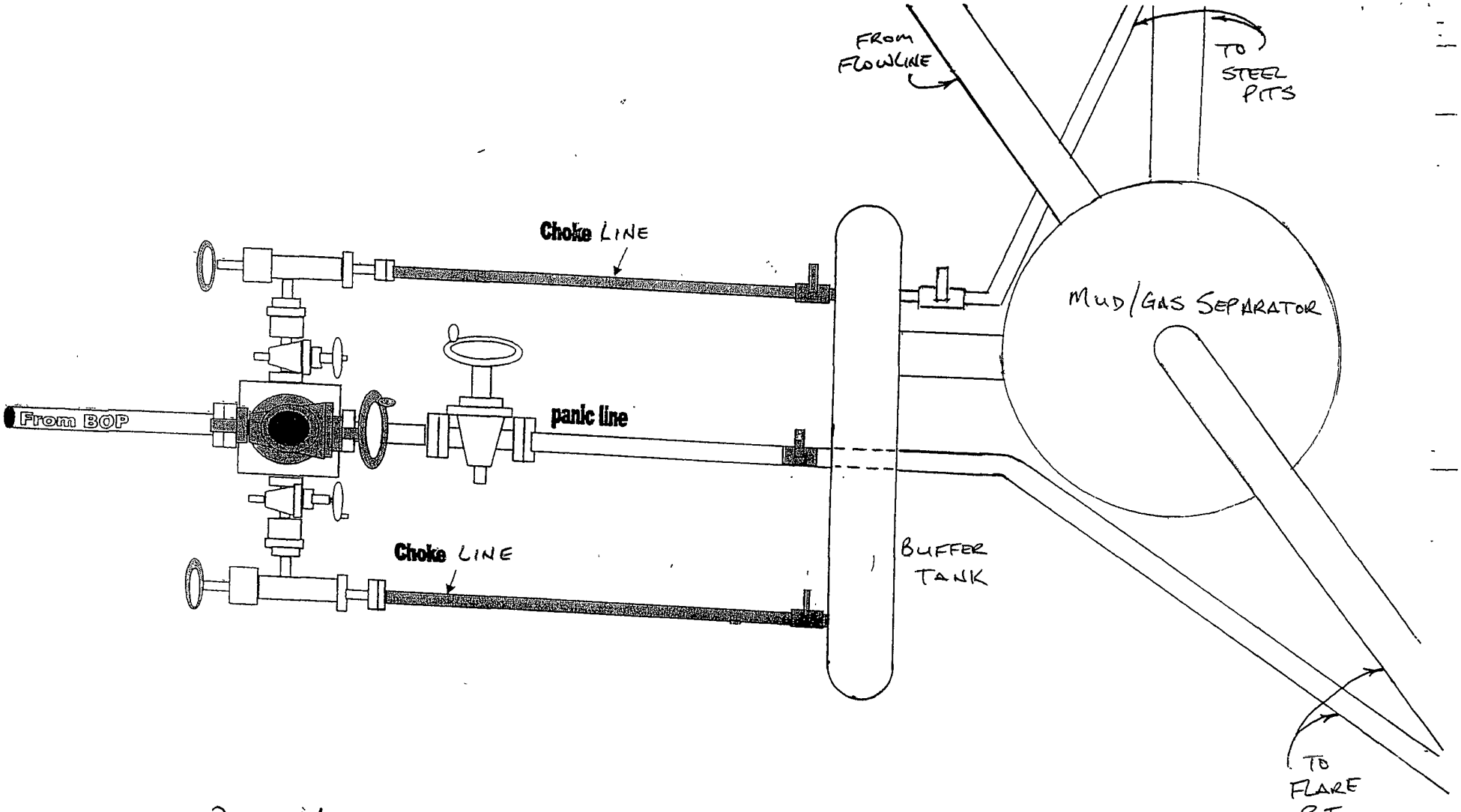


Exhibit #2

Pine Box 21 MD Fed Com #1H
90' FSL & 650' FWL
Sec 21-T20S-R25E
Eddy, County
New Mexico



2000#/3000# **BOP manifold system**

FOR POTENTIAL H2S ENVIRONMENT

Notes Regarding Blowout Preventer

Mewbourne Oil Company

Pine Box "21" MD Federal Com #1H
90' FSL & 650' FWL (SHL)
Sec 21-T20S-R25E
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 9 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 2000 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.