

ATS-12-276

Form 3160-3
(August 2007)

SECRETARY'S POTASH

OCD-ARTESIA

RECEIVED
MAY 07 2012
NMOC D ARTESIA

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

BA 479

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☒ DRILL ☐ REENTER

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

2. Name of Operator Mewbourne Oil Company

3a. Address PO Box 5270
Hobbs, NM 88240

3b. Phone No. (include area code)
(575) 390-6838

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

At surface 388' FSL & 527' FWL (Unit M)

At proposed prod. zone 520' FSL & 330' FEL (Unit P)

14. Distance in miles and direction from nearest town or post office*
24.7 miles NE of Carlsbad, NM

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

330'

16. No. of acres in lease
800

17. Spacing Unit dedicated to this well
160

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.

150' North of the North
Benson Queen Unit #24

19. Proposed Depth
12497' MD
8322' TVD

20. BLM/BIA Bond No. on file
NM1693, Nationwide

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3421' GL

22. Approximate date work will start*
06/01/2012

23. Estimated duration
40 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

Brett Bednarz

Name (Printed/Typed)
Brett Bednarz

Date
01/13/2012

Title

Petroleum Engineer

Approved by (Signature)

/s/ Jesse J. Juen

Name (Printed/Typed)

/s/ Jesse J. Juen

Date
APR 23 2012

Title

STATE DIRECTOR

Office

NM STATE 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)

CAPTAN CONTROLLED WATER BASIN

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
DISTRICT II
1301 W. Grand Avenue, Artesia, NM 88210

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

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

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised July 16, 2010

Submit one copy to appropriate
District Office

OIL CONSERVATION DIVISION

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30015-40246	Pool Code 37920	Pool Name South Leo Bone Spring
Property Code 39245	Property Name BRADLEY "28" FED	Well Number 3H
GRID No. 14744	Operator Name MEWBOURNE OIL COMPANY	Elevation 3421'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	28	18 S	30 E		388	SOUTH	527	WEST	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
P	28	18 S	30 E		520	South	330	East	Eddy

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
160			

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>Project Area</p> <p>Producing Area</p> <p>SURFACE LOCATION</p> <p>Lat - N 32°42'43.87" Long - W 103°58'59.93" NAD-27</p> <p>SL</p> <p>BHL</p> <p>3421.8'</p> <p>3423.0'</p> <p>3423.7'</p> <p>388'</p> <p>527'</p> <p>330'</p> <p>520'</p>	<p>OPERATOR CERTIFICATION</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 or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <p><i>Brett Bednarz</i> Signature Date</p> <p>Brett Bednarz Printed Name</p> <p>Email Address</p> <p>SURVEYOR CERTIFICATION</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>August 11, 2010 Date Surveyed</p> <p><i>Gary L. Jones</i> Signature of Professional Surveyor</p> <p>7977 Certificate No.</p> <p>Certificate No. Gary L. Jones 7977</p> <p>BASIN SURVEYS 23139</p>
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United States Department of the Interior
Bureau of Land Management
Roswell Field Office
2909 West Second Street
Roswell, New Mexico 88201-1287

Statement Accepting Responsibility for Operations

Operator Name: Mewbourne Oil Company
Street or Box: P.O. Box 5270
City, State: Hobbs, New Mexico
Zip Code: 88241

The undersigned accepts all applicable terms, conditions, stipulations, and restrictions concerning operations conducted of the leased land or portion thereof, as described below.

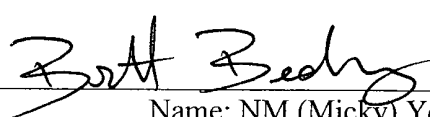
Lease Number: Lease Number #NM 033775

Legal Description of Land: Section 28, T-18S, R-30E Eddy County, New Mexico.
Location @ 388' FSL & 527' FWL.

Formation (if applicable): Bone Springs

Bond Coverage: \$150,000

BLM Bond File: NM1693, Nationwide

Authorized Signature:  ^{for NM}
Name: NM (Micky) Young
Title: District Manager
Date: 1-13-12

Drilling Program
Mewbourne Oil Company
Bradley "28" Fed #3H
388' FSL & 527' FWL (SHL)
Sec 28-T18S-R30E
Eddy County, New Mexico

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

Rustler	500'
Top Salt	600'
Base Salt	1000'
Yates	1590'
Seven Rivers	1700'
Capitan	Not Present
*Queen	2660'
Grayburg	3000'
San Andres	3375'
*Delaware	4020'
*Bone Springs	5000'

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

Water	Fresh water is anticipated @ 210' and will be protected by setting surface casing at 525' 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 3/8" casing. A 3000# WP Double Ram BOP and 3000# WP Annular will be installed after running 7" & 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. 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 7" & 9 5/8" BOPE to 3000# and the Annular to 1500# with a third party testing company before drilling below each shoe, but will test again, if needed, in 30 days from the 1st test as per BLM Onshore Oil and Gas Order #2.

4. MOC proposes to drill a vertical wellbore to 7802' & kick off to horizontal @ 8279' TVD. The well will be drilled to 12497' MD (8322' TVD). See attached directional plan.

5. Proposed casing and cementing program:

A. Casing Program:

See POA

<u>Hole Size</u>	<u>Casing</u>	<u>Wt/Ft.</u>	<u>Grade</u>	<u>Depth</u>	<u>Jt Type</u>
17 1/2"	13 3/8" (new)	48#	H40	0'-525' 360	ST&C
12 1/4"	9 5/8" (new)	36#	J55	0'-1700'	LT&C
8 3/4"	7" (new)	26#	P110	0'-7802' MD	LT&C
8 3/4"	7" (new)	26#	P110	7802'-8546' MD	BT&C
6 1/8"	4 1/2" (new)	11.6#	P110	8246'-12497' MD	LT&C

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: 550 sks Class "C" cement w/ 2% CaCl₂. Yield at 1.34 cuft/sk. Cmt circulated to surface w/100% excess.
- ii. Intermediate Casing: 400 sks Class "C" (35:65:4) light cement w/ salt & LCM additives. Yield @ 2.16 cuft/sk. 200 sacks Class "C" cement w/2% CaCl₂. Yield at 1.34 cuft/sk. Cmt circulated to surface w/25% excess.
- iii. Production Casing: 520 sacks Class "H" (35:65:4) light cement w/ salt, FL & LCM additives. Yield @ 2.11 cuft/sk. 400 sacks Class "H" cement w/ salt & FL additives. Yield @ 1.19 cuft/sk. Cmt circulated to surface w/25% excess.
- iv. Production Liner: This will be a Packer/Port completion from TD up inside 7" casing with packer type liner hanger.

See COA

*Referring to above blends of light 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.

6. Mud Program:

Interval	Type System	Weight	Viscosity	Fluid Loss
0' - 525' ^{360'}	FW spud mud	8.6-9.0	32-34	NA
525' - 1700'	Brine water	10.0-10.2	28-30	NA
1700' - 7802' (KOP)	Cut Brine	8.5-8.7	28-30	NA
7802' - 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 & Gyro from KOP -100' (7702') to surface. GR from 7702' 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: 120 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 40 days involved in drilling operations and an additional 10 days involved in completion operations on the project.

Mewbourne Oil Co

Eddy County, New Mexico

Sec 28-18S-30E

Bradley 28 Fed - - - - #3H

Wellbore #1

Plan: Design #1

DDC Well Planning Report

10 January, 2012



DDC Well Planning Report



Database:	EDM 5000.1 Single User.Db	Local Co-ordinate Reference:	Well Bradley 28 Fed (n #3H
Company:	Mewbourne Oil.Co	TVD Reference:	WELL @ 3441.0usft (Patterson-UTI)
Project:	Eddy County, New Mexico	MD Reference:	WELL @ 3441.0usft (Patterson-UTI)
Site:	Sec 28-18S-30E	North Reference:	Grid
Well:	Bradley 28 Fed i #3H	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:	Sec 28-18S-30E		
Site Position:		Northing:	626,279.25 usft
From:	Map	Easting:	607,181.52 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 43' 16.513 N
		Longitude:	103° 59' 5.373 W
		Grid Convergence:	0.19 °

Well	Bradley 28 Fed-Com.#3H					
Well Position	+N/-S	-3,296.8 usft	Northing:	622,982.44 usft	Latitude:	32° 42' 43.874 N
	+E/-W	475.5 usft	Easting:	607,657.05 usft	Longitude:	103° 58' 59.934 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	3,421.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2010	1/10/2012	7.74	60.55	48,808

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	88 44

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	
7,801.6	0.00	0.00	7,801.6	0.0	0.0	0.00	0.00	0.00	0.00	
8,546.4	89.38	88.44	8,279.0	12.8	472.1	12.00	12.00	11.87	88.44	
12,496.9	89.38	88.44	8,322.0	120.0	4,420.9	0.00	0.00	0.00	0.00	PBHL-Bradley 28 Fed

DDC
Well Planning Report



Database: EDM 5000 1 Single User Db
Company: Mewbourne Oil Co
Project: Eddy County, New Mexico
Site: Sec 28-18S-30E
Well: Bradley 28 Fed 1 #3H
Wellbore: Wellbore #1
Design: Design #1

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:

Well Bradley 28 Fed #3H
WELL @ 3441.0usft (Patterson-UTI)
WELL @ 3441.0usft (Patterson-UTI)
Grid
Minimum Curvature

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
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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
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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
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4,300 0	0 00	0 00	4,300 0	0 0	0 0	0 0	0 00	0 00	0 00
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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
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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

DDC
Well Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Bradley 28 Fed 1 #3H
Company:	Mewbourne Oil Co	TVD Reference:	WELL @ 3441.0usft (Patterson-UT1)
Project:	Eddy County, New Mexico	MD Reference:	WELL @ 3441.0usft (Patterson-UT1)
Site:	Sec 28-18S-30E	North Reference:	Grid
Well:	Bradley 28 Fed 1 #3H	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	
KOP: Build 12°/100' @ 7802' MD										
7,801.6	0.00	0.00	7,801.6	0.0	0.0	0.0	0.00	0.00	0.00	
7,825.0	2.81	88.44	7,825.0	0.0	0.6	0.6	12.00	12.00	0.00	
7,850.0	5.81	88.44	7,849.9	0.1	2.5	2.5	12.00	12.00	0.00	
7,875.0	8.81	88.44	7,874.7	0.2	5.6	5.6	12.00	12.00	0.00	
7,900.0	11.81	88.44	7,899.3	0.3	10.1	10.1	12.00	12.00	0.00	
7,925.0	14.81	88.44	7,923.6	0.4	15.9	15.9	12.00	12.00	0.00	
7,950.0	17.81	88.44	7,947.6	0.6	22.9	22.9	12.00	12.00	0.00	
7,975.0	20.81	88.44	7,971.2	0.8	31.1	31.1	12.00	12.00	0.00	
8,000.0	23.81	88.44	7,994.3	1.1	40.6	40.6	12.00	12.00	0.00	
8,025.0	26.81	88.44	8,016.9	1.4	51.3	51.3	12.00	12.00	0.00	
8,050.0	29.81	88.44	8,038.9	1.7	63.1	63.2	12.00	12.00	0.00	
8,075.0	32.81	88.44	8,060.3	2.1	76.1	76.2	12.00	12.00	0.00	
8,100.0	35.81	88.44	8,081.0	2.4	90.2	90.2	12.00	12.00	0.00	
8,125.0	38.81	88.44	8,100.8	2.9	105.4	105.4	12.00	12.00	0.00	
8,150.0	41.81	88.44	8,119.9	3.3	121.5	121.6	12.00	12.00	0.00	
8,175.0	44.81	88.44	8,138.1	3.8	138.7	138.7	12.00	12.00	0.00	
8,200.0	47.81	88.44	8,155.4	4.3	156.7	156.8	12.00	12.00	0.00	
8,225.0	50.81	88.44	8,171.7	4.8	175.7	175.7	12.00	12.00	0.00	
8,250.0	53.81	88.44	8,186.9	5.3	195.5	195.5	12.00	12.00	0.00	
8,275.0	56.81	88.44	8,201.2	5.9	216.0	216.1	12.00	12.00	0.00	
8,300.0	59.81	88.44	8,214.3	6.4	237.3	237.3	12.00	12.00	0.00	
8,325.0	62.81	88.44	8,226.3	7.0	259.2	259.3	12.00	12.00	0.00	
8,350.0	65.81	88.44	8,237.1	7.6	281.7	281.8	12.00	12.00	0.00	
8,375.0	68.81	88.44	8,246.8	8.3	304.8	304.9	12.00	12.00	0.00	
8,400.0	71.81	88.44	8,255.2	8.9	328.3	328.4	12.00	12.00	0.00	
8,425.0	74.81	88.44	8,262.4	9.6	352.2	352.3	12.00	12.00	0.00	
8,450.0	77.81	88.44	8,268.3	10.2	376.5	376.6	12.00	12.00	0.00	
8,475.0	80.81	88.44	8,272.9	10.9	401.0	401.2	12.00	12.00	0.00	

DDC Well Planning Report



Database:	EDM 5000.1 Single-User Db	Local Co-ordinate Reference:	Well Bradley 28 Fed 1#3H
Company:	Mewbourne Oil Co	TVD Reference:	WELL @ 3441.0usft (Patterson-UTI)
Project:	Eddy County, New Mexico	MD Reference:	WELL @ 3441.0usft (Patterson-UTI)
Site:	Sec:28-18S-30E	North Reference:	Grid
Well:	Bradley 28 Fed 1#3H	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)
8,500.0	83.81	88.44	8,276.3	11.6	425.8	426.0	12.00	12.00	0.00
8,525.0	86.81	88.44	8,278.3	12.2	450.7	450.9	12.00	12.00	0.00
EOC: 8546' MD, 89.38° Inc., 88.44° Azm., 8279' TVD									
8,546.4	89.38	88.44	8,279.0	12.8	472.1	472.3	12.00	12.00	0.00
8,600.0	89.38	88.44	8,279.6	14.3	525.7	525.9	0.00	0.00	0.00
8,700.0	89.38	88.44	8,280.7	17.0	625.6	625.9	0.00	0.00	0.00
8,800.0	89.38	88.44	8,281.8	19.7	725.6	725.8	0.00	0.00	0.00
8,900.0	89.38	88.44	8,282.9	22.4	825.5	825.8	0.00	0.00	0.00
9,000.0	89.38	88.44	8,284.0	25.1	925.5	925.8	0.00	0.00	0.00
9,100.0	89.38	88.44	8,285.1	27.8	1,025.5	1,025.8	0.00	0.00	0.00
9,200.0	89.38	88.44	8,286.1	30.6	1,125.4	1,125.8	0.00	0.00	0.00
9,300.0	89.38	88.44	8,287.2	33.3	1,225.4	1,225.8	0.00	0.00	0.00
9,400.0	89.38	88.44	8,288.3	36.0	1,325.3	1,325.8	0.00	0.00	0.00
9,500.0	89.38	88.44	8,289.4	38.7	1,425.3	1,425.8	0.00	0.00	0.00
9,600.0	89.38	88.44	8,290.5	41.4	1,525.2	1,525.8	0.00	0.00	0.00
9,700.0	89.38	88.44	8,291.6	44.1	1,625.2	1,625.8	0.00	0.00	0.00
9,800.0	89.38	88.44	8,292.7	46.8	1,725.2	1,725.8	0.00	0.00	0.00
9,900.0	89.38	88.44	8,293.8	49.6	1,825.1	1,825.8	0.00	0.00	0.00
10,000.0	89.38	88.44	8,294.8	52.3	1,925.1	1,925.8	0.00	0.00	0.00
10,100.0	89.38	88.44	8,295.9	55.0	2,025.0	2,025.8	0.00	0.00	0.00
10,200.0	89.38	88.44	8,297.0	57.7	2,125.0	2,125.8	0.00	0.00	0.00
10,300.0	89.38	88.44	8,298.1	60.4	2,224.9	2,225.8	0.00	0.00	0.00
10,400.0	89.38	88.44	8,299.2	63.1	2,324.9	2,325.8	0.00	0.00	0.00
10,500.0	89.38	88.44	8,300.3	65.8	2,424.9	2,425.7	0.00	0.00	0.00
10,600.0	89.38	88.44	8,301.4	68.6	2,524.8	2,525.7	0.00	0.00	0.00
10,700.0	89.38	88.44	8,302.5	71.3	2,624.8	2,625.7	0.00	0.00	0.00
10,800.0	89.38	88.44	8,303.5	74.0	2,724.7	2,725.7	0.00	0.00	0.00
10,900.0	89.38	88.44	8,304.6	76.7	2,824.7	2,825.7	0.00	0.00	0.00
11,000.0	89.38	88.44	8,305.7	79.4	2,924.6	2,925.7	0.00	0.00	0.00
11,100.0	89.38	88.44	8,306.8	82.1	3,024.6	3,025.7	0.00	0.00	0.00
11,200.0	89.38	88.44	8,307.9	84.8	3,124.6	3,125.7	0.00	0.00	0.00
11,300.0	89.38	88.44	8,309.0	87.6	3,224.5	3,225.7	0.00	0.00	0.00
11,400.0	89.38	88.44	8,310.1	90.3	3,324.5	3,325.7	0.00	0.00	0.00
11,500.0	89.38	88.44	8,311.2	93.0	3,424.4	3,425.7	0.00	0.00	0.00
11,600.0	89.38	88.44	8,312.2	95.7	3,524.4	3,525.7	0.00	0.00	0.00
11,700.0	89.38	88.44	8,313.3	98.4	3,624.3	3,625.7	0.00	0.00	0.00
11,800.0	89.38	88.44	8,314.4	101.1	3,724.3	3,725.7	0.00	0.00	0.00
11,900.0	89.38	88.44	8,315.5	103.8	3,824.3	3,825.7	0.00	0.00	0.00
12,000.0	89.38	88.44	8,316.6	106.6	3,924.2	3,925.7	0.00	0.00	0.00
12,100.0	89.38	88.44	8,317.7	109.3	4,024.2	4,025.7	0.00	0.00	0.00
12,200.0	89.38	88.44	8,318.8	112.0	4,124.1	4,125.6	0.00	0.00	0.00
12,300.0	89.38	88.44	8,319.9	114.7	4,224.1	4,225.6	0.00	0.00	0.00
12,400.0	89.38	88.44	8,320.9	117.4	4,324.0	4,325.6	0.00	0.00	0.00
TD: @ 12497' MD/8322' TVD									
12,496.9	89.38	88.44	8,322.0	120.0	4,420.9	4,422.6	0.00	0.00	0.00

DDC
Well Planning Report

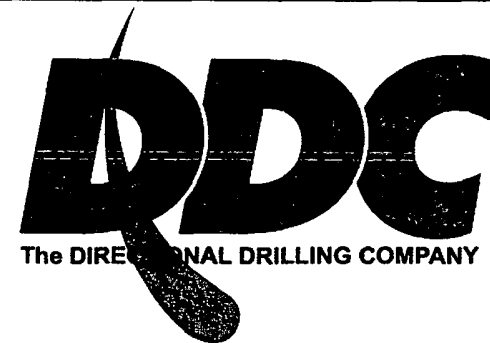


Database:	EDM 5000.1.Single User Db	Local Co-ordinate Reference:	Well Bradley 28 Fed 1 #3H
Company:	Mewbourne Oil Co	TVD Reference:	WELL @ 3441.0usft (Patterson-UTI)
Project:	Eddy County, New Mexico	MD Reference:	WELL @ 3441.0usft (Patterson-UTI)
Site:	Sec 28-18S-30E	North Reference:	Grid
Well:	Bradley 28 Fed 1 #3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Design Targets									
Target Name	hit/miss target	Dip Angle (°)	Dip Dir (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude Longitude
PBHL-Bradley 28 Fed C	- plan hits target center - Point	0.00	0.00	8,322.0	120.0	4,420.9	623,102.48	612,077.98	32° 42' 44.915 N 103° 58' 8.186 W

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
7,801.6	7,801.6	0.0	0.0	KOP Build 12"/100' @ 7802' MD
8,546.4	8,279.0	12.8	472.1	EOC 8546' MD, 89.38° Inc, 88.44° Azm, 8279' TVD
12,496.9	8,322.0	120.0	4,420.9	TD @ 12497' MD/8322' TVD

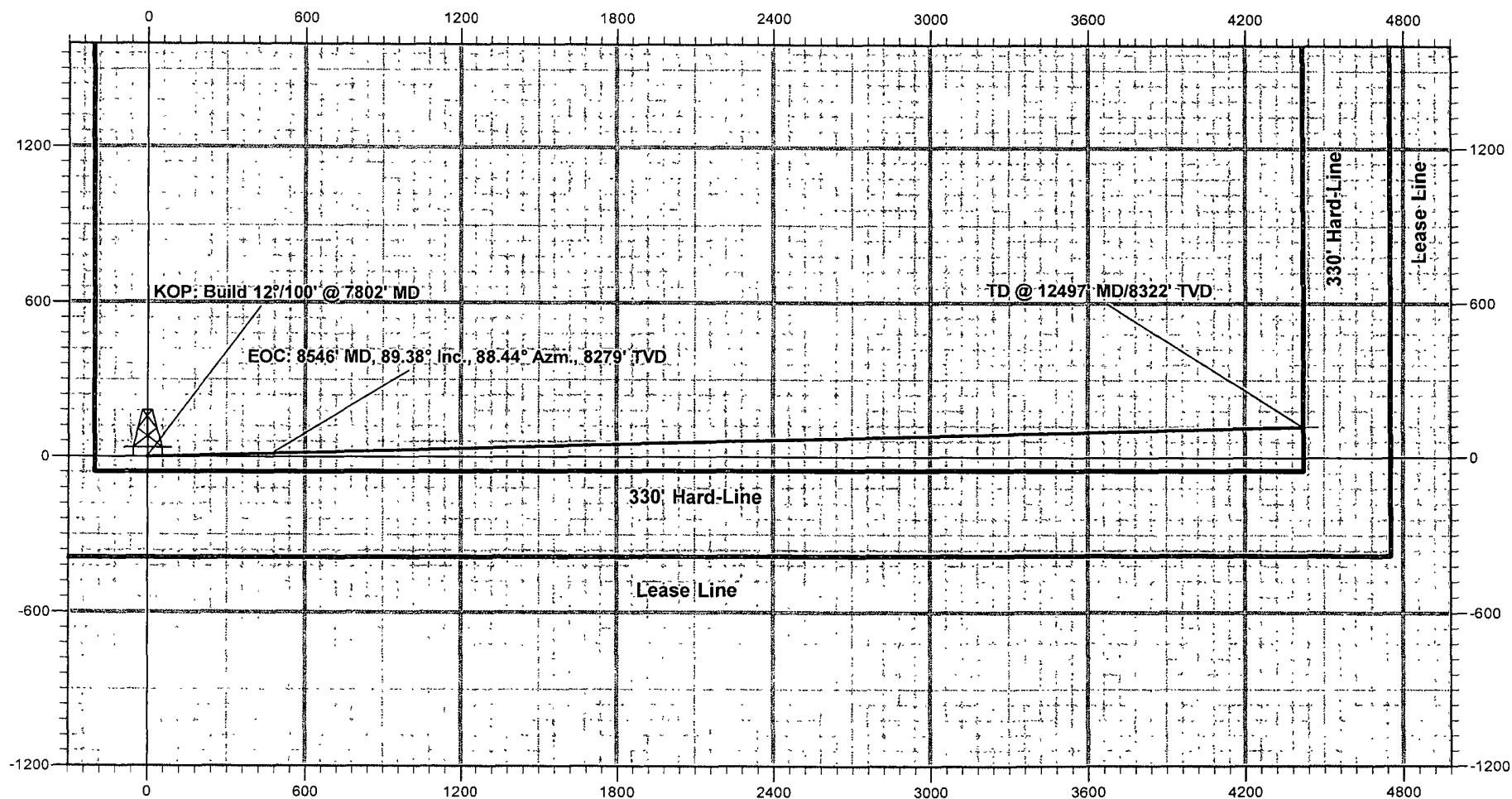
Mewbourne Oil Company



Eddy County, New Mexico

Bradley 28 Fed #3H

Quote 120017



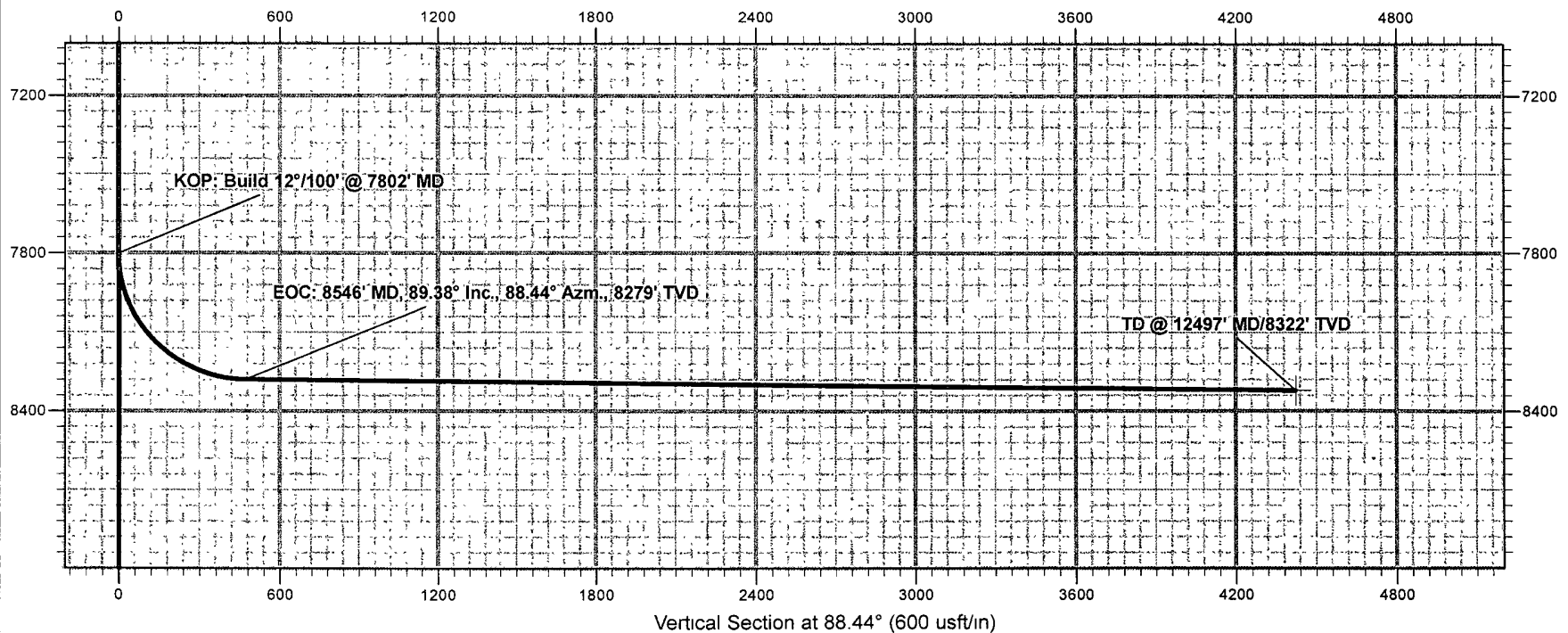
Mewbourne Oil Company



Eddy County, New Mexico

Bradley 28 Fed #3H

Quote 120017



Mewbourne Oil Company
BOP Schematic for
12 1/4" Hole

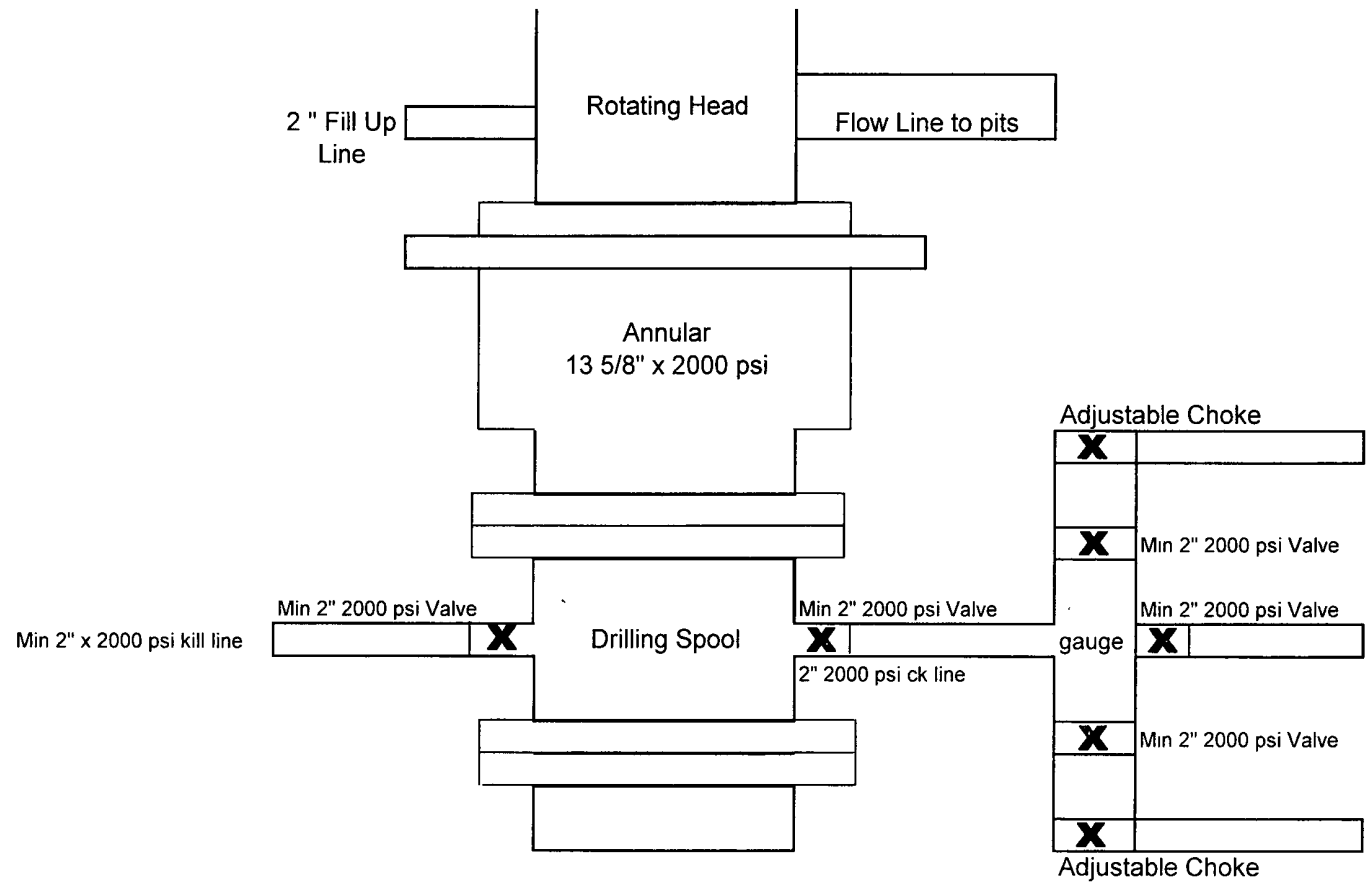


Exhibit #2

Bradley "28" Fed #3H
388' FSL & 527' FWL
Sec 28-T18S-R30E
Eddy, County
New Mexico

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

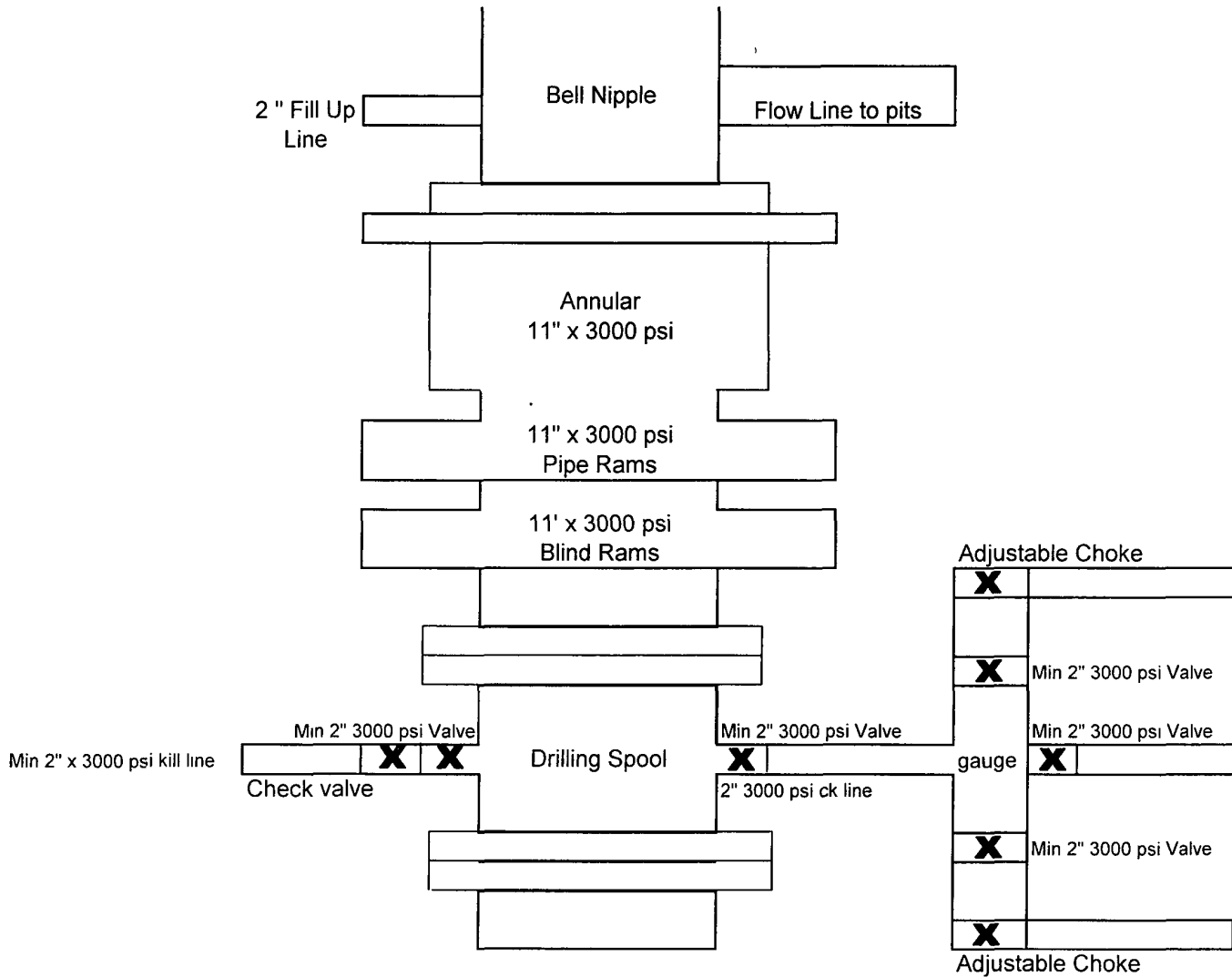


Exhibit #2

Bradley "28" Fed #3H
 388' FSL & 527' FWL
 Sec 28-T18S-R30E
 Eddy, County
 New Mexico

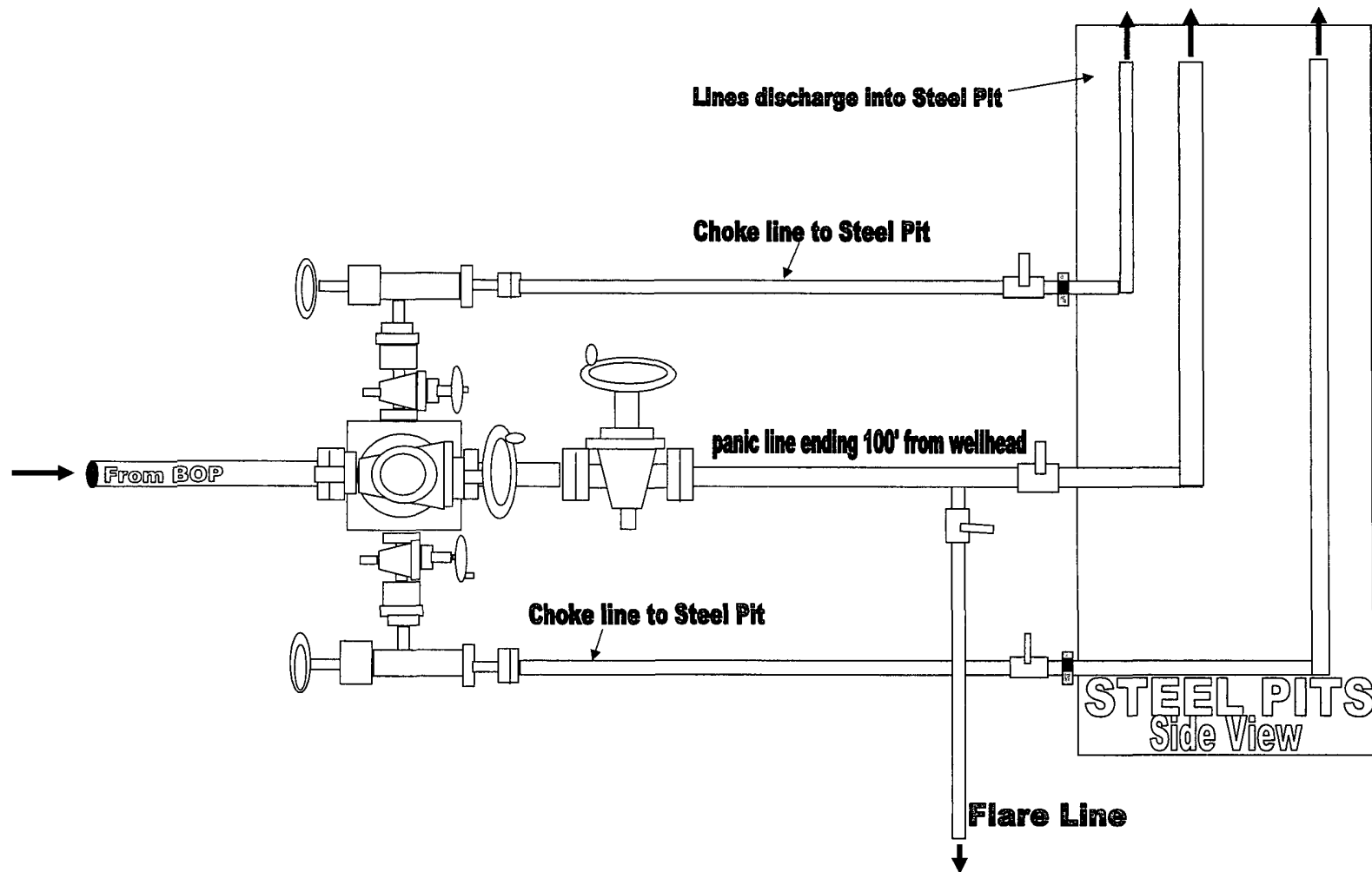
Notes Regarding Blowout Preventer

Mewbourne Oil Company

Bradley "28" Fed #3H
388' FSL & 527' FWL (SHL)
Sec 28-T18S-R30E
Eddy County, New Mexico

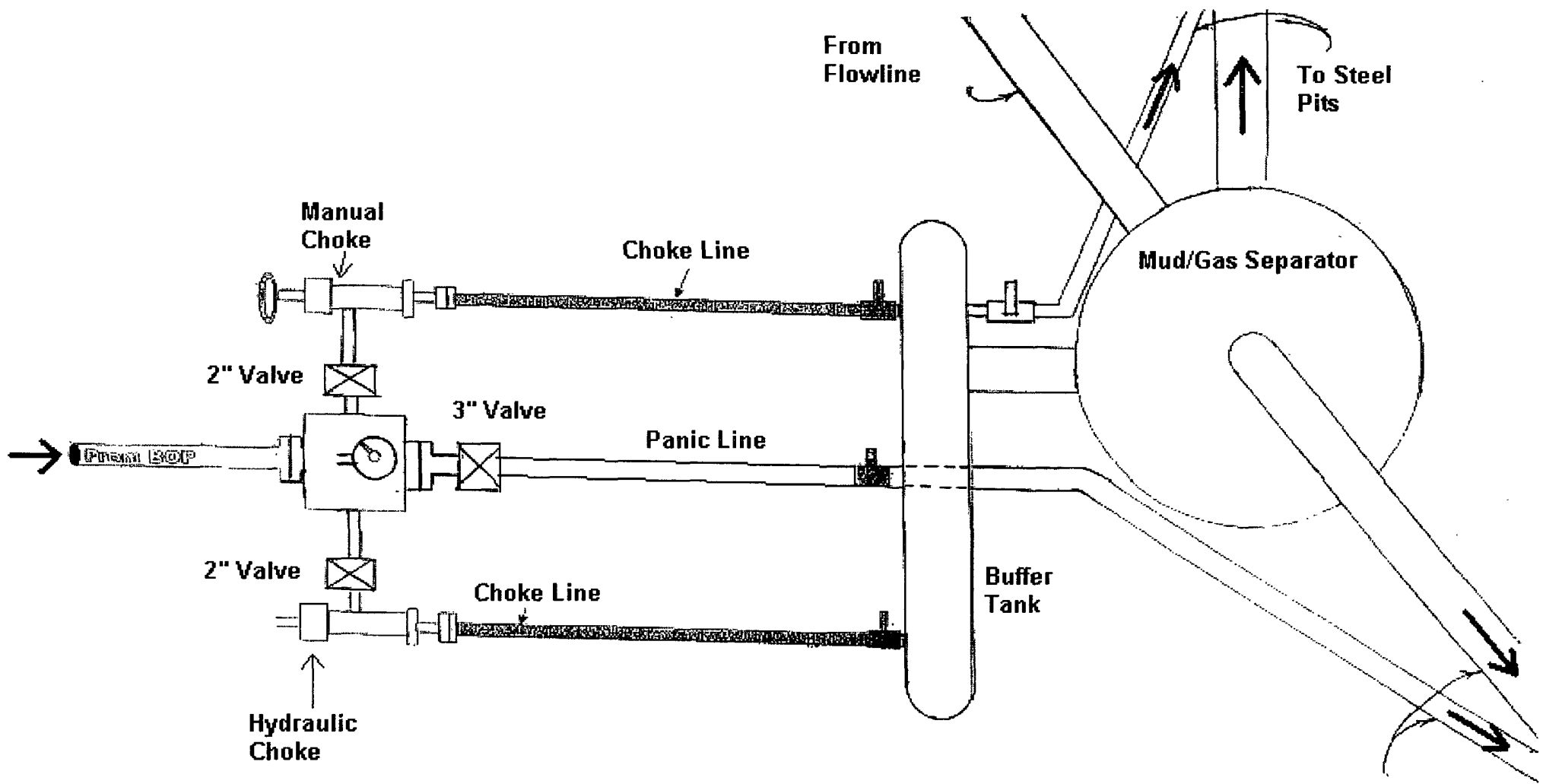
- I. Drilling nipple (bell nipple) to be constructed so that it can be removed without the use of a welder through the opening of the rotary table, with minimum internal diameter equal to blowout preventer bore.
- II. Blowout preventer and all fittings must be in good condition with a minimum 2000 psi working pressure on 13 3/8" casing and 3000 psi working pressure on 9 5/8" & 7" 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 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.



3000# BOP manifold system for Exhibit 2 & 2A

Bradley "28" Fed #3H

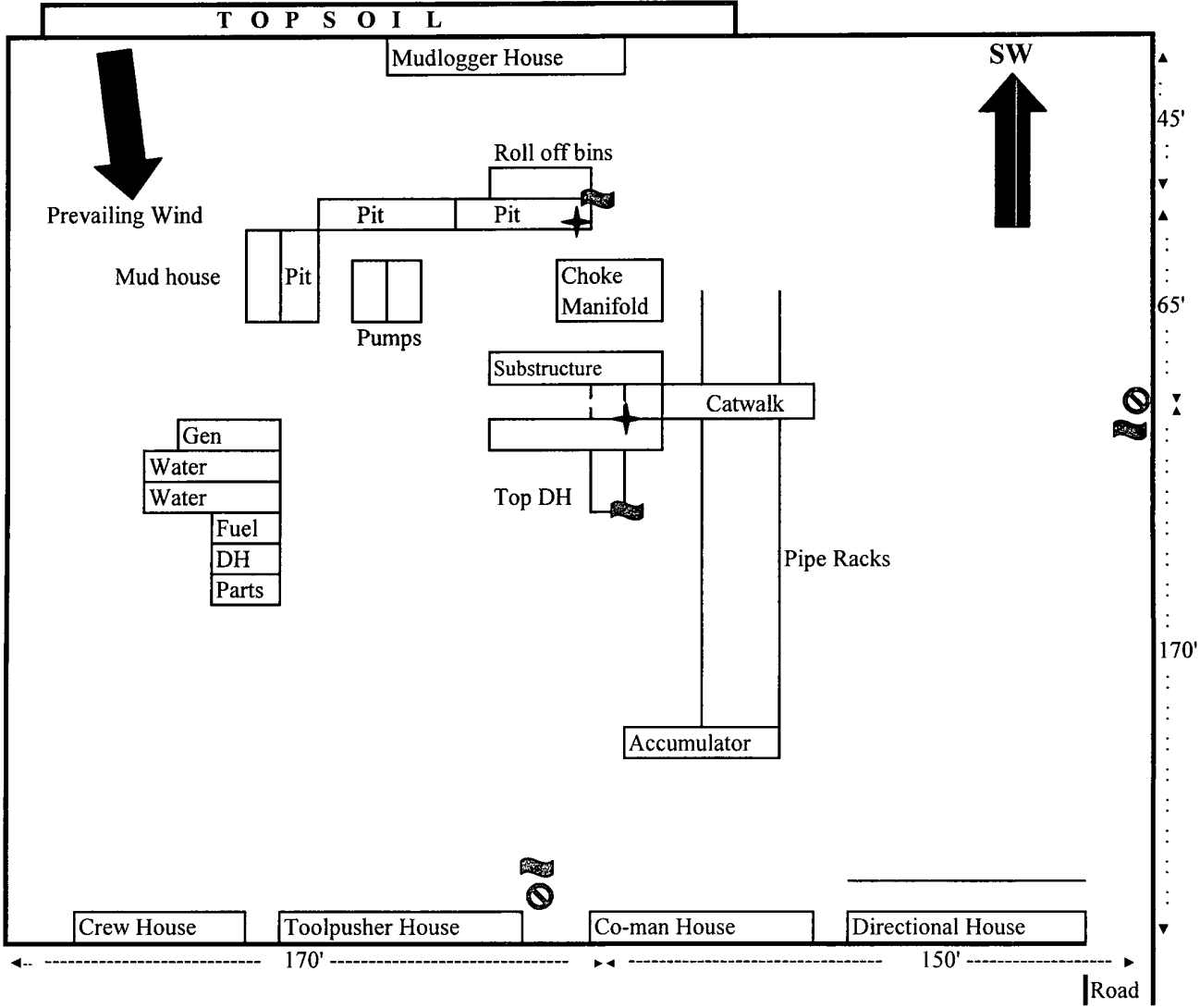


3000# BOP manifold system for Exhibit 2 & 2A
(only if Mud/Gas Separator is needed)

Bradley ~28" Fed #3H

Exhibit 5

Closed Loop Pad Dimensions 280' x 320'
and H2S Plan



Mewbourne Oil Company
Bradley "28" Fed #3H
388' FSL & 527' FWL
Sec 28-T18S-R30E
Eddy County, NM

Legend
Wellbore Location
Briefing Area w/ SCBA
H2S Sensor
Windssocks

Hydrogen Sulfide Drilling Operations Plan

Mewbourne Oil Company

Bradley "28" Fed #3H

388' FSL & 527' FWL

Sec 28-T18S-R30E

Eddy County, New Mexico

1. General Requirements

MOC will have on location and working all H₂S 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 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.

Additionally: If H₂S is encountered in concentrations less than 10 ppm, fans will be placed in work areas to prevent the accumulation of hazardous amounts of poisonous gas. If higher concentrations of H₂S are detected the well will be shut in and a rotating head, mud/gas separator, and flare line with igniter will be installed.

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	911 or 575-887-7551
Ambulance Service	911 or 575-885-2111
Carlsbad Fire Dept	911 or 575-885-2111
Loco Hills Volunteer Fire Dept.	911 or 575-677-3266
Closest Medical Facility - Columbia Medical Center of Carlsbad	575-492-5000

Mewbourne Oil Company	Hobbs District Office	575-393-5905
	Fax	575-397-6252
	2 nd 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
Drilling Foreman	Brett Bednarz	575-390-6838

Exhibit 6

50'

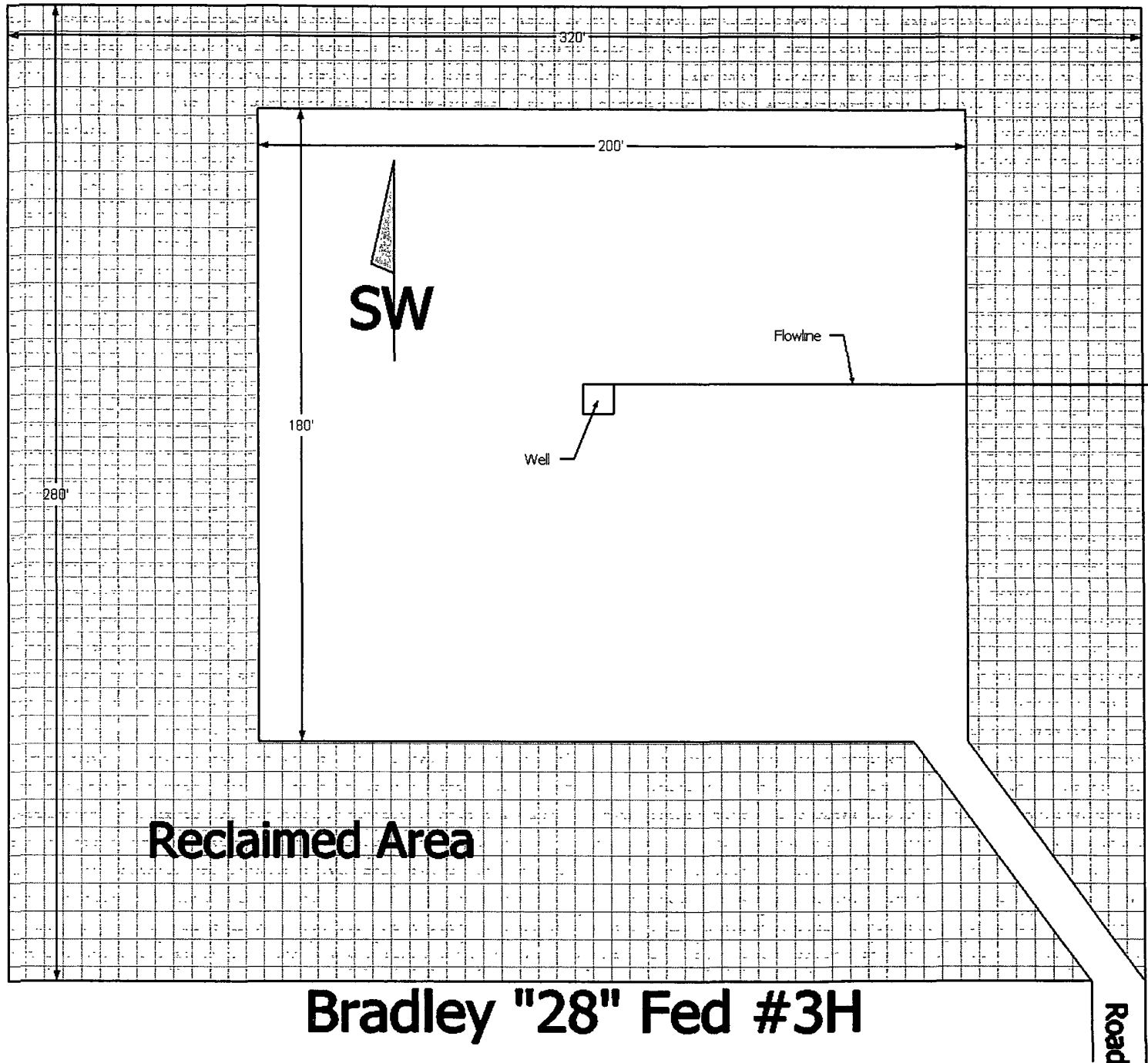
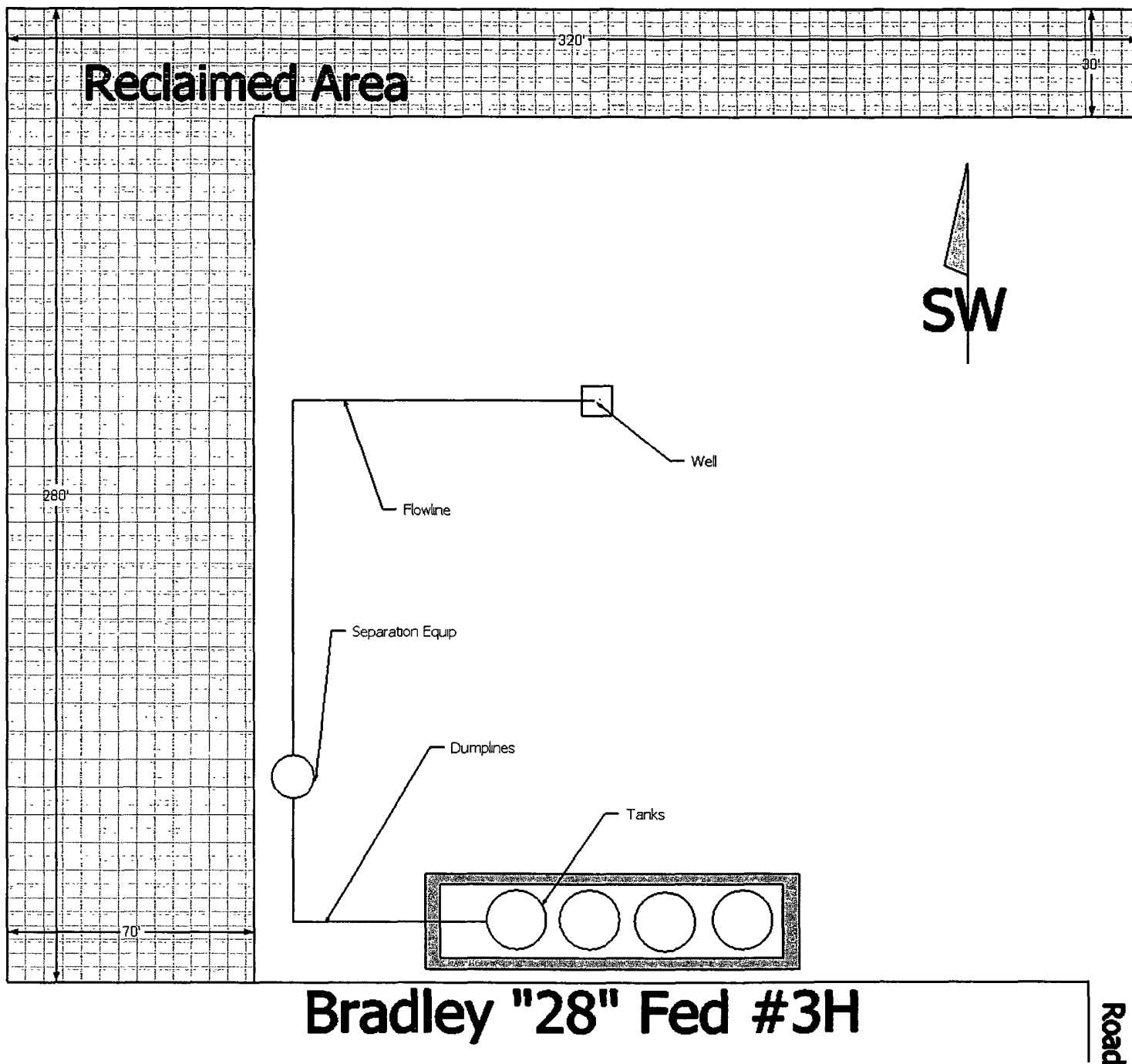
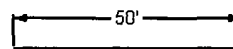


Exhibit 6A



PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	MEWBOURNE OIL COMPANY
LEASE NO.:	NM-033775
WELL NAME & NO.:	BRADLEY 28 FEDERAL #3H
SURFACE HOLE FOOTAGE:	388' FSL & 527' FWL
BOTTOM HOLE FOOTAGE	520' FSL & 330' FEL
LOCATION:	Section 28, T.18 S., R.30 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 Timing Stipulations
 - Ground-level Abandoned Well Marker
 - Hackberry OHV Recreation Area
 - Secretary's Potash
- ☐ **Construction**
 - Notification
 - Topsoil
 - Closed Loop System
 - Federal Mineral Material Pits
 - Well Pads
 - Roads
- ☐ **Road Section Diagram**
- ☒ **Drilling**
 - Secretary's Potash
 - H₂S – Onshore Order #6
 - Waste Material and Fluids
- ☐ **Production (Post Drilling)**
 - Well Structures & Facilities
 - Pipelines
 - Electric Lines
- ☐ **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, 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 feet 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 Carlsbad Field Office at 575-234-5972.

Recreation/Hackberry OHV Area

Pipelines shall be buried a minimum of 24 inches under all roads, two-tracks and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. During all phases of construction, open ditches shall have proper signage notifying trail users of potential hazards. Upon completion of construction, the road shall be returned to pre-construction condition with no bumps or dips. Power line poles will be spaced to avoid pole placement within trails and two tracks. All vehicle and equipment operators will observe speed limits and practice responsible defensive driving habits.

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) 234-6235 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 in a low profile manner in order to prevent wind/water erosion of the topsoil. The topsoil to be stripped is approximately 4 inches in depth. The topsoil will be used for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. 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 twenty (20) 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.

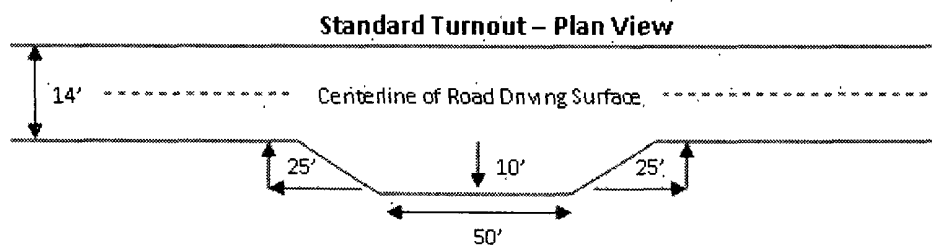
The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing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

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:

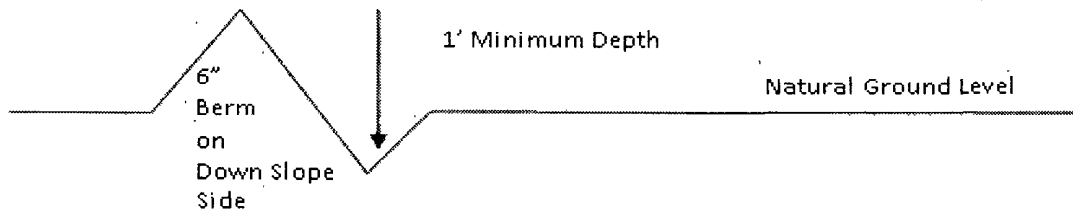


Drainage

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 %);

Public Access

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

VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

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

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

☒ **Eddy County**

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
(575) 361-2822

1. A Hydrogen Sulfide (H₂S) Drilling Plan should be activated 500 feet prior to drilling into the **Bone Springs** 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. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a “Major” violation.**
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 is located, this does not include the dog house or stairway area.
4. **The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. 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 program need prior approval if the items substituted are of lesser grade or different casing size. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#).

Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.).

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

Wait on cement (WOC) time prior to drilling out 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. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE. 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.

Secretary's Potash

Possible brine flows in the Salado and Artesia groups.

Possible lost circulation in the Artesia group.

1. The 13-3/8 inch surface casing shall be set at approximately 360 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - 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.
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. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to potash.**

3. The minimum required fill of cement behind the 7 inch production casing is:

- ☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Additional cement may be required – excess calculates to 19%.**

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

- ☒ Cement not required – Port/Packer system to be used.

5. 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.

- a. **For surface casing only:** If the BOP/BOPE is to be tested against casing, the wait on cement (WOC) time for that casing is to be met (see WOC statement at start of casing section). Independent service company required.

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 9-5/8 inch intermediate casing shoe shall be **3000 (3M)** psi.

4. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

- a. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time.

- b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (18 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
- c. The results of the test shall be reported to the appropriate BLM office.
- d. 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.**
- e. 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.

D. DRILL STEM TEST

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

E. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

CRW 040912

VIII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities

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

Containment Structures

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

Painting Requirement

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

IX. INTERIM RECLAMATION

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.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation 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 that is free of contaminants 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.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

X. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

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.

Seed Mixture for LPC Sand/Shinnery Sites

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

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

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

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

*Pounds of pure live seed:

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