Form 3160-5
(September 2001)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD-ARTESIA

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

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

5. Lease Serial No.
NM-14758

6. If Indian, Allottee or Tribe Name

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

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

8. Well Name and No.
Long Draw 4 J Federal #1

2. Name of Operator
Mewbourne Oil Company 14744

9. API Well No.
30-015-37585

3a. Address
PO Box 5270 Hobbs, NM 88241

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

10. Field and Pool, or Exploratory Area
Cemetery Yeso

4. Location of Well *(Footage, Sec., T, R., M., or Survey Description)*
1650' FSL & 1650' FEL, Sec 4-T20S-R25E Unit Letter J

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			
☑ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other
	☑ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ 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 recomplete 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 recompletion 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.)

Mewbourne Oil Company has an approved APD for the above captioned well. We would like to change the name to the Long Draw 4 JL Fed #1H.

This well was approved for a vertical Yeso test. After further geological review, we would like to drill this as a horizontal Yeso well.

Please find attached the new Drilling Program, horiziontal well plan and a new C102.

If you have any questions, please call Mickey Young or Charles Martin at 575-393-5905.

SEE ATTACHED FOR CONDITIONS OF APPROVAL

RECEIVED
SEP 13 2010
NMOCD ARTESIA

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

Title Hobbs Regulatory

Signature Jackie Lathan

Date 07/12/10

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by *(Signature)*

Name *(Printed/Typed)*

Title

Office

Date

APPROVED
SEP 8 2010
/s/ Dustin Winkler
BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

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.

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
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
30-015-37585		Cemetery Yeso

Property Code	Property Name	Well Number
	LONG DRAW "4JL Federal	1 H

OGRID No.	Operator Name	Elevation
14744	MEWBOURNE OIL COMPANY	3481'

Surface Location

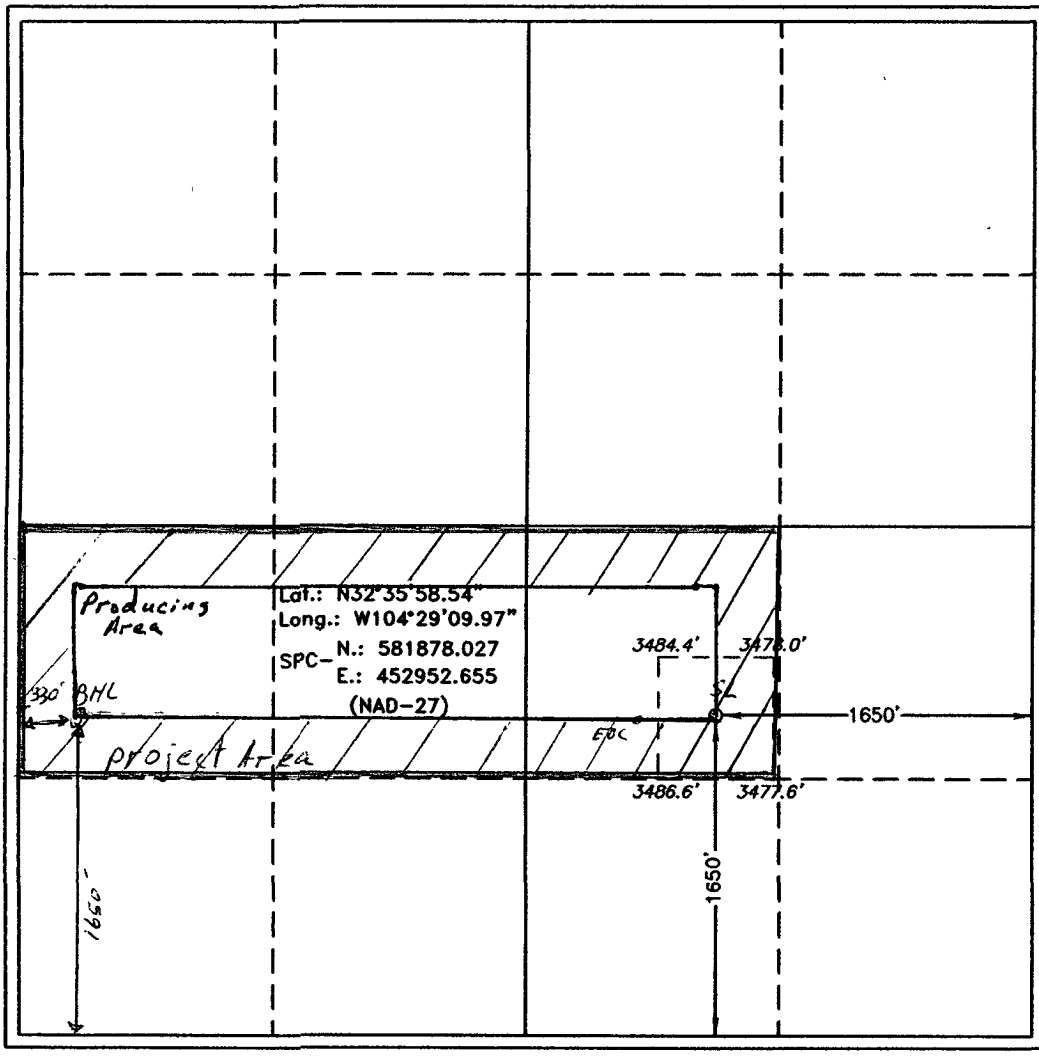
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	4	20 S	25 E		1650	SOUTH	1650	EAST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	4	20S	25E		1650	South	330	West	Eddy

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
120			

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.

Jackie Lathan 7/8/10
Signature Date

Jackie Lathan
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 15, 2009
Date Surveyed

Signature & Seal of Professional Surveyor

GARY L. JONES
NEW MEXICO
7977
REGISTERED PROFESSIONAL SURVEYOR

No. 2008

Certificate No. Gary L. Jones 7977

BASIN SURVEYS

Drilling Program
Mewbourne Oil Company
Long Draw 4 JL Federal #1H
1650' FSL & 1650' FEL (SHL)
Sec 4-T20S-R25E
Eddy County, New Mexico

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

San Andres	900'
*Glorietta	2320'
*Yeso	2470'

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

Water	Below 100'.
Hydrocarbons	Oil and gas are anticipated in the above (*) formations. These zones will be protected by casing as necessary.

3. Pressure control equipment:

A 2000# WP annular BOP will be installed after running 9 5/8" casing. Pressure tests will be conducted and BOPE will remain in use until completion of drilling operations. The BOP will be inspected and operated daily to ensure mechanical integrity and the inspection will be recorded on the daily drilling report.
Will test the BOPE to 1500# with a third party testing company before drilling below shoe as per BLM Onshore Oil and Gas Order #2.

4. MOC proposes to drill a vertical wellbore to 2002' & kick off to horizontal @ 2575' TVD. The well will be drilled to 5662' MD (2530' TVD). See attached directional plan.

5. Proposed casing and cementing program:

A. Casing Program:

Hole Size	Casing	Wt/Ft.	Grade	Depth	Jt Type
12 ¼"	9 5/8" (new)	36#	J55	0'-925'	LT&C
8 ¾"	5 ½" (new)	17#	J55	0-2950'	LT&C
7 7/8"	4 ½" (new)	11.6#	J55	2950'-5662' MD	LT&C

Minimum casing design factors: Collapse 1.125, Burst 1.0, Tensile strength 1.8.
*Subject to availability of casing.

B. Cementing Program:

i. Surface Casing: 350 sacks sacks class "C" w/2% CaCl2. Yield at 1.34 cuft/sk. Cmt circulated to surface.

ii. Production Casing: Lateral hole will utilize a packer/port system of isolation. An ECP will be placed to isolate the Glorietta form the San Andres. A FO cement tool will be placed immediately above the KOP and cemented w/215 sacks light class "C" w/additives. Yield at 2.45 cuft/sk. And 100 sacks class "C". Yield at 1.32 cuft.sk. Cmt calculated to circulate from FO cementer to surface.

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

6. Mud Program:

Interval	Type System	Weight	Viscosity	Fluid Loss
0'-925'	FW spud mud	8.6-9.0	32-34	NA
925'-2000'	Fresh water	8.4-8.6	28-30	NA
2000'- TD	FW w/Polymer	8.5-8.7	32-35	20

7. Evaluation Program:

Samples: 10' samples from surface casing to TD
Logging: GR from 2000' to TD.

8. Downhole Conditions

Zones of abnormal pressure: None anticipated
Zones of lost circulation: Anticipated in surface and intermediate holes
Maximum bottom hole temperature: 100 degree F
Maximum bottom hole pressure: 8.4 lbs/gal gradient or less

9. Anticipated Starting Date:

Mewbourne Oil Company intends to drill this well as soon as possible after receiving approval with approximately 15 days involved in drilling operations and an additional 10 days involved in completion operations on the project.

Mewbourne Oil Company

Mewbourne Oil Company

Location: Eddy County, NM
Field: (Long) Sec 4, T20S, R25E
Facility: Long Draw 4 JL Fed No. 1H

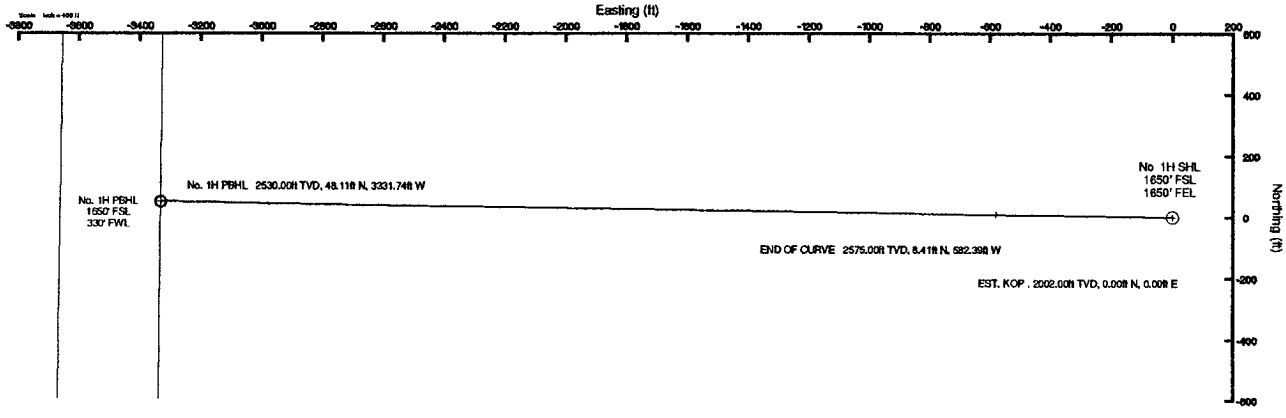
Slot No. 1H SHL
Well No. 1H
Wellbore No. 1H PWB

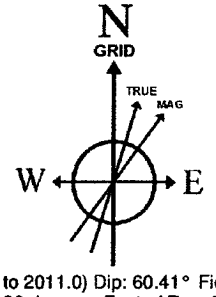
BAKER HUGHES

Well Profile Data

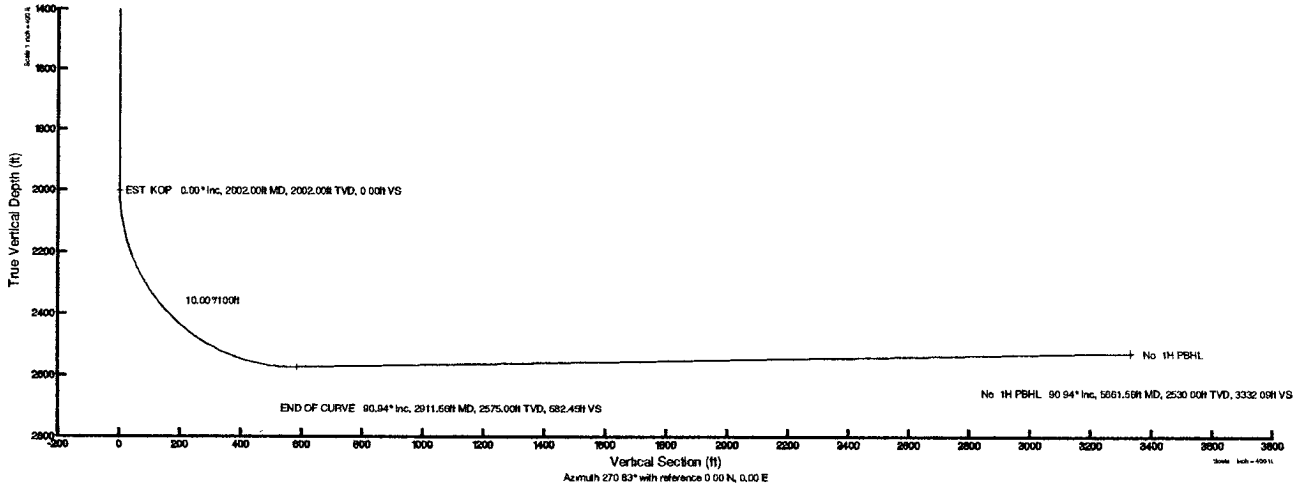
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	0.00	0.000	270.827	0.00	0.00	0.00	0 00	0 00
EST. KOP	2002 00	0.000	270.827	2002.00	0.00	0.00	0 00	0 00
END OF CURVE	2911.56	90 938	270.827	2575.00	8.41	-582.39	10 00	582.45
No. 1H PBHL	5661.56	90.938	270.827	2530.00	48 11	-3331 74	0 00	3332.09

Plot reference wellpath is Prelim_1	
True vertical depths are referenced to Rig on No. 1H SHL (RT)	Grid System: NAD27 / TM New Mexico State Planes, Eastern Zone (3001), US feet
Measured depths are referenced to Rig on No. 1H SHL (RT)	North Reference: Grid north
Rig on No. 1H SHL (RT) to Mean Sea Level: 3495 feet	Scale True distance
Mean Sea Level to Mud line (Facility: Long Draw 4 JL Fed No. 1H): -3481 feet	Depths are in feet
Coordinates are in feet referenced to Slot	Created by: Victor Hernandez on 6/15/2010





BGGM (1945.0 to 2011.0) Dip: 60.41° Field: 48895.3 nT
Magnetic North is 8.20 degrees East of True North (at 6/15/2010)
Grid North is 0.08 degrees West of True North
To correct azimuth from True to Grid add 0.08 degrees
To correct azimuth from Magnetic to Grid add 8.28 degrees
For example: if the Magnetic North Azimuth = 90 degs, then the Grid North Azimuth = 90 + 8.28 = 98.28



Mewbourne Oil Company

Planned Wellpath Report

Prelim_1

BAKER HUGHES

REFERENCE WELLPATH IDENTIFICATION			
Operator	**Mewbourne Oil Company**	Slot	**No. 1H SHL**
Area	**Eddy County, NM**	Well	**No. 1H**
Field	**(Long) Sec 4, T20S, R25E**	Wellbore	**No. 1H PWB**
Facility	**Long Draw 4 JL Fed No. 1H**		

REPORT SETUP INFORMATION			
Projection System	**NAD27 / TM New Mexico State Planes, Eastern Zone (3001), US feet**	Software System	**WellArchitect® 2.0**
North Reference	**Grid**	User	**Victor Hernandez**
Scale	**0.999912**	Report Generated	**6/15/2010 at 1:16:29 PM**
Convergence at slot	**0.08° West**	Database/Source file	**WA_Midland/No._1H_PWB.xml**

WELLPATH LOCATION	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	**East[ft]**	**Easting[USft]**	**Northing[USft]**	**Latitude**	**Longitude**
Slot Location	**0.00**	**0.00**	452952.66	581878.03	32°35'58.542"N	104°29'09.974"W
Facility Reference Pt			**452952.66**	**581878.03**	32°35'58.542"N	104°29'09.974"W
Field Reference Pt			**452952.66**	**581878.03**	32°35'58.542"N	104°29'09.974"W

WELLPATH DATUM			
Calculation method	**Minimum curvature**	Rig on No. 1H SHL (RT) to GL	**14.00ft**
Horizontal Reference Pt	**Slot**	Rig on No. 1H SHL (RT) to Mean Sea Level	**3495.00ft**
Vertical Reference Pt	**Rig on No. 1H SHL (RT)**	GL to Mud Line (Facility)	**0.00ft**
MD Reference Pt	**Rig on No. 1H SHL (RT)**	Section Origin	**N 0.00, E 0.00 ft**
Field Vertical Reference	**Mean Sea Level**	Section Azimuth	**270.83°**

REFERENCE WELLPATH IDENTIFICATION			
Operator	**Mewbourne Oil Company**	Slot	**No. 1H SHL**
Area	**Eddy County, NM**	Well	**No. 1H**
Field	**(Long) Sec 4, T20S, R25E**	Wellbore	**No. 1H PWB**
Facility	**Long Draw 4 JL Fed No. 1H**		

WELLPATH DATA (40 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	DLS [°/100ft]	Comments
0.00	0.000	270.827	0.00	0.00	0.00	0.00	452952.66	581878.03	32°35'58.542"N	104°29'09.974"W	0.00	Tie On
2002.00	0.000	270.827	2002.00	0.00	0.00	0.00	452952.66	581878.03	32°35'58.542"N	104°29'09.974"W	0.00	EST. KOP
2102.00†	9.998	270.827	2101.49	8.70	0.13	-8.70	452943.96	581878.16	32°35'58.543"N	104°29'10.076"W	10.00	
2202.00†	19.996	270.827	2197.96	34.55	0.50	-34.54	452918.12	581878.53	32°35'58.546"N	104°29'10.378"W	10.00	
2302.00†	29.994	270.827	2288.48	76.75	1.11	-76.74	452875.93	581879.14	32°35'58.552"N	104°29'10.871"W	10.00	
2402.00†	39.992	270.827	2370.30	134.02	1.94	-134.01	452818.66	581879.97	32°35'58.559"N	104°29'11.541"W	10.00	
2502.00†	49.990	270.827	2440.93	204.63	2.95	-204.61	452748.07	581880.98	32°35'58.568"N	104°29'12.366"W	10.00	
2602.00†	59.988	270.827	2498.24	286.43	4.14	-286.40	452666.28	581882.17	32°35'58.579"N	104°29'13.322"W	10.00	
2702.00†	69.986	270.827	2540.46	376.94	5.44	-376.90	452575.79	581883.47	32°35'58.590"N	104°29'14.380"W	10.00	
2802.00†	79.984	270.827	2566.34	473.40	6.84	-473.35	452479.35	581884.87	32°35'58.603"N	104°29'15.507"W	10.00	
2902.00†	89.982	270.827	2575.07	572.89	8.27	-572.83	452379.88	581886.30	32°35'58.615"N	104°29'16.670"W	10.00	
2911.56	90.938	270.827	2575.00	582.45	8.41	-582.39	452370.32	581886.44	32°35'58.617"N	104°29'16.782"W	10.00	END OF CURVE
3002.00†	90.938	270.827	2573.52	672.88	9.72	-672.81	452279.91	581887.75	32°35'58.628"N	104°29'17.839"W	0.00	
3102.00†	90.938	270.827	2571.88	772.87	11.16	-772.79	452179.94	581889.19	32°35'58.641"N	104°29'19.007"W	0.00	
3202.00†	90.938	270.827	2570.24	872.85	12.60	-872.76	452079.98	581890.63	32°35'58.654"N	104°29'20.176"W	0.00	
3302.00†	90.938	270.827	2568.61	972.84	14.05	-972.74	451980.01	581892.08	32°35'58.667"N	104°29'21.345"W	0.00	
3402.00†	90.938	270.827	2566.97	1072.83	15.49	-1072.71	451880.04	581893.52	32°35'58.680"N	104°29'22.513"W	0.00	
3502.00†	90.938	270.827	2565.33	1172.81	16.94	-1172.69	451780.08	581894.96	32°35'58.692"N	104°29'23.682"W	0.00	
3602.00†	90.938	270.827	2563.70	1272.80	18.38	-1272.67	451680.11	581896.41	32°35'58.705"N	104°29'24.850"W	0.00	
3702.00†	90.938	270.827	2562.06	1372.79	19.82	-1372.64	451580.14	581897.85	32°35'58.718"N	104°29'26.019"W	0.00	
3802.00†	90.938	270.827	2560.43	1472.77	21.27	-1472.62	451480.17	581899.29	32°35'58.731"N	104°29'27.188"W	0.00	
3902.00†	90.938	270.827	2558.79	1572.76	22.71	-1572.60	451380.21	581900.74	32°35'58.744"N	104°29'28.356"W	0.00	
4002.00†	90.938	270.827	2557.15	1672.75	24.15	-1672.57	451280.24	581902.18	32°35'58.757"N	104°29'29.525"W	0.00	
4102.00†	90.938	270.827	2555.52	1772.73	25.60	-1772.55	451180.27	581903.63	32°35'58.769"N	104°29'30.693"W	0.00	
4202.00†	90.938	270.827	2553.88	1872.72	27.04	-1872.52	451080.31	581905.07	32°35'58.782"N	104°29'31.862"W	0.00	
4302.00†	90.938	270.827	2552.25	1972.71	28.49	-1972.50	450980.34	581906.51	32°35'58.795"N	104°29'33.031"W	0.00	
4402.00†	90.938	270.827	2550.61	2072.69	29.93	-2072.48	450880.37	581907.96	32°35'58.808"N	104°29'34.199"W	0.00	
4502.00†	90.938	270.827	2548.97	2172.68	31.37	-2172.45	450780.40	581909.40	32°35'58.821"N	104°29'35.368"W	0.00	
4602.00†	90.938	270.827	2547.34	2272.67	32.82	-2272.43	450680.44	581910.84	32°35'58.833"N	104°29'36.537"W	0.00	
4702.00†	90.938	270.827	2545.70	2372.65	34.26	-2372.40	450580.47	581912.29	32°35'58.846"N	104°29'37.705"W	0.00	

REFERENCE WELLPATH IDENTIFICATION			
Operator	Mewbourne Oil Company	Slot	No. 1H SHL
Area	Eddy County, NM	Well	No. 1H
Field	(Long) Sec 4, T20S, R25E	Wellbore	No. 1H PWB
Facility	Long Draw 4 JL Fed No. 1H		

WELLPATH DATA (40 stations) † = interpolated/extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	DLS [°/100ft]	Comments
4802.00†	90.938	270.827	2544.06	2472.64	35.70	-2472.38	450480.50	581913.73	32°35'58.859"N	104°29'38.874"W	0.00	
4902.00†	90.938	270.827	2542.43	2572.63	37.15	-2572.36	450380.54	581915.17	32°35'58.872"N	104°29'40.042"W	0.00	
5002.00†	90.938	270.827	2540.79	2672.61	38.59	-2672.33	450280.57	581916.62	32°35'58.885"N	104°29'41.211"W	0.00	
5102.00†	90.938	270.827	2539.16	2772.60	40.04	-2772.31	450180.60	581918.06	32°35'58.897"N	104°29'42.380"W	0.00	
5202.00†	90.938	270.827	2537.52	2872.59	41.48	-2872.29	450080.63	581919.51	32°35'58.910"N	104°29'43.548"W	0.00	
5302.00†	90.938	270.827	2535.88	2972.57	42.92	-2972.26	449980.67	581920.95	32°35'58.923"N	104°29'44.717"W	0.00	
5402.00†	90.938	270.827	2534.25	3072.56	44.37	-3072.24	449880.70	581922.39	32°35'58.936"N	104°29'45.886"W	0.00	
5502.00†	90.938	270.827	2532.61	3172.55	45.81	-3172.21	449780.73	581923.84	32°35'58.948"N	104°29'47.054"W	0.00	
5602.00†	90.938	270.827	2530.97	3272.53	47.25	-3272.19	449680.77	581925.28	32°35'58.961"N	104°29'48.223"W	0.00	
5661.56	90.938	270.827	2530.00[1]	3332.09	48.11	-3331.74	449621.22	581926.14	32°35'58.969"N	104°29'48.919"W	0.00	No. 1H PBHL

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [srv ft]	Grid North [srv ft]	Latitude	Longitude	Shape
1) No. 1H PBHL	5661.56	2530.00	48.11	-3331.74	449621.22	581926.14	32°35'58.969"N	104°29'48.919"W	point

SURVEY PROGRAM Ref Wellbore: No. 1H PWB Ref Wellpath: Prelim_1

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
14.00	5661.56	NaviTrak (Standard)		No. 1H PWB

Mewbourne Oil Company
Long Draw "4" JL Fed #1H
1650' FSL & 1650' FEL
Sec 4, T20S, R25E
Eddy Co., NM

Supplemental procedure to Drilling Plan Sec 5.B.ii:

Option (1): Plans are to run a packer/port completion system in the lateral production hole. A FO Cementer will be placed at KOP. After casing has been run and the hole is circulated clean, the isolation packers will be set. Drilling rig will set casing slips, ND drilling equipment, NU wellhead, NU completion BOPE/frac valve, RD&MO drilling rig. BOPE will be tested to 1000#. Gauges will be installed and checked daily on the 9 ⅝" x 5 ½" annulus and on the 5 ½" casing. A pressure relief valve will release excess pressure into a frac tank. A completion rig will MI&RU as soon as possible. Run tubing with cementer opening tool, and circulate cement to surface. Then normal completion operations will begin.

Option (2): If hole conditions do not allow option one to be put into place, the drilling rig will run tubing with opening tool, cement casing to surface, and normal operations will continue.

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**Mewbourne Oil Company**
LEASE NO.:	**NM-14758**
WELL NAME & NO.:	**Long Draw 4 JL Federal #1H**
SURFACE HOLE FOOTAGE:	**1650' FSL & 1650' FEL**
BOTTOM HOLE FOOTAGE	**1650' FSL & 330' FWL**
LOCATION:	**Section 4, T. 20 S., R 25 E., NMPM**
COUNTY:	**Eddy County, New Mexico**

I. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

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

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

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

1. A Hydrogen Sulfide (H2S) Drilling Plan should be activated 500 feet prior to drilling into the **Seven Rivers** formation. **As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.**

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **BLM is to be notified when the drilling rig moves off and when the completion rig moves on (within 5 days). Operator is to notify the BLM immediately if excess pressure (150 psi) is discovered in either the annulus or the casing. If the option to cement with the drilling rig on location, BLM is to be notified that the rig is staying on location.**

3. **The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) will be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The top and bottom of Salt are to be recorded on the Completion Report.**

B. CASING

Changes to the approved APD casing 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 prior to drilling out for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. See individual casing strings for details regarding lead cement slurry requirements.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

HIGH CAVE/KARST – CONTINGENCY CASING WILL BE REQUIRED IF LOST CIRCULATION OCCURS WHILE DRILLING THE SURFACE HOLE. THE SURFACE HOLE WILL HAVE TO BE REAMED AND A LARGER CASING INSTALLED. IF LOST CIRCULATION OCCURS WHILE DRILLING THE 7-7/8" HOLE, THE CEMENT PROGRAM FOR THE 4-1/2" CASING WILL NEED TO BE MODIFIED AND THE BLM IS TO BE CONTACTED PRIOR TO RUNNING THE CASING. A MINIMUM OF TWO CASING STRINGS CEMENTED TO SURFACE IS REQUIRED IN HIGH CAVE/KARST AREAS. THE CEMENT MUST BE IN A SOLID SHEATH THEREFORE, ONE INCH OPERATIONS WILL NOT BE PERMITTED. A DV TOOL WILL BE REQUIRED.

Possible water flows in the Grayburg and San Andres Formations
Possible lost circulation in the San Andres Formation.

1. The **8-5/8** inch surface casing shall be set at **approximately 925 feet within the San Andres Formation and cemented to the surface.**

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

    b. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.

    c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

    d. If cement falls back, remedial cementing will be done prior to drilling out that string.

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

    ☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office. **BLM is to be notified if the drilling rig is moving off or staying through cementing. If drilling rig is moved, the BLM is to be notified when the rig moves off and when the completion rig moves on location. CIT will have to be performed per Onshore Order 2 on this casing prior to completion of the well.**

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

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips or where the float does not hold, the minimum wait time before cut-off is eight hours after bumping the plug or when the cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. BOP/BOPE testing can begin after the above conditions are satisfied.

    b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (18 hours) or potash (24 hours) prior to initiating the test.

    c. The results of the test shall be reported to the appropriate BLM office.

    d. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**

    e. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.

D. DRILL STEM TEST

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

E. WASTE MATERIAL AND FLUIDS

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