ATS-09-57

Form 3160-3
(September 2001)

DEC 16 2008

OCD-ARTESIA

OCD-ARTESIA 186

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Split Estate State

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: ☑ DRILL ☐ REENTER	5. Lease Serial No. NM-83066
	6 If Indian, Allottee or Tribe Name
	7. If Unit or CA Agreement, Name and No
1b. Type of Well ☑ Oil Well ☐ Gas Well ☐ Other ☐ Single Zone ☐ Multiple Zone	8. Lease Name and Well No. Crow Flats 27 Federal #2 H
2. Name of Operator Mewbourne Oil Company - 14744	9. API Well No. 30-015-36853
3a. Address PO Box 5270 Hobbs, NM 88241 / 3b. Phone No. *(include area code)* 575-393-5905	10. Field and Pool, or Exploratory Crow Flats Wolfcamp
4. Location of Well *(Report location clearly and in accordance with any State requirements. *)* At surface 1700' FNL & 850' FWL Unit E, Sec 27, T16S, R28E; At proposed prod. zone 1980' FNL & 330' FEL Unit H, Sec 27 T16S, R28E	11. Sec., T., R., M., or Blk. and Survey or Area Sec 27-T16S-R28E
14. Distance in miles and direction from nearest town or post office* 12 Miles NW of Loco Hills, NM	12. County or Parish Eddy / 13. State NM
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 330' / 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. 2000' / 19. Proposed Depth 10384' MD 6657' TVD / 20. BLM/BIA Bond No. on file NM1693, Nationwide	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3597' 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 11/18/08
Title Hobbs Regulatory		
Approved by *(Signature)* /s/ Don Peterson	Name *(Printed/Typed)* /s/ Don Peterson	Date DEC 12 2008
Title FOR 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)*

Subject to Like Approval By State - possible commingle behind pipe

ROSWELL CONTROLLED WATER BASIN

SEE ATTACHED FOR CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND 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 27, T16S, R28E Eddy County, New Mexico.
Location @ 1700' FNL & 850' FWL.

Formation (if applicable): Wolfcamp

Bond Coverage: $150,000

BLM Bond File: NM1693, Nationwide

Authorized Signature: _____

Name: NM (Micky) Young
Title: District Manager
Date: November 18, 2008

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
DISTRICT II
1301 W. Grand Avenue, Artesia, NM 88210
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410
DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

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	Pool Code	Pool Name
30-015-36853	~~97~~ 97476	Crow Flats; Wolfcamp / Strawn

Property Code	Property Name	Well Number
37537	CROW FLATS "27" FEDERAL	2H

OGRID No.	Operator Name	Elevation
14744	MEWBOURNE OIL COMPANY	3597'

Surface Location

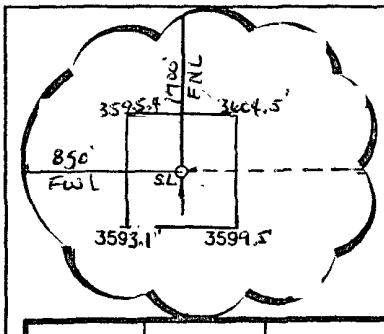
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	27	16 S	28 E		1700'	NORTH	850'	WEST	EDDY

Bottom Hole Location If Different From Surface

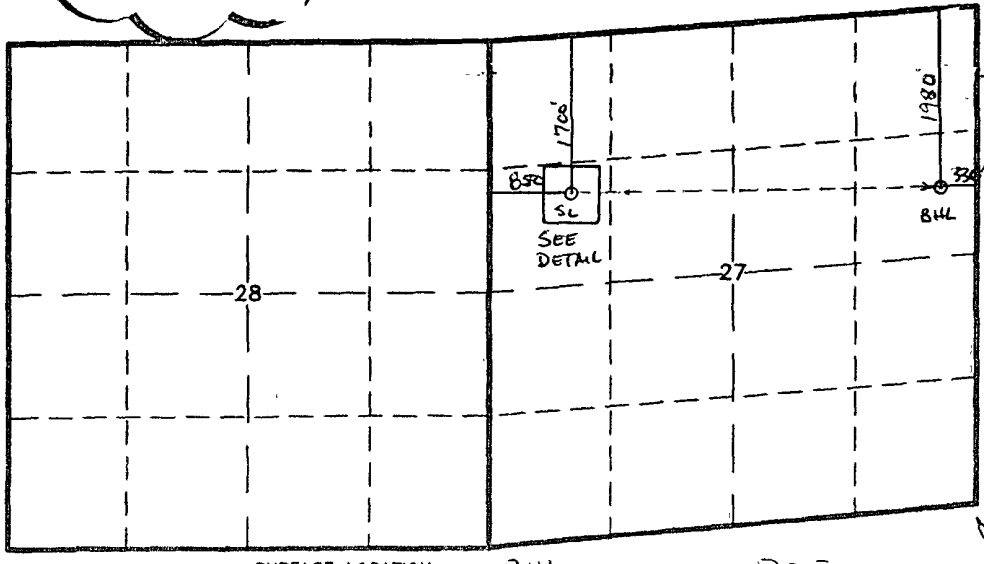
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	27	16 S	28 E		1980'	NORTH	330'	EAST	EDDY

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



Please see additional C102 for Project & Producing Area.



SURFACE LOCATION
Lat.: N32°53'45.14"
Long.: W104°10'09.03"
SPC- N.: 689669.00
E.: 550387.254
(NAD-27)

BHL
330' FEL
1980' FNL
Sec 27 T-16S R28E

POE
1400' FWL
1750' FNL
Sec 27 T-16S R28E

SCALE = 1" – 2000'

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.

N.M. Young — 11/17/08
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 supervison, and that the same is true and correct to the best of my belief.

JANUARY 16, 2008
Date Surveyed

Signature & Seal of Professional Surveyor

GARY L. JONES — NEW MEXICO — 7977 — REGISTERED PROFESSIONAL SURVEYOR

Certificate No. GARY L. Jones 7977

BASIN SURVEYS

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
DISTRICT II
1301 W. Grand Avenue, Artesia, NM 88210
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410
DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

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	Pool Code	Pool Name
		Crow Flat Wolfcamp

Property Code	Property Name	Well Number
	CROW FLATS "27" FEDERAL	2-H

OGRID No.	Operator Name	Elevation
14744	MEWBOURNE OIL COMPANY	3597'

Surface Location

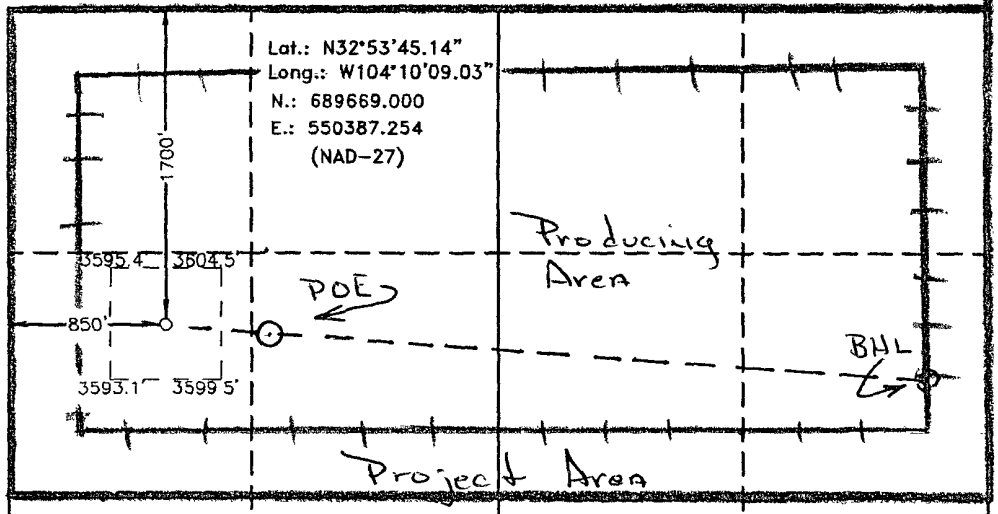
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	27	16 S	28 E		1700	NORTH	850	WEST	EDDY

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
H	27	16S	28E		1980	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



Note: POE @ 1750' FNL & 1400' FWL Sec. 27 T-16S R-28E

Note: BHL @ 1980' FNL & 330' FEL Sec. 27 T-16S R-28E

Note: This is a Correction Section. Please See 1st C102 for Exact North Section Line.

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.

Signature 11/18/08 Date

M.M. Fonseca
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 supervison, and that the same is true and correct to the best of my belief.

JANUARY 10, 2008
Date Surveyed

Signature & Seal of Professional Surveyor
7977

NEW MEXICO PROFESSIONAL LAND SURVEYOR

NO. 11

Certificate No. Gary L. Jones 7977

BASIN SURVEYS

Drilling Program
Mewbourne Oil Company
Crow Flats 27 Federal #2H
1700' FNL & 850' FWL, Sec 27-T16S-R28E (Surface Location) Unit Letter E
1980' FNL & 330' FEL, Sec 27-16S-R28E (Bottom hole Location) Unit Letter H
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'

COA
See Spec Reqt

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 ⅜" surface casing. A 5000# WP Double Ram BOP and 5000# WP Annular will be installed after running 7" 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 ½"	13 ⅜ " (new)	48#	H40	0-350'	ST&C
8 ¾"	7" (new)	26#	HCP110	0-5900' MD	LT&C
6 ⅛"	4 ½" (new)	11.6#	P110	5700-~~11384'~~ 10384' MD	LT&C

drilling plan

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

If wellbore integrity cannot be maintained, then 8 ¾" hole will be reamed out to 12 ¼" & 9 ⅝" csg will be run as follows:

12 ¼"	9 ⅝" (new)	40#	N80	0-100'	LT&C
	9 ⅝" (new)	40#	J55	100'-1100'	LT&C

Cement will be circulated to surface behind 9 ⅝" csg.

See COA

B. Cementing Program: ← See COA

i. Surface Casing: 400 sks Class C cement containing 2% CaCl. Yield at 1.34 cuft/sk. Cmt circulated to surface.

ii. Intermediate Casing: 400 sacks Class C light w/additives. Yield 1.98 cuft/sk. Cmt circulated to surface. 400 sacks Class C containing 1% CaCl2. Yield at 1.34 cuft/sk.

See COA →

iii. Production Liner: Plan to use packers plus system.

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

5. Mud Program:

Interval	Type System	Weight	Viscosity	Fluid Loss
0'-350'	FW spud mud	8.6-9.4	32-34	NA
350'-5900'	Brine water	10.0-10.2	28-30	NA
5900'-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. Not applicable

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.

Weatherford®

Drilling Services

Proposal

Mewbourne Oil Company

CROW FLATS 27 FEDERAL #2H

EDDY COUNTY, NM

WELL FILE: **PLAN1**

NOVEMBER 7, 2008

Surface Location
Sec. 27
1700' FNL

Weatherford International, Ltd.
P.O. Box 61028
Midland, TX 79711 USA
+1.432.561.8892 Main
+1.432.561.8895 Fax
www.weatherford.com

Mewbourne Oil Company

Weatherford

CROW FLATS 27 FEDERAL #2H
EDDY COUNTY, NEW MEXICO
SECTION 27, T16S-R28E

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0 00	0 00	89 69	0 00	0 00	0 00	0 00	0 00	0 00	
2	5902 85	0 00	89 69	5902 85	0 00	0 00	0 00	89 69	0 00	
3	7019 76	89 35	89 69	6619 00	3 89	708 10	8 00	89 69	708 11	
4	10383 62	89 35	89 69	6657 00	22 34	4071 69	0 00	0.00	4071 75	PBHL 27 #2H

SITE DETAILS

CROW FLATS 27 FEDERAL #2H

Site Centre Northing 689669 00
Easting 550387 25

Ground Level 3597 00
Positional Uncertainty 0 00
Convergence 0 09

TARGET DETAILS

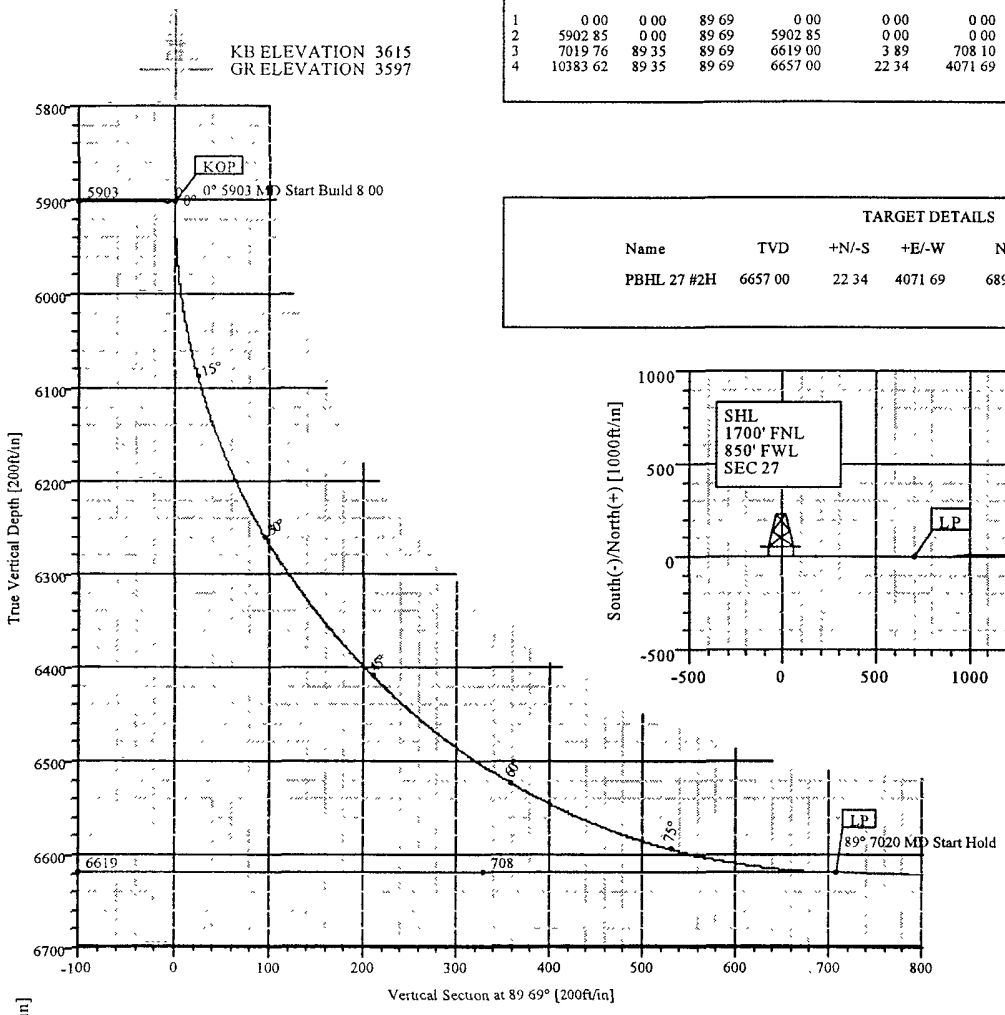
Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL 27 #2H	6657 00	22 34	4071 69	689691 34	554458 94	Point

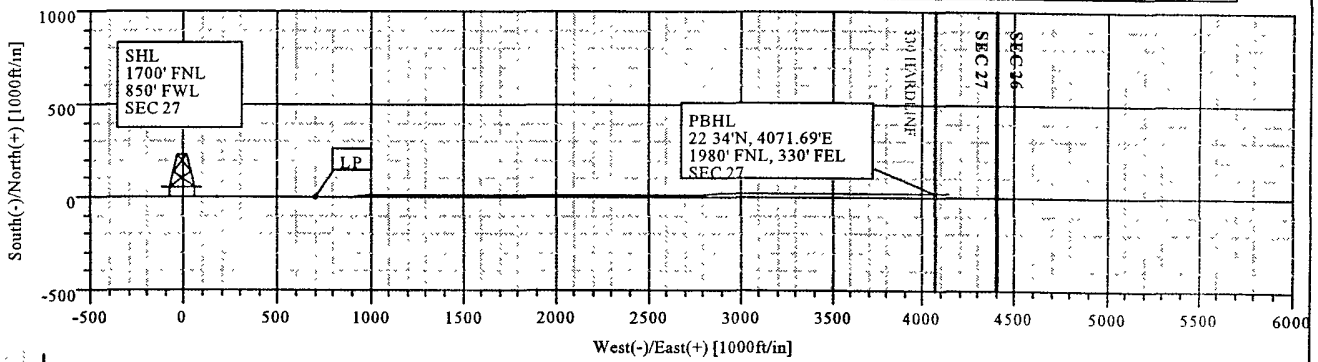
FIELD DETAILS

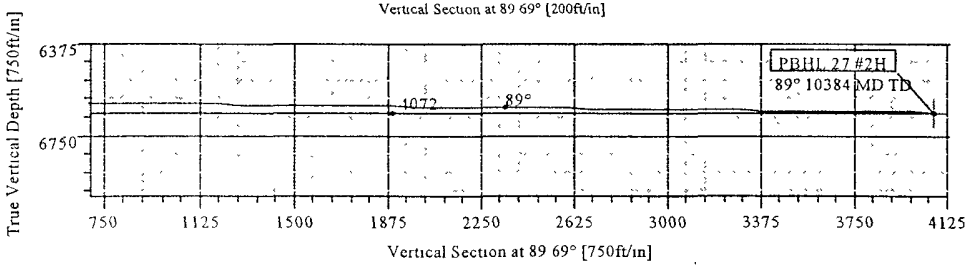
EDDY COUNTY, NEW MEXICO

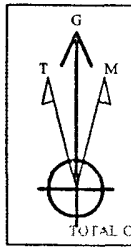
Geodetic System US State Plane Coordinate System 1927
Ellipsoid NAD27 (Clarke 1866)
Zone New Mexico, Eastern Zone
Magnetic Model bggm2007

System Datum Mean Sea Level
Local North Grid North









Azimuths to Grid North
True North -0 09°
Magnetic North 8 19°

Magnetic Field
Strength 49257nT
Dip Angle 60 77°
Date 11/7/2008
Model bggm2007

TOTAL CORRECTION TO GRID NORTH 8 19°

Plan Plan #1 (27 #2H/1)

Created By Russell Joyner Date 11/7/2008

Mewbourne Oil Company

Weatherford
WELL PLAN REPORT

Weatherford

Company:	MEWBOURNE OIL COMPANY	Date: 11/7/2008 Time: 08:15:29	Page: 1
Field:	EDDY COUNTY, NEW MEXICO	Co-ordinate(NE) Reference:	Well: 27 #2H, Grid North
Site:	CROW FLATS 27 FEDERAL #2H	Vertical (TVD) Reference:	SITE 3615.0
Well:	27 #2H	Section (VS) Reference:	Well (0.00N,0.00E,89.69Azi)
Wellpath:	1	Survey Calculation Method:	Minimum Curvature Db: Sybase

Plan:	Plan #1	Date Composed:	11/7/2008
		Version:	1
Principal:	Yes	Tied-to:	From Surface

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

Site:	CROW FLATS 27 FEDERAL #2H				
Site Position:		Northing:	689669.00 ft	Latitude:	32 53 45.139 N
From:	Map	Easting:	550387.25 ft	Longitude:	104 10 9.030 W
Position Uncertainty:	0.00 ft			North Reference:	Grid
Ground Level:	3597.00 ft			Grid Convergence:	0.09 deg

Well:	27 #2H				Slot Name:	
Well Position:	+N/-S	0.00 ft	Northing:	689669.00 ft	Latitude:	32 53 45.139 N
	+E/-W	0.00 ft	Easting :	550387.25 ft	Longitude:	104 10 9.030 W
Position Uncertainty:		0.00 ft				

Wellpath:	1			Drilled From:	Surface
				Tie-on Depth:	0.00 ft
Current Datum:	SITE	Height	3615.00 ft	Above System Datum:	Mean Sea Level
Magnetic Data:	11/7/2008			Declination:	8.28 deg
Field Strength:	49257 nT			Mag Dip Angle:	60.77 deg

Vertical Section:	Depth From (TVD) ft	+N/-S ft	+E/-W ft	Direction deg
	0.00	0.00	0.00	89.69

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	89.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5902.85	0.00	89.69	5902.85	0.00	0.00	0.00	0.00	0.00	89.69	
7019.76	89.35	89.69	6619.00	3.89	708.10	8.00	8.00	0.00	89.69	
10383.62	89.35	89.69	6657.00	22.34	4071.69	0.00	0.00	0.00	0.00	PBHL 27 #2H

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
5900.00	0.00	89.69	5900.00	0.00	0.00	0.00	0.00	0.00	0.00	
5902.85	0.00	89.69	5902.85	0.00	0.00	0.00	0.00	0.00	0.00	KOP
5930.00	2.17	89.69	5929.99	0.00	0.51	0.51	8.00	8.00	0.00	
5960 00	4.57	89.69	5959.94	0.01	2.28	2.28	8.00	8.00	0.00	
5990.00	6.97	89.69	5989.79	0.03	5.30	5.30	8.00	8.00	0 00	
6020.00	9.37	89.69	6019.48	0.05	9.56	9.56	8.00	8.00	0.00	
6050 00	11 77	89.69	6048.97	0.08	15.06	15.06	8.00	8.00	0.00	
6080 00	14 17	89.69	6078.20	0.12	21.80	21.80	8.00	8.00	0.00	
6110.00	16.57	89.69	6107.12	0.16	29.75	29.75	8.00	8.00	0.00	
6140 00	18.97	89 69	6135.69	0.21	38.90	38.91	8.00	8.00	0.00	
6170.00	21.37	89 69	6163.85	0.27	49.25	49.25	8.00	8.00	0 00	
6200 00	23 77	89.69	6191.55	0 33	60.76	60.76	8.00	8 00	0 00	
6230 00	26 17	89 69	6218 74	0.40	73.43	73 43	8.00	8.00	0 00	
6260 00	28.57	89 69	6245.38	0.48	87.22	87.22	8.00	8.00	0.00	
6290.00	30 97	89.69	6271.42	0.56	102.11	102.12	8.00	8.00	0 00	
6320 00	33.37	89.69	6296.81	0.65	118.09	118.09	8.00	8.00	0.00	
6350.00	35.77	89.69	6321.51	0.74	135 11	135.11	8.00	8.00	0.00	

Weatherford
WELL PLAN REPORT

Weatherford

Company:	MEWBOURNE OIL COMPANY	Date:	11/7/2008	Time: 08:15:29	Page: 2
Field:	EDDY COUNTY, NEW MEXICO	Co-ordinate(NE) Reference:	Well: 27 #2H, Grid North		
Site:	CROW FLATS 27 FEDERAL #2H	Vertical (TVD) Reference:	SITE 3615.0		
Well:	27 #2H	Section (VS) Reference:	Well (0.00N,0.00E,89.69Azi)		
Wellpath:	1	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
6380.00	38.17	89.69	6345.48	0.84	153.15	153.15	8.00	8.00	0.00	
6410.00	40.57	89.69	6368.67	0.94	172.18	172.18	8.00	8.00	0.00	
6440.00	42.97	89.69	6391.04	1.05	192.16	192.17	8.00	8.00	0.00	
6470.00	45.37	89.69	6412.56	1.17	213.06	213.07	8.00	8.00	0.00	
6500.00	47.77	89.69	6433.18	1.29	234.85	234.85	8.00	8.00	0.00	
6530.00	50.17	89.69	6452.87	1.41	257.48	257.48	8.00	8.00	0.00	
6560.00	52.57	89.69	6471.59	1.54	280.91	280.92	8.00	8.00	0.00	
6590.00	54.97	89.69	6489.32	1.67	305.11	305.12	8.00	8.00	0.00	
6620.00	57.37	89.69	6506.02	1.81	330.03	330.04	8.00	8.00	0.00	
6650.00	59.77	89.69	6521.67	1.95	355.63	355.63	8.00	8.00	0.00	
6680.00	62.17	89.69	6536.22	2.10	381.86	381.86	8.00	8.00	0.00	
6710.00	64.57	89.69	6549.67	2.24	408.67	408.68	8.00	8.00	0.00	
6740.00	66.97	89.69	6561.98	2.39	436.03	436.03	8.00	8.00	0.00	
6770.00	69.37	89.69	6573.13	2.55	463.87	463.88	8.00	8.00	0.00	
6800.00	71.77	89.69	6583.11	2.70	492.16	492.17	8.00	8.00	0.00	
6830.00	74.17	89.69	6591.89	2.86	520.85	520.85	8.00	8.00	0.00	
6860.00	76.57	89.69	6599.47	3.02	549.87	549.88	8.00	8.00	0.00	
6890.00	78.97	89.69	6605.82	3.18	579.19	579.20	8.00	8.00	0.00	
6920.00	81.37	89.69	6610.94	3.34	608.75	608.75	8.00	8.00	0.00	
6950.00	83.77	89.69	6614.82	3.50	638.49	638.50	8.00	8.00	0.00	
6980.00	86.17	89.69	6617.45	3.67	668.37	668.38	8.00	8.00	0.00	
7010.00	88.57	89.69	6618.82	3.83	698.34	698.35	8.00	8.00	0.00	
7019.76	89.35	89.69	6619.00	3.89	708.10	708.11	8.00	8.00	0.00	LP

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
PBHL 27 #2H			6657.00	22.34	4071.69	689691.34	554458.94	32	53	45.295 N	104	9	21.275 W

Casing Points

MD	TVD	Diameter	Hole Size	Name

Annotation

MD ft	TVD ft	
5902.85	5902.85	KOP
7019.76	6619.00	LP
10383.61	6656.99	PBHL

Formations

MD	TVD	Formations	Lithology	Dip Angle	Dip Direction

Weatherford
WELL PLAN REPORT

Company:	MEWBOURNE OIL COMPANY	Date: 11/7/2008	Time: 08:14:45	Page:	3
Field:	EDDY COUNTY, NEW MEXICO	Co-ordinate(NE) Reference:	Well: 27 #2H, Grid North		
Site:	CROW FLATS 27 FEDERAL #2H	Vertical (TVD) Reference:	SITE 3615.0		
Well:	27 #2H	Section (VS) Reference:	Well (0.00N,0.00E,89.69Azi)		
Wellpath:	1	Survey Calculation Method:	Minimum Curvature	Db:	Sybase

Formations

MD	TVD	Formations	Lithology	Dip Angle	Dip Direction

Weatherford Drilling Services

GeoDec v5.1.000

Report Date:	November 07, 2008
Job Number:	
Customer:	MEWBOURNE OIL CO.
Well Name:	CROW FLATS 27 FEDERAL #2H
API Number:	
Rig Name:	
Location:	EDDY COUNTY, NM
Block:	
Engineer:	R JOYNER

US State Plane 1927	Geodetic Latitude / Longitude
System: New Mexico East 3001 (NON-EXACT)	System: Latitude / Longitude
Projection: SPC27 Transverse Mercator	Projection: Geodetic Latitude and Longitude
Datum: NAD 1927 (NADCON CONUS)	Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866	Ellipsoid: Clarke 1866
North/South 689669.000 USFT	Latitude 32.8958720 DEG
East/West 550387.254 USFT	Longitude -104.1691750 DEG
Grid Convergence: .08915685°	
Total Correction: +8.2042°	

Geodetic Location WGS84		Elevation =	0.0 Meters
Latitude =	32.89587° N		32° 53 min 45.139 sec
Longitude =	104.16918° W		104° 10 min 9.030 sec

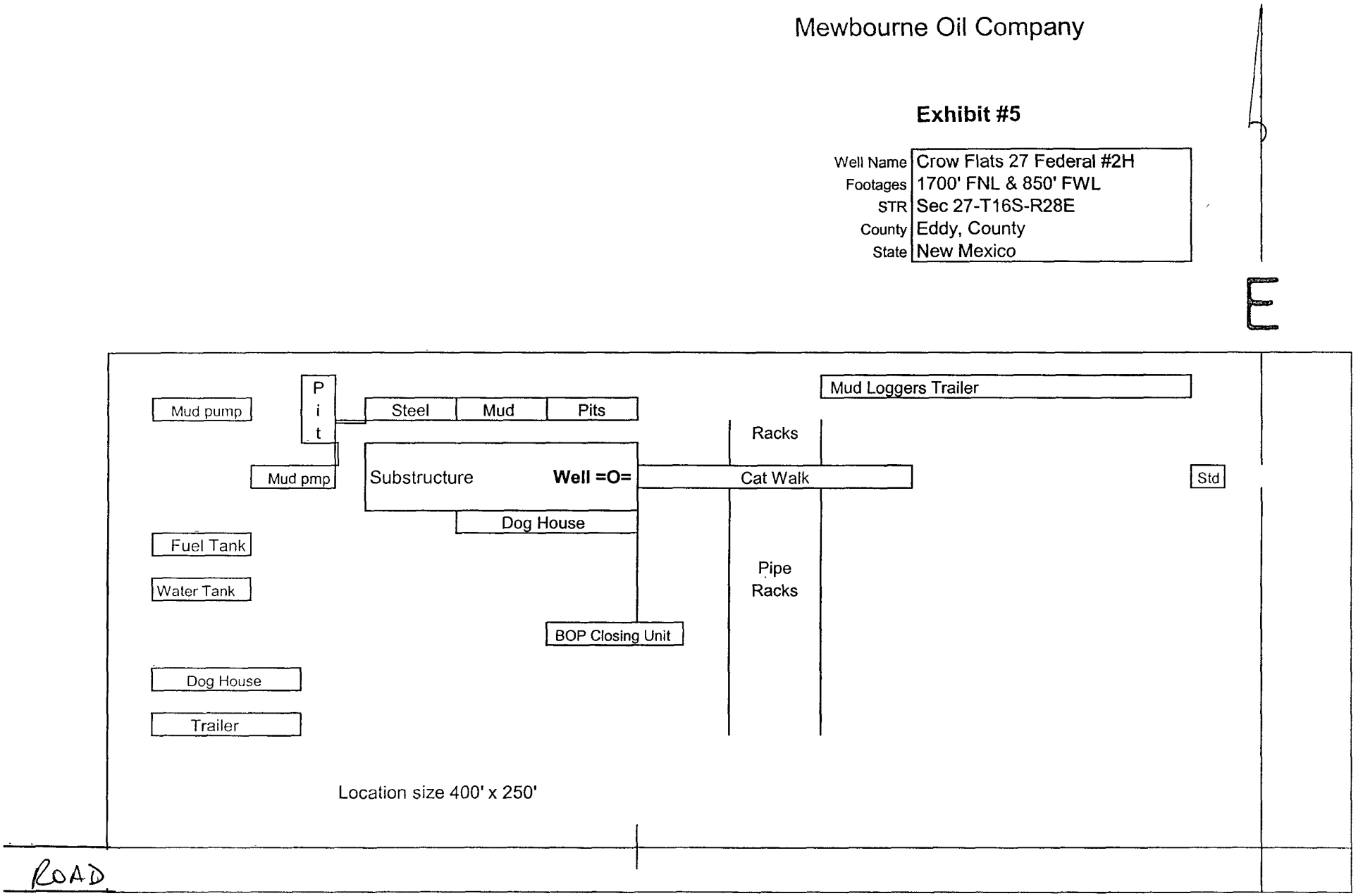
Magnetic Declination =	8.2930°	[True North Offset]	
Local Gravity =	.9989 g		
Local Field Strength =	49287 nT	Magnetic Vector X =	23807 nT
Magnetic Dip =	60.7820°	Magnetic Vector Y =	3470 nT
Magnetic Model =	bggm2008	Magnetic Vector Z =	43016 nT
Spud Date =	Nov 07, 2008	Magnetic Vector H =	24058 nT

Signed:_____ Date:_____

Mewbourne Oil Company

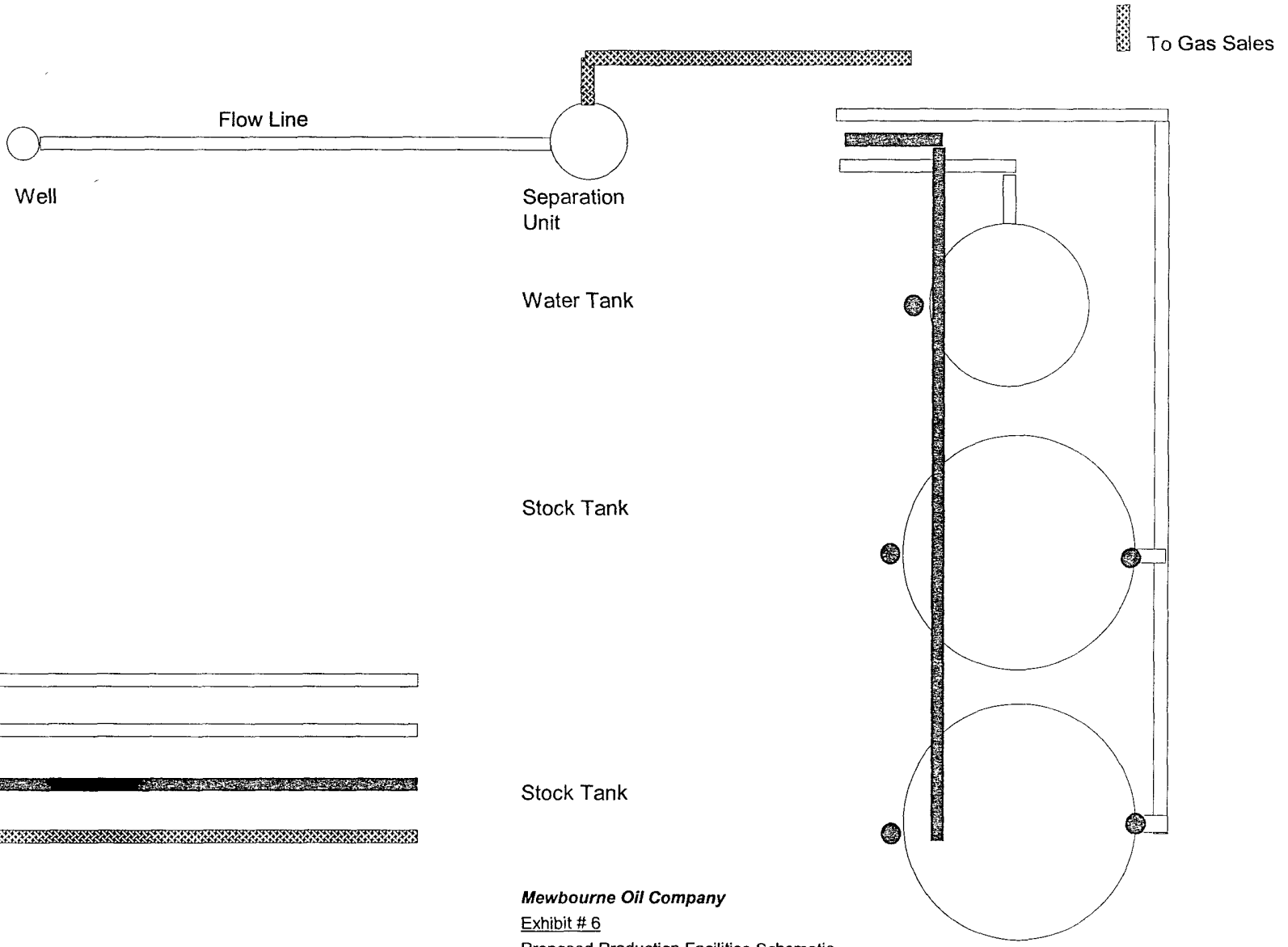
Exhibit #5

Well Name	Crow Flats 27 Federal #2H
Footages	1700' FNL & 850' FWL
STR	Sec 27-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 #2H
1700' FNL & 850' FWL
Sec 27-T16S-R28E
Eddy, County
New Mexico

Notes Regarding Blowout Preventer

Mewbourne Oil Company

Crow Flats 27 Federal #2H
1700' FNL & 850' FWL
Sec 27-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 ¼" Hole or 8 3/4" Hole

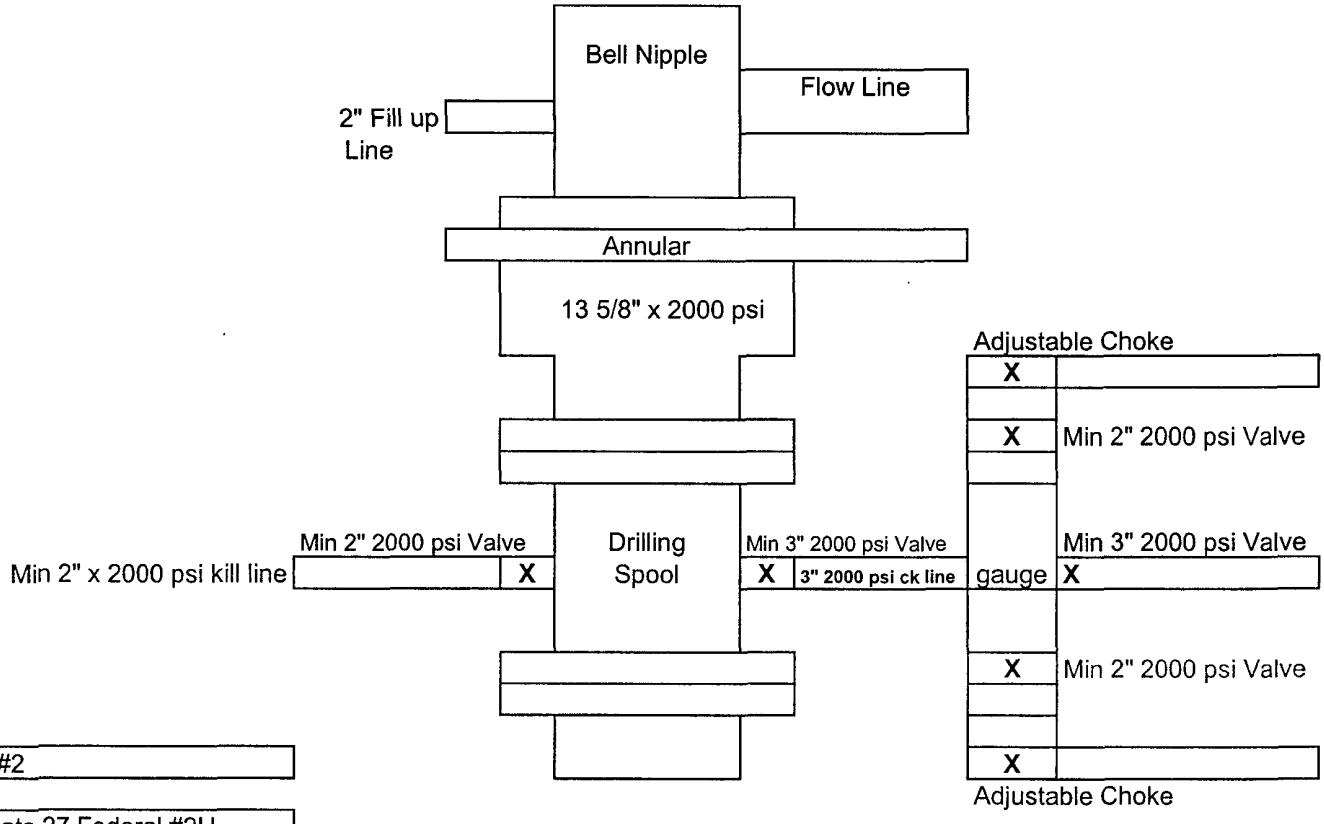


Exhibit #2

Crow Flats 27 Federal #2H
1700' FNL & 850' FWL
Sec 27-T16S-R28E
Eddy, County
New Mexico

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

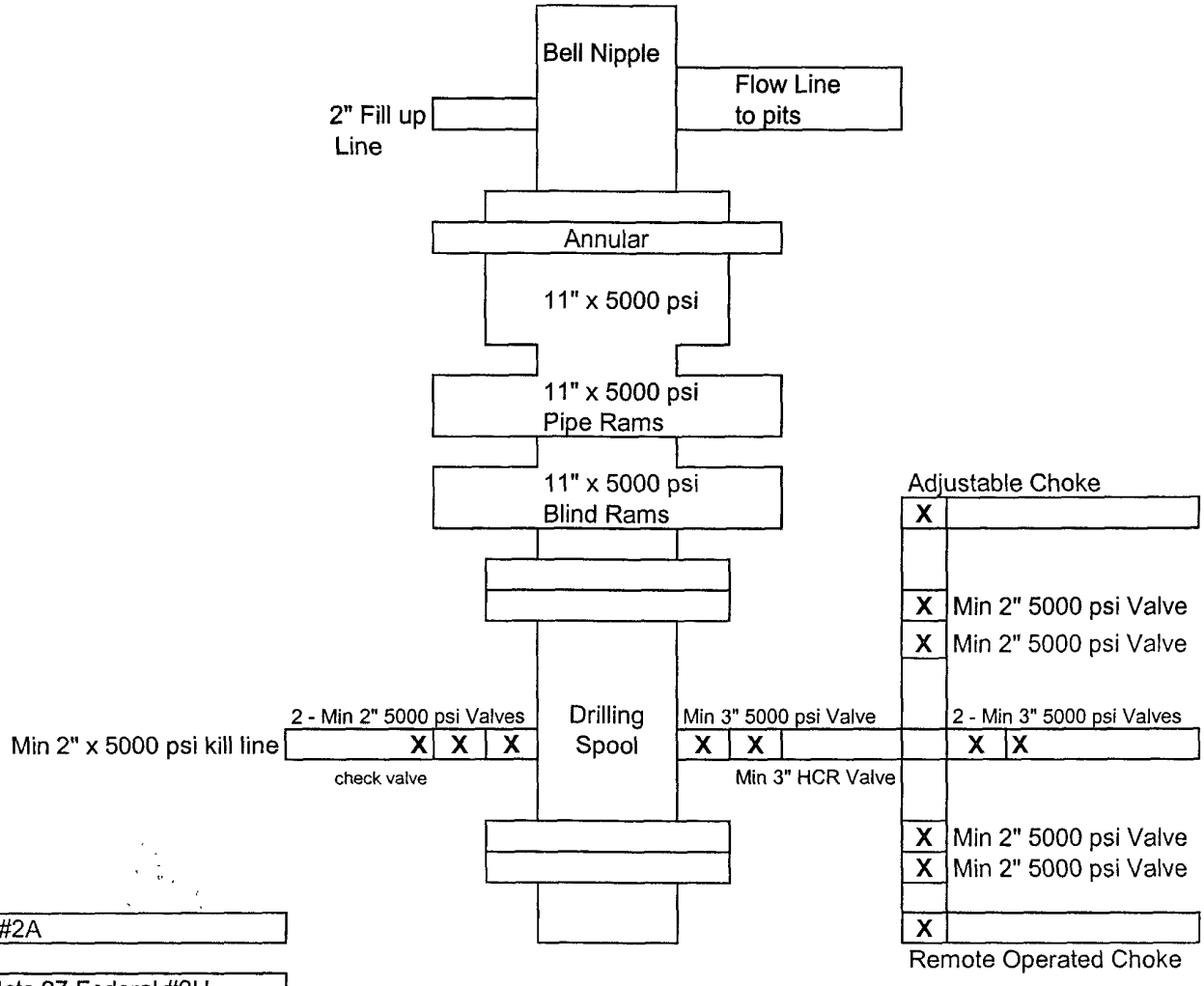


Exhibit #2A

Crow Flats 27 Federal #2H
1700' FNL & 850' FWL
Sec 27-T16S-R28E
Eddy, County
New Mexico

Hydrogen Sulfide Drilling Operations Plan

Mewbourne Oil Company

Crow Flats 27 Federal #2H

1700' FNL & 850' FWL

Sec 27-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 know 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 #2H
1700' FNL & 850' FWL
Sec 27-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 0.8 mile. Turn right (south) & continue south 0.6 mile to location.

2. Proposed Access Road:

A Approx 3400' of existing primitive road will need to be improved.
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: State of NM with Federal Minerals

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

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 #2H, 1700' FNL & 850' FWL of Sec 27-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: 11/18/08

Print: **NM Young**

Hobbs District Manager

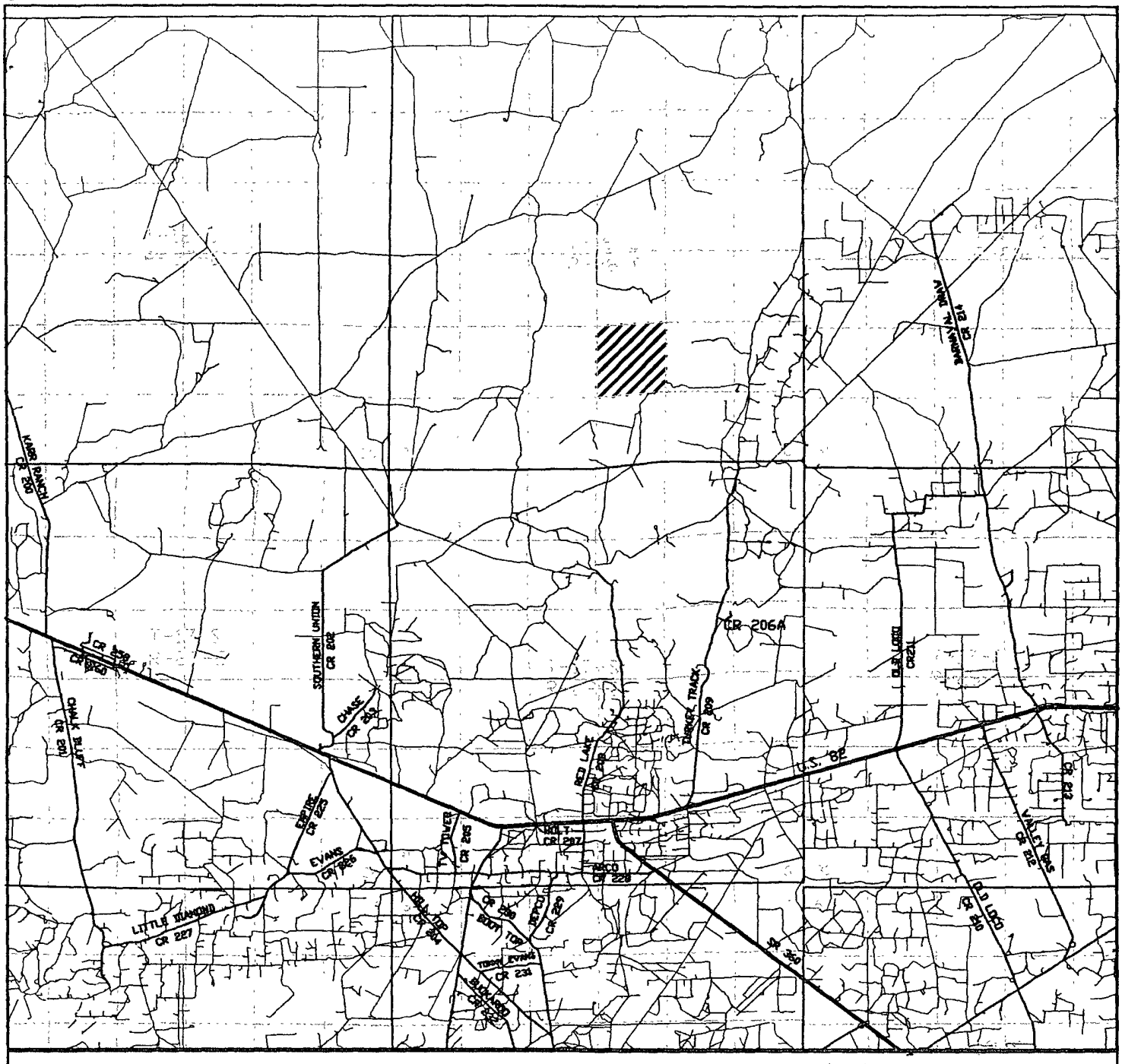


Exhibit 3

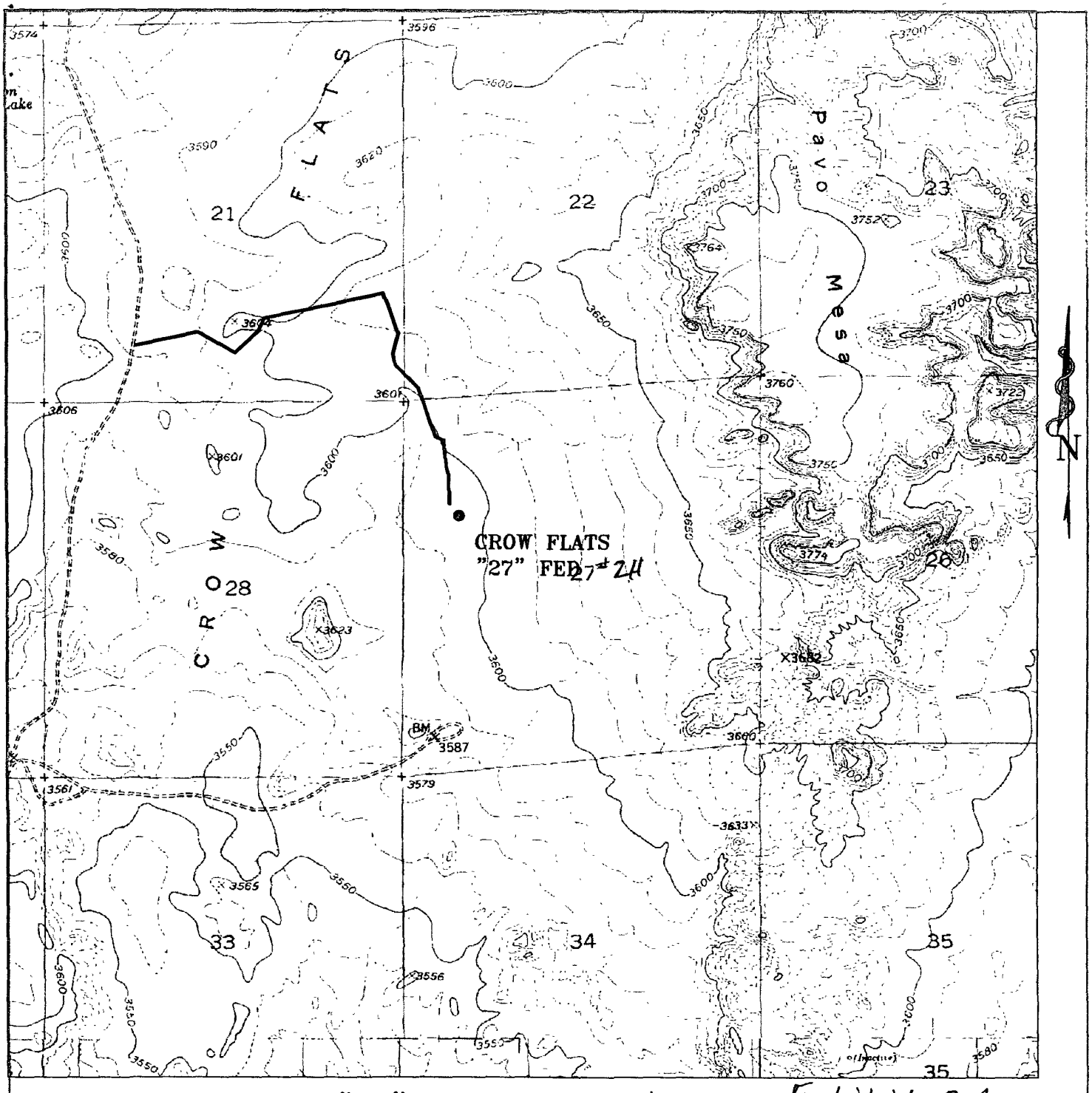
CROW FLATS "27" FEDERAL #2H
Located 1700' FNL and 850' FWL
Section 27, Township 16 South, Range 28 East,
N.M.P.M., Eddy County, New Mexico.

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:	19011TR JMS
Survey Date:	01-10-2008
Scale:	1" = 2 MILES
Date:	01-10-2008

MEWBOURNE OIL CO.



CROW FLATS "27" FEDERAL #2H

Exhibit 3A

Located 1700' FNL and 850' FWL
Section 27, Township 16 South, Range 28 East,
N.M.P.M., Eddy County, New Mexico.

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:	19011T JMS
Survey Date:	01-10-2008
Scale:	1" = 2000'
Date:	01-10-2008

MEWBOURNE OIL CO.

Exhibit #4
Status of Wells in Immediate Vicinity
Mewbourne Oil Company
Crow Flats 27 Federal #2H
1700' FNL & 850' FWL
Sec 27-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

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Mewbourne Oil Company
LEASE NO.:	NMNM83066
WELL NAME & NO.:	Crow Flats 27 Federal No 2H
SURFACE HOLE FOOTAGE:	1700' FNL & 850' FWL
BOTTOM HOLE FOOTAGE	1980' FNL & 330' FEL
LOCATION:	Section 27, 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.

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)

Conditions of Approval
Cave and Karst

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

Cave/Karst Surface Mitigation

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

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

Closed Mud System Using Steel Tanks with All Fluids and Cuttings Hauled Off.
A closed mud system using steel tanks for all cuttings and fluids is required. All fluids and cuttings will be hauled off site for disposal. No pits are allowed.

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

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

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

Cave/Karst Subsurface Mitigation

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

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

Directional Drilling:

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

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

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

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

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

Berming/Playa

The well pad and any collection facilities that are needed will be bermed to contain/control any spills or leaks on pad.

Possible Downhole Commingle

Like approval required by state (NMOCD) since the Abo and Wolfcamp will be open behind the production liner system.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5972 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 8 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.

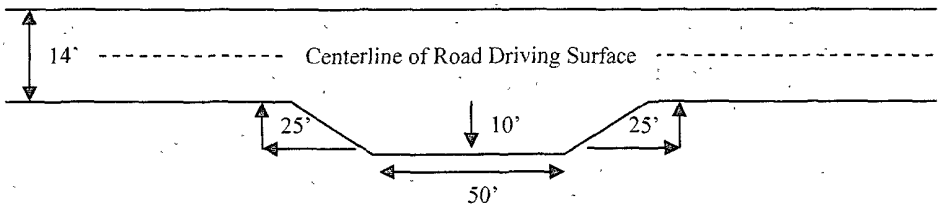
Crowning
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

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:

Standard Turnout – Plan View

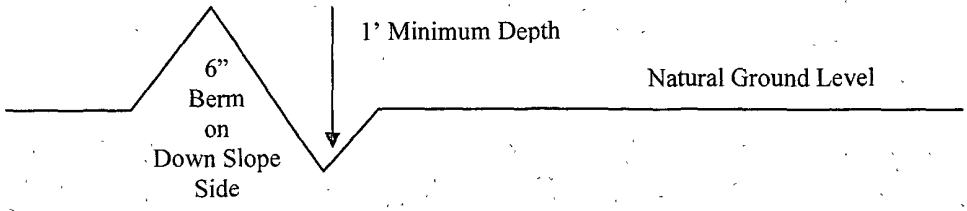


Drainage

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

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

Cross Section of a Typical Lead-off Ditch



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

Formula for Spacing Interval of Lead-off Ditches

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

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

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.

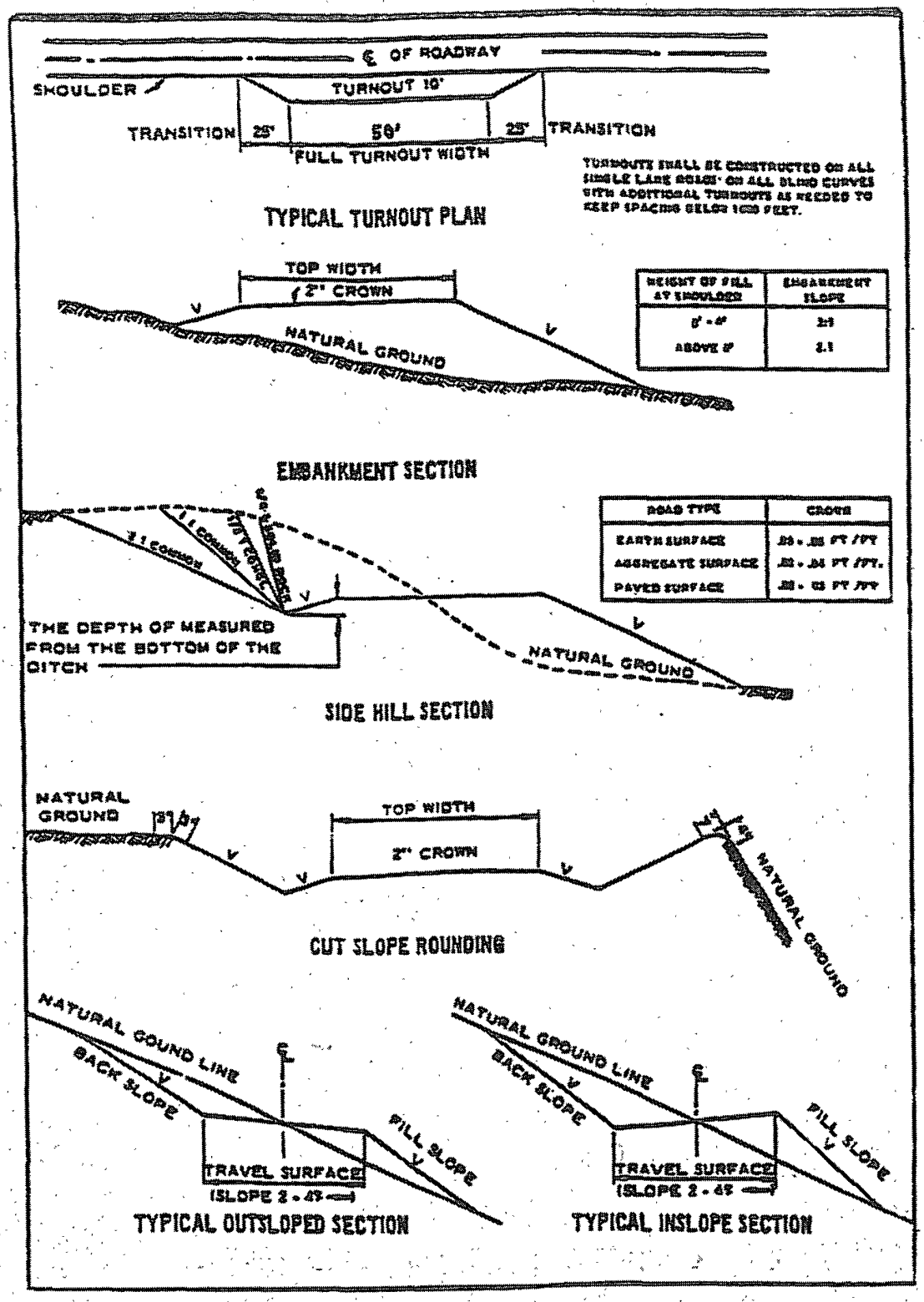
A gate shall be constructed and fastened securely to H-braces.

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

☒ **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.

Possible lost circulation in the Grayburg and San Andres formations.
Possible high pressure gas in the Wolfcamp formation.

HIGH CAVE/KARST – CONTINGENCY CASING MAY BE REQUIRED AS NOTED BY OPERATOR DEPENDING ON WELL BORE INTEGRITY. IN ADDITION, THE CEMENTING PROGRAM MAY REQUIRE MODIFICATION FOR THE 7" CASING IF LOST CIRCULATION OCCURS WHILE DRILLING THE 8-3/4" HOLE AND THE CONTINGENCY CASING HAS NOT BEEN SET. IF LOST CIRCULATION OCCURS, CONTACT THE BLM WITH REGARDS TO USING A DV TOOL ABOVE THE LOST CIRCULATION ZONE TO MEET THE HIGH CAVE/KARST REQUIREMENTS OF A MINIMUM OF TWO CASING STRINGS CEMENTED TO SURFACE.

1. The **13-3/8** inch surface casing shall be set at **approximately 350** 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. Not applicable if proposed cement program is used.

    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.

Mud to be monitored while drilling the 8-3/4" hole as the formation below the surface casing shoe is may not be capable of withstanding the potential pressure if a kick is taken.

2. The minimum required fill of cement behind the **7** inch production 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.

Formation below the 7" 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.

3. The minimum required fill of cement behind the **4-1/2** inch deep intermediate casing is:

   ☒ Cement not required. Packer system being used.

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.

Contingency casing program:
If this is implemented, a cement program will be required prior to installing casing.

5. 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.

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.

E. DRILL STEM TEST

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

WWI 120808

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.

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 4, for Gypsum 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:

Species	lb/acre
Alkali Sacaton (Sporobolus airoides)	1.0
DWS Four-wing saltbush (Atriplex canescens)	5.0

DWS: DeWinged Seed

*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.