

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Artesia

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NM-11962 (SL), NM-0144698 (BHL)
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator Mewbourne Oil Company		7. If Unit or CA Agreement, Name and No.
3a. Address PO Box 5270 Hobbs, NM 88241	3b. Phone No. (include area code) 575-393-5905	8. Lease Name and Well No. Burton "4" IL Fed Com #1H
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 1855' FSL & 150' FEL, Sec. 4 T20S R29E At proposed prod. zone 1840' FSL & 330' FWL Sec. 4 T20S R29E		9. API Well No. 30-015-41156
14. Distance in miles and direction from nearest town or post office* 15 miles NE of Carlsbad, NM.		10. Field and Pool, or Exploratory Parkway Bone Spring (49622)
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 NM11962-240 acres NM0144698-1743.54 acres	11. Sec., T. R. M. or Blk. and Survey or Area Sec. 4 T20S R29E
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1370' (Mewbourne Burton 4 Fed #4H)	19. Proposed Depth 12,588'-MD 7949'-TVD	12. County or Parish Eddy
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3329' GL	22. Approximate date work will start* 12/01/2012	13. State NM
17. Spacing Unit dedicated to this well 160		
20. BLM/BIA Bond No. on file NM-1693 Nationwide, NMB-000919		
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. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the BLM. |

25. Signature <i>Bradley Bishop</i>	Name (Printed/Typed) Bradley Bishop	Date 10-23-12
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Title

Approved by (Signature)	Name (Printed/Typed)	Date
Title	Office	
FIELD MANAGER	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.

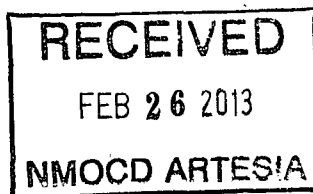
APPROVAL FOR TWO YEARS

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 AttachedSEE ATTACHED FOR
CONDITIONS OF APPROVAL

DISTRICT I

1625 N. French Dr., Hobbs, NM 88240
Phone (575) 393-6161 Fax: (575) 393-0720

DISTRICT II

811 S. First St., Artesia, NM 88210
Phone (575) 748-1283 Fax: (575) 748-9720

DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410
Phone (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV

1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone (505) 476-3450 Fax: (505) 476-3452

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

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

Form C-102

Revised August 1, 2011

Submit one copy to appropriate
District Office

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-015-41156	Pool Code 49622	Pool Name Parkway Bone Spring
Property Code 39753	Property Name BURTON 4 IL FEDERAL COM	Well Number 1H
OGRID No. 14744	Operator Name MEWBOURNE OIL COMPANY	Elevation 3329'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	4	20 S	29 E		1855	SOUTH	150	EAST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	4	20 S	29 E		1840	SOUTH	330	WEST	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

	OPERATOR CERTIFICATION 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. Signature: <u>G. M. Jones</u> Date: <u>10/23/12</u> Printed Name: <u>G. M. Jones</u> Email Address: _____
	SURVEYOR CERTIFICATION 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. Date Surveyed: <u>SEPTEMBER 2012</u> Signature: <u>G. M. Jones</u> Seal of Professional Surveyor 7977 Certificate No. Gary L. Jones 7977 BASIN SURVEYS 27302
	SURFACE LOCATION Lat - N 32°36'00.87" Long - W 104°04'17.19" NMSPC- N 582178.462 E 580652.105 (NAD-27)
	Project Area Producing Area Well Path

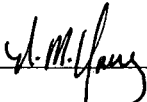
Mewbourne Oil Company

PO Box 5270
Hobbs, NM 88241
(575) 393-5905

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of State and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Executed this 23 day of Oct, 2012.

Name: NM Young

Signature: 

Position Title: Hobbs District Manager

Address: PO Box 5270, Hobbs NM 88241

Telephone: 575-393-5905

E-mail: myoung@mewbourne.com

Drilling Program
Mewbourne Oil Company
 Burton Flat "4" IL Federal Com #1H
 1855' FSL & 150' FEL (SHL)
 Sec 4-T20S-R28E
 Eddy County, New Mexico

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

Rustler	310'
Top of Salt	460'
Base of Salt	1040'
Yates	1220'
Seven Rivers	1440'
Queen	NP
Capitan	1470'
Grayburg	NP
San Andres	NP
*Delaware	3330'
*Bone Spring	5750'

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

Water	Fresh water is anticipated at 45' and will be protected by setting surface casing at 335' 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:

Mewbourne requests a variance to install a 2M diverter after running the 20" casing. 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 9 5/8" & 7" casing strings. 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 both Annular BOPs 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 7520' & kick off to horizontal @ 8271' TVD. The well will be drilled to 12588' MD (7994' TVD). See attached directional plan.

5. Proposed casing and cementing program:

A. Casing Program:

Hole Size	Casing	Wt/Ft.	Grade	Depth	Jt Type
26"	20" (new)	94#	K55	0-335' <i>350</i>	BT&C
17 1/2"	13 3/8" (new)	48#	H40	0'-1320'	ST&C
12 1/4"	9 5/8" (new)	36#	J55	0'-3230'	LT&C
8 3/4"	7" (new)	26#	P110	0'-7520' MD	LT&C
8 3/4"	7" (new)	26#	P110	7520'-8271' MD	BT&C
6 1/8"	4 1/2" (new)	11.6#	P110	8071'-12588' MD	LT&C

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

*Subject to availability of casing.

See Log

B. Cementing Program:

- i. ^{20"} Surface Casing: 400 sacks Class "C" (35:65:4) light cement w/ 2% CaCl₂ & LCM additives. Yield at 2.0 cuft/sk. 200 sacks Class "C" cement w/ 2% CaCl₂. Yield at 1.34 cuft/sk. Cmt circulated to surface w/100% excess.
- See COA ii. ^{13 3/8"} 1st Intermediate Casing: 450 sacks Class "C" (35:65:4) light cement w/ salt and LCM additives. Yield at 2.0 cuft/sk. 200 sacks Class "C" cement w/2% CaCl₂. Yield at 1.34 cuft/sk. Cmt circulated to surface w/25% excess.
- iii. ^{9 7/8"} 2nd Intermediate Casing: 600 sacks Class "C" (35:65:4) light cement w/ salt and LCM additives. Yield at 2.0 cuft/sk. 200 sacks Class "C" cement w/2% CaCl₂. Yield at 1.34 cuft/sk. Cmt circulated to surface w/25% excess.
- iii. ^{7"} Production Casing: 550 sacks Class H light cement (35:65:4) with fluid loss, LCM, & salt additives. Yield at 2.12 cuft/sk. 400 sacks Class H cement containing fluid loss additives. Yield at 1.18 cuft/sk cmt calculated to tie into 9 5/8" casing at 900' w/25% excess.
- iv. ^{4 1/2"} 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 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.

*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'-335'	FW spud mud	8.6-9.0	32-34	NA
335'-1320'	Brine water	10.0-10.2	28-30	NA
1320'-7520'	FW	8.3-8.6	28-30	NA
7520'-TD	FW w/Polymer	8.5-8.7	32-35	15

7. Evaluation Program: See COA

Samples: 10' samples from surface casing to TD
Logging: GR/N & Gyro from KOP-100(7420') to surface. GR from 7520' 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(.43668 x 7994' = 3490.82psi)

9. Anticipated Starting Date:

Mewbourne Oil Company intends to drill this well as soon as possible after receiving approval with approximately 45 days involved in drilling operations and an additional 10 days involved in completion operations on the project.

Mewbourne Oil Co

Eddy County, New Mexico

Sec 4-20S-29E

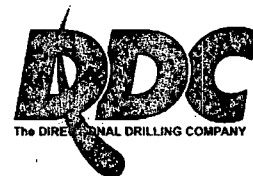
Burton4 IL Fed Com #1H

Wellbore #1

Plan: Design #1

DDC Well Planning Report

28 September, 2012



DDC Well Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Burton4 IL Fed Com #1H
Company:	Mewbourne Oil Co	TVD Reference:	WELL @ 3349.0usft (Patterson-UTIL Rig#2)
Project:	Eddy County, New Mexico	MD Reference:	WELL @ 3349.0usft (Patterson-UTIL Rig#2)
Site:	Sec 4-20S-29E	North Reference:	Grid
Well:	Burton4 IL 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:	Sec 4-20S-29E		
Site Position:		Northing:	583,552.10 usft
From:	Map	Easting:	580,468.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 36' 14.464 N
		Longitude:	104° 4' 19.299 W
		Grid Convergence:	0.14 °

Well	Burton4 IL Fed Com #1H					
Well Position	+N/-S	-1,373.6 usft	Northing:	582,178.47 usft	Latitude:	32° 36' 0.866 N
	+E/-W	184.1 usft	Easting:	580,652.11 usft	Longitude:	104° 4' 17.187 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	3,329.0 usft

Wellbore:	Wellbore #1		
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	9/28/2012	7.69	60.42	48,659

Design:	Design #1		
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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	269.72

Plan Sections			
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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	
7,516.6	0.00	0.00	7,516.6	0.0	0.0	0.00	0.00	0.00	0.00	
8,271.6	90.60	269.72	7,994.0	-2.3	-482.4	12.00	12.00	-11.96	269.72	
12,587.8	90.60	269.72	7,949.0	-23.2	-4,798.4	0.00	0.00	0.00	0.00	PBHL Burton 4 IL F

DDC Well Planning Report



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Project:	Eddy County, New Mexico	MD Reference:	WELL @ 3349.0usft (Patterson-UTIL Rig#2)
Site:	Sec 4-20S-29E	North Reference:	Grid
Well:	Burton4 IL 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)
Build @ 12° / 100'									
7,516.6	0.00	0.00	7,516.6	0.0	0.0	0.0	0.00	0.00	0.00
7,525.0	1.01	269.72	7,525.0	0.0	-0.1	0.1	12.00	12.00	0.00
7,550.0	4.01	269.72	7,550.0	0.0	-1.2	1.2	12.00	12.00	0.00
7,575.0	7.01	269.72	7,574.9	0.0	-3.6	3.6	12.00	12.00	0.00
7,600.0	10.01	269.72	7,599.6	0.0	-7.3	7.3	12.00	12.00	0.00
7,625.0	13.01	269.72	7,624.1	-0.1	-12.3	12.3	12.00	12.00	0.00
7,650.0	16.01	269.72	7,648.3	-0.1	-18.5	18.5	12.00	12.00	0.00
7,675.0	19.01	269.72	7,672.1	-0.1	-26.0	26.0	12.00	12.00	0.00
7,700.0	22.01	269.72	7,695.5	-0.2	-34.8	34.8	12.00	12.00	0.00
7,725.0	25.01	269.72	7,718.4	-0.2	-44.8	44.8	12.00	12.00	0.00
7,750.0	28.01	269.72	7,740.8	-0.3	-55.9	55.9	12.00	12.00	0.00
7,775.0	31.01	269.72	7,762.6	-0.3	-68.2	68.2	12.00	12.00	0.00
7,800.0	34.01	269.72	7,783.7	-0.4	-81.7	81.7	12.00	12.00	0.00
7,825.0	37.01	269.72	7,804.0	-0.5	-96.2	96.2	12.00	12.00	0.00
7,850.0	40.01	269.72	7,823.6	-0.5	-111.7	111.7	12.00	12.00	0.00
7,875.0	43.01	269.72	7,842.3	-0.6	-128.3	128.3	12.00	12.00	0.00
7,900.0	46.01	269.72	7,860.1	-0.7	-145.8	145.8	12.00	12.00	0.00
7,925.0	49.01	269.72	7,877.0	-0.8	-164.3	164.3	12.00	12.00	0.00
7,950.0	52.01	269.72	7,892.9	-0.9	-183.6	183.6	12.00	12.00	0.00
7,975.0	55.01	269.72	7,907.8	-1.0	-203.7	203.7	12.00	12.00	0.00
8,000.0	58.01	269.72	7,921.5	-1.1	-224.5	224.5	12.00	12.00	0.00
8,025.0	61.01	269.72	7,934.2	-1.2	-246.0	246.0	12.00	12.00	0.00
8,050.0	64.01	269.72	7,945.8	-1.3	-268.2	268.2	12.00	12.00	0.00
8,075.0	67.01	269.72	7,956.1	-1.4	-291.0	291.0	12.00	12.00	0.00
8,100.0	70.01	269.72	7,965.3	-1.5	-314.2	314.2	12.00	12.00	0.00
8,125.0	73.01	269.72	7,973.2	-1.6	-337.9	337.9	12.00	12.00	0.00
8,150.0	76.01	269.72	7,979.9	-1.8	-362.0	362.0	12.00	12.00	0.00
8,175.0	79.01	269.72	7,985.3	-1.9	-386.4	386.4	12.00	12.00	0.00
8,200.0	82.01	269.72	7,989.4	-2.0	-411.1	411.1	12.00	12.00	0.00
8,225.0	85.01	269.72	7,992.3	-2.1	-435.9	435.9	12.00	12.00	0.00
8,250.0	88.01	269.72	7,993.8	-2.2	-460.9	460.9	12.00	12.00	0.00
EOB @ 90.60° Inc / 269.72° Az / 7994' TVD									
8,271.6	90.60	269.72	7,994.0	-2.3	-482.4	482.4	12.00	12.00	0.00
8,300.0	90.60	269.72	7,993.7	-2.5	-510.9	510.9	0.00	0.00	0.00
8,400.0	90.60	269.72	7,992.7	-3.0	-610.9	610.9	0.00	0.00	0.00
8,500.0	90.60	269.72	7,991.7	-3.4	-710.8	710.9	0.00	0.00	0.00
8,600.0	90.60	269.72	7,990.6	-3.9	-810.8	810.8	0.00	0.00	0.00
8,700.0	90.60	269.72	7,989.6	-4.4	-910.8	910.8	0.00	0.00	0.00
8,800.0	90.60	269.72	7,988.5	-4.9	-1,010.8	1,010.8	0.00	0.00	0.00
8,900.0	90.60	269.72	7,987.5	-5.4	-1,110.8	1,110.8	0.00	0.00	0.00
9,000.0	90.60	269.72	7,986.4	-5.9	-1,210.8	1,210.8	0.00	0.00	0.00
9,100.0	90.60	269.72	7,985.4	-6.3	-1,310.8	1,310.8	0.00	0.00	0.00
9,200.0	90.60	269.72	7,984.4	-6.8	-1,410.8	1,410.8	0.00	0.00	0.00
9,300.0	90.60	269.72	7,983.3	-7.3	-1,510.8	1,510.8	0.00	0.00	0.00
9,400.0	90.60	269.72	7,982.3	-7.8	-1,610.8	1,610.8	0.00	0.00	0.00
9,500.0	90.60	269.72	7,981.2	-8.3	-1,710.8	1,710.8	0.00	0.00	0.00
9,600.0	90.60	269.72	7,980.2	-8.8	-1,810.8	1,810.8	0.00	0.00	0.00
9,700.0	90.60	269.72	7,979.1	-9.2	-1,910.8	1,910.8	0.00	0.00	0.00
9,800.0	90.60	269.72	7,978.1	-9.7	-2,010.8	2,010.8	0.00	0.00	0.00
9,900.0	90.60	269.72	7,977.0	-10.2	-2,110.8	2,110.8	0.00	0.00	0.00
10,000.0	90.60	269.72	7,976.0	-10.7	-2,210.7	2,210.8	0.00	0.00	0.00
10,100.0	90.60	269.72	7,975.0	-11.2	-2,310.7	2,310.8	0.00	0.00	0.00
10,200.0	90.60	269.72	7,973.9	-11.7	-2,410.7	2,410.8	0.00	0.00	0.00

DDC Well Planning Report



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Wellbore:	Wellbore #1		
Design:	Design #1		

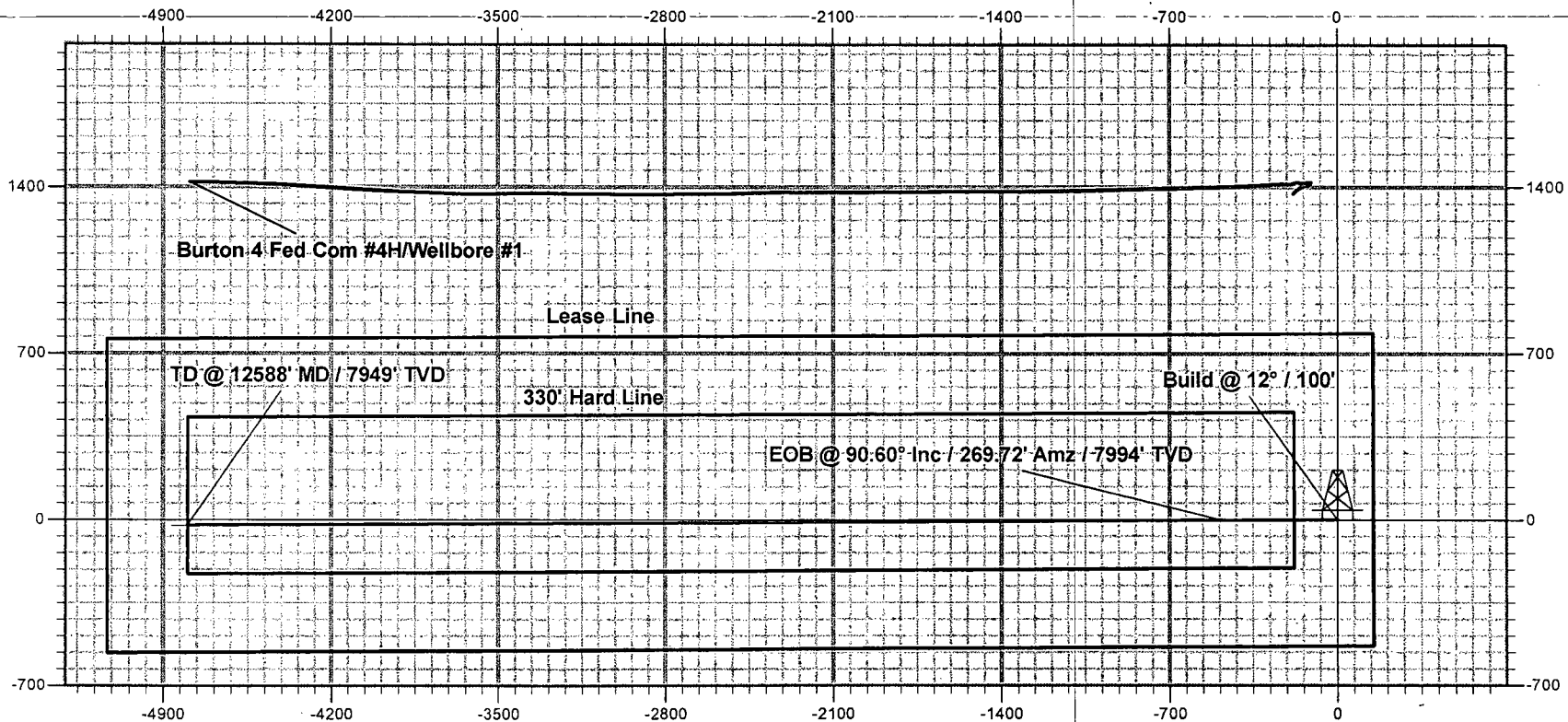
Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
10,300.0	90.60	269.72	7,972.9	-12.1	-2,510.7	2,510.8	0.00	0.00	0.00	
10,400.0	90.60	269.72	7,971.8	-12.6	-2,610.7	2,610.7	0.00	0.00	0.00	
10,500.0	90.60	269.72	7,970.8	-13.1	-2,710.7	2,710.7	0.00	0.00	0.00	
10,600.0	90.60	269.72	7,969.7	-13.6	-2,810.7	2,810.7	0.00	0.00	0.00	
10,700.0	90.60	269.72	7,968.7	-14.1	-2,910.7	2,910.7	0.00	0.00	0.00	
10,800.0	90.60	269.72	7,967.7	-14.6	-3,010.7	3,010.7	0.00	0.00	0.00	
10,900.0	90.60	269.72	7,966.6	-15.0	-3,110.7	3,110.7	0.00	0.00	0.00	
11,000.0	90.60	269.72	7,965.6	-15.5	-3,210.7	3,210.7	0.00	0.00	0.00	
11,100.0	90.60	269.72	7,964.5	-16.0	-3,310.7	3,310.7	0.00	0.00	0.00	
11,200.0	90.60	269.72	7,963.5	-16.5	-3,410.7	3,410.7	0.00	0.00	0.00	
11,300.0	90.60	269.72	7,962.4	-17.0	-3,510.7	3,510.7	0.00	0.00	0.00	
11,400.0	90.60	269.72	7,961.4	-17.5	-3,610.7	3,610.7	0.00	0.00	0.00	
11,500.0	90.60	269.72	7,960.4	-17.9	-3,710.6	3,710.7	0.00	0.00	0.00	
11,600.0	90.60	269.72	7,959.3	-18.4	-3,810.6	3,810.7	0.00	0.00	0.00	
11,700.0	90.60	269.72	7,958.3	-18.9	-3,910.6	3,910.7	0.00	0.00	0.00	
11,800.0	90.60	269.72	7,957.2	-19.4	-4,010.6	4,010.7	0.00	0.00	0.00	
11,900.0	90.60	269.72	7,956.2	-19.9	-4,110.6	4,110.7	0.00	0.00	0.00	
12,000.0	90.60	269.72	7,955.1	-20.4	-4,210.6	4,210.7	0.00	0.00	0.00	
12,100.0	90.60	269.72	7,954.1	-20.8	-4,310.6	4,310.7	0.00	0.00	0.00	
12,200.0	90.60	269.72	7,953.0	-21.3	-4,410.6	4,410.7	0.00	0.00	0.00	
12,300.0	90.60	269.72	7,952.0	-21.8	-4,510.6	4,510.6	0.00	0.00	0.00	
12,400.0	90.60	269.72	7,951.0	-22.3	-4,610.6	4,610.6	0.00	0.00	0.00	
12,500.0	90.60	269.72	7,949.9	-22.8	-4,710.6	4,710.6	0.00	0.00	0.00	
TD @ 12588' MD / 7949' TVD										
12,587.8	90.60	269.72	7,949.0	-23.2	-4,798.4	4,798.5	0.00	0.00	0.00	

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 Burton 4 IL Fed		0.00	0.00	7,949.0	-23.2	-4,798.4	582,155.27	575,853.71	32° 36' 0.750 N	104° 5' 13.280 W
- plan hits target center										
- Point										

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
7,516.6	7,516.6	0.0	0.0	Build @ 12° / 100'	
8,271.6	7,994.0	-2.3	-482.4	EOB @ 90.60° Inc / 269.72' Amz / 7994' TVD	
12,587.8	7,949.0	-23.2	-4,798.4	TD @ 12588' MD / 7949' TVD	

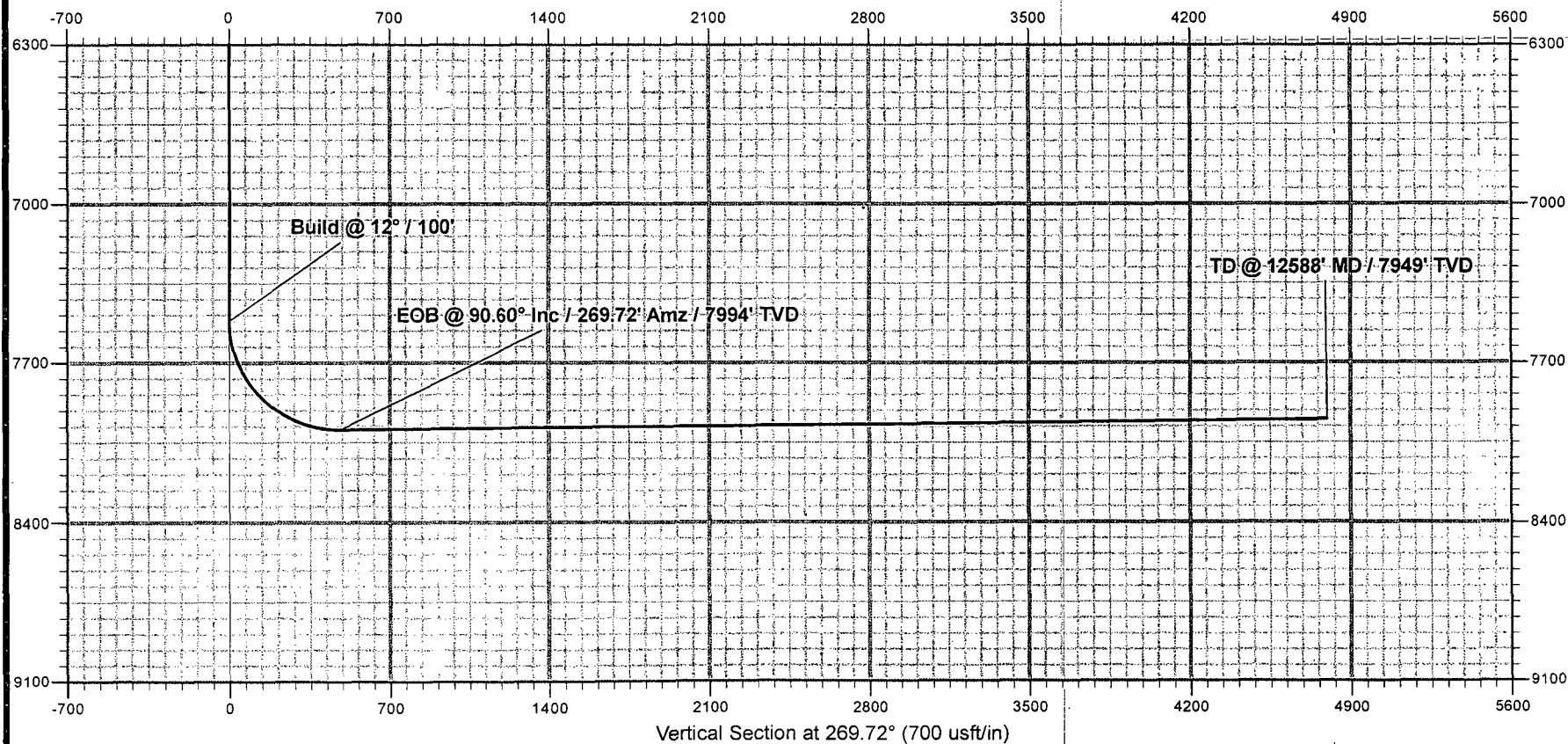
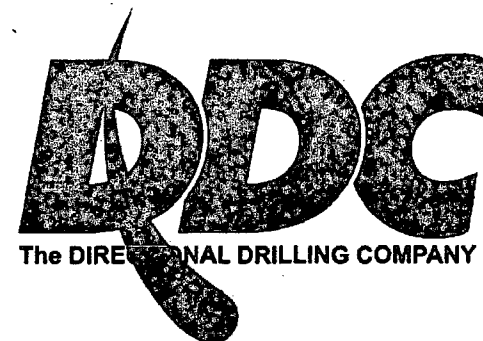
Mewbourne Oil Company

Eddy County, New Mexico
Burton4 IL Fed Com #1H
Quote #120733
Design #1



Mewbourne Oil Company

Eddy County, New Mexico
Burton4 IL Fed Com #1H
Quote #120733
Design #1



20" Diverter & Closed Loop Equipment Schematic

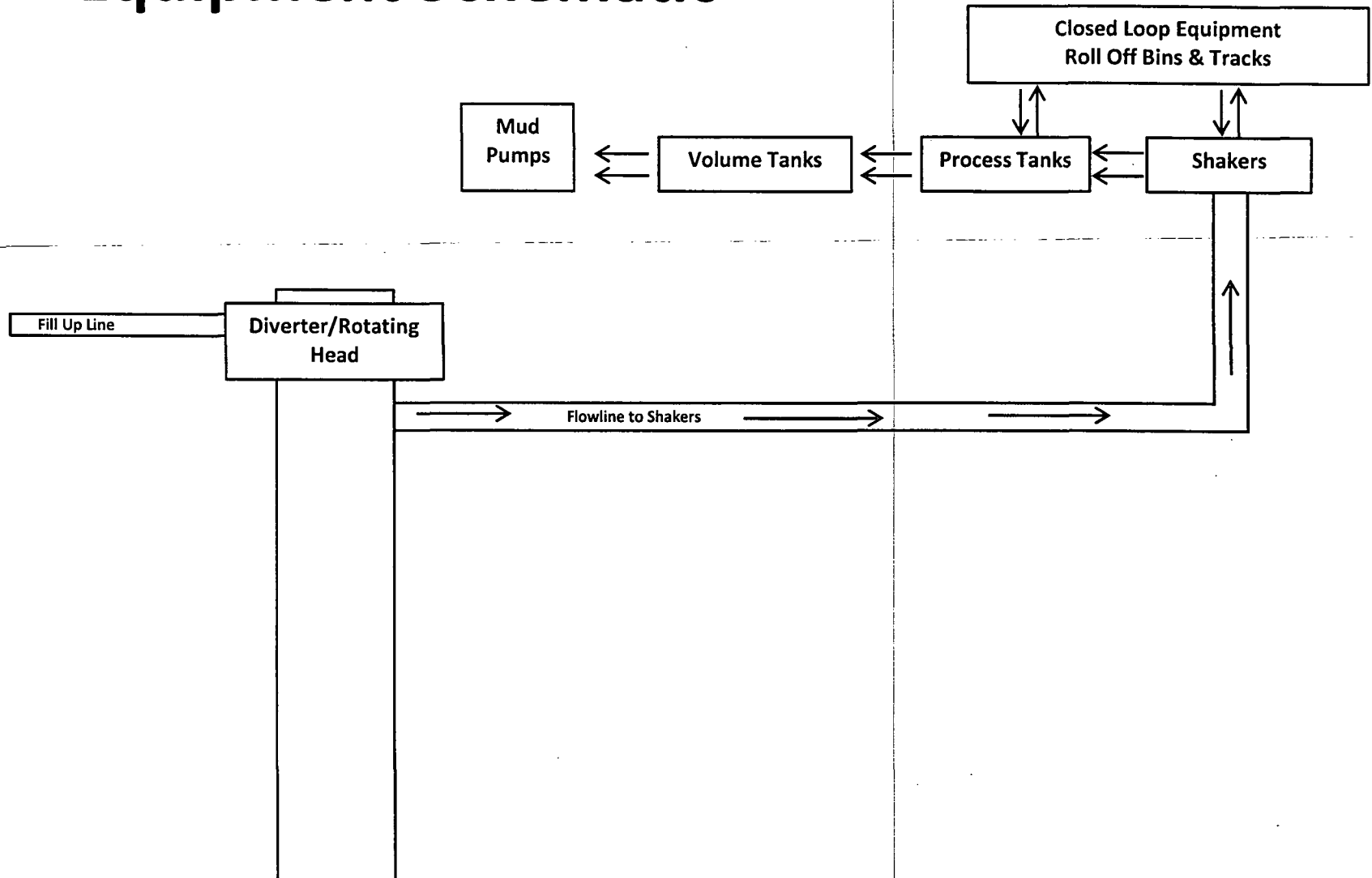


Exhibit 2B

Well Name Burton 4 IL Fed Com #1H

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

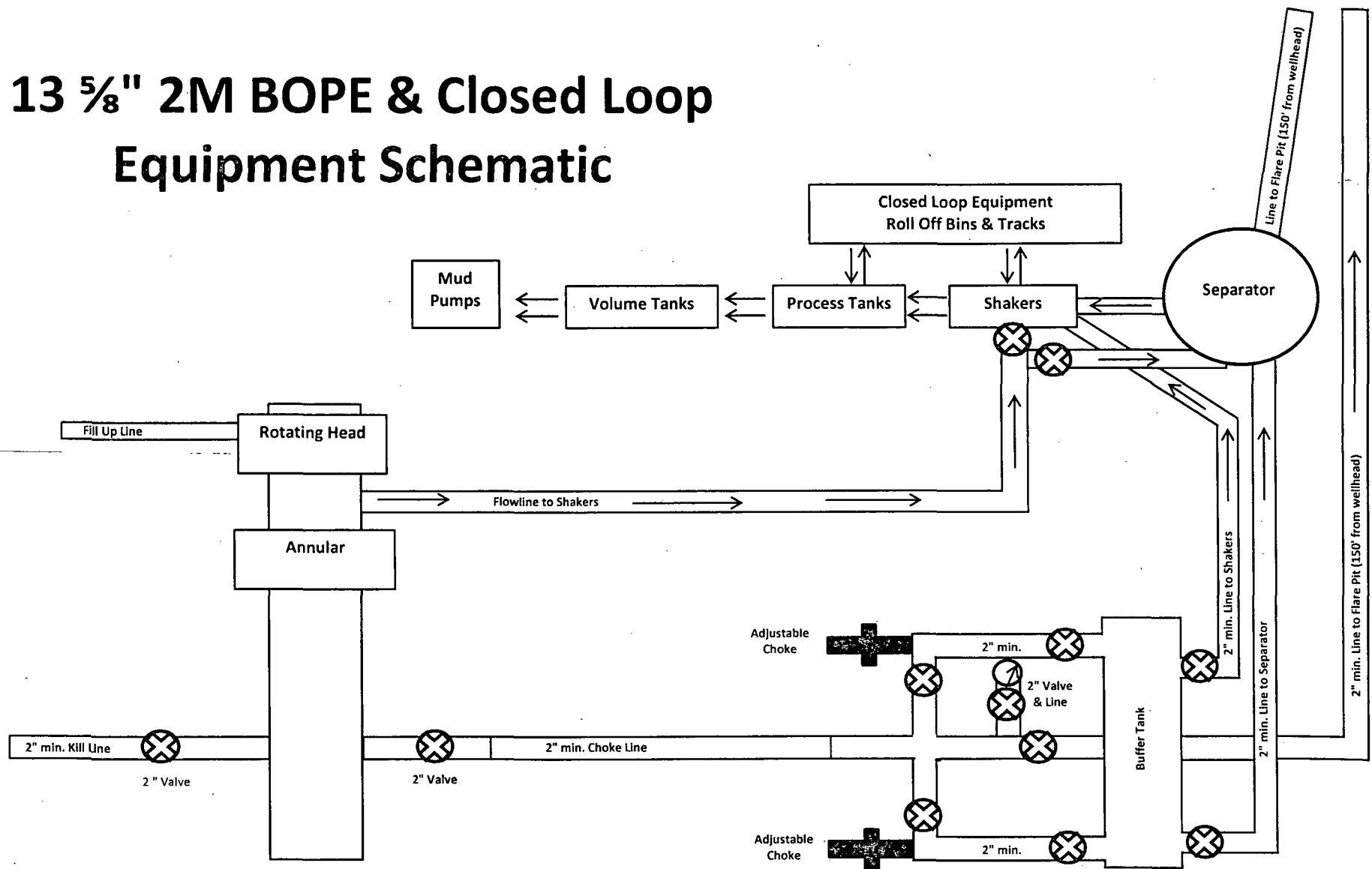


Exhibit 2A

Well Name: Burton "4" IL Fed Com #1H

11" 3M BOPE & Closed Loop Equipment Schematic

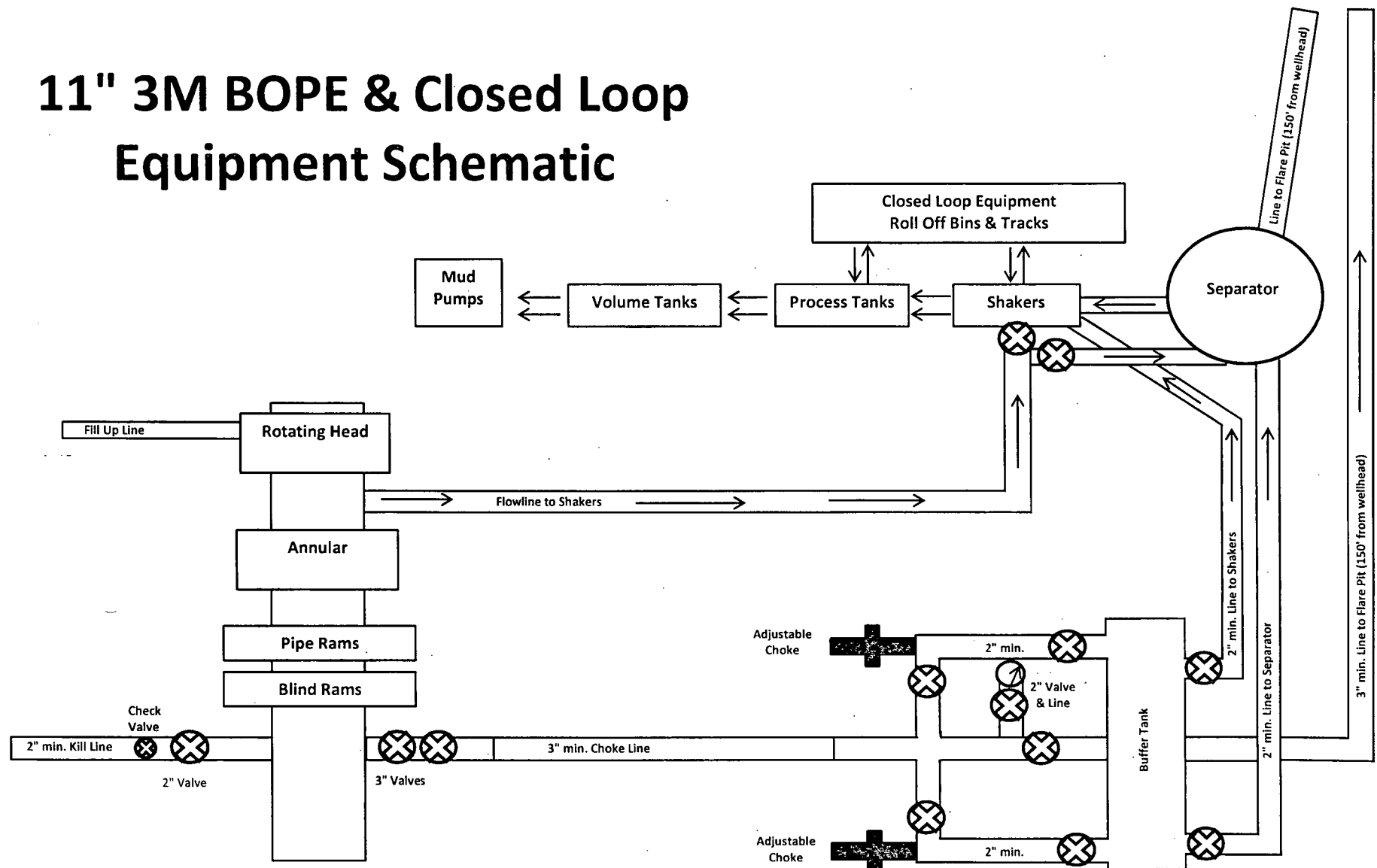


Exhibit 2
Well Name: Burton "4" IL Fed Com #1H

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'

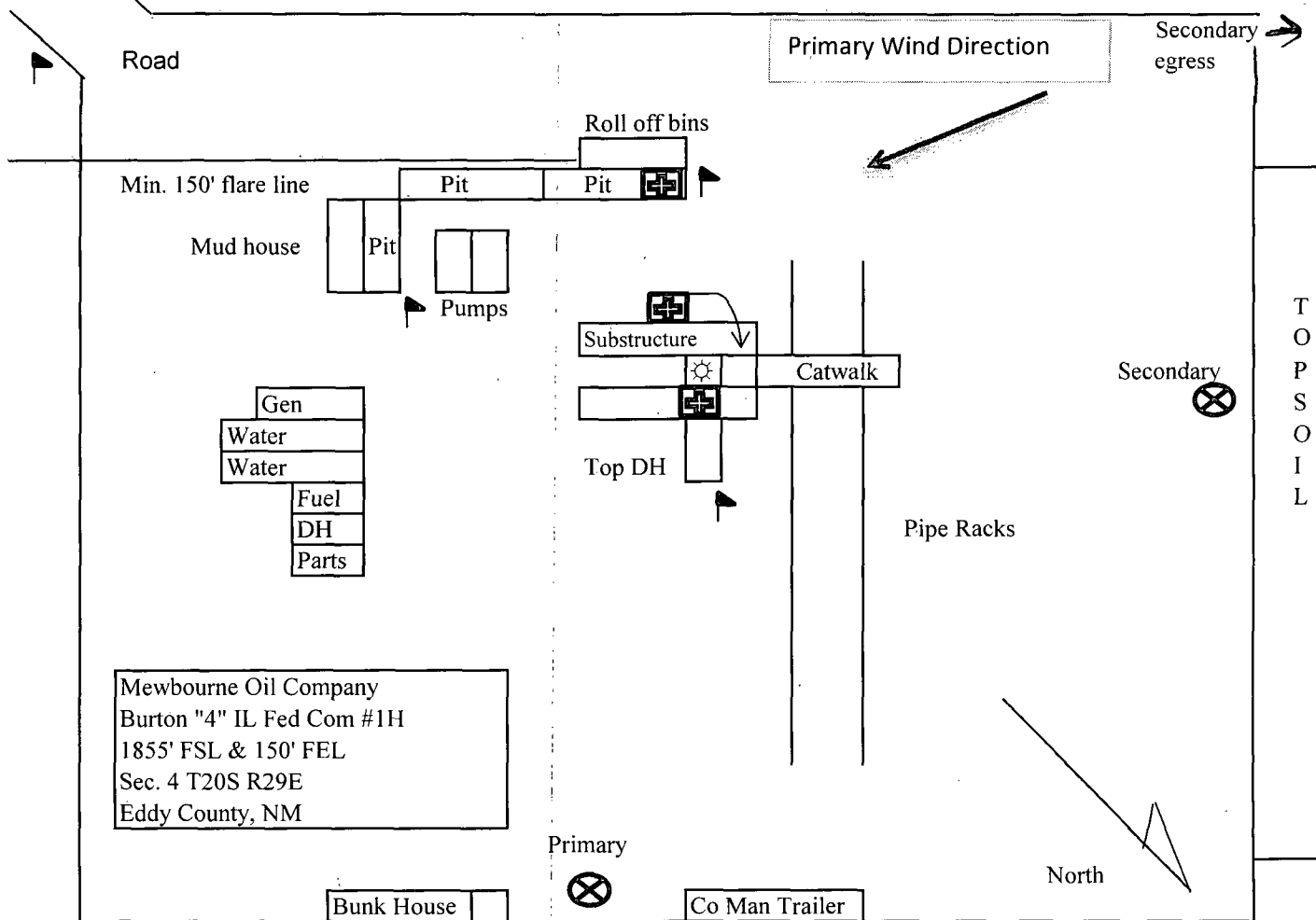


Exhibit 5



= Safety Stations



= Wind Markers



= H2S Monitors

Hydrogen Sulfide Drilling Operations Plan

Mewbourne Oil Company
Burton "4" IL Fed Com #1H
1855' FSL & 150' FEL (SL)
Sec 4-T20S-R29E
Eddy County, New Mexico

1. General Requirements

Rule 118 does not apply to this well because MOC has researched this area and no high concentrations of H₂S were found. MOC will have on location and working all H₂S safety equipment before the Delaware 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. Choke manifold with minimum of one adjustable choke.
- B. Blowout preventers equipped with blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit
- C. Auxiliary equipment including annular type blowout preventer.

2. Protective Equipment for Essential Personnel

Thirty minute self contained work unit located in the dog house and at briefing areas.

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 MOC will follow Onshore Order 6 and install a rotating head, mud/gas separator, remote choke 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**

Lea County Sheriff's Office	911 or 575-396-3611
Ambulance Service	911 or 575-885-2111
Carlsbad Fire Dept	911 or 575-885-2111
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
	Bradley Bishop	575-390-6838
Drilling Foreman	Wesley Noseff	575-441-0729

Exhibit 6

Buton 4 LE Fed Com #1/H

Production Facility

Layout



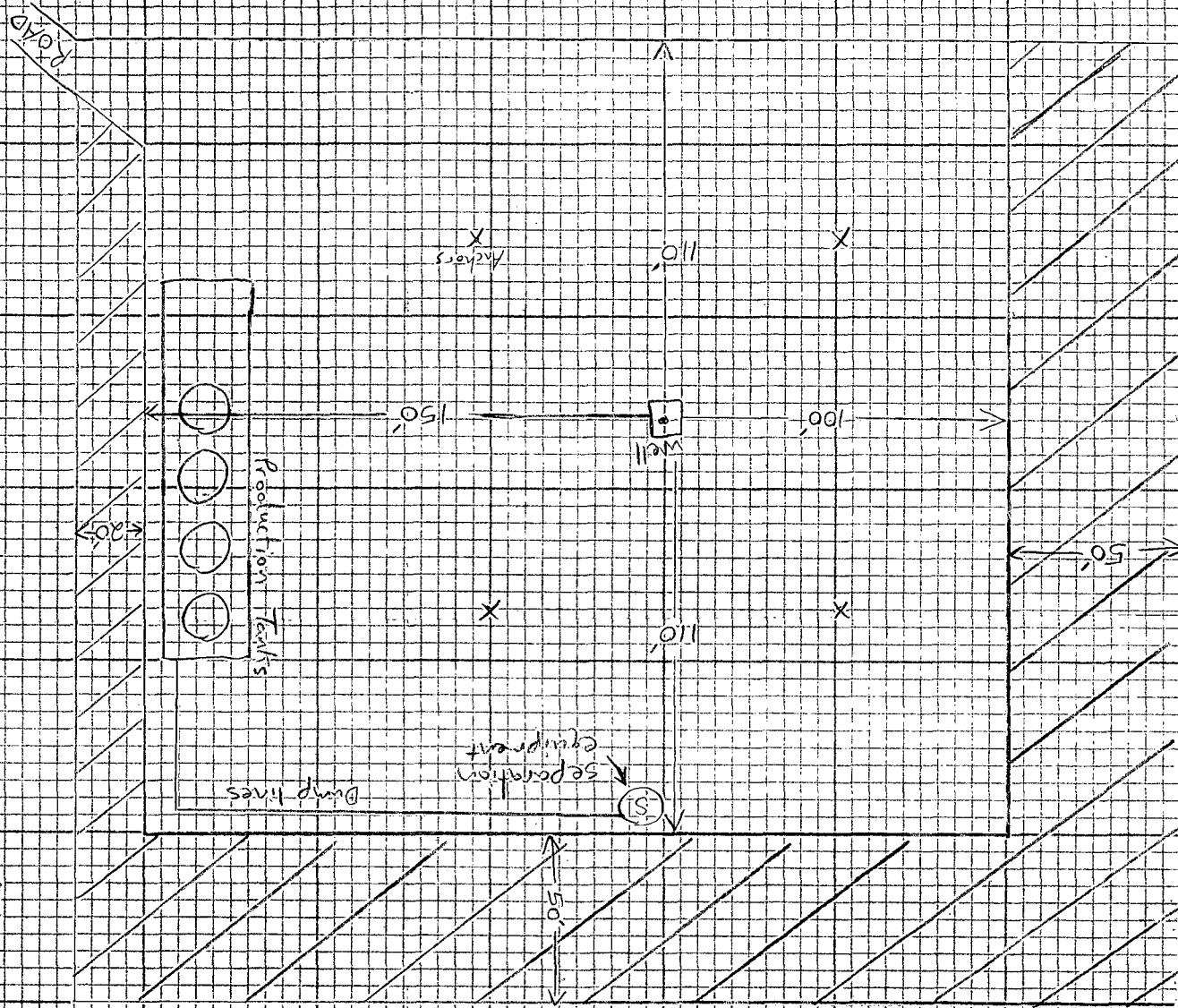
Scale

1" = 5' x 5'

Legend

X = anchors

[Symbol] = Interim Remediation



PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	MEWBOURNE 4 IL FEDERAL COM
LEASE NO.:	NM0144698
WELL NAME & NO.:	1H-BURTON 4 IL FEDERAL COM
SURFACE HOLE FOOTAGE:	1855'/S. & 150'/E.
BOTTOM HOLE FOOTAGE:	1840'/S. & 330'.W.
LOCATION:	Section 4, T. 20 S., R. 29 E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
 - No off-location pipeline approved with APD (needs a ROW)
 - Cave/Karst
 - Communitization Agreement
- ☒ **Construction**
 - Notification
 - Topsoil
 - Closed Loop System
 - Federal Mineral Material Pits
 - Well Pads
 - Roads
- ☐ **Road Section Diagram**
- ☒ **Drilling**
 - High Cave/Karst
 - H2S – Onshore Order 6 Requirements
 - Logging Requirements
 - Waste Material and Fluids
- ☒ **Production (Post Drilling)**
 - Well Structures & Facilities
- ☐ **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)

No off-location pipeline approved with APD.

The pipeline needs a right-of-way since it crosses lease boundaries.

Cave/Karst

Cave and Karst

** Depending on location, additional Drilling, Casing, and Cementing procedures may be required by engineering to protect critical karst groundwater recharge areas.

Cave/Karst Surface Mitigation

The following stipulations will be applied to minimize impacts during construction, drilling and production.

Construction:

In the advent that any underground voids are opened up during construction activities, construction activities will be halted and the BLM will be notified immediately.

No Blasting:

No blasting will be utilized for pad construction. The pad will be constructed and leveled by adding the necessary fill and caliche.

Pad Berming:

The entire perimeter of the well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad.

- The berm shall be constructed at a minimum of 12 inches high with impermeable mineral material (e.g. caliche).
- No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad.
- The topsoil stockpile shall be located outside the bermed well pad.
- Topsoil, either from the well pad or surrounding area, shall not be used to construct the berm.
- No storm drains, tubing or openings shall be placed in the berm.
- If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.
- The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and after interim reclamation has been completed.
- Any access road entering the well pad shall be constructed so that the integrity of the berm height surrounding the well pad is not compromised. (Any access road crossing the berm cannot be lower than the berm height.)

Tank Battery Liners and Berms:

Tank battery locations will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank.

Leak Detection System:

A method of detecting leaks is required. The method could incorporate gauges to measure loss, siting valves and lines so they can be visually inspected, or installing electronic sensors to alarm when a leak is present. Leak detection plan will be submitted to BLM for approval.

Automatic Shut-off Systems:

Automatic shut off, check valves, or similar systems will be installed for pipelines and tanks to minimize the effects of catastrophic line failures used in production or drilling.

Cave/Karst Subsurface Mitigation

The following stipulations will be applied to protect cave/karst and ground water concerns:

Rotary Drilling with Fresh Water:

Fresh water will be used as a circulating medium in zones where caves or karst features are expected. SEE ALSO: Drilling COAs for this well.

Directional Drilling:

Kick off for directional drilling will occur at least 100 feet below the bottom of the cave occurrence zone. SEE ALSO: Drilling COAs for this well.

Lost Circulation:

ALL lost circulation zones from the surface to the base of the cave occurrence zone will be logged and reported in the drilling report.

Regardless of the type of drilling machinery used, if a void of four feet or more and circulation losses greater than 70 percent occur simultaneously while drilling in any cave-bearing zone, the BLM will be notified immediately by the operator. The BLM will assess the situation and work with the operator on corrective actions to resolve the problem.

Abandonment Cementing:

Upon well abandonment in high cave karst areas additional plugging conditions of approval may be required. The BLM will assess the situation and work with the operator to ensure proper plugging of the wellbore.

Pressure Testing:

Annual pressure monitoring will be performed by the operator on all casing annuli and reported in a sundry notice. If the test results indicated a casing failure has occurred, remedial action will be undertaken to correct the problem to the BLM's approval.

Communitization Agreement

A Communitization Agreement covering the acreage dedicated to this well must be filed for approval with the BLM. The effective date of the agreement shall be prior to any sales. In addition, the well sign shall include the surface and bottom hole lease numbers. If the Communitization Agreement number is known, it shall also be on the sign. If not, it shall be placed on the sign when the sign is replaced.

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) 234-5909 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 6 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 (25) feet.

Surfacing

Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

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

Crowning

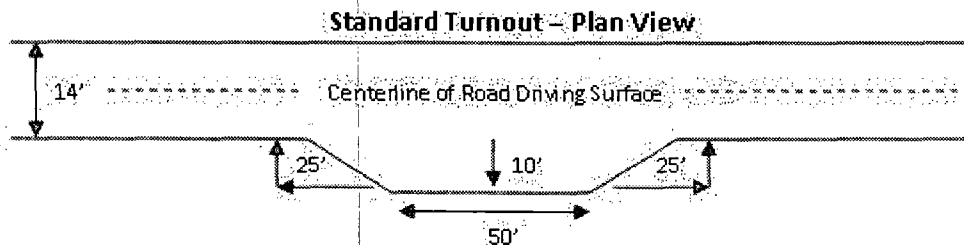
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching

Ditching shall be required on both sides of the road.

Turnouts

Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:

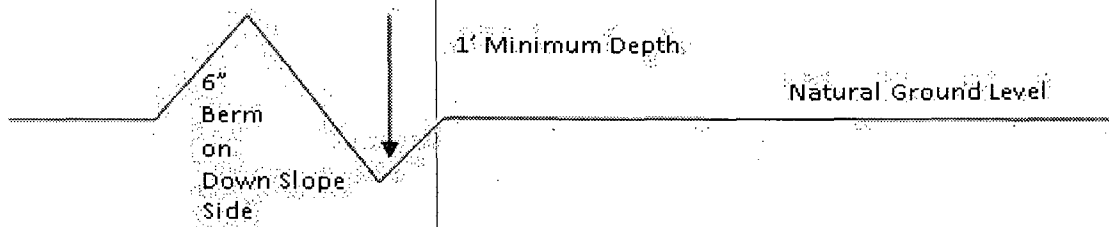


Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

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

Culvert Installations

Appropriately sized culvert(s) shall be installed at the deep waterway channel flow crossing.

Cattleguards

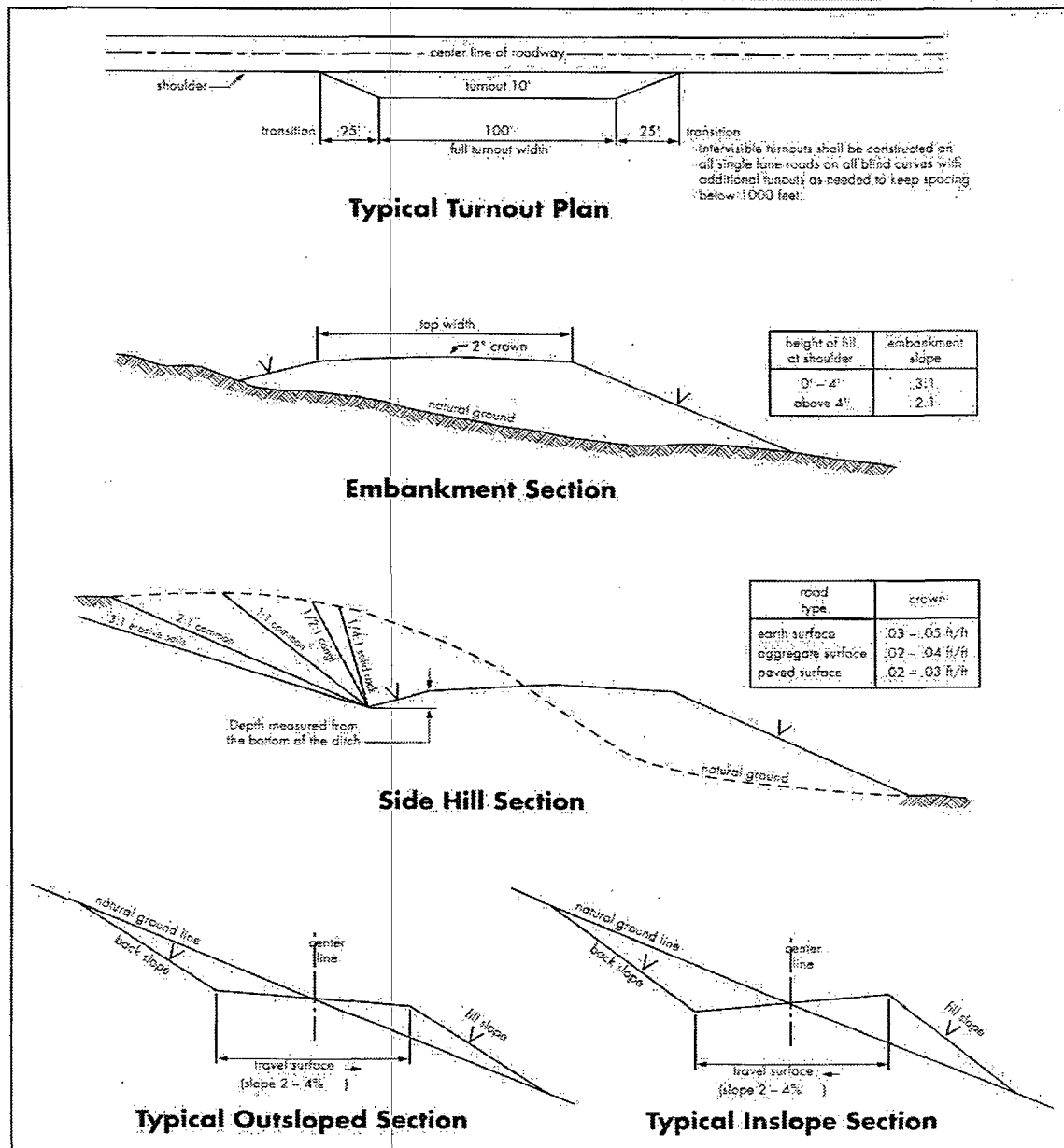
An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s).

Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations.

Public Access

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

Figure 1 – Cross Sections and Plans For Typical Road Sections



VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

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

- a. Spudding well
- b. 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. **Hydrogen Sulfide (H₂S) monitors shall be installed prior to drilling out the surface shoe. If H₂S is encountered in quantities greater than 10 PPM the well shall be shut in and H₂S equipment shall be installed and flare line must be extended pursuant to Onshore Oil and Gas Order #6. After detection, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items.**
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 are 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 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.

High Cave/Karst

Possible lost circulation in the Artesia, Delaware and Bone Spring Groups.

Possible brine and water flows in the Artesia and Salado Groups.

1. The **20 inch** surface casing shall be set at approximately **350 feet** (a minimum of 25 feet into the Competent Bed and above the salt) and cemented to the surface. **If salt is encountered set casing 25 feet above the top of the salt.**
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with 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 **13-3/8** inch first 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 cave/karst. Additional cement may be required as excess calculates to 9%.**

3. The minimum required fill of cement behind the **9-5/8** inch 2nd intermediate casing, **which shall be set in the Base of the Capitan Reef or in the Top of the Delaware Mountain Group**, 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 cave/karst and potash.**

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

☒ Cement should tie-back at least **50 feet above the Capitan Reef** (Top of Capitan Reef estimated at 1470'). Operator shall provide method of verification. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to Capitan Reef and cave/karst.**

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

☒ No cement required on the 4-1/2" segment as it utilizes a Packer/Port completion system from TD to up inside 7" casing.

6. 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. **A variance is granted for the use of a diverter on the 20" surface casing.**
3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **13-3/8** inch first intermediate casing shoe shall be **2000 (2M)** psi.

4. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 9-5/8 inch second intermediate casing shoe shall be **3000 (3M)** psi.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, 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. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
 - 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 test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock.
 - d. The results of the test shall be reported to the appropriate BLM office.
 - e. 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.**
 - f. 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. This test shall be performed prior to the test at full stack pressure.

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.

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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).

Seed Mixture 2, for Sandy 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>
Sand dropseed (<i>Sporobolus cryptandrus</i>)	1.0
Sand love grass (<i>Eragrostis trichodes</i>)	1.0
Plains bristlegrass (<i>Setaria macrostachya</i>)	2.0

*Pounds of pure live seed:

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