

OCT 21 2008

OCD-ARTESIA

OCD-ARTESIA

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

0003



1715-08-1052
FORM APPROVED
OMB No. 1004-0136
Expires January 31, 2004

1a. Type of Work. <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NM83066
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 - 14744		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. Crow Flats 27 Federal #1 H
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface 330' FNL & 700' FEL Unit A, Sec 28, T16S, R28E At proposed prod. zone ^{750' per SN 10/14/08 CR} 330' FNL & 330' FEL Unit A, Sec 27 T16S, R28E		9. API Well No. 30-015-36732
14. Distance in miles and direction from nearest town or post office* 13 1/2 Miles NE of Carlsbad		10. Field and Pool, or Exploratory Crow Flats Wolfcamp
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 330'		11. Sec., T., R., M., or Blk and Survey or Area Sec 27-T16S-R28E
16. No. of Acres in lease 2560		12. County or Parish Eddy
17. Spacing Unit dedicated to this well 160'		13. State NM
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 3280'		20. BLM/BIA Bond No. on file NM1693, Nationwide
19. Proposed Depth 11905' MD 6660' TVD		21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3600' 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. | 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 shall be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

25. Signature 	Name (Printed/Typed) Jackie Lathan	Date 09/17/08
Title Hobbs Regulatory		
Approved by (Signature) /s/ DAVID D. EVANS	Name (Printed/Typed) /s/ DAVID D. EVANS	Date OCT 18 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

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Approval Subject to General Requirements
& Special Stipulations Attached



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

Mewbourne Oil Company of Hobbs, NM is a field office of Mewbourne Oil Company, 3901 S Broadway, Tyler TX 75701. **Mail connected to this APD should be directed to the Hobbs address.** 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

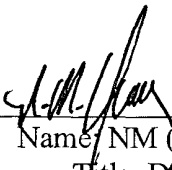
Legal Description of Land: Section 28, T-16S, R-28E Eddy County, New Mexico.
Location @ 330' FNL & 700' FWL.

Formation (if applicable): Wolfcamp

Bond Coverage: \$150,000

BLM Bond File: NM1693, Nationwide

Authorized Signature: _____


Name: NM (Micky) Young
Title: District Manager
Date: September 17, 2008

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0135
Expires: January 31, 2004

OCD-ARTESIA

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on reverse side

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator
Mewbourne Oil Company 14744

3a. Address
PO Box 5270 Hobbs, NM 88241

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

4. Location of Well (Footage, Sec., T, R., M., or Survey Description)
330' FNL & 700' FEL Unit A Sec 28, T16S, R28E (Surface location)
380' FNL & 330' FEL Unit A Sec 27, T16S, R28E (Bottom hole location)

5. Lease Serial No.
NM-83066

6. If Indian, Allottee or Tribe Name

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

8. Well Name and No.
Crow Flats 27 Federal #1 H

9. API Well No.

10. Field and Pool, or Exploratory Area
Dog Canyon Wolfcamp

11. County or Parish, State
Eddy County, NM

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other <u>Correction on</u>
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	<u>Survey Plat & BHL</u>
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

3. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

MOC has applied for an APD for the above captioned location. MOC noticed a survey error and request to change the following:

Surface location: 330' FNL & 700' FEL, Sec 28, T16S, R28E (Same as applied)

Bottom hole location: 750' FNL & 330' FEL, Sec 27, T16S, R28E (Corrected)

Entry point location: 340' FNL & 84' FEL, Sec 28, T16S, R28E (Corrected)

All casing designs, mud designs, & proposed directional plans will remain the same as on the APD.

If you have any questions please call 575-393-5905.

14. I hereby certify that the foregoing is true and correct
Name (Printed/Typed)

Jackie Lathan

Title Hobbs Regulatory

Signature

Date 10/10/08

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by (Signature)

/s/ DAVID D. EVANS

Name
(Printed/Typed)

Title FIELD MANAGER

Conditions of approval, if any, are attached. Approval of this notice 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.

Office
CARLSBAD FIELD OFFICE

Date
OCT 18 2008

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 next page)

DISTRICT I

1825 N. French Dr., Hobbs, NM 88240

DISTRICT II

1301 W. Grand Avenue, Artesa, NM 88210

DISTRICT III

1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV

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

State of New Mexico
Energy, Minerals and Natural Resources DepartmentForm C-102
Revised October 12, 2005

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

OIL CONSERVATION DIVISION

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-36732	Pool Code 17970	Pool Name Dog Canyon Wolf Camp
Property Code 37445	Property Name CROW FLATS "27" FEDERAL	Well Number 1H
OGRID No. 1A744	Operator Name MEWBOURNE OIL COMPANY	Elevation 3600'

Surface Location

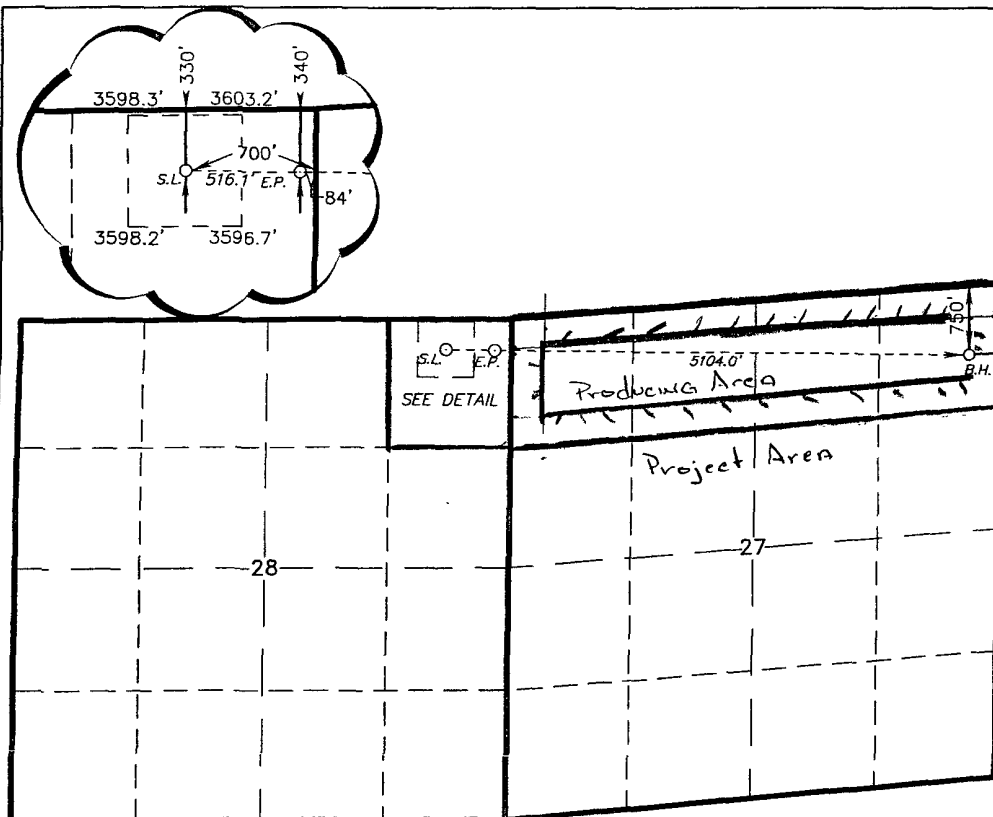
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	28	16 S	28 E		330	NORTH	700	EAST	EDDY

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
A	27	16 S	28 E		750	NORTH	330'	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
160			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



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 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.

G.M. Young 10/10/08
Signature Date
N.M. Young
Printed Name

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.

JANUARY 15, 2008

Date Surveyed

Signature & Seal of
Professional Surveyor

Gary L. Jones
17977
W.O. No. 18798

Certificate No. Gary L. Jones 7977

BASIN SURVEYS

SURFACE LOCATION

Lat.: N32°53'58.04"
Long.: W104°10'27.14"
SPC- N.: 690970.586
E.: 548841.042
(NAD-27)

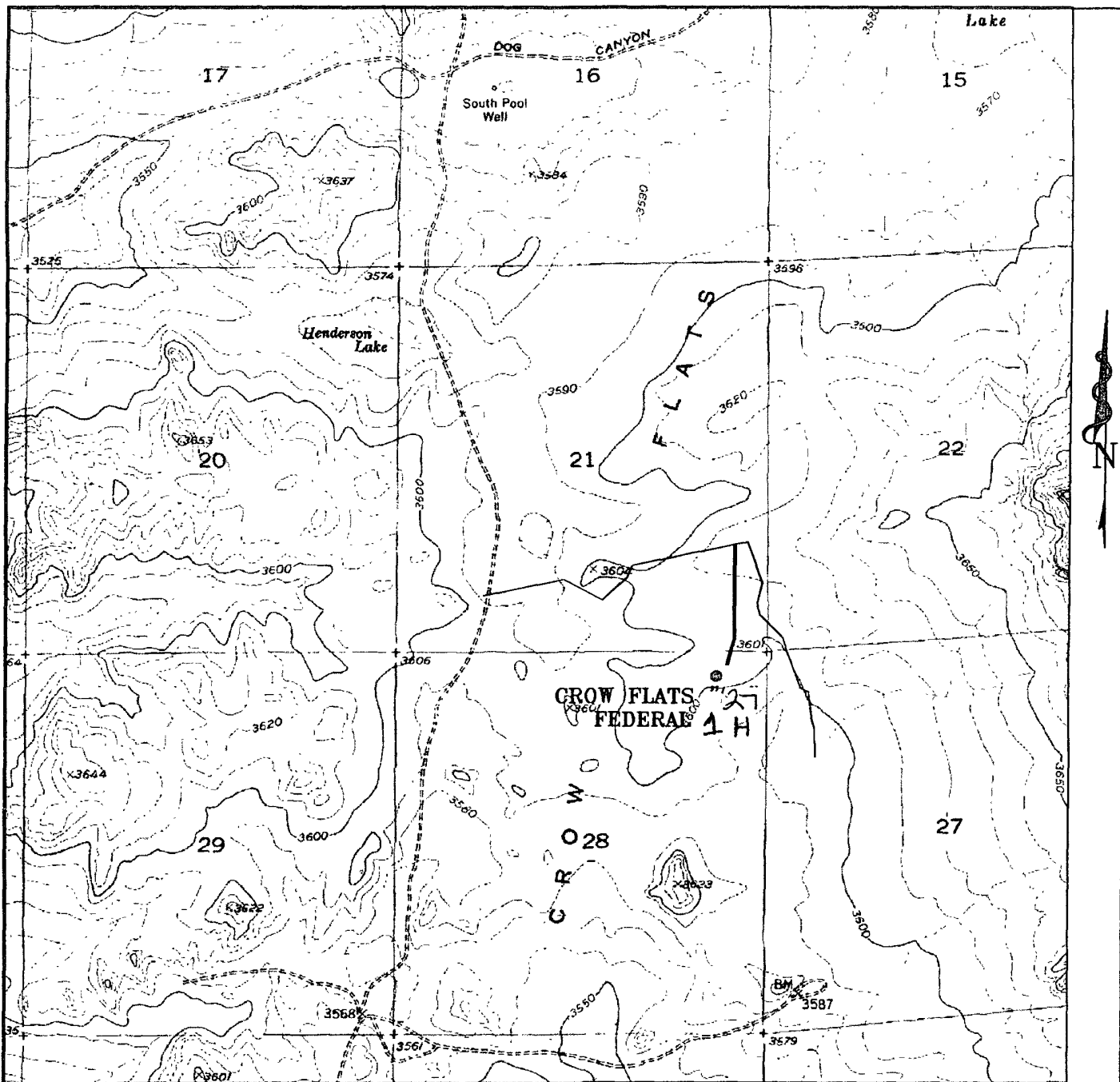
ENTRY POINT LOCATION

Lat.: N32°53'57.98"
Long.: W104°10'19.92"
SPC- N.: 690964.908
E.: 549457.055
(NAD-27)

BOTTOM HOLE LOCATION

Lat.: N32°53'57.45"
Long.: W104°09'21.24"
SPC- N.: 690919.671
E.: 554459.424
(NAD-27)

SCALE = 1" = 2000'



CROW FLATS "27" FEDERAL 1H
 Located 330' FNL and 700' FEL
 Section 28, Township 16 South, Range 28 East,
 N.M.P.M., Eddy County, New Mexico.

Exhibit 3A

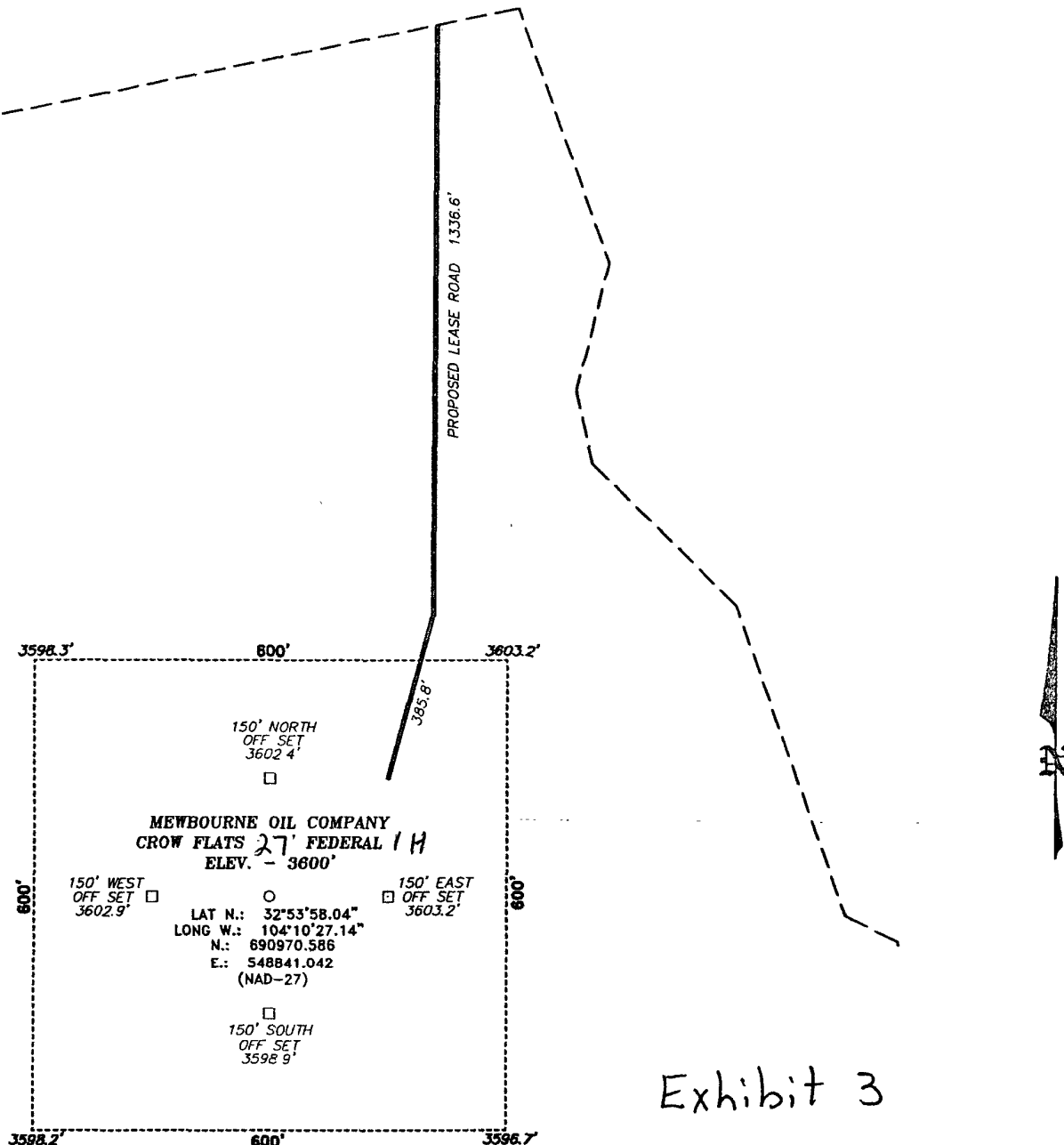
basin
surveys
 focused on excellence
 in the oilfield

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: 18798T JMS
 Survey Date: 01-15-2008
 Scale: 1" = 2000'
 Date: 01-21-2008

MEWBOURNE
OIL CO.

SECTION 28, TOWNSHIP 16 SOUTH, RANGE 28 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.



200 0 200 400 FEET
SCALE: 1" = 200'

DRIVING DIRECTIONS:

FROM THE JUNCTION OF US HWY 82 AND SOUTHERN UNION, GO NORTH ON SOUTHERN UNION FOR 2.5 MILES WINDING NORTHEAST FOR 1.2 MILES TO LEASE ROAD, ON LEASE ROAD GO NORTH 1.5 MILES TO LEASE ROAD, ON LEASE ROAD GO NORTH 0.7 MILES TO PROPOSED LEASE ROAD.

BASIN SURVEYS P.O. BOX 1786-HOBBS, NEW MEXICO

W.O. Number: 18798

Drawn By: J. SMALL

Date: 01-21-2007

Disk: JMS 18798W

MEWBOURNE OIL COMPANY

REF: CROW FLATS 27 FEDERAL 1H WELL PAD TOPO

THE CROW FLATS 27 FEDERAL 1H LOCATED 330'

FROM THE NORTH LINE AND 700' FROM THE EAST LINE OF
SECTION 28, TOWNSHIP 16 SOUTH, RANGE 28 EAST,

N.M.P.M., EDDY COUNTY, NEW MEXICO.

Survey Date: 01-15-2007

Sheet 1 of 1 Sheets

Drilling Program
Mewbourne Oil Company
Crow Flats 27 Federal #1H

330' FNL & 700' FEL, Sec 28-T16S-R28E (Surface Location) Unit Letter A
750' 380' FNL & 330' FEL, Sec 27-16S-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:

A 2000# working pressure annular BOP will be installed on the 13 5/8" surface casing. A 5000# WP Double Ram BOP and 5000# 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:

<u>Hole Size</u>	<u>Casing</u>	<u>Wt/Ft.</u>	<u>Grade</u>	<u>Depth</u>	<u>Jt Type</u>
17 1/2"	13 5/8" (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'-2300'	LT&C
8 3/4"	7" (new)	26#	HCP110	0-7035' MD	LT&C
6 1/8"	4 1/2" (new)	11.6#	P110	5880-11905' MD	LT&C

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

B. Cementing Program: ← *see COA*

- i. Surface Casing: 200 sacks Class C light cement containing ½#/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. Deep Intermediate Casing: 300 sacks Light weight Class H cement with additives. Yield at 1.98 cuft/sk. Tail with 400 sacks Class H with additives. Yield at 1.28 cuft/sk. Cmt top to be tied back to surface casing.
- iiii. Production Liner: Plan to use packers plus system.

**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'-500'	FW spud mud	8.6-9.4	32-34	NA
500'-2300'	Brine water	10.0-10.2	28-30	NA
2300'-5850'	Cut Brine water	8.4-9.1	28-30	NA
5850'-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 Newtron 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.



Weatherford[®]

Drilling Services

Proposal



Mewbourne Oil Company

CROW FLATS 27 FEDERAL #1H

EDDY COUNTY, NEW MEXICO

WELL FILE: PLAN 2

7 1/2° / 100'

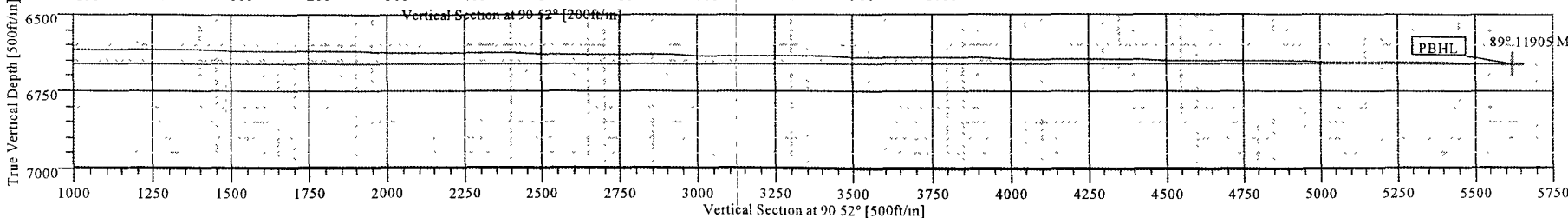
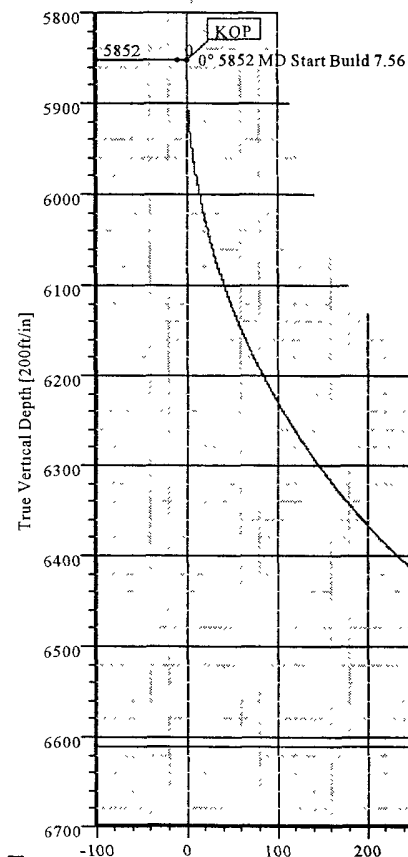
SEPTEMBER 11, 2008

Weatherford International, Ltd.
3636 S Meridian Ave
Oklahoma City, Oklahoma 73003 USA
+1.405.681.9500 Main
+1.405.681.9501 Fax
www.weatherford.com

**CROW FLATS 27 FEDERAL #1H
SECTION 27/28-16S-28E
EDDY COUNTY, NEW MEXICO**

RIG: PATTERSON UTI 45

KB ELEVATION: 2564
GR ELEVATION: 2546

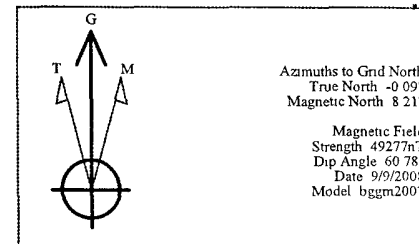


SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	90.52	0.00	0.00	0.00	0.00	0.00	0.00	
2	5852.22	0.00	90.52	5852.22	0.00	0.00	0.00	0.00	0.00	
3	7034.80	89.41	90.52	6610.00	-6.77	749.99	7.56	90.52	750.02	LP
4	11905.17	89.41	90.52	6660.00	-50.70	5619.91	0.00	-11.10	5620.14	PBHL

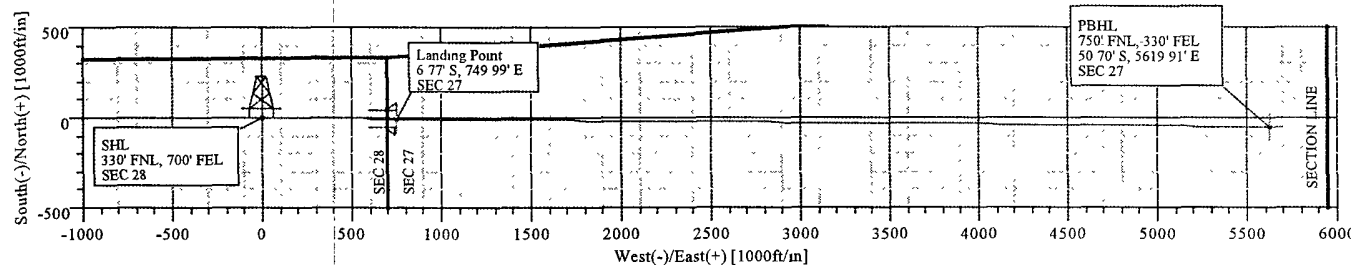
WELL DETAILS						
Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
#1H	0.00	0.00	690970.59	548841.04	32°53'58.042N	104°10'27.142W

TARGET DETAILS				
Name	TVD	+N/-S	+E/-W	Shape
LP	6610.00	-6.77	749.99	Point
PBHL	6660.00	-50.70	5619.91	Point

SITE DETAILS			
CROW FLATS 27 FEDERAL #1H			
Site Centre Northing	690970.59		
Easting	548841.04		
Ground Level	3602.00		
Positional Uncertainty	0.00		
Convergence	0.09		



FIELD DETAILS	
EDDY COUNTY, NEW MEXICO (NAD-27)	
Geodetic System	US State Plane Coordinate System 1927
Ellipsoid	NAD27 (Clarke 1866)
Zone	New Mexico, Eastern Zone
Magnetic Model	bggm2007
System Datum	Mean Sea Level
Local North	Grid North



Plan Plan #2 (#1H/1)
Created By: Steve Markcum Date: 9/11/2008

Weatherford International, Ltd.

WELL PLAN REPORT



Weatherford

Company: MEWBOURNE OIL COMPANY Date: 9/11/2008 Time: 11:20:34 Page: 1
 Field: EDDY COUNTY, NEW MEXICO (NAD-27) Co-ordinate(NE) Reference: Site: CROW FLATS 27 FEDERAL #1H
 Site: CROW FLATS 27 FEDERAL #1H Vertical (TVD) Reference: SITE 3620.0
 Well: #1H Section (VS) Reference: Well (0.00N, 0.00E, 90.52Azi)
 Wellpath: 1 Survey Calculation Method: Minimum Curvature Db: Sybase

Plan: Plan #2 Date Composed: 9/9/2008
 Principal: Yes Version: 1
 Tied-to: From Surface

Field: EDDY COUNTY, NEW MEXICO (NAD-27)

Map System: US State Plane Coordinate System 1927 Map Zone: New Mexico, Eastern Zone
 Geo Datum: NAD27 (Clarke 1866) Coordinate System: Site Centre
 Sys Datum: Mean Sea Level Geomagnetic Model: bggm2007

Site: CROW FLATS 27 FEDERAL #1H

Site Position: Northing: 690970.59 ft Latitude: 32 53 58.042 N
 From: Map Easting: 548841.04 ft Longitude: 104 10 27.142 W
 Position Uncertainty: 0.00 ft North Reference: Grid
 Ground Level: 3602.00 ft Grid Convergence: 0.09 deg

Well: #1H Slot Name:
 Well Position: +N/-S 0.00 ft Northing: 690970.59 ft Latitude: 32 53 58.042 N
 +E/-W 0.00 ft Easting: 548841.04 ft Longitude: 104 10 27.142 W
 Position Uncertainty: 0.00 ft

Wellpath: 1 Drilled From: Surface
 Current Datum: SITE Height 3620.00 ft Tie-on Depth: 0.00 ft
 Magnetic Data: 9/9/2008 Above System Datum: Mean Sea Level
 Field Strength: 49277 nT Declination: 8.30 deg
 Vertical Section: Depth From (TVD) +N/-S Mag Dip Angle: 60.78 deg
 ft +E/-W Direction
 deg
 0.00 0.00 0.00 90.52

Plan Section Information

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg	Target
0.00	0.00	90.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5852.22	0.00	90.52	5852.22	0.00	0.00	0.00	0.00	0.00	0.00	
7034.80	89.41	90.52	6610.00	-6.77	749.99	7.56	7.56	0.00	90.52	LP
11905.17	89.41	90.52	6660.00	-50.70	5619.91	0.00	0.00	0.00	-11.10	PBHL

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Comment
5800.00	0.00	90.52	5800.00	0.00	0.00	0.00	0.00	0.00	0.00	
5852.22	0.00	90.52	5852.22	0.00	0.00	0.00	0.00	0.00	0.00	KOP
5900.00	3.61	90.52	5899.97	-0.01	1.51	1.51	7.56	7.56	0.00	
6000.00	11.17	90.52	5999.07	-0.13	14.36	14.36	7.56	7.56	0.00	
6100.00	18.73	90.52	6095.61	-0.36	40.15	40.15	7.56	7.56	0.00	
6200.00	26.29	90.52	6187.92	-0.71	78.41	78.41	7.56	7.56	0.00	
6300.00	33.85	90.52	6274.39	-1.16	128.48	128.48	7.56	7.56	0.00	
6400.00	41.42	90.52	6353.53	-1.71	189.50	189.51	7.56	7.56	0.00	
6500.00	48.98	90.52	6423.95	-2.35	260.40	260.41	7.56	7.56	0.00	
6600.00	56.54	90.52	6484.42	-3.07	339.94	339.96	7.56	7.56	0.00	
6700.00	64.10	90.52	6533.91	-3.85	426.76	426.77	7.56	7.56	0.00	
6800.00	71.66	90.52	6571.54	-4.69	519.32	519.34	7.56	7.56	0.00	
6900.00	79.22	90.52	6596.66	-5.56	616.04	616.06	7.56	7.56	0.00	
7000.00	86.78	90.52	6608.84	-6.46	715.21	715.24	7.56	7.56	0.00	
7034.78	89.41	90.52	6610.00	-6.77	749.97	750.00	7.56	7.56	0.00	7" CSG/LP
7034.80	89.41	90.52	6610.00	-6.77	749.99	750.02	7.56	7.56	0.00	LP
7100.00	89.41	90.52	6610.67	-7.36	815.18	815.22	0.00	0.00	0.00	

Weatherford International, Ltd.

WELL PLAN REPORT



Weatherford®

Company: MEWBOURNE OIL COMPANY
 Field: EDDY COUNTY, NEW MEXICO (NAD-27)
 Site: CROW FLATS 27 FEDERAL #1H
 Well: #1H
 Wellpath: 1

Date: 9/11/2008 Time: 11:20:34 Page: 2
 Co-ordinate(NE) Reference: Site: CROW FLATS 27 FEDERAL #1H
 Vertical (TVD) Reference: SITE 3620.0
 Section (VS) Reference: Well (0.00N;0.00E;90.52Azi)
 Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Comment
7200.00	89.41	90.52	6611.70	-8.26	915.17	915.21	0.00	0.00	0.00	
7300.00	89.41	90.52	6612.73	-9.16	1015.17	1015.21	0.00	0.00	0.00	
7400.00	89.41	90.52	6613.76	-10.07	1115.16	1115.20	0.00	0.00	0.00	
7500.00	89.41	90.52	6614.79	-10.97	1215.15	1215.20	0.00	0.00	0.00	
7600.00	89.41	90.52	6615.82	-11.87	1315.14	1315.19	0.00	0.00	0.00	
7700.00	89.41	90.52	6616.85	-12.77	1415.13	1415.19	0.00	0.00	0.00	
7800.00	89.41	90.52	6617.88	-13.68	1515.12	1515.18	0.00	0.00	0.00	
7900.00	89.41	90.52	6618.90	-14.58	1615.11	1615.18	0.00	0.00	0.00	
8000.00	89.41	90.52	6619.93	-15.48	1715.10	1715.17	0.00	0.00	0.00	
8100.00	89.41	90.52	6620.96	-16.38	1815.09	1815.16	0.00	0.00	0.00	
8200.00	89.41	90.52	6621.99	-17.29	1915.08	1915.16	0.00	0.00	0.00	
8300.00	89.41	90.52	6623.02	-18.19	2015.07	2015.15	0.00	0.00	0.00	
8400.00	89.41	90.52	6624.05	-19.09	2115.06	2115.15	0.00	0.00	0.00	
8500.00	89.41	90.52	6625.07	-19.99	2215.05	2215.14	0.00	0.00	0.00	
8600.00	89.41	90.52	6626.10	-20.89	2315.04	2315.14	0.00	0.00	0.00	
8700.00	89.41	90.52	6627.13	-21.80	2415.03	2415.13	0.00	0.00	0.00	
8800.00	89.41	90.52	6628.16	-22.70	2515.03	2515.13	0.00	0.00	0.00	
8900.00	89.41	90.52	6629.18	-23.60	2615.02	2615.12	0.00	0.00	0.00	
9000.00	89.41	90.52	6630.21	-24.50	2715.01	2715.12	0.00	0.00	0.00	
9100.00	89.41	90.52	6631.24	-25.41	2815.00	2815.11	0.00	0.00	0.00	
9200.00	89.41	90.52	6632.27	-26.31	2914.99	2915.11	0.00	0.00	0.00	
9300.00	89.41	90.52	6633.29	-27.21	3014.98	3015.10	0.00	0.00	0.00	
9400.00	89.41	90.52	6634.32	-28.11	3114.97	3115.10	0.00	0.00	0.00	
9500.00	89.41	90.52	6635.35	-29.01	3214.96	3215.09	0.00	0.00	0.00	
9600.00	89.41	90.52	6636.37	-29.92	3314.95	3315.09	0.00	0.00	0.00	
9700.00	89.41	90.52	6637.40	-30.82	3414.94	3415.08	0.00	0.00	0.00	
9800.00	89.41	90.52	6638.43	-31.72	3514.93	3515.07	0.00	0.00	0.00	
9900.00	89.41	90.52	6639.45	-32.62	3614.92	3615.07	0.00	0.00	0.00	
10000.00	89.41	90.52	6640.48	-33.52	3714.91	3715.06	0.00	0.00	0.00	
10100.00	89.41	90.52	6641.50	-34.42	3814.90	3815.06	0.00	0.00	0.00	
10200.00	89.41	90.52	6642.53	-35.33	3914.89	3915.05	0.00	0.00	0.00	
10300.00	89.41	90.52	6643.55	-36.23	4014.88	4015.05	0.00	0.00	0.00	
10400.00	89.41	90.52	6644.58	-37.13	4114.88	4115.04	0.00	0.00	0.00	
10500.00	89.41	90.52	6645.61	-38.03	4214.87	4215.04	0.00	0.00	0.00	
10600.00	89.41	90.52	6646.63	-38.93	4314.86	4315.03	0.00	0.00	0.00	
10700.00	89.41	90.52	6647.66	-39.84	4414.85	4415.03	0.00	0.00	0.00	
10800.00	89.41	90.52	6648.68	-40.74	4514.84	4515.02	0.00	0.00	0.00	
10900.00	89.41	90.52	6649.71	-41.64	4614.83	4615.02	0.00	0.00	0.00	
11000.00	89.41	90.52	6650.73	-42.54	4714.82	4715.01	0.00	0.00	0.00	
11100.00	89.41	90.52	6651.75	-43.44	4814.81	4815.01	0.00	0.00	0.00	
11200.00	89.41	90.52	6652.78	-44.34	4914.80	4915.00	0.00	0.00	0.00	
11300.00	89.41	90.52	6653.80	-45.24	5014.79	5015.00	0.00	0.00	0.00	
11400.00	89.41	90.52	6654.83	-46.15	5114.78	5114.99	0.00	0.00	0.00	
11500.00	89.41	90.52	6655.85	-47.05	5214.77	5214.99	0.00	0.00	0.00	
11600.00	89.41	90.52	6656.88	-47.95	5314.76	5314.98	0.00	0.00	0.00	
11700.00	89.41	90.52	6657.90	-48.85	5414.75	5414.97	0.00	0.00	0.00	
11800.00	89.41	90.52	6658.92	-49.75	5514.75	5514.97	0.00	0.00	0.00	
11900.00	89.41	90.52	6659.95	-50.65	5614.74	5614.96	0.00	0.00	0.00	
11905.16	89.41	90.52	6660.00	-50.70	5619.90	5620.12	0.00	0.00	0.00	PBHL
11905.17	89.41	90.52	6660.00	-50.70	5619.91	5620.14	0.54	0.53	-0.10	PBHL

Weatherford International, Ltd.

WELL PLAN REPORT



Weatherford

Company: MEWBOURNE OIL COMPANY Date: 9/11/2008 Time: 11:20:34 Page: 3
 Field: EDDY COUNTY, NEW MEXICO (NAD:27) Co-ordinate(NE) Reference: Site: CROW FLATS 27 FEDERAL #1H
 Site: CROW FLATS 27 FEDERAL #1H Vertical (TVD) Reference: SITE 3620.0
 Well: #1H Section (VS) Reference: Well (0.00N,0.00E;90:52Azi)
 Wellpath: 1 Survey Calculation Method: Minimum Curvature Db: Sybase

Targets

Name	Description Dip Dir	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	Latitude Deg Min Sec	Longitude Deg Min Sec
LP		6610.00	-6.77	749.99	690963.82	549591.03	32 53 57.964 N	104 10 18.345 W
PBHL		6660.00	-50.70	5619.91	690919.89	554460.95	32 53 57.452 N	104 9 21.227 W

Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
7034.78	6610.00	7.000	8.500	7" CSG/LP

Annotation

MD ft	TVD ft	
5852.22	5852.22	KOP
7034.80	6610.00	LP
11905.16	6660.00	PBHL

Formations

MD	TVD	Formations	Lithology	Dip Angle	Dip Direction

**Weatherford****Weatherford Drilling Services**

GeoDec v5.1.000

Report Date: September 09, 2008
Job Number: _____
Customer: MEWBOURNE OIL
Well Name: CROW FLATS 27 FEDERAL #1H
API Number: _____
Rig Name: PATTERSON UTI 45
Location: EDDY COUNTY, NEW MEXICO
Block: _____
Engineer: STEVE MARKCUM

Geodetic Latitude / Longitude	US State Plane 1927
System: Latitude / Longitude	System: New Mexico East 3001 (NON-EXACT)
Projection: Geodetic Latitude and Longitude	Projection: SPC27 Transverse Mercator
Datum: NAD 1927 (NADCON CONUS)	Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866	Ellipsoid: Clarke 1866
Latitude 32.8994556 DEG	North/South 690970.388 USFT
Longitude -104.1742056 DEG	East/West 548841.182 USFT
	Grid Convergence: -08643301°
	Total Correction: +8.2288°

Geodetic Location WGS84	Elevation =	0.0 Meters
Latitude = 32.89946° N	32° 53 min 58.040 sec	
Longitude = 104.17421° W	104° 10 min 27.140 sec	

Magnetic Declination =	8.3150°	[True North Offset]
Local Gravity =	.9989 g	
Local Field Strength =	49304 nT	Magnetic Vector X = 23809 nT
Magnetic Dip =	60.7890°	Magnetic Vector Y = 3480 nT
Magnetic Model =	bggm2008	Magnetic Vector Z = 43034 nT
Spud Date =	Sep 09, 2008	Magnetic Vector H = 24062 nT

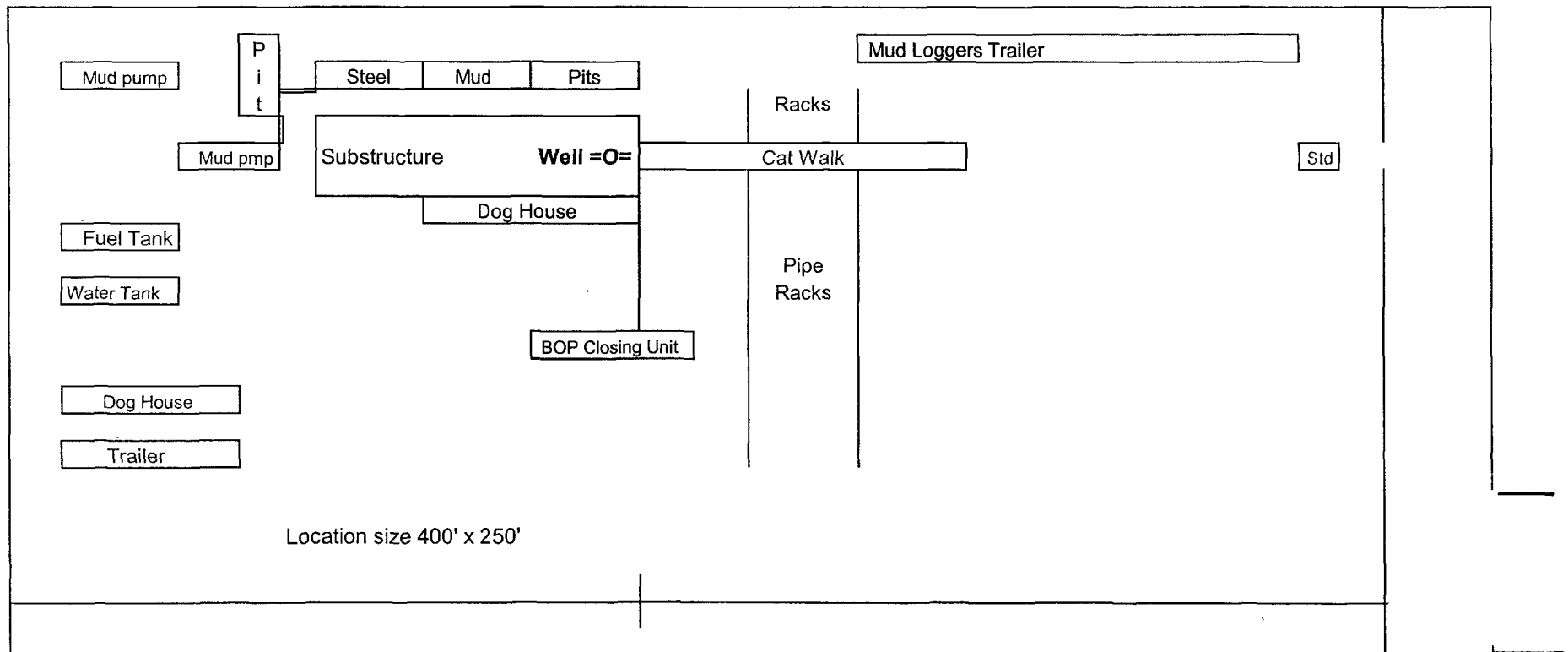
Signed: _____

Date: _____

Mewbourne Oil Company

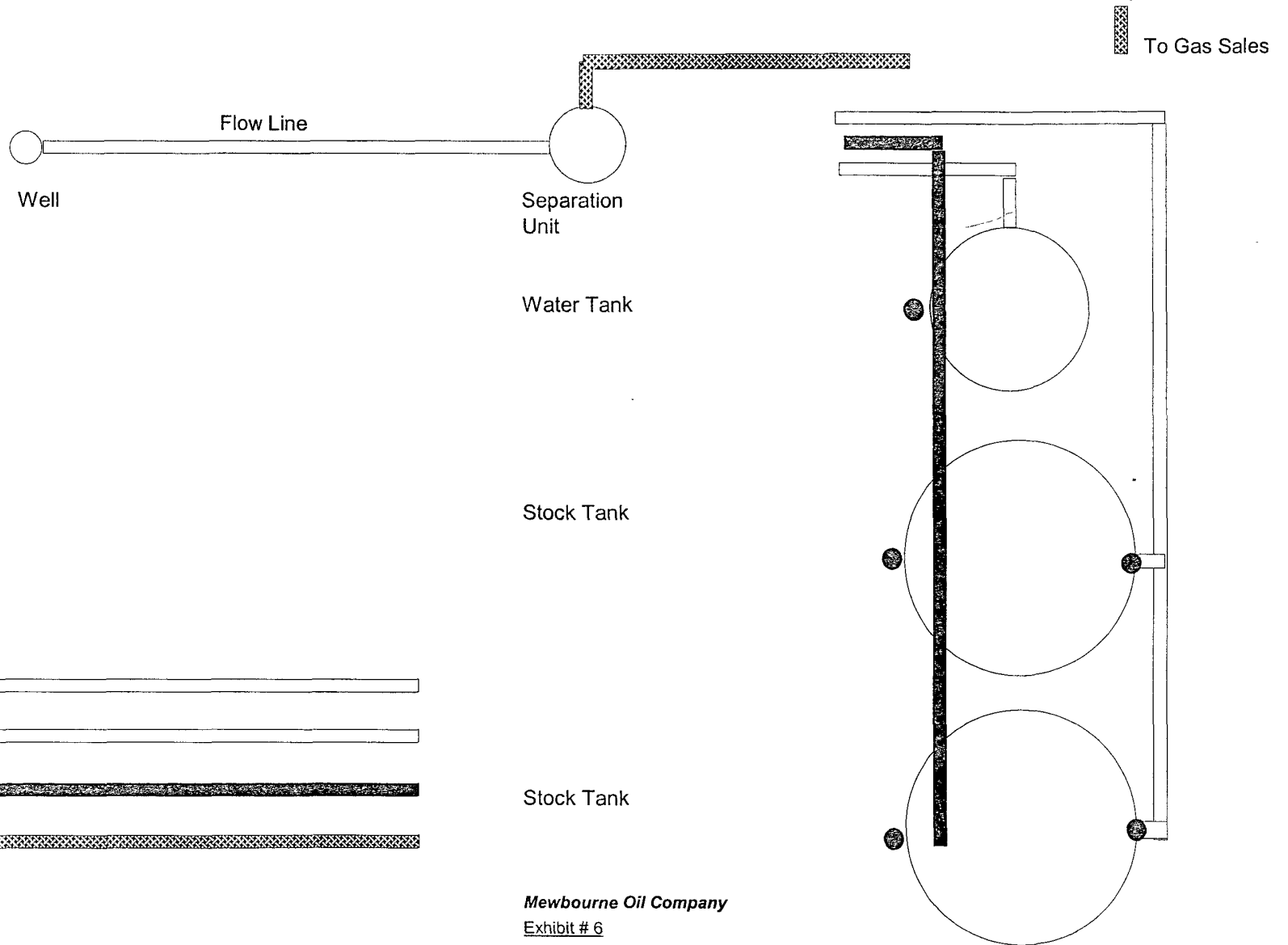
Exhibit #5

Well Name Crow Flats 27 Federal #1H
Footages 330' FNL & 700' FEL
STR Sec 28-T16S-R28E
County Eddy, County
State New Mexico



Rig Location Schematic

Proposed Production Facilities Schematic



Mewbourne Oil Company

Exhibit # 6

Proposed Production Facilities Schematic

Crow Flats 27 Federal #1H
330' FNL & 700' FEL
Sec 28-T16S-R28E
Eddy, County
New Mexico

Notes Regarding Blowout Preventer
Mewbourne Oil Company
Crow Flats 27 Federal #1H
330' FNL & 700' FEL
Sec 28-T16S-R28E
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
BOP Scematic for
12 1/4" Hole

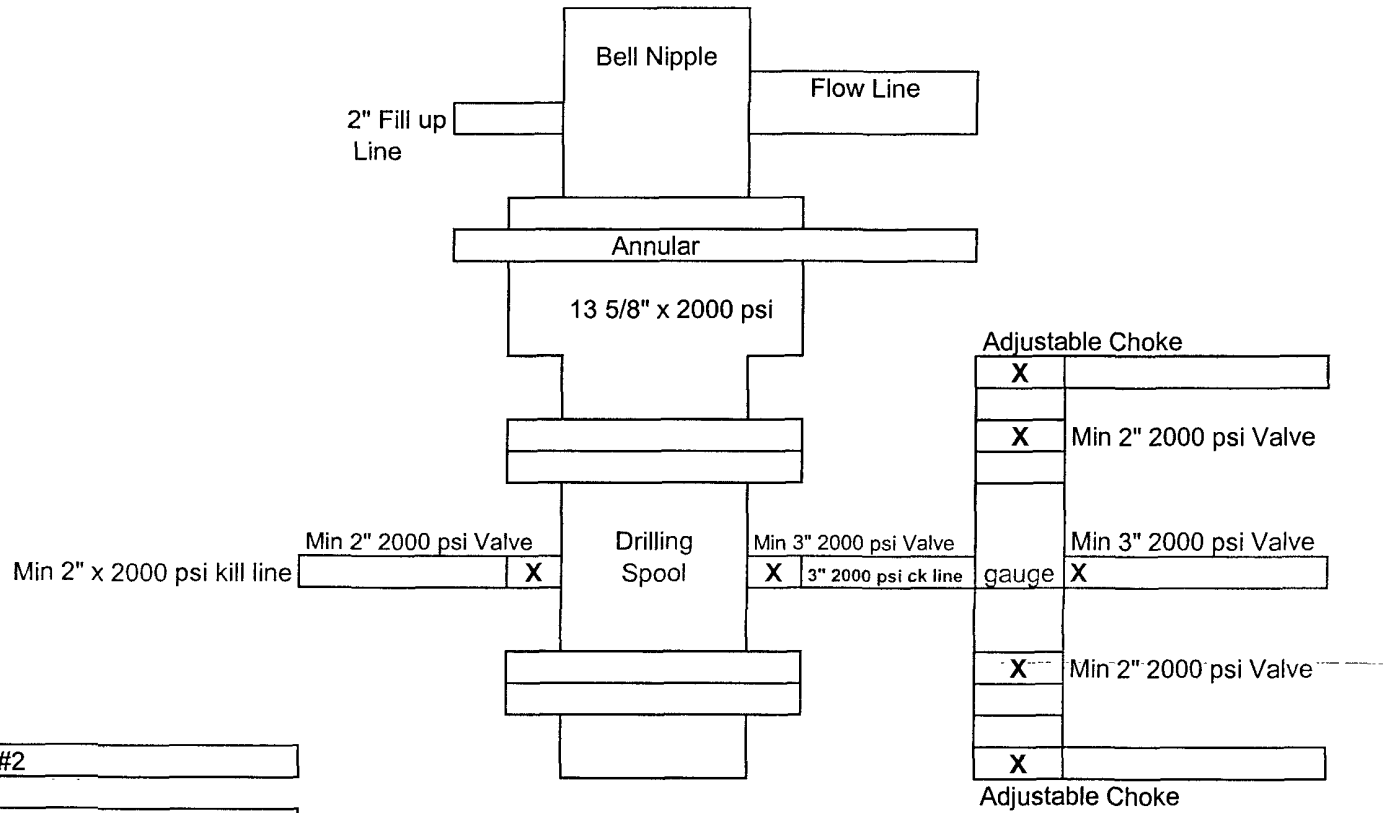
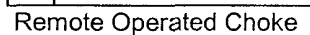


Exhibit #2

Crow Flats 27 Federal #1H
330' FNL & 700' FEL
Sec 28-T16S-R28E
Eddy, County
New Mexico

8 3/4" or 7 7/8" Hole



Crow Flats 27 Federal #1H
330' FNL & 700' FEL
Sec 28-T16S-R28E
Eddy, County
New Mexico

Hydrogen Sulfide Drilling Operations Plan

Mewbourne Oil Company

Crow Flats 27 Federal #1H

330' FNL & 700' FEL

Sec 28-T16S-R28E

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 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.

8. **Emergency Phone Numbers**

Eddy County Sheriff's Office		575-746-9888
Ambulance Service		911 or 575-746-5051
Artesia Fire Dept		911 or 575-746-5051
Loco Hills Volunteer Fire Dept.		911 or 575-677-3266
Closest Medical Facility	Artesia General Hospital	575-748-3333
New Mexico State Police		575-746-2703
Mewbourne Oil Company	Hobbs District Office	575-393-5905
	Fax	575-397-6252
	2nd Fax	575-393-7259
District Manager	Micky Young	575-390-0999
Drilling Superintendent	Frosty Lathan	575-390-4103
Drilling Foreman	Wesley Noseff	575-441-0729

MULTI-POINT SURFACE USE AND OPERATIONS PLAN

MEWBOURNE OIL COMPANY

Crow Flats 27 Federal #1H

330' FNL & 700' FEL

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 black and proposed road is highlighted in blue. Exhibit #3A is a topographic map showing the location of the proposed well and access road. Existing and proposed roads are highlighted in black.
- B. **Directions to location from Artesia: East from Artesia, NM on US 82 10.5 miles, turn left (north) on Southern Union Road (Eddy Co. 202) around sub-station and continue north. Then north-west 0.1 mile. Turn Right (North) and continue north 1.0 mile. Turn right (east) and continue east 1.0 mile, turn left (north) and continue north, then north-east 0.6 mile. Turn left (north) and continue north 1.7 miles. Turn right (east) & continue east 0.7 mile. Turn right (south) & continue south 0.3 mile to location.**

2. Proposed Access Road:

- A. Approx 5423' of new road will be needed.
- 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 purpose will be hauled off to an approved disposal facility.
 - B. Drilling fluids will be hauled off to an approved disposal facility.
 - C. Water produced during operations will be disposed of at an approved disposal facility.
 - 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 and location of major rig components are shown.
- B. The pad dimension of 400' X 250' has been staked and flagged.
- D. An archaeological survey is in the process of being conducted on the proposed 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 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. Any additional caliche required for production facilities will be obtained from a source as described in Section 6.
- D. 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: Located entirely on federal surface.

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's Representative:

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

N.M. Young, District Manager
Mewbourne Oil Company
PO Box 5270
Hobbs, NM 88241
575-393-5905

Exhibit #4
Status of Wells in Immediate Vicinity
Mewbourne Oil Company
Crow Flats 27 Federal #1H
330' FNL & 700' FEL
Sec 28-T16S-R28E
Eddy County, New Mexico

Section 21-T16S-R28E

Operator: COG Operating, LLC
Well Name: Rudolph Federal #1
Unit letter: N
Status: Pumping
Field: Crow Flats San Andres

Section 21-T16S-R28E

Operator: COG Operating, LLC
Well Name: Rudolph Federal #2
Unit letter: O
Status: Pumping
Field: Crow Flats San Andres

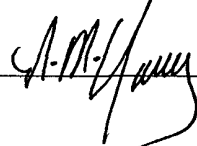
Section 28-T16S-R28E

Operator: Mewbourne Oil Company
Well Name: Crow Flats 28 Federal #1
Unit letter: A
Status: Pumping
Field: Dog Canyon Wolfcamp

Mewbourne Oil Company

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

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route for the Crow Flats 27 Federal #1H, 330' FNL & 700' FEL 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: 9/17/08

Print: NM Young

Hobbs District Manager

PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:	MEWBOURNE OIL COMPANY
LEASE NO.:	NM-83066
WELL NAME & NO.:	Crow Flats 27 Federal #1H
SURFACE HOLE FOOTAGE:	330' FNL & 700' FEL
BOTTOM HOLE FOOTAGE	750' FNL & 330' FEL
LOCATION:	Section 28, T. 16 S., R. 28 E., NMPM SHL Section 27, T. 16 S., R. 28 E., NMPM BHL
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**
- ☐ **Construction**
 - Notification
 - Topsoil
 - Reserve Pit
 - Federal Mineral Material Pits
 - Well Pads
 - Roads
- ☐ **Road Section Diagram**
- ☒ **Drilling**
- ☐ **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. 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) 234-5972 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

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

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 (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 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

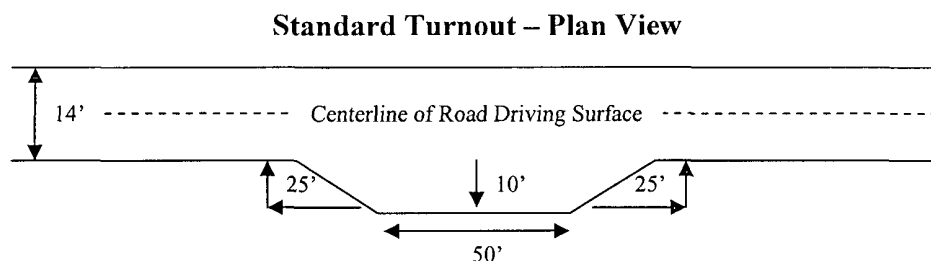
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching

Ditching shall be required on both sides of the road.

Turnouts

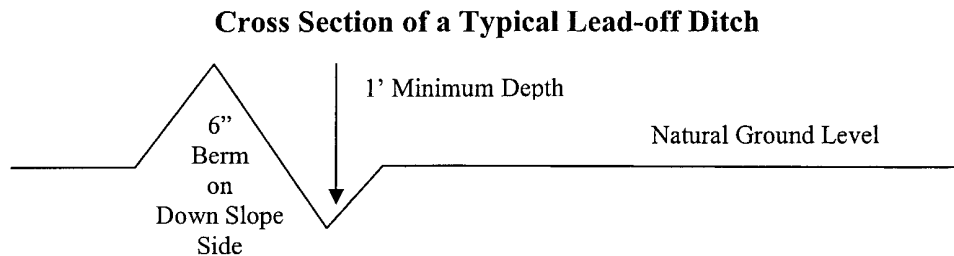
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:



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.



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

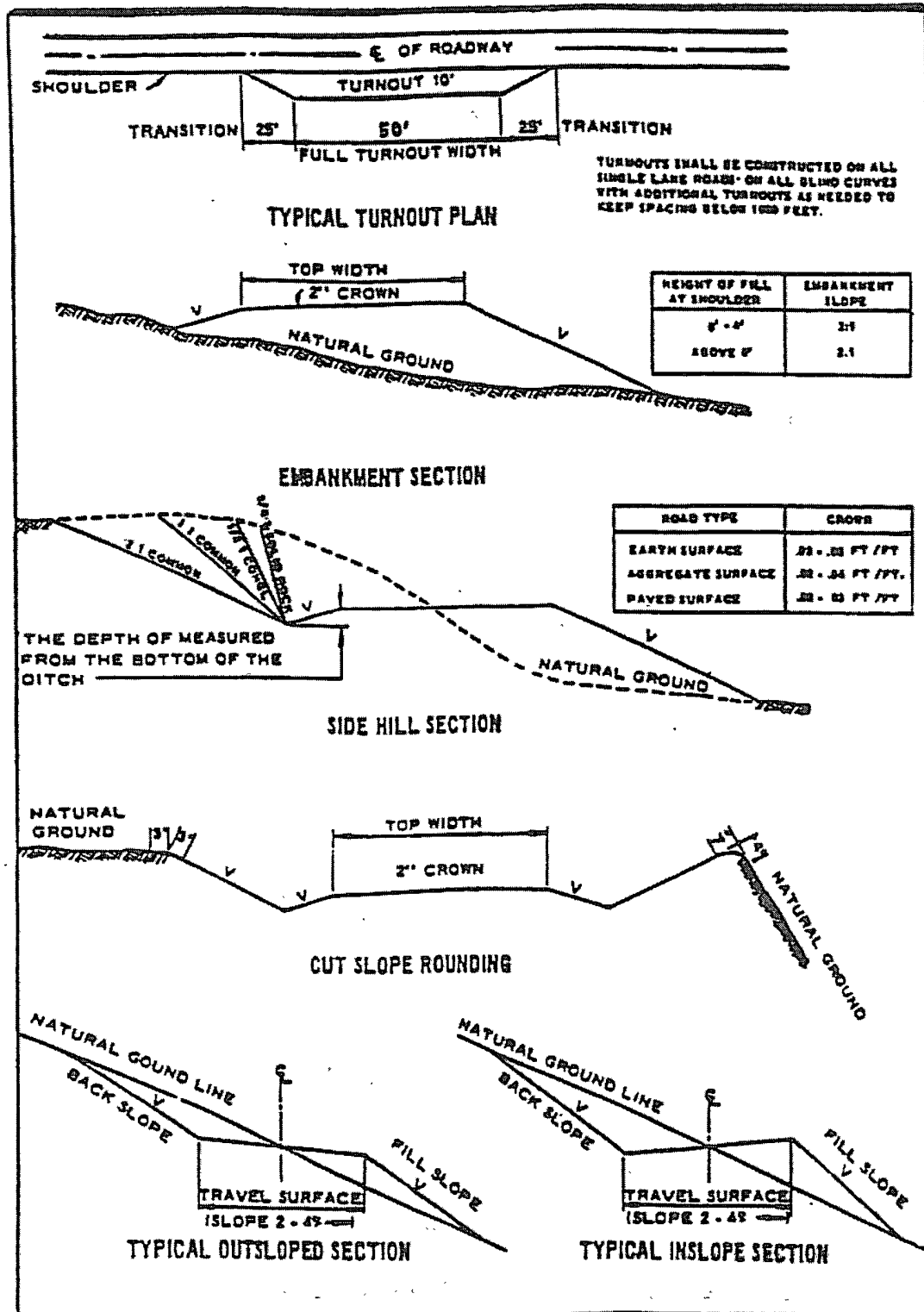
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

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



VI. 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. **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

Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.

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

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 for all casing strings. 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 Grayburg and San Andres formations.

Possible high pressure gas in the Wolfcamp formation.

1. The 13-3/8 inch surface casing shall be set at **approximately 500** feet and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with 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 is to include the lead cement slurry.**
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is:
 - ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above.
Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst. Additional cement required as excess cement calculates to less than 5%.

Formation below the 9-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

If 75% or greater lost circulation occurs while drilling the intermediate casing hole, the cement on the deep intermediate casing must come to surface. If this occurs the wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst.

3. The minimum required fill of cement behind the 7 inch deep intermediate casing is:
 - ☒ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification. **Additional cement required as excess cement is less than 5%.**
4. The minimum required fill of cement behind the 4-1/2 inch deep intermediate casing is:
 - ☒ Cement not required. Packer system being used.
5. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M)** psi.
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.
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 100708

VII. 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

VIII. 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.

The 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.

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
(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.