

OCD-ARTESIA

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

MAR 13 2008

1a. Type of Work: ☒ DRILL ☐ REENTER

OCD-ARTESIA

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

2. Name of Operator

Mewbourne Oil Company - 14744

3a. Address

PO Box 5270 Hobbs, NM 88240

3b. Phone No. (include area code)

505-393-5905

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

At surface 400' FNL & 1300' FWL Unit D

At proposed prod. zone 400' FNL & 330' FEL Unit A

14. Distance in miles and direction from nearest town or post office*

12 Miles East of Artesia

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 400'

16. No. of Acres in lease

2560

17. Spacing Unit dedicated to this well

160

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1000'

19. Proposed Depth

10300'

20. BLM/BIA Bond No. on file

NM1693, Nationwide

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

3589' GL

22. Approximate date work will start*

ASAP

23. Estimated duration

45

24. Attachments

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

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

25. Signature

Jackie Lathan

Name (Printed/Typed)

Jackie Lathan

Date

12/21/07

Title

Hobbs Regulatory

Approved by (Signature)

/s/ Don Peterson

Name (Printed/Typed)

/s/ Don Peterson

MAR 06 2008

Title

FIELD MANAGER

Office

CARLSBAD FIELD OFFICE

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

APPROVAL FOR TWO YEARS

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*(Instructions on reverse)

Roswell Controlled Water Basin

Witness Surface & Intermediate Casing

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

If earthen pits are used in association with the drilling of this well, an OCD pit permit must be obtained prior to pit construction.

Approval Subject to General Requirements & Special Stipulations Attached

DISTRICT I

1825 N. French Dr., Hobbs, NM 88240

DISTRICT II

1301 W. Grand Avenue, Alameda, NM 88210

DISTRICT III

1000 Rio Bravos Rd., Aztec, NM 87410

DISTRICT IV

1880 S. St. Francis Dr., Santa Fe, NM 87505

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 October 12, 2005

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-36214	Pool Code 17970	Pool Name Dog Canyon; Wolfcamp
Property Code 37056	Property Name CROW FLATS "28" FEDERAL	Well Number 1 H
OGED No. 14744	Operator Name MEWBOURNE OIL COMPANY	Elevation 3589'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	28	16 S	28 E		400	NORTH	1300	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
A	28	16 S	28 E		400	North	330	East	Eddy
Dedicated Acres 160	Joint or Infill	Consolidation Code	Order No.						

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 undivided mineral interest in the land including the proposed bottom hole 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><i>Jaekie Lathan</i></u> Date: _____ Printed Name: <u>Jaekie Lathan</u> 2/13/08
	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>DECEMBER 12, 2007</u> Signature: <u><i>[Signature]</i></u> Professional Surveyor No. <u>18558</u> Certificate No. <u>18558</u> Jones 7977 BASIN SURVEYS

LEASE ROAD

PROP LSE RD 210.0'

114.5'

3589.8'

600'

3592.8'

370'

150' NORTH
OFF SET
3590.2'

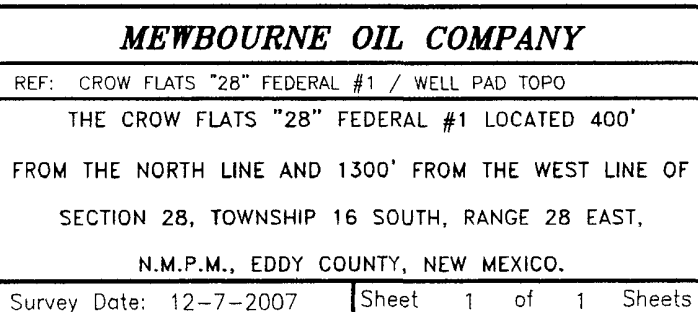
150' WEST
OFF SET
3589.2'

150' EAST
OFF SET
3589.8'

150' SOUTH
OFF SET
3588.9'

MEWBOURNE OIL COMPANY
CROW FLATS "28" FEDERAL #1
ELEV. - 3589'

LAT N.: 32°53'57.2"
LONG W.: 104°11'05.0"
N.: 690876.54
E.: 545615.80
(NAD-27)



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 NM83066

Legal Description of Land: Section 28, T-16S, R-28E Eddy County, New Mexico.
Surface Location, @ 400' FNL & ~~1250'~~ FWL, Unit Letter D
Bottom Hole Location, 330' FNL & 330' FEL, Unit Letter A
Covering 160 acres

1300'

Formation (if applicable):

Bond Coverage: \$150,000

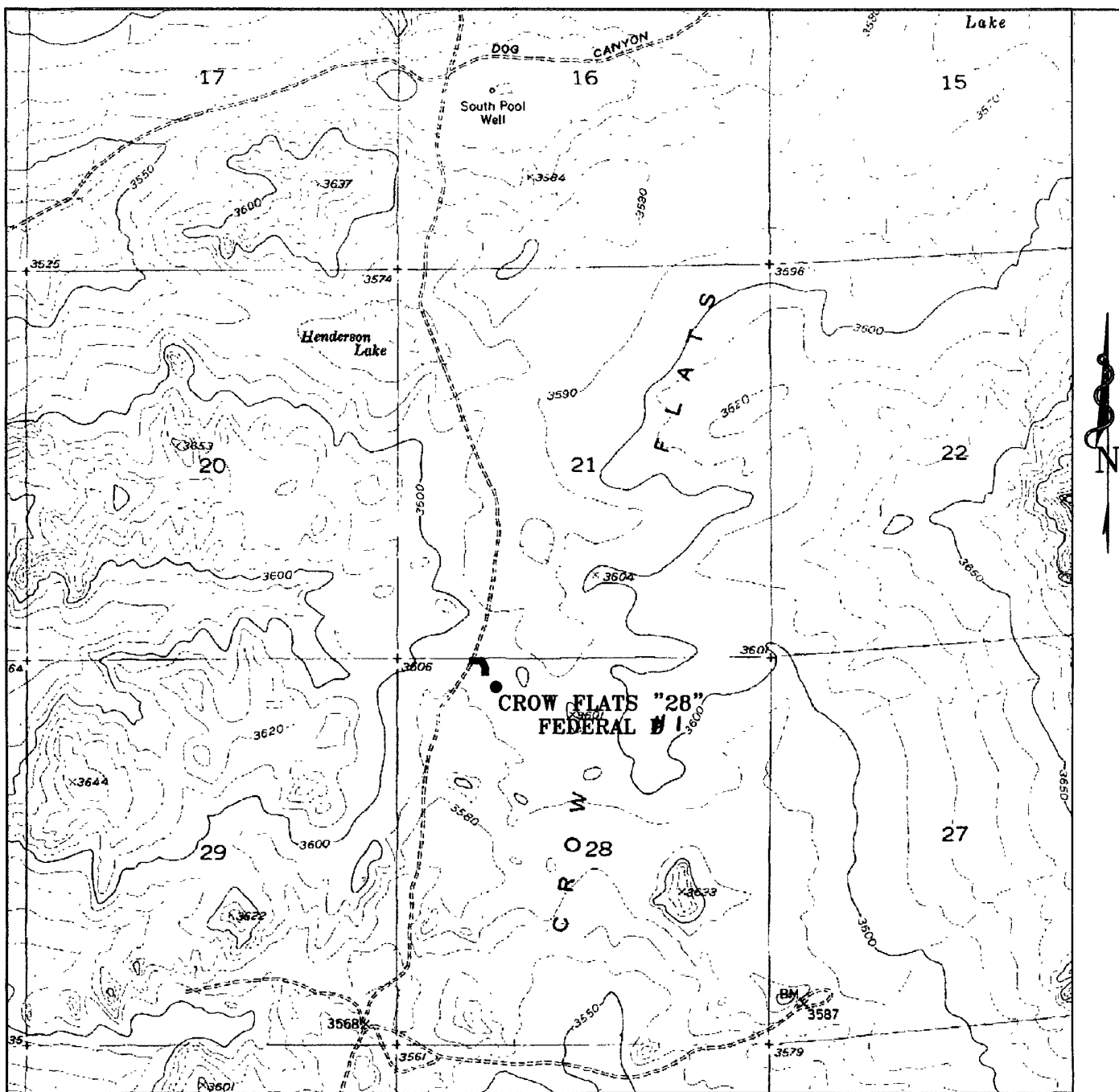
BLM Bond File: NM1693, Nationwide

Authorized Signature: _____

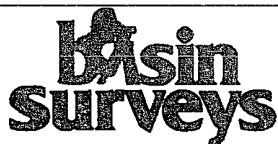
Name: NM (Micky) Young

Title: District Manager

Date: June 13, 2006



CROW FLATS "28" FEDERAL #1 1300'
 Located 400' FNL and ~~1250'~~ FWL
 Section 28, Township 16 South, Range 28 East,
 N.M.P.M., Eddy County, New Mexico.



P.O. Box 1786
 1120 N. West County Rd.
 Hobbs, New Mexico 88241
 (505) 393-7316 - Office
 (505) 392-3074 - Fax
basinsurveys.com

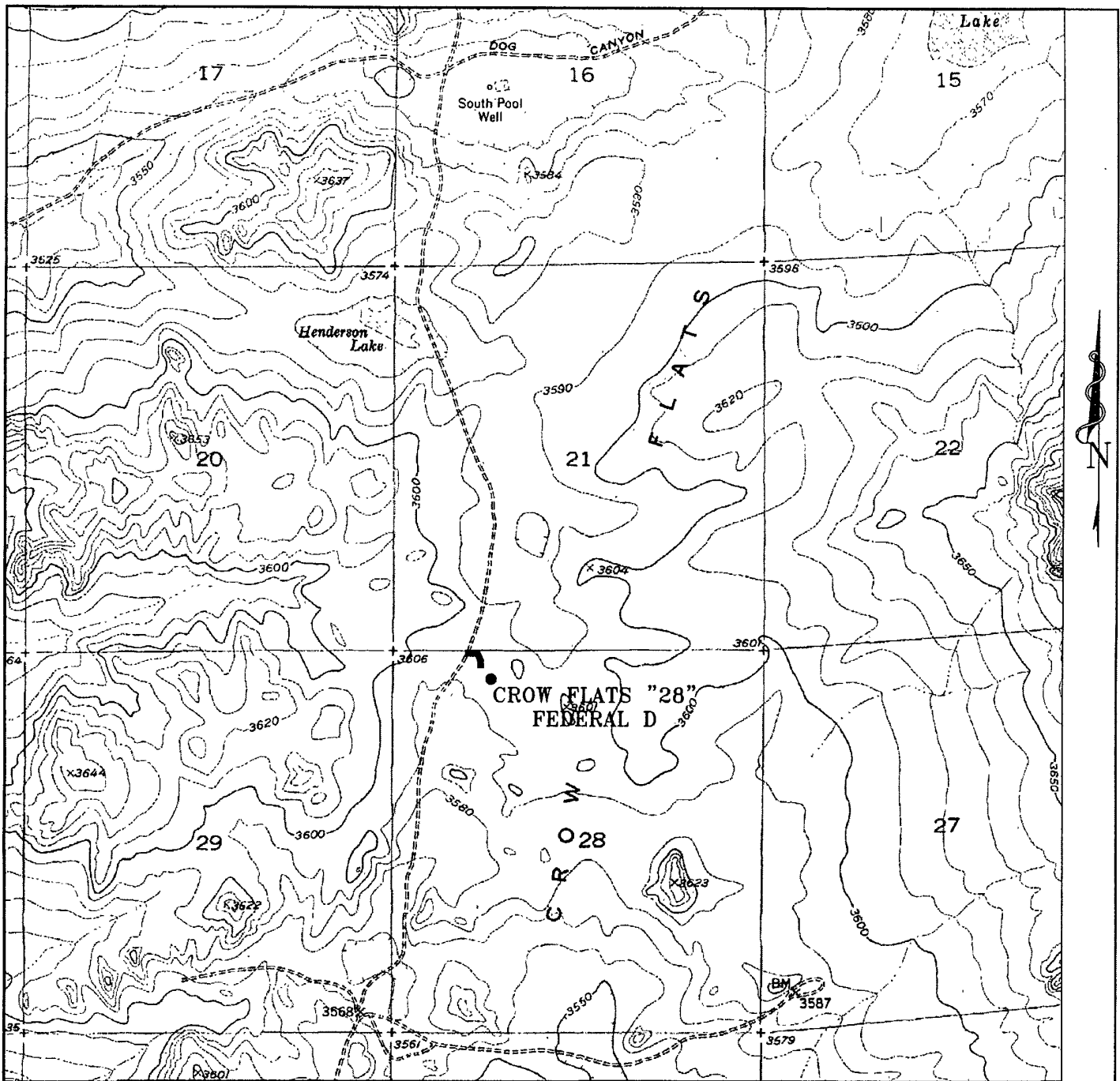
W.O. Number: 18934T JMS

Survey Date: 12-11-2007

Scale: 1" = 2000'

Date: 12-12-2007

**MEWBOURNE
 OIL CO.**



CROW FLATS "28" FEDERAL D 1300'
 Located 400' FNL and ~~1250~~ 1250' FWL
 Section 28, Township 16 South, Range 28 East,
 N.M.P.M., Eddy County, New Mexico.

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 in the oilfield

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OIL CO.



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 basinsurveys.com

W.O. Number: 18934TR JMS

Survey Date: 12-12-2007

Scale: 1" = 2 MILES

Date: 12-12-2007

MEWBOURNE
OIL CO.

Drilling ProgramMewbourne Oil Company

Crow Flats 28 Federal #1

400' FNL & 1250' FWL, Sec 28-T16S-R28E (Surface Location) Unit Letter D

400' FNL & 330' FEL, Sec 28-16S-R28E (Bottom hole Location) Unit Letter A

Eddy County, New Mexico

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

Yates	370'	San Andres	1923'
Seven Rivers	580'	Glorieta	3310'
Bowers Sand	903'	Tubb	4640'
Queen	1083'	Abo	5388'
Grayburg	1499'	Wolfcamp	6531'

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

Water	Below 150'.
Hydrocarbons	All zones below Yates.

3. Pressure control equipment:

sec
COA

A 2000# working pressure annular BOP will be installed on the 13 3/8" surface casing. A 5000# WP Double Ram BOP and 3000# WP Annular will be installed after running 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 deep surface casing and will remain in use until completion of drilling operations. BOP's will be inspected and operated daily to insure mechanical integrity and the inspection will be recorded on the daily drilling report.

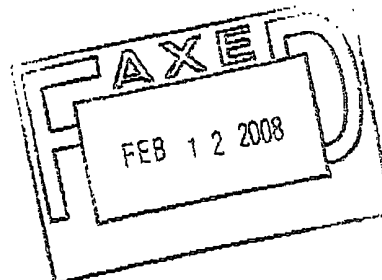
Kelly cock and a sub equipped with a full opening valve sized to fit the drill pipe and collars will be available on the rig floor in the open position when the kelly is not in use.

4. Proposed casing and cementing program:

A. Casing Program:

Hole Size	Casing	Wt/Ft	Grade	Depth	Jt Type
17 1/2"	13 3/8" (new)	48#	H40	0-500'	ST&C
12 1/4"	9 5/8" (new)	40#	N80	0-100'	LT&C
	9 5/8" (new)	40#	J55	100'-1300'	LT&C
8 3/4"	5 1/2" (new)	17#	HCP110	0-10300'	LT&C

Minimum casing design factors: Collapse 1.2, Burst 1.1, Tensile strength 2.0.



Drilling Program
Mewbourne Oil Company
Crow Flats 28 Federal #1
Page 2

B. Cementing Program:

- i. Surface Casing: 200 sacks Class C light cement containing 1/2#/sk cellophane flakes, 2% CaCl, 5#/sk gilsonite. Yield at 1.98 cuft/sk. 200 sks Class C cement containing 2% CaCl. Yield at 1.34 cuft/sk. Cmt circulated to surface.
- ii. Intermediate Casing: 600 sacks Class C light cement containing 2% CaCl. Yield 1.34 cuft/sk. Cmt circulated to surface.
- iii. Production Casing: 500 sacks Class H cement containing fluid loss additive, friction reducer additive, compressive strength enhancer and NaCl. Yield at 1.28 cuft/sk. 15.1#/gal. Shallower productive zones may be protected by utilizing a multiple stage cementing tool in the production casing below potentially productive zones and cementing with a light cement slurry. Cmt top to be 500' above Wolfcamp.

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

5. Mud Program:

<u>Interval</u>	<u>Type System</u>	<u>Weight</u>	<u>Viscosity</u>	<u>Fluid Loss</u>
0'-600'	FW spud mud	8.6-9.4	32-34	NA
500'-1800'	Brine water	10.0-10.2	28-30	NA
1300'-6620'	Cut Brine water	8.4-9.1	28-30	NA
6600'-TD	BW/Starch & Polymer	9.1-9.8	30-40	8-15

(Note: Any Weight Above 8.6#/gallon would be to hold back Wolfcamp shale, rather than abnormal BHP.)

It may become necessary to drill thru the Capitan reef with air-assist to maintain circulation.

6. Evaluation Program:

This well is planned to be a directional well per exhibit #7

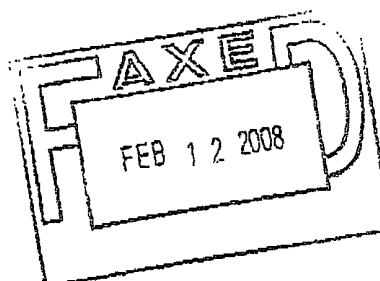
Samples: 10' samples from intermediate casing to TD
 Logging: Compensated density and dual laterlog from intermediate casing to TD. Gamma Ray Neutron to surface.
 Coring: As needed for evaluation
 Drill Stem Tests: As needed for evaluation

7. Downhole Conditions

Zones of abnormal pressure: None anticipated
 Zones of lost circulation: Anticipated in surface and intermediate holes
 Maximum bottom hole temperature: 180 degree F
 Maximum bottom hole pressure: 9.0 lbs/gal gradient or less

8. Anticipated Starting Date:

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



Mewbourne

Eddy County
Crow Flats 28 D
Crow Flats 28 D
OH

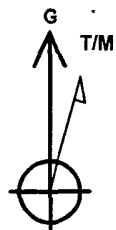
*Exhibit
7*

Plan: Plan #1

Standard Planning Report

19 December, 2007

Mewbourne Oil Company



Azimuths to Grid North
True North: 0.82°
Magnetic North: 0.82°

Magnetic Field
Strength: 0.0snT
Dip Angle: 0.00°
Date: 12/19/2007
Model: USER DEFINED

Project: Eddy County
Site: Crow Flats 28 D
Well: Crow Flats 28 D
Wellbore: OH
Plan: Plan #1 (Crow Flats 28 D/OH)

PATHFINDER ENERGY SERVICES

WELL DETAILS: Crow Flats 28 D

Ground Elevation:: 3590.0
RKB Elevation: RKB @ 3607.0ft
Rig Name:

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	0.00	0.00	30° 59' 24.512 N	105° 55' 44.137 W	

SECTION DETAILS

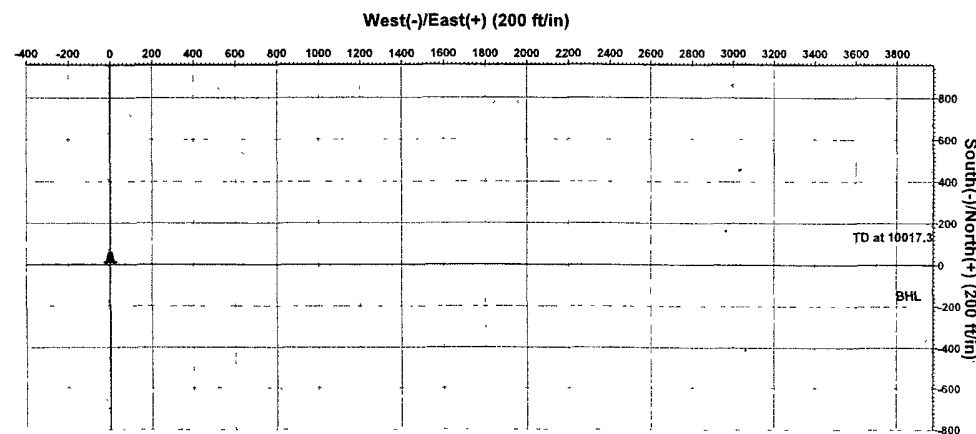
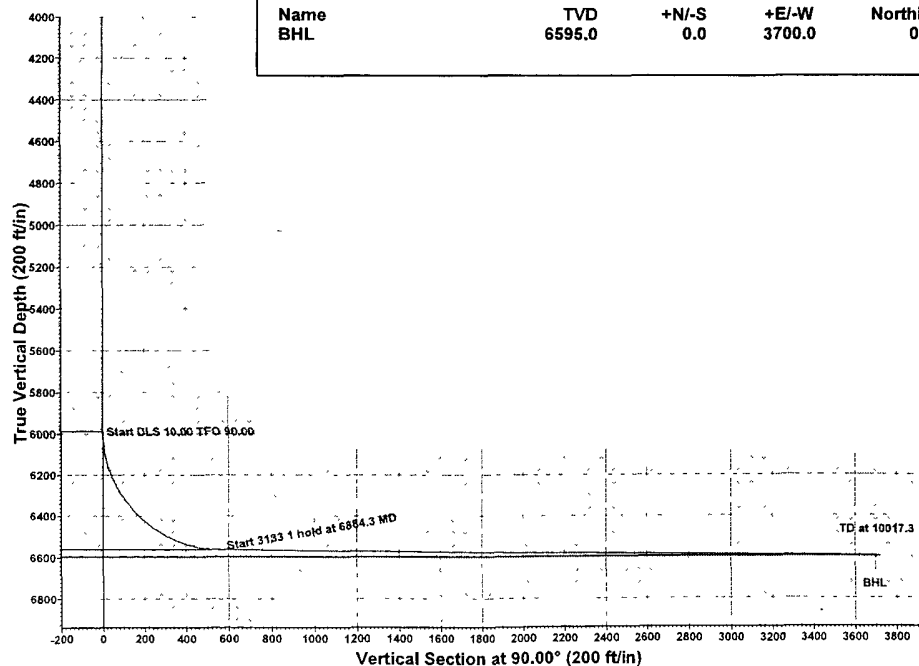
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	5990.1	0.00	0.00	5990.1	0.0	0.0	0.00	0.00	0.0	
3	6884.3	89.42	90.00	6563.0	0.0	567.1	10.00	90.00	567.1	
4	10017.3	89.42	90.00	6595.0	0.0	3700.0	0.00	0.00	3700.0	BHL

PROJECT DETAILS: Eddy County
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001

System Datum: Mean Sea Level
Local North: Grid

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape Point
BHL	6595.0	0.0	3700.0	0.00	3700.00	



Plan: Plan #1 (Crow Flats 28 D/OH)

Created By: Matthew May Date: 13 01, December 19 2007

Checked: _____ Date: _____

WHS Planning Report

Database: EDM 2003.16 Single User Db
Company: Mewbourne
Project: Eddy County
Site: Crow Flats 28 D
Well: Crow Flats 28 D
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well-Crow Flats 28 D
TVD Reference: RKB @ 3607.0ft
MD Reference: RKB @ 3607.0ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Project: Eddy County

Map System: US State Plane 1927 (Exact solution)
Geo Datum: NAD 1927 (NADCON CONUS)
Map Zone: New Mexico East 3001

System Datum: Mean Sea Level

Site: Crow Flats 28 D

Site Position:
From: None
Position Uncertainty: 0.0 ft
Northing: ft
Easting: ft
Slot Radius: "
Latitude:
Longitude:
Grid Convergence: 0.00 °

Well: Crow Flats 28 D

Well Position +N/-S 0.0 ft **Northing:** 0.00 ft **Latitude:** 30° 59' 24.512 N
 +E/-W 0.0 ft **Easting:** 0.00 ft **Longitude:** 105° 55' 44.137 W
Position Uncertainty 0.0 ft **Wellhead Elevation:** ft **Ground Level:** 3,590.0 ft

Wellbore: OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	User Defined	12/19/2007	0.00	0.00	0

Design: Plan #1

Audit Notes:

Version: **Phase:** PROTOTYPE **Tie On Depth:** 0.0

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	90.00

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
5,990.1	0.00	0.00	5,990.1	0.0	0.0	0.00	0.00	0.00	0.00	
6,884.3	89.42	90.00	6,563.0	0.0	567.1	10.00	10.00	10.07	90.00	
10,017.3	89.42	90.00	6,595.0	0.0	3,700.0	0.00	0.00	0.00	0.00 BHL	

WHS Planning Report

Database: EDM 2003.16 Single User Db
Company: Mewbourne
Project: Eddy County
Site: Crow Flats 28 D
Well: Crow Flats 28 D
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well Crow Flats 28 D
TVD Reference: RKB @ 3607.0ft
MD Reference: RKB @ 3607.0ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

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

WHS Planning Report

Database: EDM 2003.16 Single User Db
Company: Mewbourne
Project: Eddy County
Site: Crow Flats 28 D
Well: Crow Flats 28 D
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well.Crow Flats 28 D
TVD Reference: RKB @ 3607.0ft
MD Reference: RKB @ 3607.0ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
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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
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8,800.0	89.42	90.00	6,582.6	0.0	2,482.8	2,482.8	0.00	0.00	0.00
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9,200.0	89.42	90.00	6,586.7	0.0	2,882.7	2,882.7	0.00	0.00	0.00
9,300.0	89.42	90.00	6,587.7	0.0	2,982.7	2,982.7	0.00	0.00	0.00
9,400.0	89.42	90.00	6,588.7	0.0	3,082.7	3,082.7	0.00	0.00	0.00
9,500.0	89.42	90.00	6,589.7	0.0	3,182.7	3,182.7	0.00	0.00	0.00

WHS Planning Report

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Well: Crow Flats 28 D
Wellbore: OH
Design: Plan #1

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Survey Calculation Method: Minimum Curvature

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9,600.0	89.42	90.00	6,590.7	0.0	3,282.7	3,282.7	0.00	0.00	0.00
9,700.0	89.42	90.00	6,591.8	0.0	3,382.7	3,382.7	0.00	0.00	0.00
9,800.0	89.42	90.00	6,592.8	0.0	3,482.7	3,482.7	0.00	0.00	0.00
9,900.0	89.42	90.00	6,593.8	0.0	3,582.7	3,582.7	0.00	0.00	0.00
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10,017.3	89.42	90.00	6,595.0	0.0	3,700.0	3,700.0	0.00	0.00	0.00

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
BHL	0.00	360.00	6,595.0	0.0	3,700.0	0.00	3,700.00	30° 59' 25.035 N	105° 55' 1.644 W
- plan hits target									
- Point									

Notes Regarding Blowout Preventer
Mewbourne Oil Company

1300' Crow Flats 28 Federal #1
400' FNL & ~~4250'~~ FWL, Sec 28-T16S-R28E (Surface Location)
400' FNL & 330' FEL, Sec 28-T16S-R28E (Bottom Hole Location)
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 5000 psi working pressure.
- 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 5000 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.

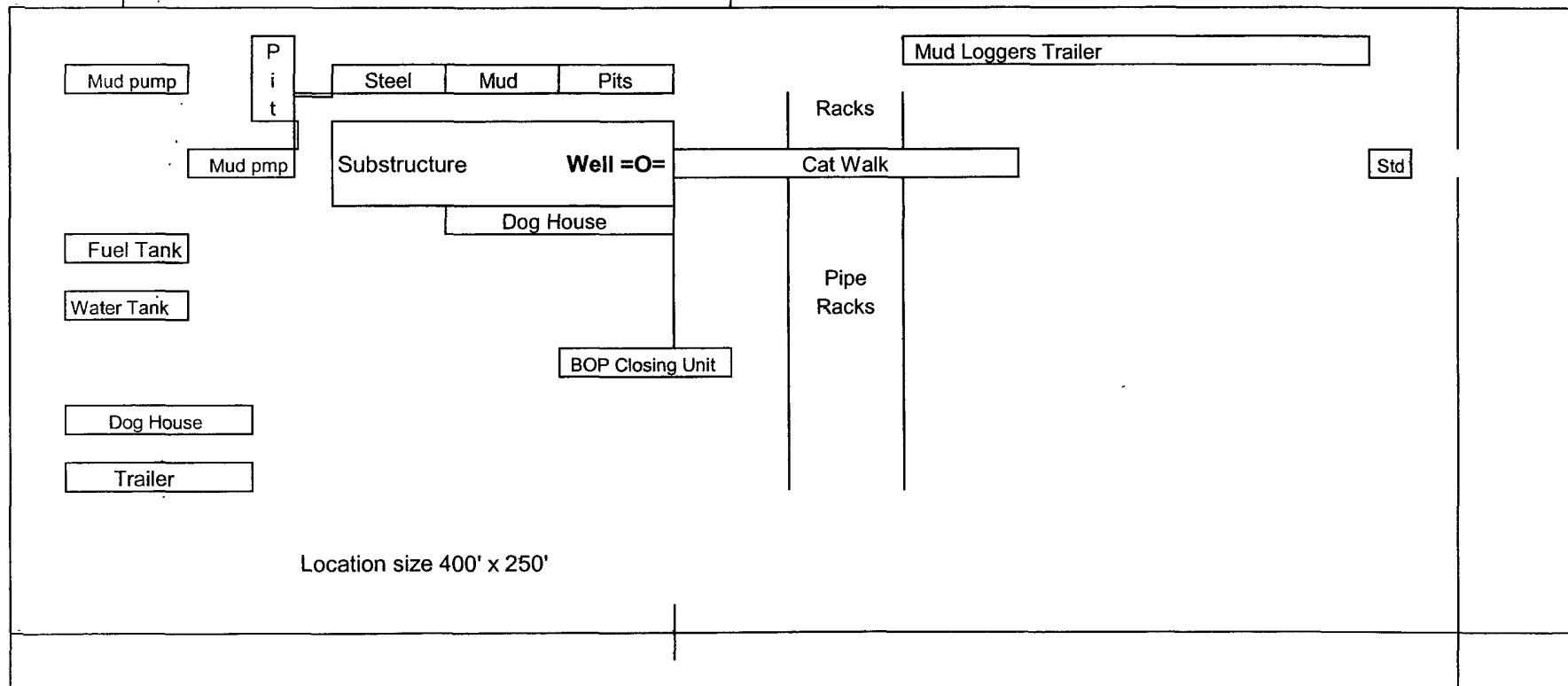
Blowout preventer closing equipment to include and accumulator of at least 40 gallon capacity, two independent sources of pressure on closing unit, and meet all other API specifications.

Mewbourne Oil Company

Exhibit #5

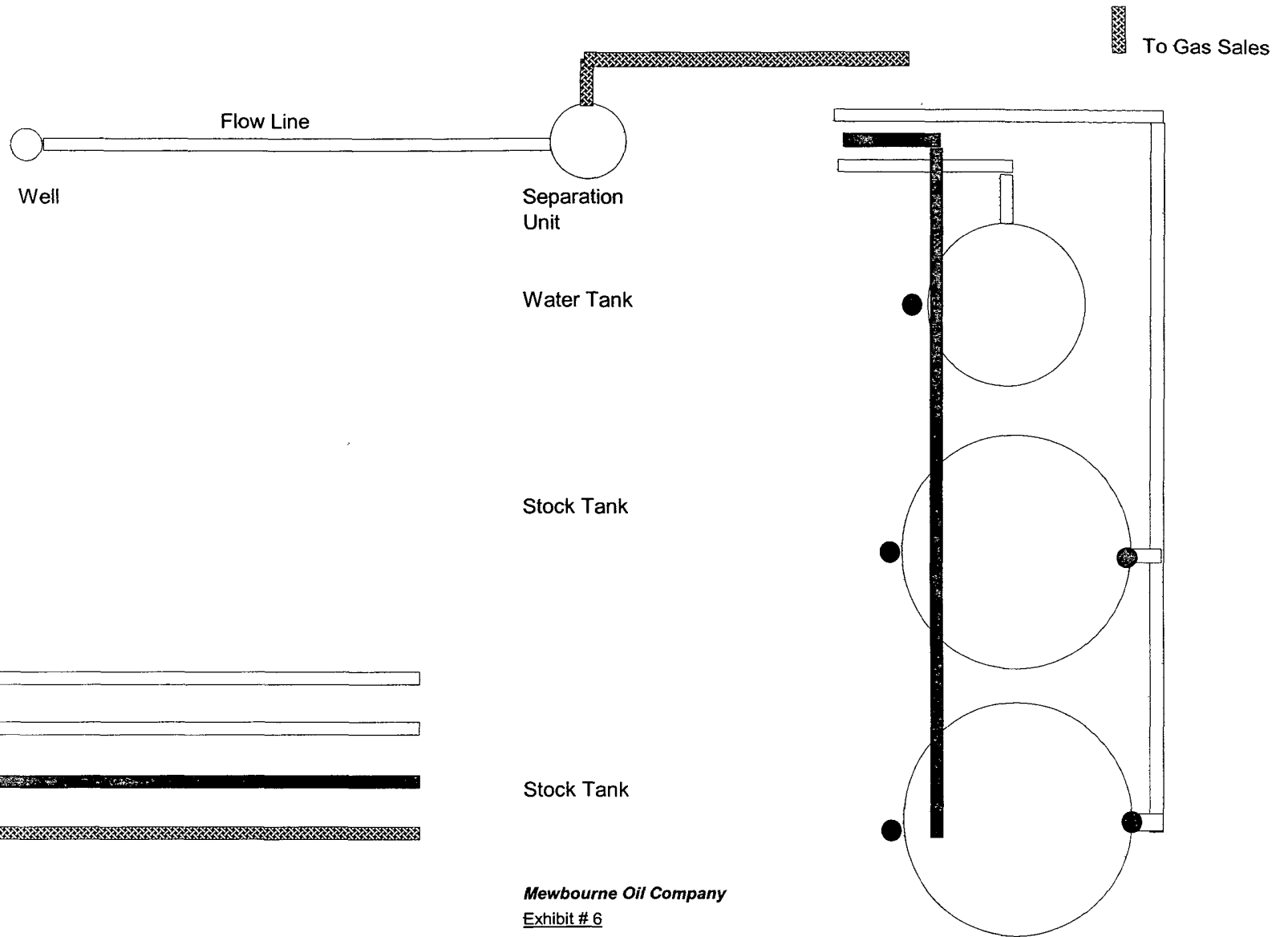
Well Name	Crow Flats 28 Federal #1
Footages	400' FNL & 1250' FWL
STR	Sec 28-T16S-R28E <i>1320'</i>
County	Eddy, County
State	New Mexico

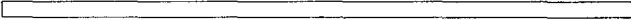
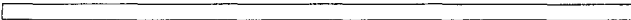




Reserve Pit
100 x 100'



Rig Location Schematic

Proposed Production Facilities Schematic



- Flow Line 
- Water Line 
- Oil Dump Line 
- Gas Sales Line 
- Sealing Valve 
- Non Sealing Valve 

Mewbourne Oil Company
Exhibit # 6
Proposed Production Facilities Schematic

Crow Flats 28 Federal #1 (1300
 400' FNL & 1250' FWL
 Sec 28-T16S-R28E
 Eddy, County
 New Mexico

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

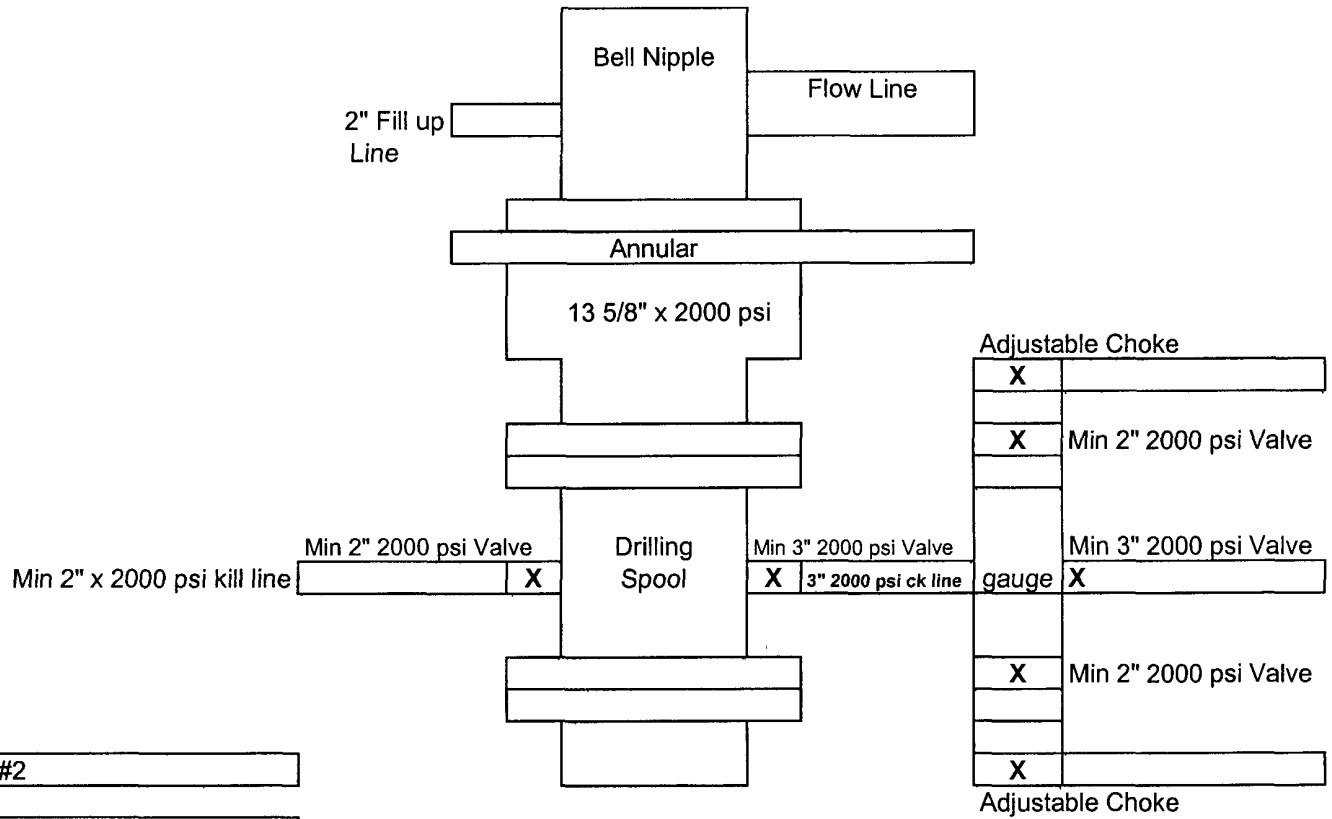


Exhibit #2

Crow Flats 28 Federal #1
400' FNL & ~~1250'~~ FWL 1300'
Sec 28-T16S-R28E
Eddy, County
New Mexico

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

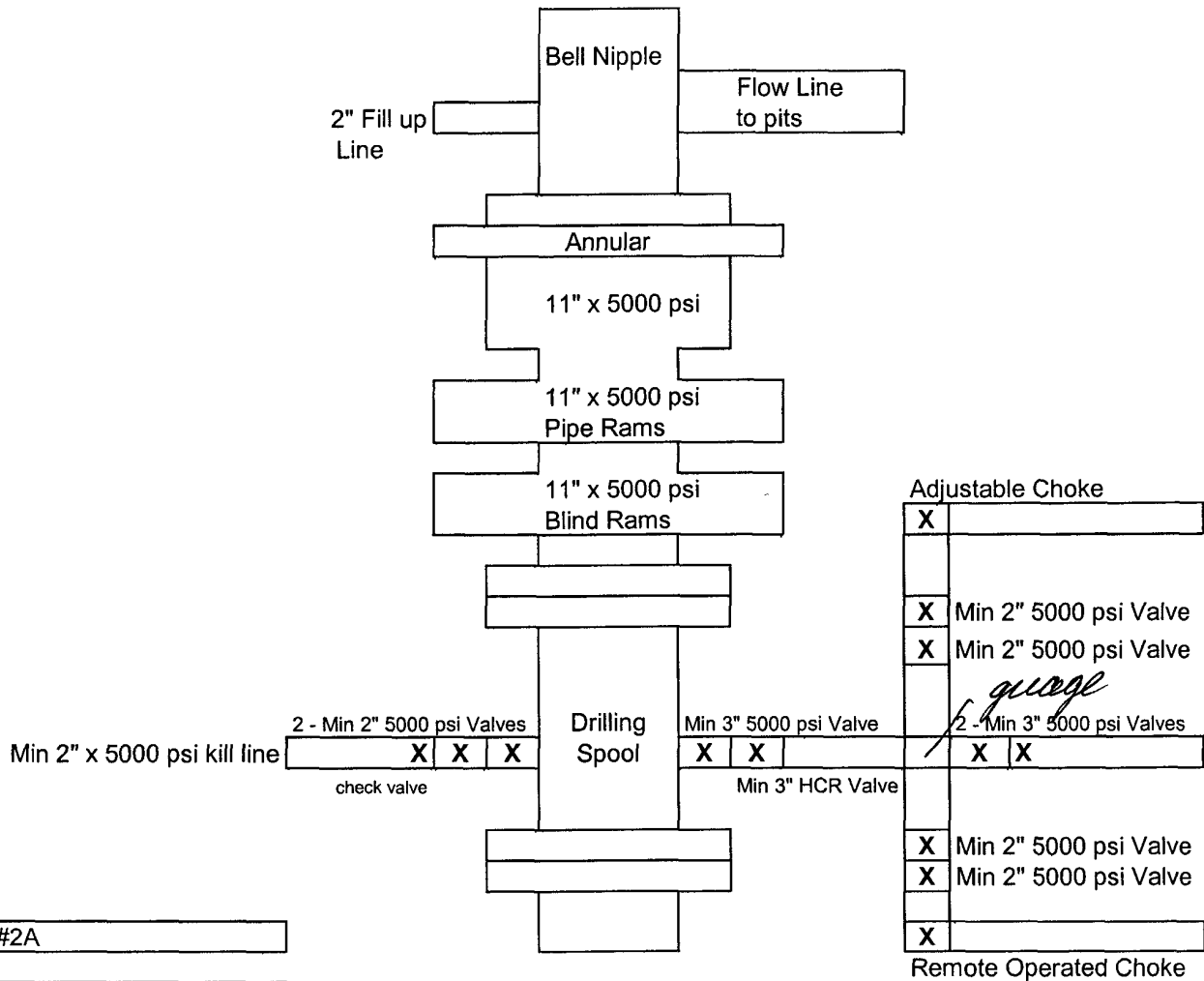


Exhibit #2A

Crow Flats 28 Federal #1
400' FNL & 1250' FWL
Sec 28-T16S-R28E
Eddy, County
New Mexico

1300

Hydrogen Sulfide Drilling Operations Plan
Mewbourne Oil Company
1300 Crow Flats 28 Federal #1
400' FNL & 1250' FWL, Sec 28-T16S-R28E (Surface Location)
400' FNL & 330' FEL, Sec 28-T16S-R28E (Bottom Hole Location)
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 Yates formation @ 370' 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 rotating head and 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.

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.

MULTI-POINT SURFACE USE AND OPERATIONS PLAN

MEWBOURNE OIL COMPANY

Crow Flats 28 Federal #1

400' FNL & ~~1250'~~ FWL 1300'

Sec 28-T16S-R28E

Eddy County, New Mexico

This plan is submitted with Form 3160-3, Application for Permit to Drill, Covering the above described well. The purpose of this plan is to describe the location of the proposed well, the proposed construction activities and operations plan, the magnitude of the surface disturbance involved, and the procedures to be followed in restoring the surface so that a complete appraisal can be made of the environmental impact associated with the proposed operations.

1. Existing Roads:

- A. Exhibit #3 is a road map showing the location of the proposed well. Existing roads are highlighted in white. Exhibit #3A is a topographic map showing the location of the proposed well and access road. Existing roads are highlighted in black and blue.
- B. **Directions to location from Artesia, NM: Go east on Hwy 82 for 9 miles to CR202. Turn N on CR202 and follow for 5 miles. Turn right and go 1 mile, turn north .5 mile, turn right onto new road to location.**

2. Proposed Access Road:

- A. Will need approx 300' of new road. Applying for off lease ROW of existing road back to CR 202.
- B. The access to the location will be limited to 16' in width and will adequately drain runoff and control erosion as presently constructed.

3. Location of Existing Wells:

There are producing wells within the immediate vicinity of the well site. Exhibit #4 shows the proposed well and existing wells within a one mile radius.

4. Location of Existing and/or Proposed Facilities:

- A. There are no production facilities on this lease at the present time.
- B. In the event that the well is productive, production facilities will be located on the well pad.
- C. All production vessels left on location will be painted to conform with BLM painting stipulations within 180 days of installation.

5. Location and Type of Water Supply

The well will be drilled with a combination of fresh water and brine water based mud systems. The water will be obtained from commercial suppliers in the area and/or hauled to the location by transport trucks over existing and proposed roads as indicated in Exhibit #3.

6. Source of Construction Materials

All material required for construction of the drill pad and access roads will be obtained from private, state, or federal pits. The construction contractor will be solely responsible for securing construction materials required for this operation and paying any royalties that may be required on those materials.

7. Methods of Handling Waste Disposal:

- A. Drill cuttings not retained for evaluation purposed will be disposed of in the reserve pit.
- B. Drilling fluids will be allowed to evaporate in the reserve pit prior to closure.
- C. Water produced during operations will be disposed of in the reserve pit.
- D. If any liquid hydrocarbons are produced during operations, those liquids will be stored in suitable tanks until sold.
- E. Current regulations regarding the proper disposal of human waste will be followed.
- F. All trash, junk, and other waste materials will be stored in proper containers to prevent dispersal and will be removed to an appropriate facility within one week of cessation of drilling and completion activities.

8. Ancillary Facilities

There are no ancillary facilities within the immediate vicinity of the proposed well site.

9. Well Site Layout

- A. A diagram of the drill pad is shown in Exhibit #5. Dimensions of the pad, pits, and location of major rig components are shown.
- B. The reserve pit will be lined with a high quality plastic sheeting to prevent migration of fluids.
- C. The pad dimension of 400' X 250' has been staked and flagged.
- D. An archaeological survey has been conducted on the proposed access road and location pad.

10. Plans for Restoration of Surface

- A. Upon cessation of the proposed operations, if the well is abandoned, the location and road will be ripped and re-seeded. The reserve pit area, after allowing to dry will be leveled. The entire location will be restored to the original contour as much as reasonable possible. All trash, garbage, and pit lining will be hauled to appropriate disposal to assure the location is aesthetically pleasing as reasonable possible. All restoration work will be completed within 180 days of cessation of activities.
- B. The disturbed area will be restored by re-seeding during the proper growing season.
- C. Three sides of the reserve pit will be fenced prior to and during drilling operations. The reserve pit will be fenced on the fourth side after the drilling rig is removed to prevent the endangerment of livestock. The fence will remain in place until the pit area has been leveled and restored.

- D. Upon cessation of the proposed operations, if the well is not abandoned, the reserve pit area will be restored as per BLM/OCD guidelines. Any additional caliche required for production facilities will be obtained from a source as described in Section 6.
- E. Within 90 days of cessation of drilling and completion operations, all equipment not necessary for production operations will be removed. The location will be cleaned of all trash and junk to assure the well site is left as aesthetically pleasing as reasonably possible.

11. Surface Ownership:

The surface is owned by: BLM

12. Other Information:

- A. Topography: Refer to the archaeological report for a detailed description of flora, fauna, soil characteristics, dwellings, and historical or cultural sites.
- B. The primary use of the surface at the location is for grazing of livestock.

13. Operator Representative:

- A. Through APD approval, drilling, completion and production operations:

N.M. Young, District Manager
Mewbourne Oil Company
PO Box 5270
Hobbs, NM 88241
505-393-5905

14. Certification

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which currently exist; that the statements made in this plan are to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed by Mewbourne Oil Company, its contractors and subcontractors, in accordance with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

Date: 12/17/06 Signature: _____

N.M. Young, District Manager
Mewbourne Oil Company
PO Box 5270
Hobbs, NM 88241
(505) 393-5905

Mewbourne Oil Company

PO Box 5270
Hobbs, NM 88241
(505) 393-5905

1300 I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route for the Crow Flats 28 Federal Com #1, 400' FNL & ~~1250'~~ FWL of Sec 28-T16S- R28E, Eddy County, New Mexico; that I am familiar with the conditions which currently exist; that the statements made in this plan are to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed by Mewbourne Oil Company, its contractors and subcontractors, in accordance with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

Signature: 

Date: 1/2/08

Print: NM Young

Hobbs District Manager

Exhibit #4
Status of Wells in Immediate Vicinity

Mewbourne Oil Company
Crow Flats 28 Federal #1
400' FNL & ~~1250'~~ FWL 1300'
Sec 28-T16S-R28E
Eddy County, New Mexico

Section 21-T16S-R28E

Operator: COG Operating, LLC
Well Name: Raindeer 21 Federal #1
Unit letter: D
Status: Producing
Field: Crow Flats

Section 33-T16S-R28E

Operator: Mewbourne Oil Company
Well Name: Flacon Keys 33 State Com #1
Unit letter: C
Status: Producing
Field: Crow Flats

PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Mewbourne Oil Company
LEASE NO.:	NMNM83066
WELL NAME & NO.:	Crow Flats 28 Federal No 1
SURFACE HOLE FOOTAGE:	400' FNL & 1300' FWL
BOTTOM HOLE FOOTAGE:	400' FNL & 330' FEL
LOCATION:	Section 28, T. 16 S., R 28 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**
 - Cave/Karst
 - Cultural
- ☐ **Construction**
 - Notification
 - Topsoil
 - Reserve Pit
 - Federal Mineral Material Pits
 - Well Pads
 - Roads
- ☐ **Road Section Diagram**
- ☒ **Drilling**
- ☐ **Production (Post Drilling)**
 - Well Structures & Facilities
- ☐ **Reserve Pit Closure/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)

Cave and Karst

Cave/Karst Surface Mitigation

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

Berming:

Any tank batteries will be constructed and bermed large enough to contain any spills that may occur.

Bermed areas will be lined with rip-stop padding to prevent tears or punctures in liners and lined with a permanent 20 mil plastic liner.

Cave/Karst Subsurface Mitigation

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

Rotary Drilling with Fresh Water:

Rotary drilling techniques in cave or karst areas will include the use of fresh water as a circulating medium in zones where caves or karst features are expected. Use depth to the deepest expected fresh water as listed in the geologist report.

Casing:

All casing will meet or exceed National Association of Corrosion Engineers specifications pertaining to the geology of the location and be run to American Petroleum Institute and BLM standards.

Lost Circulation:

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

Regardless of the type of drilling machinery used, if a void (bit drops) of four feet or more and circulation losses greater than 75 percent occur simultaneously while drilling in any cave-bearing zone, drilling operations will immediately stop and the BLM will be notified by the operator. The BLM will assess the consequences of the situation and work with operator on corrective actions to resolve the problem.

Delayed Blasting:

Any blasting will be a phased and time delayed.

Abandonment Cementing:

Upon well abandonment the well bore will be cemented completely from 100 feet below the bottom of the cave bearing zone to the surface.

Record Keeping:

The Operator will track customary drilling activities, including the rate of penetration, pump pressure, weight on bit, bit drops, percent of mud returns, and presence of absence of cuttings returning to the surface. As part of customary record keeping, each detectable void or sudden increase in the rate of penetration not attributable to a change in the formation type should be documented and evaluated as it is encountered.



EXHIBIT NO. 1

Date of Issue:
3/3/2008

Bureau of Land Management, Carlsbad Field Office
620 E. Greene Street Carlsbad, NM 88220

Cultural and Archaeological Resources
NOTICE OF STIPULATIONS

BLM Report No. .
08-NM-523-259

Historic properties in the vicinity of this project are protected by federal law. In order to ensure that they are not damaged or destroyed by construction activities, the project proponent and construction supervisors shall ensure that the following stipulations are implemented.

Project Name:	Crow Flats "28" Federal Number 1 Well and Access Road
REQUIRED	1). A 3-day preconstruction call-in notification. Contact BLM Inspection and Enforcement at (505) 234-5977, 5909, or 5995, to establish a construction start date.
REQUIRED	2. Professional archaeological monitoring. Contact your project archaeologist, or BLM's Cultural Resources Section at (505) 234-5980, 5917, or 5986, for assistance. A. <input checked="" type="checkbox"/> These stipulations must be given to your monitor at least 5 days prior to the start of construction. B. <input type="checkbox"/> No construction, including vegetation removal or other site prep may begin prior to the arrival of the monitor.
REQUIRED	3. Cultural site barrier fencing. (Your monitor will assist you). A temporary site protection barrier(s) shall be erected prior to all ground-disturbing activities. The minimum barrier(s) shall consist of upright wooden survey lath spaced no more than ten (10) feet apart and marked with blue ribbon flagging or blue paint. There shall be no construction activities or vehicular traffic past the barrier(s) at any time. B. <input type="checkbox"/> A permanent, 4-strand barbed wire fence strung on standard "T-posts" shall be erected prior to all ground-disturbing activities. No construction activities or vehicle traffic are allowed past the fence. 4. The archaeological monitor shall: A. <input checked="" type="checkbox"/> Ensure that all site protection barriers are located as indicated on the attached map(s). B. <input checked="" type="checkbox"/> Observe all ground-disturbing activities within 100 feet of cultural site no. (s) <u>LA146857</u> , as shown on the attached map(s). C. <input checked="" type="checkbox"/> Ensure that all reroutes are adhered to avoid cultural site no.(s) LA 146857 D. <input type="checkbox"/> Ensure the proposed is/are located as shown on the attached map(s). E. <input checked="" type="checkbox"/> Submit a brief monitoring report within 30 days of completion of monitoring. A temporary barrier to be built in a north/south orientation not more than 170 feet west of the drill hole. The access road to the well is to be routed north of the pits and access the well pad in the northeast corner.
Other:	

Site Protection and Employee Education: It is the responsibility of the project proponent and his construction supervisor to inform all employees and subcontractors that cultural and archaeological sites are to be avoided by all personnel, vehicles, and equipment; and that it is illegal to collect, damage, or disturb cultural resources on Public Lands.

For assistance, contact
BLM Cultural Resources:

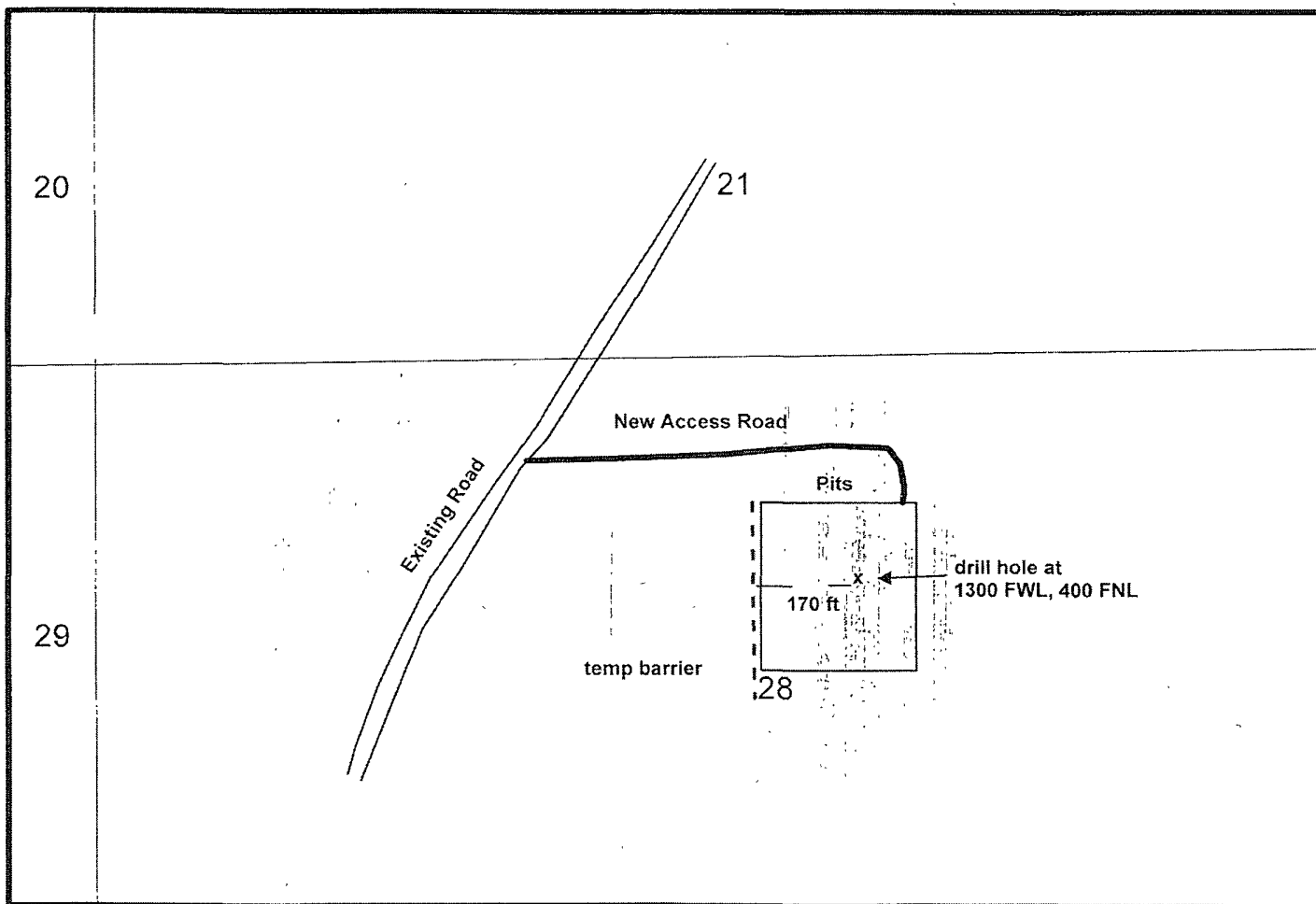
Martin Stein (575) 234-5980

George MacDonell
(575) 234-2228

Bruce Boeke (575) 234-5917

James Smith (575) 234-5986

Exhibit 2



**Crow Flats "28" Number 1
Location of Barrier and Access Road**



Scale 1:3,000

0 105 210 420 Feet



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data, or for purposes not intended by BLM. Spatial information may not meet National Map Accuracy Standards. This information may be updated without notification.
Map created 1/22/2008

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 (505) 234-5972 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 of the well pad. The topsoil to be stripped is approximately 6 inches in depth. The topsoil shall not be used to backfill the reserve pit and will be used for interim and final reclamation.

C. RESERVE PITS

The reserve pit shall be constructed and closed in accordance with the NMOCD rules.

The reserve pit shall be constructed 100' X 100' on the East side of the well pad.

The reserve pit shall be constructed, so that upon completion of drilling operations, the dried pit contents shall be buried a minimum depth of three feet below ground level. Should the pit content level not meet the three foot minimum depth requirement, the excess contents shall be removed until the required minimum depth of three feet below ground level has been met. The operator shall properly dispose of the excess contents at an authorized disposal site.

The reserve pit shall be constructed and maintained so that runoff water from outside the location is not allowed to enter the pit. The berms surrounding the entire perimeter of the pit shall extend a minimum of two (2) feet above ground level. At no time will standing fluids in the pit be allowed to rise above ground level.

The reserve pit shall be fenced on three (3) sides during drilling operations. The fourth side shall be fenced immediately upon rig release.

D. FEDERAL MINERAL MATERIALS PIT

If the operator elects to surface the access road and/or well pad, mineral materials extracted during construction of the reserve pit may be used for surfacing the well pad and access road and other facilities on the lease.

Payment shall be made to the BLM prior to removal of any additional federal mineral materials from any site other than the reserve pit. Call the Carlsbad Field Office at (505) 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 thirty (30) 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.

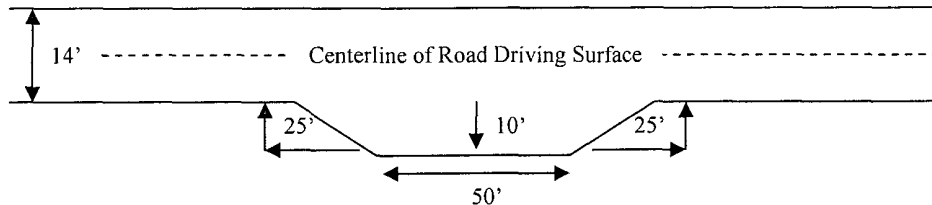
Ditching

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:

Standard Turnout – Plan View

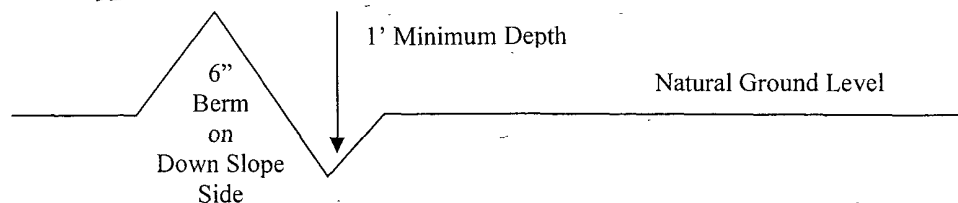


Drainage

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 %);

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.

A gate shall be constructed and fastened securely to H-braces.

Fence Requirement

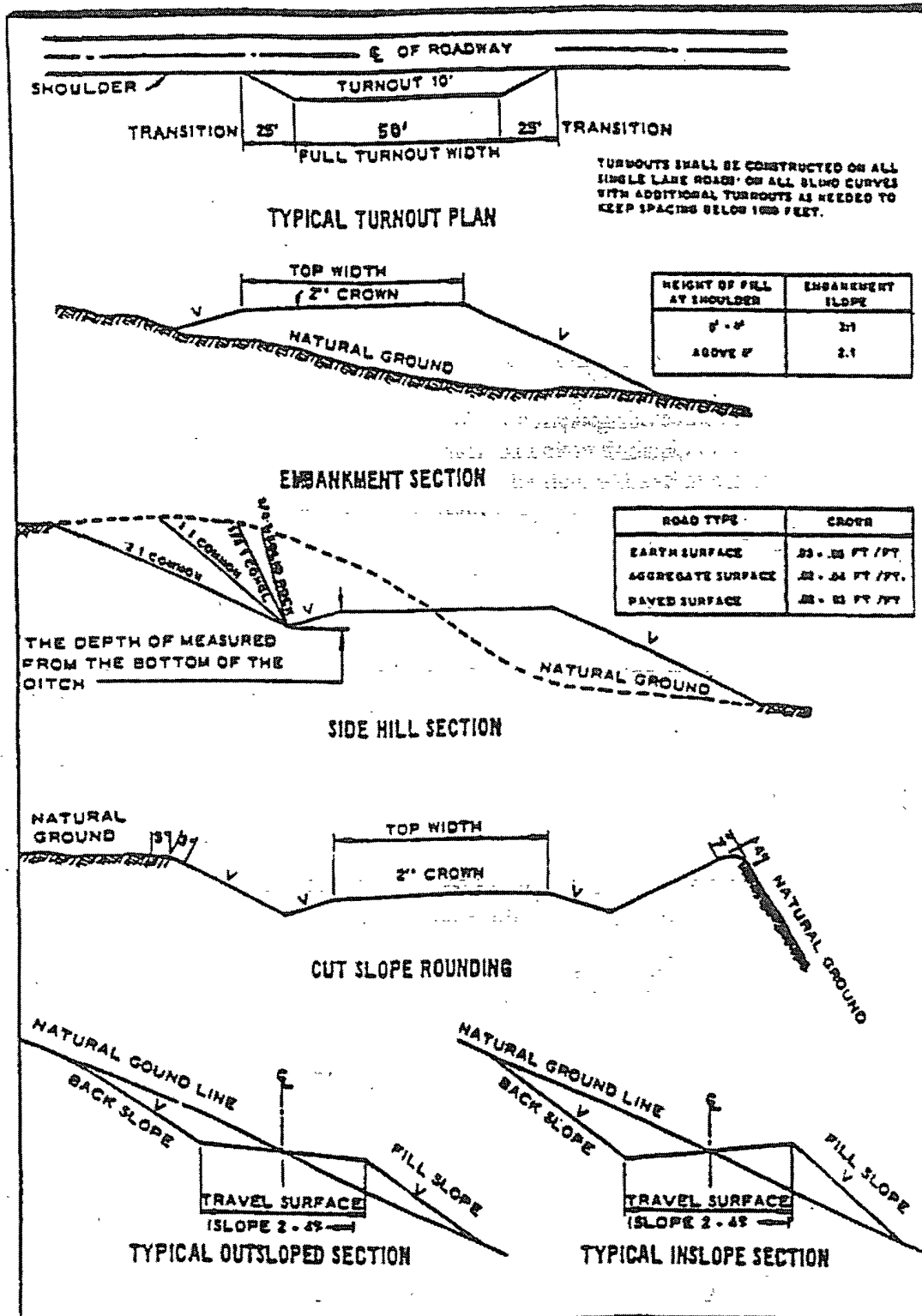
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

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

☒ **Chaves and Roosevelt Counties, T16S Eddy County**

Call the Roswell Field Office, 2909 West Second St., Roswell NM 88201.
(575) 627-0205 and (575) 361-2822.

1. **Although there are no measured amounts of Hydrogen Sulfide reported, it is always a potential hazard. If Hydrogen Sulfide is encountered, please provide measured values 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.
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.

B. CASING

NO ¼" WASHED PEA GRAVEL PERMITTED FOR REMEDIAL OR FALL BACK REMEDIAL.

1. The 13-3/8 inch surface casing shall be set at **approximately 500 feet** and cemented to the surface. **Centralizers required on surface casing per Onshore Order 2.III.B.1.f.**
 - 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 a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.

- b. Wait on cement (WOC) time 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. (This is to include the lead cement). **Please provide WOC times to inspector for cement slurries.**
- 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.

High cave/karst – a bit drop of four feet or more must be reported before continuing drilling operations.

Possible lost circulation in the Grayburg and San Andres formations.

Possible high pressure gas in the Wolfcamp formation.

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-d above. **Please provide WOC times to inspector for cement slurries.**

Formation below the 9-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i.

Report results on subsequent sundry that describes intermediate casing and cementing.

If 75% or greater lost circulation occurs while drilling the intermediate casing hole, the cement on the production casing must come to surface.

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

- ☒ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification. **Additional cement required.**

4. 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**.
3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 9-5/8" intermediate casing shoe shall be **5000 (5M) psi. 5M annular required, 3M annular not acceptable. No variance.**
4. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. The tests shall be done by an independent service company.
 - b. The results of the test shall be reported to the appropriate BLM office.
 - c. 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.
 - d. 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.
 - e. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the **Wolfcamp** formation **if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days**. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

D. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the **Wolfcamp** formation, and shall be used until production casing is run and cemented.

Aerated mud approved for drilling Capitan reef to maintain circulation. Air drilling not approved.

E. DRILL STEM TEST

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

WWI 021208

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 & RESERVE PIT CLOSURE

A. INTERIM RECLAMATION

If the well is a producer, interim reclamation shall be conducted on the well site in accordance with the orders of the Authorized Officer. The operator shall submit a Sundry Notices and Reports on Wells (Notice of Intent), Form 3160-5, prior to conducting 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.

At the time reserve pits are to be reclaimed, operators should work with BLM surface management specialists to devise the best strategies to reduce the size of the location. Any reductions 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 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.

B. RESERVE PIT CLOSURE

The reserve pit, when dried and closed, shall be recontoured, all trash removed, and reseeded as follows:

Seed Mixture 1, for Loamy 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 regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (small/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 lovegrass (<i>Eragrostis intermedia</i>)	0.5
Sand dropseed (<i>Sporobolus cryptandrus</i>)	1.0
Sideoats grama (<i>Bouteloua curtipendula</i>)	5.0

*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed
(Insert Seed Mixture Here)

X. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS

Upon abandonment of the well and/or when the access road is no longer in service the Authorized Officer shall issue instructions and/or orders for surface reclamation and restoration of all disturbed areas.

On private surface/federal mineral estate land the reclamation procedures on the road and well pad shall be accomplished in accordance with the private surface land owner agreement.