

Form 3160-3  
(June 2015)UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

## APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED  
OMB No. 1004-0137  
Expires: January 31, 20185. Lease Serial No.  
NMNM0501759

6. If Indian, Allottee or Tribe Name

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

8. Lease Name and Well No.  
TOUGH OMBRES 6/5 FED COM

716H

9. API Well No.  
30-015-5553710. Field and Pool, or Exploratory  
ALACRAN HILLS/UPPER WOLFCAMP O11. Sec., T. R. M. or Blk. and Survey or Area  
SEC 7/T21S/R27E/NMP1a. Type of work: ☒ DRILL ☐ REENTER  
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other  
1c. Type of Completion: ☐ Hydraulic Fracturing ☒ Single Zone ☐ Multiple Zone2. Name of Operator  
MEWBOURNE OIL COMPANY3a. Address  
P O BOX 5270, HOBBS, NM 882413b. Phone No. (include area code)  
(575) 393-59054. Location of Well (Report location clearly and in accordance with any State requirements. \*)  
At surface LOT 1 / 330 FNL / 1220 FWL / LAT 32.5007841 / LONG -104.2334461  
At proposed prod. zone TR K / 660 FSL / 2548 FWL / LAT 32.5037663 / LONG -104.212285114. Distance in miles and direction from nearest town or post office\*  
8 miles12. County or Parish  
EDDY13. State  
NM15. Distance from proposed\*  
location to nearest  
property or lease line, ft.  
(Also to nearest drig. unit line, if any)  
100 feet

16. No of acres in lease

17. Spacing Unit dedicated to this well  
480.018. Distance from proposed location\*  
to nearest well, drilling, completed,  
applied for, on this lease, ft. 20 feet19. Proposed Depth  
8899 feet / 16983 feet20. BLM/BIA Bond No. in file  
FED:21. Elevations (Show whether DF, KDB, RT, GL, etc.)  
3231 feet22. Approximate date work will start\*  
05/19/202423. Estimated duration  
60 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

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

25. Signature  
(Electronic Submission)Name (Printed/Typed)  
BRADLEY BISHOP / Ph: (575) 393-5905Date  
04/11/2024Title  
RegulatoryApproved by (Signature)  
(Electronic Submission)Name (Printed/Typed)  
CODY LAYTON / Ph: (575) 234-5959Date  
10/15/2024Title  
Assistant Field Manager Lands & MineralsOffice  
Carlsbad Field OfficeApplication 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.

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

(Continued on page 2)

\*(Instructions on page 2)



<b>C-102</b>  Submit Electronically Via OCD Permitting	State of New Mexico Energy, Minerals & Natural Resources Department <b>OIL CONSERVATION DIVISION</b>	Revised July 9, 2024	
		Submittal Type:	<input checked="" type="checkbox"/> Initial Submittal
			<input type="checkbox"/> Amended Report
		<input type="checkbox"/> As Drilled	

## WELL LOCATION INFORMATION

API Number <b>30-015-55537</b>	Pool Code <b>98314</b>	Pool Name <b>ALACRAN HILLS; UPPER WOLFCAMP</b>
Property Code <b>336419</b>	Property Name <b>TOUGH OMBRES 6/5 FED COM</b>	Well Number <b>716H</b>
OGRID No. <b>14744</b>	Operator Name <b>MEWBOURNE OIL COMPANY</b>	Ground Level Elevation <b>3231</b>
Surface Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input checked="" type="checkbox"/> Federal		Mineral Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input checked="" type="checkbox"/> Federal

## Surface Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
A	7	21S	27E		300 FNL	1220 FWL	32.5007841	-104.2334461	EDDY

## Bottom Hole Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
K	5	21S	27E		660 FSL	2548 FWL	32.5037655	-104.2122885	EDDY

Dedicated Acres <b>320</b>	Infill or Defining Well <b>DEFINING</b>	Defining Well API	Overlapping Spacing Unit (Y/N)	Consolidation Code
Order Numbers.			Well setbacks are under Common Ownership: <input type="checkbox"/> Yes <input type="checkbox"/> No	

## Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
	1	21	26	40	733 FSL	473 FEL	32.5035912	-104.2389311	EDDY


## First Take Point (FTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
	6	21	27	18	785 FSL	100 FWL	32.5036035	-104.2370722	EDDY

## Last Take Point (LTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
K	5	21	27	22	660 FSL	2548 FWL	32.5037663	-104.2122851	EDDY

Unitized Area or Area of Uniform Interest	Spacing Unit Type <input checked="" type="checkbox"/> Horizontal <input type="checkbox"/> Vertical	Ground Floor Elevation: <b>3231</b>
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<b>OPERATOR CERTIFICATIONS</b>  <i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</i>  <i>If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.</i>   <b>10/16/24</b>		<b>SURVEYOR CERTIFICATIONS</b>  <i>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.</i>	
Signature <b>RYAN MCDANIEL</b>		Signature and Seal of Professional Surveyor	
Printed Name <b>RYANMCDANIEL@MEWBOURNE.COM</b>		Certificate Number	Date of Survey
Email Address			

Note: 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.

District I  
1625 N. French Dr., Hobbs, NM 88240  
Phone: (575) 393-6161 Fax: (575) 393-0720  
District II  
811 S. First St., Artesia, NM 88210  
Phone: (575) 748-1283 Fax: (575) 748-9720  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
Phone: (505) 334-6178 Fax: (505) 334-6170  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505  
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico  
Energy, Minerals & Natural Resources Department  
OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-102  
Revised August 1, 2011  
Submit one copy to appropriate  
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number		<sup>2</sup> Pool Code 98314		<sup>3</sup> Pool Name ALACRAN HILLS; UPPER WOLFCAMP OIL					
<sup>4</sup> Property Code		<sup>5</sup> Property Name TOUGH OMBRES 6/5 FED COM						<sup>6</sup> Well Number 716H	
<sup>7</sup> OGRID NO. 14744		<sup>8</sup> Operator Name MEWBOURNE OIL COMPANY						<sup>9</sup> Elevation 3231'	
<sup>10</sup> Surface Location									
UL or lot no. 1	Section 7	Township 21S	Range 27E	Lot Idn	Feet from the 300	North/South line NORTH	Feet From the 1220	East/West line WEST	County EDDY
<sup>11</sup> Bottom Hole Location If Different From Surface									
UL or lot no. K	Section 5	Township 21S	Range 27E	Lot Idn	Feet from the 660	North/South line SOUTH	Feet from the 2548	East/West line WEST	County EDDY
<sup>12</sup> Dedicated Acres 320		<sup>13</sup> Joint or Infill		<sup>14</sup> Consolidation Code		<sup>15</sup> Order No.			

No allowable will be assigned to this completion until all interest have been consolidated or a non-standard unit has been approved by the division.

<p>16</p> <p>LOT 20 LOT 19 LOT 18 LOT 17</p> <p>LOT 4 LOT 3</p> <p>LOT 21 LOT 22 LOT 23 LOT 24</p> <p>LOT 5 LOT 6</p> <p>LOT 28 LOT 27 LOT 26 LOT 25</p> <p>LOT 12 LOT 11</p> <p>LOT 29 LOT 30 LOT 31 LOT 32</p> <p>LOT 13 LOT 14</p> <p>LOT 36 LOT 35 LOT 34 LOT 33</p> <p>LOT 17</p> <p>LOT 37 LOT 38 LOT 39 LOT 40</p> <p>LOT 18</p> <p>LOT 2</p> <p>LOT 3</p> <p>LOT 4</p>						<p>17 OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <p><i>Carter Crook</i> 4/9/2024</p> <p>Signature Date</p> <p>Carter Crook</p> <p>Printed Name</p> <p>ccrook@mewbourne.com</p> <p>E-mail Address</p>					
<p>18 SURVEYOR CERTIFICATION</p> <p>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.</p> <p>03/06/2024</p> <p>Date of Survey</p> <p>Signature and Seal of Professional Surveyor:</p> <p>19680</p> <p>Certificate Number</p> <p>REV: ADD WELL CALLS - 03/25/2024</p>						<p>19680</p> <p>Job No: LS24030193D</p>					

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

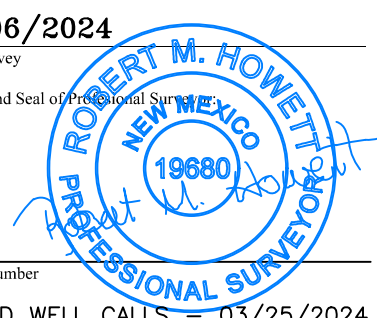
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WELL LOCATION AND ACREAGE DEDICATION PLAT

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<sup>12</sup> Dedicated Acres		<sup>13</sup> Joint or Infill		<sup>14</sup> Consolidation Code		<sup>15</sup> Order No.			

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<p>16</p> <p>CORNER DATA NAD 83 GRID - NM EAST</p> <p>A: CALCULATED CORNER N: 546424.7 - E: 565512.6</p> <p>B: FOUND BRASS CAP "1976" N: 549073.2 - E: 565577.9</p> <p>C: FOUND BRASS CAP "1976" N: 553856.8 - E: 565611.1</p> <p>D: FOUND BRASS CAP "1976" N: 553855.4 - E: 568261.8</p> <p>E: FOUND BRASS CAP "1942" N: 553857.5 - E: 570912.7</p> <p>F: FOUND BRASS CAP "1943" N: 553862.6 - E: 573486.6</p> <p>G: FOUND BRASS CAP "1942" N: 553870.6 - E: 576153.7</p> <p>H: FOUND BRASS CAP "1942" N: 553879.0 - E: 578817.7</p> <p>I: FOUND BRASS CAP "1942" N: 553889.2 - E: 581479.6</p> <p>J: FOUND BRASS CAP "1943" N: 551608.3 - E: 581452.9</p> <p>K: FOUND BRASS CAP "1943" N: 548994.9 - E: 581422.2</p> <p>L: FOUND BRASS CAP "1943" N: 546385.9 - E: 581390.6</p> <p>M: FOUND BRASS CAP "1943" N: 546362.9 - E: 578749.0</p> <p>N: FOUND BRASS CAP "1943" N: 546339.7 - E: 576102.5</p> <p>O: FOUND BRASS CAP "1943" N: 543722.2 - E: 576064.6</p> <p>P: FOUND BRASS CAP "1943" N: 541084.6 - E: 576111.8</p> <p>Q: FOUND BRASS CAP "1976" N: 540985.9 - E: 573459.2</p> <p>R: FOUND BRASS CAP "1976" N: 540889.6 - E: 570906.8</p> <p>S: FOUND BRASS CAP "1943" N: 546196.8 - E: 570913.0</p> <p>T: FOUND BRASS CAP "1943" N: 548859.7 - E: 570913.1</p> <p>U: FOUND BRASS CAP "1943" N: 551510.0 - E: 570913.8</p> <p>V: FOUND BRASS CAP "1943" N: 546266.9 - E: 573460.4</p> <p>W: FOUND BRASS CAP "1943" N: 548955.5 - E: 576116.6</p> <p>X: FOUND BRASS CAP "1943" N: 551574.1 - E: 576132.4</p>	<p><sup>17</sup> OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <p><i>Carter Crook</i> 4/9/2024 Signature Date Carter Crook Printed Name ccrook@mewbourne.com E-mail Address</p> <p><sup>18</sup> SURVEYOR CERTIFICATION</p> <p>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.</p> <p>03/06/2024 Date of Survey</p> <p>Signature and Seal of Professional Surveyor: </p> <p>19680 Certificate Number</p> <p>REV: ADD WELL CALLS - 03/25/2024</p>
---	---

Job No: LS24030193D



Hydrogen Sulfide Drilling Operations Plan  
**Mewbourne Oil Company**

**1. General Requirements**

Rule 118 does not apply to this well because MOC has researched this area and no high concentrations of H<sub>2</sub>S were found. MOC will have on location and working all H<sub>2</sub>S safety equipment before the Delaware formation for purposes of safety and insurance requirements.

**2. Hydrogen Sulfide Training**

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will have received training from a qualified instructor in the following areas prior to entering the drilling pad area of the well:

1. The hazards and characteristics of hydrogen sulfide gas.
2. The proper use of personal protective equipment and life support systems.
3. The proper use of hydrogen sulfide detectors, alarms, warning systems, briefing areas, evacuation procedures.
4. The proper techniques for first aid and rescue operations.

Additionally, supervisory personnel will be trained in the following areas:

- 1 The effects of hydrogen sulfide on metal components. If high tensile tubular systems are utilized, supervisory personnel will be trained in their special maintenance requirements.
- 2 Corrective action and shut in procedures, blowout prevention, and well control procedures while drilling a well.
- 3 The contents of the Hydrogen Sulfide Drilling Operations Plan.

There will be an initial training session prior to encountering a known hydrogen sulfide source. The initial training session shall include a review of the site specific Hydrogen Sulfide Drilling Operations Plan.

**3. Hydrogen Sulfide Safety Equipment and Systems**

All hydrogen sulfide safety equipment and systems will be installed, tested, and operational prior to drilling below the 9 5/8" intermediate casing.

1. Well Control Equipment
  - A. Choke manifold with minimum of one adjustable choke/remote choke.
  - B. Blowout preventers equipped with blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit
  - C. Auxiliary equipment including annular type blowout preventer.
2. Protective Equipment for Essential Personnel

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

Additionally: If H<sub>2</sub>S is encountered in concentrations less than 10 ppm, fans will be placed in work areas to prevent the accumulation of hazardous amounts of poisonous gas. If higher concentrations of H<sub>2</sub>S are detected the well will be shut in and a rotating head, mud/gas separator, remote choke and flare line with igniter will be installed.

3. Hydrogen Sulfide Protection and Monitoring Equipment

Two portable hydrogen sulfide monitors positioned on location for optimum coverage and detection. The units shall have audible sirens to notify personnel when hydrogen sulfide levels exceed 20 PPM.

4. Visual Warning Systems

A. Wind direction indicators as indicated on the wellsite diagram.

B. Caution signs shall be posted on roads providing access to location. Signs shall be painted a high visibility color with lettering of sufficient size to be readable at reasonable distances from potentially contaminated areas.

4. **Mud Program**

The mud program has been designed to minimize the amount of hydrogen sulfide entrained in the mud system. Proper mud weight, safe drilling practices, and the use of hydrogen sulfide scavengers will minimize hazards while drilling the well.

5. **Metallurgy**

All tubular systems, wellheads, blowout preventers, drilling spools, kill lines, choke manifolds, and valves shall be suitable for service in a hydrogen sulfide environment when chemically treated.

6. **Communications**

State & County Officials phone numbers are posted on rig floor and supervisors trailer. Communications in company vehicles and toolpushers are either two way radios or cellular phones.

7. **Well Testing**

Drill stem testing is not an anticipated requirement for evaluation of this well. If 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**

<b>Eddy County Sheriff's Office</b>	<b>911 or 575-887-7551</b>
<b>Ambulance Service</b>	<b>911 or 575-885-2111</b>
<b>Carlsbad Fire Dept</b>	<b>911 or 575-885-2111</b>
<b>Loco Hills Volunteer Fire Dept.</b>	<b>911 or 575-677-3266</b>
<b>Closest Medical Facility - Columbia Medical Center of Carlsbad</b>	<b>575-492-5000</b>

<b>Mewbourne Oil Company</b>	<b>Hobbs District Office</b>	<b>575-393-5905</b>
	<b>Fax</b>	<b>575-397-6252</b>
	<b>2<sup>nd</sup> Fax</b>	<b>575-393-7259</b>

<b>District Manager</b>	<b>Robin Terrell</b>	<b>575-390-4816</b>
<b>Drilling Superintendent</b>	<b>Frosty Lathan</b>	<b>575-390-4103</b>
	<b>Bradley Bishop</b>	<b>575-390-6838</b>
<b>Drilling Foreman</b>	<b>Wesley Noseff</b>	<b>575-441-0729</b>



U.S. Department of the Interior  
BUREAU OF LAND MANAGEMENT

# Drilling Plan Data Report

10/16/2024

APD ID: 10400097991

Submission Date: 04/11/2024

Highlighted data  
reflects the most  
recent changes

Operator Name: MEWBOURNE OIL COMPANY

Well Name: TOUGH OMBRES 6/5 FED COM

Well Number: 716H

Well Type: OIL WELL

Well Work Type: Drill

[Show Final Text](#)

## Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
14317763	UNKNOWN	3267	28	28	OTHER : Topsoil	NONE	N
14317764	TOP SALT	2922	345	345	SALT	NONE	N
14317756	BOTTOM SALT	2717	550	550	SALT	NONE	N
14317758	YATES	2622	645	645	SANDSTONE	NATURAL GAS, OIL	N
14317759	CAPITAN REEF	2250	1017	1017	DOLOMITE, LIMESTONE	USEABLE WATER	N
14317760	LAMAR	822	2445	2445	DOLOMITE, SANDSTONE	NATURAL GAS, OIL	N
14317761	BONE SPRING	-1440	4707	4707	LIMESTONE	NATURAL GAS, OIL	N
14317762	BONE SPRING 1ST	-2953	6220	6220	SANDSTONE	NATURAL GAS, OIL	N
14317768	BONE SPRING 2ND	-3705	6972	6972	SANDSTONE	NATURAL GAS, OIL	N
14317771	BONE SPRING 3RD	-5073	8340	8340	SANDSTONE	NATURAL GAS, OIL	N
14317772	WOLFCAMP	-5430	8697	8697	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	Y

## Section 2 - Blowout Prevention

Pressure Rating (PSI): 5M

Rating Depth: 16983

**Equipment:** Annular, Pipe Rams, Blind Rams, Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

**Requesting Variance?** YES

**Variance request:** A variance is requested for the use of a variable choke line from the BOP to the choke manifold. See attached for hydrostatic test chart. Anchors are not required by manufacturer. Variance is requested to use a multi bowl wellhead. Variance is requested to perform break testing according to attached procedure.

**Testing Procedure:** BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per 43 CFR Part 3172 requirements. The System may be upgraded to a higher

**Operator Name:** MEWBOURNE OIL COMPANY**Well Name:** TOUGH OMBRES 6/5 FED COM**Well Number:** 716H

pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested. Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets.

**Choke Diagram Attachment:**

Tough\_Ombres\_6\_5\_Fed\_Com\_716H\_5M\_BOPE\_Choke\_Diagram\_20240410104017.pdf

Flex\_Line\_Specs\_API\_16C\_20240809074009.pdf

**BOP Diagram Attachment:**

Tough\_Ombres\_6\_5\_Fed\_Com\_716H\_5M\_BOPE\_Schematic\_20240410104039.pdf

Tough\_Ombres\_6\_5\_Fed\_Com\_716H\_MOC\_Break\_Testing\_Variance\_20240410104059.pdf

Multibowl\_5K\_WH\_Schematic\_20240809074103.pdf

**Section 3 - Casing**

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	26	18.625	NEW	API	N	0	275	0	275	3231	2956	275	J-55	87.5	OTHER - BTC	5.12	18.3	DRY	55.23	DRY	56.81
2	INTERMEDIATE	17.5	13.375	NEW	API	N	0	950	0	950	2982	2281	950	H-40	48	ST&C	1.53	3.43	DRY	7.06	DRY	11.86
3	INTERMEDIATE	12.25	9.625	NEW	API	N	0	2370	0	2370	3192	861	2370	J-55	36	LT&C	1.91	3.32	DRY	5.31	DRY	6.61
4	PRODUCTION	8.75	7.0	NEW	API	N	0	8419	0	8148	3267	-4917	8419	P-110	26	LT&C	1.55	2.47	DRY	3.17	DRY	3.79
5	LINER	6.125	4.5	NEW	API	N	8219	16983	7948	8899	-4717	-5668	8764	P-110	13.5	LT&C	1.92	2.23	DRY	2.86	DRY	3.57

**Casing Attachments**

**Operator Name:** MEWBOURNE OIL COMPANY**Well Name:** TOUGH OMBRES 6/5 FED COM**Well Number:** 716H**Casing Attachments**

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**Casing ID:** 1      **String**      SURFACE**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**Tough\_Ombres\_6\_5\_Fed\_Com\_\_\_716H\_CsgAssumptions\_20240809074402.pdf

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**Casing ID:** 2      **String**      INTERMEDIATE**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**Tough\_Ombres\_6\_5\_Fed\_Com\_\_\_716H\_CsgAssumptions\_20240809074441.pdf

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**Casing ID:** 3      **String**      INTERMEDIATE**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**Tough\_Ombres\_6\_5\_Fed\_Com\_\_\_716H\_CsgAssumptions\_20240809074513.pdf

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Operator Name: MEWBOURNE OIL COMPANY

Well Name: TOUGH OMBRES 6/5 FED COM

Well Number: 716H

## Casing Attachments

Casing ID: 4 String PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Tough\_Ombres\_6\_5\_Fed\_Com\_\_\_716H\_CsgAssumptions\_20240809074554.pdf

Casing ID: 5 String LINER

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Tough\_Ombres\_6\_5\_Fed\_Com\_\_\_716H\_CsgAssumptions\_20240809074630.pdf

## Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	186	270	2.12	12.5	580	100	Class C	Salt, Gel, Extender, LCM
SURFACE	Tail		186	275	200	1.34	14.8	268	100	Class C	Retarder
INTERMEDIATE	Lead	992	0	655	120	2.12	12.5	260	25	Class C	Salt, Gel, Extender, LCM
INTERMEDIATE	Tail		655	992	100	1.34	14.8	134	25	Class C	Retarder
INTERMEDIATE	Lead	992	992	1696	130	2.12	12.5	280	25	Class C	Salt, Gel, Extender, LCM

**Operator Name:** MEWBOURNE OIL COMPANY**Well Name:** TOUGH OMBRES 6/5 FED COM**Well Number:** 716H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
INTERMEDIATE	Tail		1696	2370	200	1.34	14.8	268	25	Class C	Retarder
PRODUCTION	Lead	6200	960	5472	390	2.12	12.5	830	25	Class C	Salt, Gel, Extender, LCM, Defoamer
PRODUCTION	Tail		5472	6200	100	1.34	14.8	134	25	Class C	Retarder, Fluid Loss, Defoamer
PRODUCTION	Lead	6200	6200	6619	50	2.12	12.5	110	25	CALSS C	SALT GEL EXTENDER LCM DEFOAMER
PRODUCTION	Tail		6619	8419	400	1.18	15.6	472	25	CLASS H	RETARDER FLUID LOSS DEFOAMER
LINER	Lead		8219	16983	560	1.85	13.5	1040	25	Class H	Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti-settling Agent

### Section 5 - Circulating Medium

**Mud System Type:** Closed**Will an air or gas system be Used?** NO**Description of the equipment for the circulating system in accordance with Onshore Order #2:****Diagram of the equipment for the circulating system in accordance with Onshore Order #2:**

**Describe what will be on location to control well or mitigate other conditions:** Formation integrity test will be performed per 43 CFR Part 3172. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with 43 CFR Part 3172.

**Describe the mud monitoring system utilized:** Pason/PVT/Visual Monitoring

### Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
2370	8419	SALT SATURATED	8.6	9.5							

**Operator Name:** MEWBOURNE OIL COMPANY**Well Name:** TOUGH OMBRES 6/5 FED COM**Well Number:** 716H

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	275	SPUD MUD	8.4	8.6							
275	950	SALT SATURATED	9.5	10.2							
950	2370	WATER-BASED MUD	8.4	8.6							
8419	16983	OIL-BASED MUD	10	12							

### Section 6 - Test, Logging, Coring

**List of production tests including testing procedures, equipment and safety measures:**

No logs are planned based on well control or offset log information. Offset Well: Tough Ombres 6/4 Fed Com #851H

**List of open and cased hole logs run in the well:**

MEASUREMENT WHILE DRILLING, MUD LOG/GEOLOGIC LITHOLOGY LOG, DIRECTIONAL SURVEY,

**Coring operation description for the well:**

None

### Section 7 - Pressure

**Anticipated Bottom Hole Pressure:** 5553

**Anticipated Surface Pressure:** 3595

**Anticipated Bottom Hole Temperature(F):** 165

**Anticipated abnormal pressures, temperatures, or potential geologic hazards?** NO

**Describe:**

**Contingency Plans geohazards description:**

**Contingency Plans geohazards**

**Hydrogen Sulfide drilling operations plan required?** YES

**Hydrogen sulfide drilling operations**

Tough\_Ombres\_6\_5\_Fed\_Com\_716H\_H2S\_Plan\_20240410104640.pdf

**Operator Name:** MEWBOURNE OIL COMPANY**Well Name:** TOUGH OMBRES 6/5 FED COM**Well Number:** 716H**Section 8 - Other Information****Proposed horizontal/directional/multi-lateral plan submission:**

Tough\_Ombres\_6\_5\_Fed\_Com\_716H\_MOC\_Dir\_Plan\_20240410104701.pdf

Tough\_Ombres\_6\_5\_Fed\_Com\_716H\_MOC\_Dir\_Plot\_20240410104706.pdf

**Other proposed operations facets description:**

Mewbourne Oil Company also requests approval to implement Design B as described below. BLM will be notified of elected design.

**Other proposed operations facets attachment:**

Tough\_Ombres\_6\_5\_Fed\_Com\_\_\_716H\_AddInfo\_20240809075345.pdf

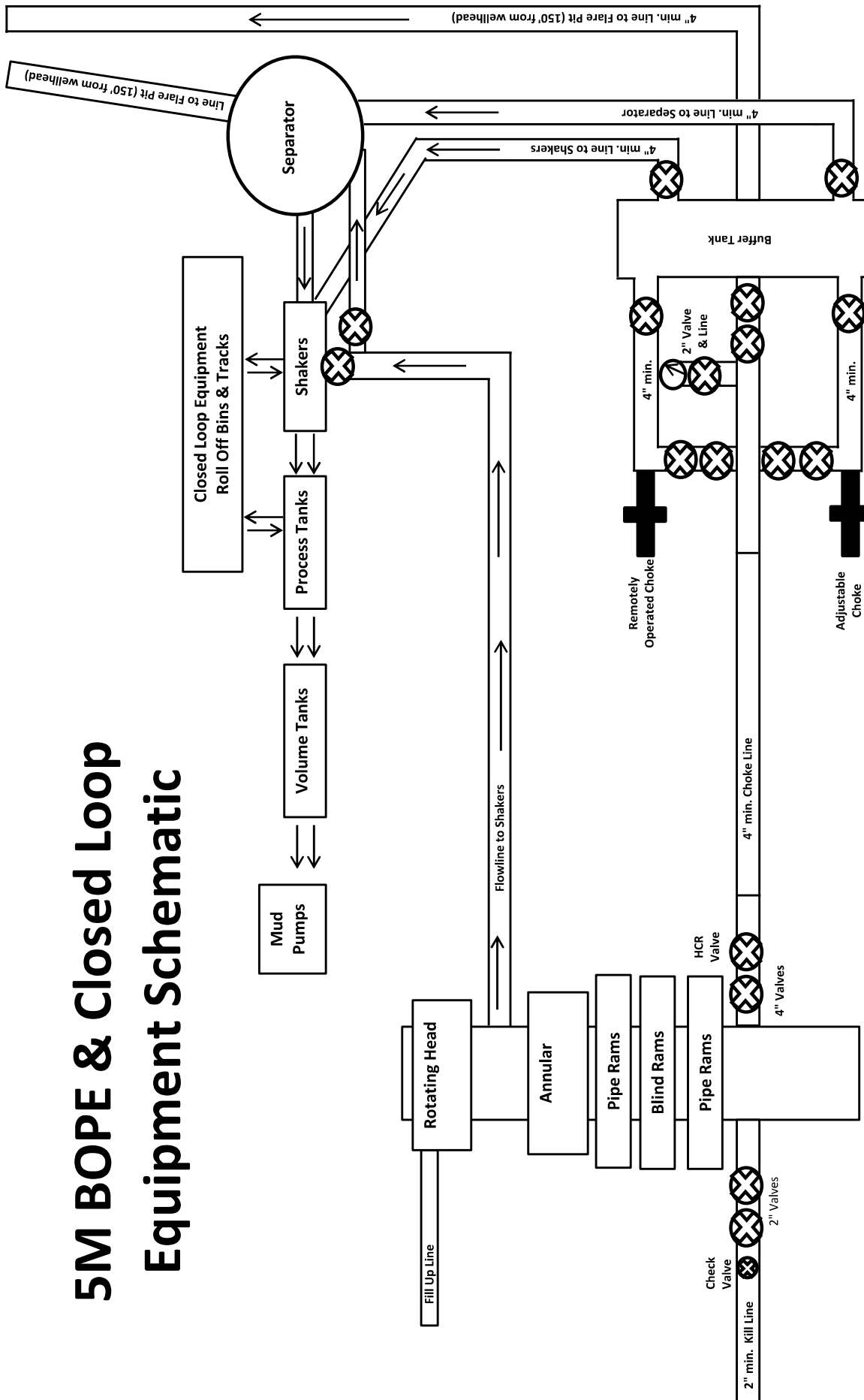
Tough\_Ombres\_6\_5\_Fed\_Com\_\_\_716H\_Drlg\_Program\_20240809075351.pdf

**Other Variance attachment:**

Tough\_Ombres\_6\_5\_Fed\_Com\_716H\_MOC\_Break\_Testing\_Variance\_20240410104747.pdf

Tough\_Ombres\_6\_5\_Fed\_Com\_716H\_MOC\_Offline\_Cementing\_Variance\_20240410104754.pdf

# 5M BOPE & Closed Loop Equipment Schematic



Note: All valves & lines on choke manifold are 4" unless otherwise noted. Exact manifold configuration may vary.

Drawing not to scale





LUOHE LETONE HYDRAULICS TECHNOLOGY CO.,LTD

HYDROSTATIC TESTING REPORT

LTTY/QR-5.7.1-28

No: 230826015

Product Name	Choke And Kill Hose	Standard	API Spec 16C 3 <sup>rd</sup> edition
Product Specification	3"×10000psi×60ft (18.29m)	Serial Number	7660144
Inspection Equipment	MTU-BS-1600-3200-E	Test medium	Water
Inspection Department	Q.C. Department	Inspection Date	2023.08.26
Rate of length change			
Standard requirements	At working pressure ,the rate of length change should not more than ±2%		
Testing result	10000psi (69.0MPa) ,Rate of length change 0.7%		
Hydrostatic testing			
Standard requirements	At 1.5 times working pressure, the initial pressure-holding period of not less than three minutes, the second pressure-holding period of not less than one hour, no leaks.		
Testing result	15000psi (103.5MPa), 3 min for the first time, 60 min for the second time, no leakage		
Graph of pressure testing:			
Conclusion	The inspected items meet standard requirements of API Spec 16C 3 <sup>rd</sup> edition		
Approver	Jiaolong Chen	Auditor	Huiling Dong
Inspector	Zhansheng Wang		



LUOHE LETONE HYDRAULICS TECHNOLOGY CO.,LTD

CERTIFICATE OF QUALITY

LTTY/QR-5.7.1-19B

No: LT2023-126-002

Customer Name	Austin Hose		
Product Name	Choke And Kill Hose		
Product Specification	3"×10000psi×60ft (18.29m)	Quantity	2PCS
Serial Number	7660143~7660144	FSL	FSL3
Temperature Range	-29℃~+121℃	Standard	API Spec 16C 3 <sup>rd</sup> edition
Inspection Department	Q.C. Department	Inspection date	2023.08.26

Inspection Items		Inspection results			
Appearance Checking		In accordance with API Spec 16C 3 <sup>rd</sup> edition			
Size and Lengths		In accordance with API Spec 16C 3 <sup>rd</sup> edition			
Dimensions and Tolerances		In accordance with API Spec 16C 3 <sup>rd</sup> edition			
End Connections: 4-1/16"×10000psi Integral flange for sour gas service		In accordance with API Spec 6A 21 <sup>st</sup> edition			
End Connections: 4-1/16"×10000psi Integral flange for sour gas service		In accordance with API Spec 17D 3 <sup>rd</sup> edition			
Hydrostatic Testing		In accordance with API Spec 16C 3 <sup>rd</sup> edition			
product Marking		In accordance with API Spec 16C 3 <sup>rd</sup> edition			
Inspection conclusion		The inspected items meet standard requirements of API Spec 16C 3 <sup>rd</sup> edition			
Remarks					
Approver	Jiaolong Chen	Auditor	Huiling Dong	Inspector	Zhansheng Wang



**LUOHE LETONE HYDRAULICS TECHNOLOGY CO.,LTD**

**CERTIFICATE OF CONFORMANCE**

**No:LT230826016**

Product Name: Choke And Kill Hose

Product Specification: 3"×10000psi×60ft (18.29m)

Serial Number: 7660143~7660144

End Connections: 4-1/16"×10000psi Integral flange for sour gas service

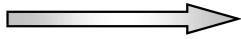
The Choke And Kill Hose assembly was produced by LUOHE LETONE HYDRAULICS TECHNOLOGY CO.,LTD . in Aug 2023, and inspected by LUOHE LETONE HYDRAULICS TECHNOLOGY CO.,LTD. according to API Spec 16C 3<sup>rd</sup> edition on Aug 26, 2023. The overall condition is good. This is to certify that the Choke And Kill Hose complies with all current standards and specifications for API Spec 16C 3<sup>rd</sup> edition .

QC Manager:

*Jiaolong Chen*

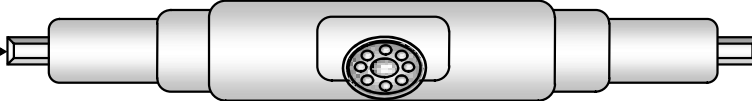
Date:Aug 26, 2023

Hydril "GK"  
13 5/8" 5M

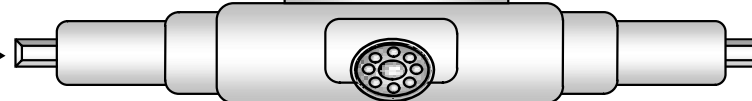


Hydril "GK"

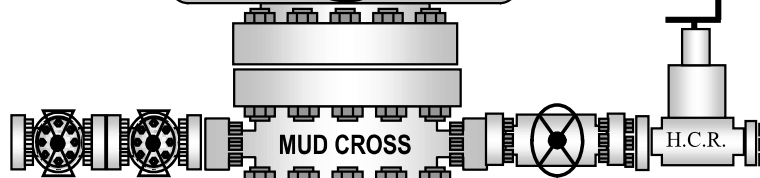
Cameron Type U  
13 5/8" 5M



4 1/2" x 5 7/8" VBR

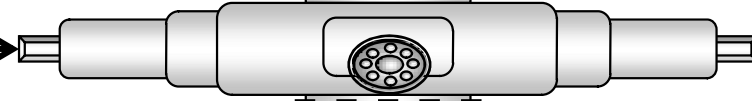


BLIND RAMS



MUD CROSS

H.C.R.



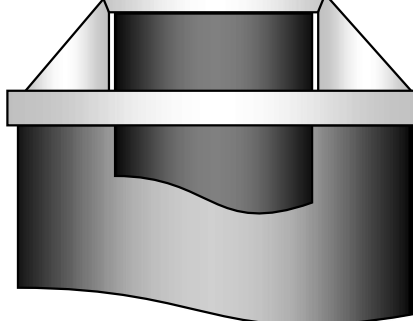
7" RAMS



13 5/8" 5M

13 5/8" 5M

13 5/8" 5M





## Mewbourne Oil Co.

### BOP Break Testing Variance

Mewbourne Oil Company requests a variance from the minimum standards for well control equipment testing of 43 CFR 3172 to allow a testing schedule of the blow out preventer (BOP) and blow out prevention equipment (BOPE) along with batch drilling & offline cementing operations. Modern rig upgrades which facilitate pad drilling allow the BOP stack to be moved between wells on a multi-well pad without breaking any BOP stack components apart. Widespread use of these technologies has led to break testing BOPE being endorsed as safe and reliable. American Petroleum Institute (API) best practices are frequently used by regulators to develop their regulations. API Standard 53, *Well Control Equipment Systems for Drilling Wells* (5<sup>th</sup> Ed., Dec. 2018) Section 5.3.7.1 states "A pressure test of the pressure containing component shall be performed following the disconnection or repair, limited to the affected component."

### **Procedures**

1. Full BOPE test at first installation on the pad.
  - Full BOPE test at least every 21 days.
  - Function test BOP elements per 43 CFR 3172.
  - Contact the BLM if a well control event occurs.
2. After the well section is secured and the well is confirmed to be static, the BOP will be disconnected from the wellhead and walked with the rig to another well on the pad. Two breaks on the BOPE will be made (Fig. 1).
  - Connection between the flex line and the HCR valve
  - Connection between the wellhead and the BOP quick connect (Fig. 5 & 6).
3. A capping flange will be installed after cementing per wellhead vendor procedure & casing pressure will be monitored via wellhead valve.
4. The BOP will be removed and carried by a hydraulic carrier (Fig. 3 & 4).
5. The rig will then walk to the next well.
6. Confirm that the well is static and remove the capping flange.
7. The connection between the flex line and HCR valve and the connection between the wellhead and the BOP quick connect will be reconnected.
8. Install a test plug into the wellhead.
9. A test will then be conducted against the upper pipe rams and choke, testing both breaks (Fig. 1 & 2).
10. The test will be held at 250 psi low and to the high value submitted in the APD, not to exceed 5000 psi.
11. The annular, blind rams and lower pipe rams will then be function tested.
12. If a pad consists of three or more wells, steps 4 through 11 will be repeated.





13. A break test will only be conducted if the intermediate section can be drilled and cased within 21 days of the last full BOPE test.

## **Barriers**

### **Before Nipple Down:**

- Floats in casing
- Kill weight fluid in casing
- Kill weight fluid in annulus
- Solid body mandrel and/or packoff

### **After Nipple Down:**

- Floats in casing
- Kill weight fluid in casing
- Kill weight fluid in annulus
- Solid body mandrel and/or packoff
- Offline cementing tool and/or cement head
- Capping flange after cementing

## **Summary**

A variance is requested to only test broken pressure seals on the BOPE when moving between wells on a multi-well pad if the following conditions are met:

- A full BOPE test is conducted on the first well on the pad. API Standard 53 requires testing annular BOP to 70% of RWP or 100% of MASP, whichever is greater.
- If the first well on the pad is not the well with the deepest intermediate section, a full BOPE test will also be performed when moving to a deeper well.
- The hole section being drilled has a MASP under 5000 psi.
- If a well control event occurs, Mewbourne will contact BLM for permission to continue break testing.
- If significant (>50%) losses occur, full BOPE testing will be required going forward.
- Full BOPE test will be required prior to drilling the production hole.

While walking the rig, the BOP stack will be secured via hydraulic winch or hydraulic carrier. A full BOPE test will be performed at least every 21 days.

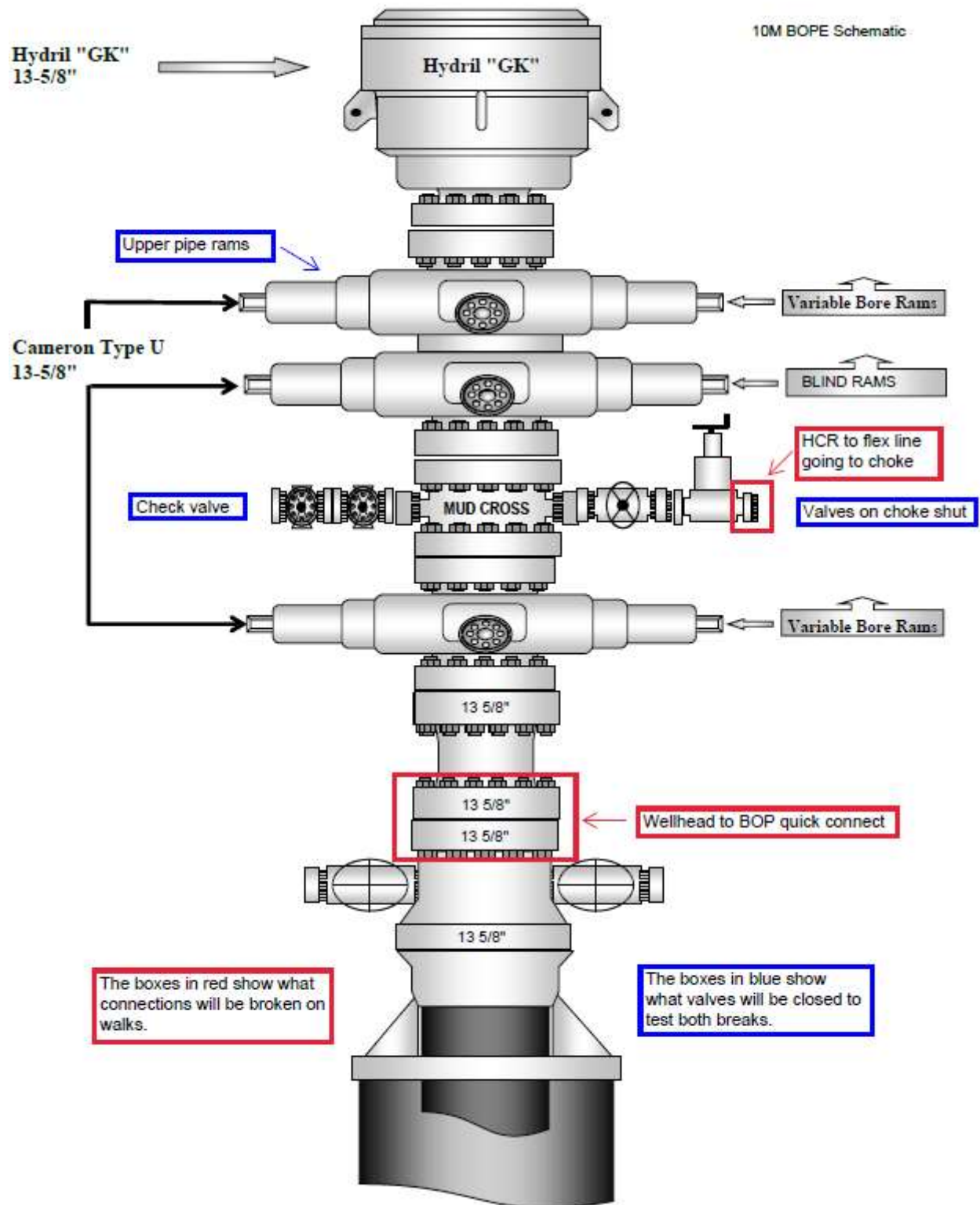


Figure 1. BOP diagram



## 5M BOPE & Closed Loop Equipment Schematic

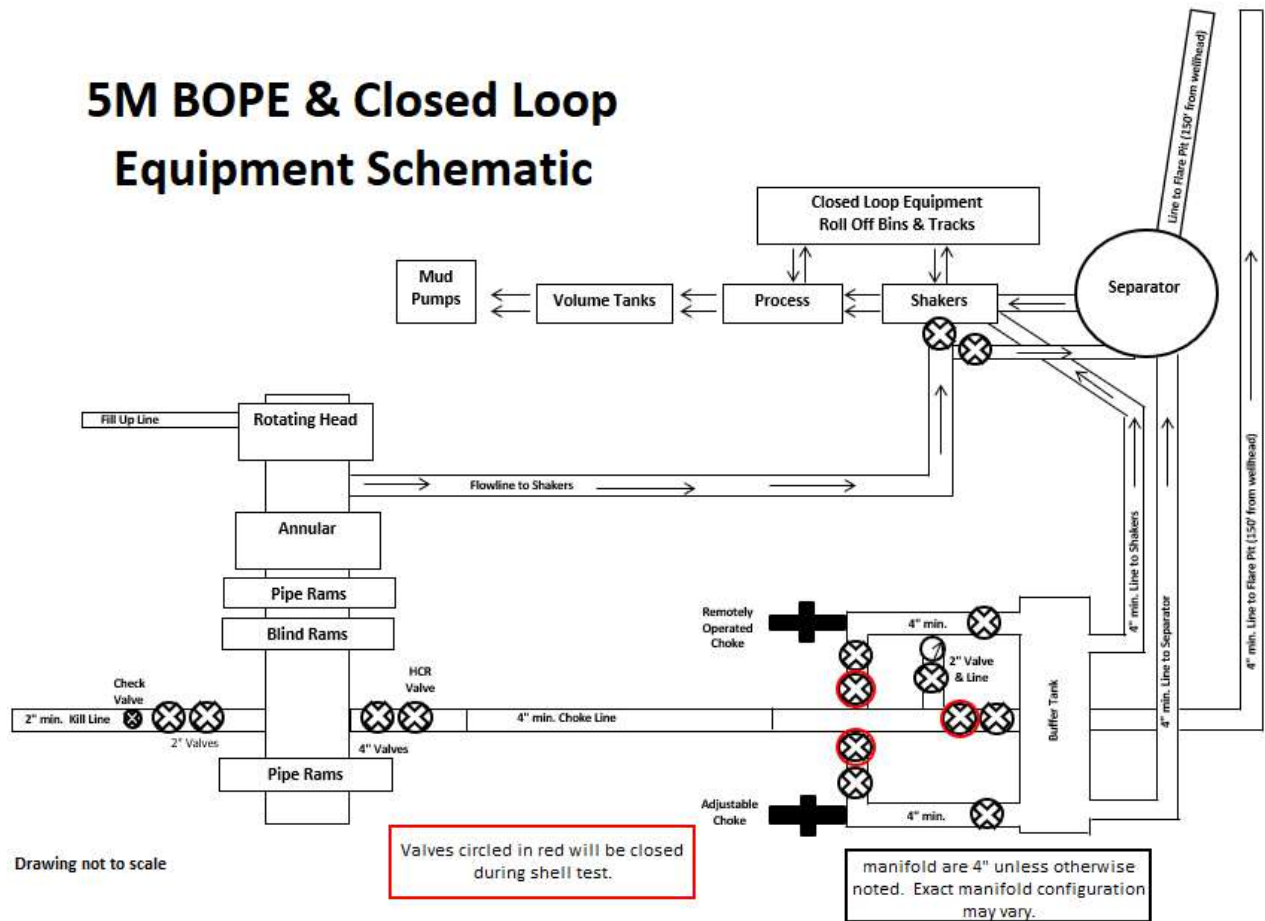


Figure 2. BOPE diagram

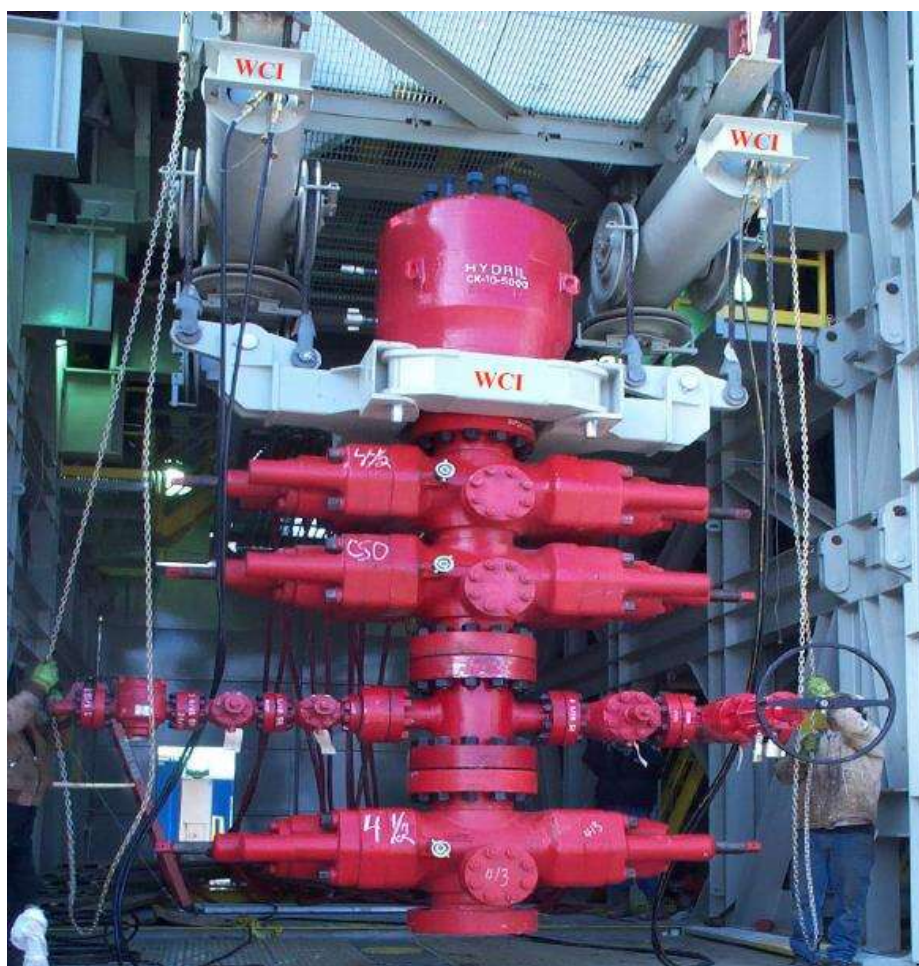


Figure 3. BOP handling system



Figure 4. BOP handling system



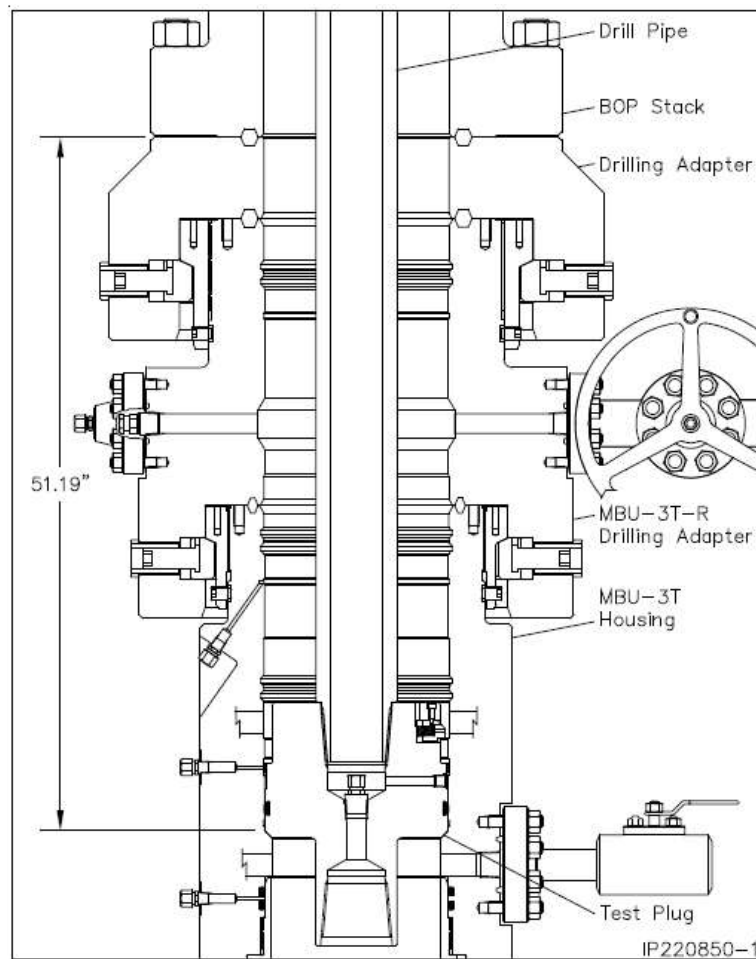


Figure 5. Cactus 5M wellhead with BOP quick connect

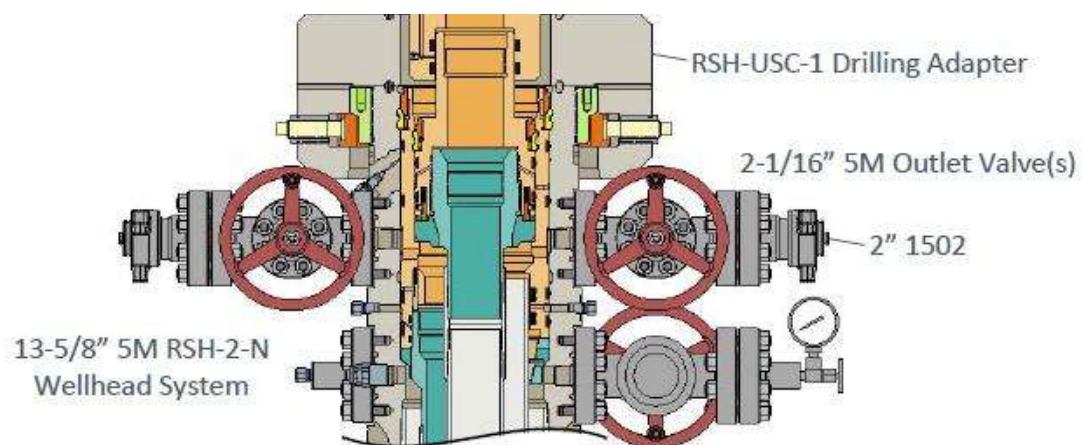
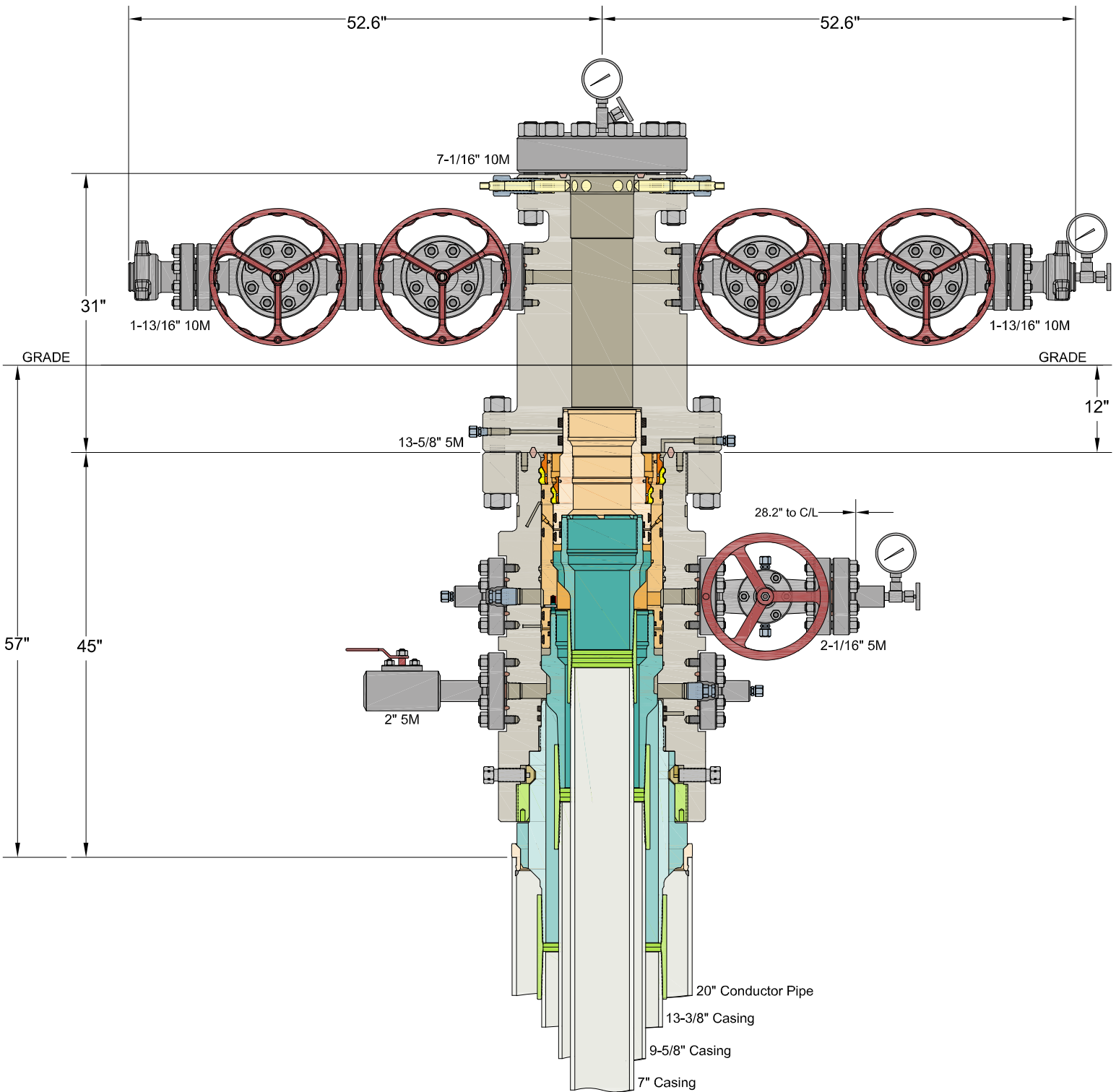


Figure 6. Vault 5M wellhead with BOP quick connect



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ALL DIMENSIONS APPROXIMATE

CACTUS WELLHEAD LLC

MEWBOURNE OIL COMPANY  
NEW MEXICO

20" x 13-3/8" x 9-5/8" x 7" MBU-3T-CFL-R-DBLO Wellhead System  
With 9-5/8" & 7" Fluted Mandrel Casing Hangers  
And 13-5/8" 5M x 7-1/16" 10M CTH-DBLHPS Tubing Head

DRAWN	DLE	18APR22
APPRV		
DRAWING NO.	HBE0000660	

Mewbourne Oil Company, Tough Ombres 6/5 Fed Com #716H

Sec 7, T21S, R27E

SHL: 330' FNL 1220' FWL (Sec 7)

BHL: 660' FSL 2548' FWL (Sec 5)

Casing Program Design A						BLM Minimum Safety Factors	1.125	1.0	1.6 Dry	1.6 Dry
									1.8 Wet	1.8 Wet
String	Hole Size	Top MD	Top TVD	Bot MD	Bot TVD	Csg. Size	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
Surface	26'	0'	0'	275'	275'	18 5/8" 87.5# J55 BTC	5.12	18.30	55.23	56.81
Int 1	17.5'	0'	0'	950'	950'	13.375" 48# H40 STC	1.53	3.43	7.06	11.86
Int 2	12.25'	0'	0'	2370'	2370'	9.625" 36# J55 LTC	1.91	3.32	5.31	6.61
Production	8.75'	0'	0'	8419'	8148'	7" 26# P110 LTC	1.55	2.47	3.17	3.79
Liner	6.125'	8219'	7948'	16983'	8899'	4.5" 13.5# P110 LTC	1.92	2.23	2.86	3.57

Cement Program

Casing		# Sacks	Wt. lb/gal	Yield ft³/sack	TOC/BOC	Volume ft³	% Excess	Slurry Description
20,000 in	LEAD	270	12.5	2.12	0' - 186'	580	100%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	186' - 275'	268		Class C: Retarder
13,375 in	LEAD	340	12.5	2.12	0' - 695'	730	50%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	695' - 950'	268		Class C: Retarder
1st Stg 9,625 in	LEAD	130	12.5	2.12	992' - 1696'	280	25%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	1696' - 2370'	268		Class C: Retarder
9 5/8" DV Tool @ 992'								
2nd Stg 9,625 in	LEAD	120	12.5	2.12	0' - 655'	260	25%	Class C: Salt, Gel, Extender, LCM
	TAIL	100	14.8	1.34	655' - 992'	134		Class C: Retarder
1st Stg 7 in	LEAD	50	12.5	2.12	6200' - 6619'	110	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
	TAIL	400	15.6	1.18	6619' - 8419'	472		Class H: Retarder, Fluid Loss, Defoamer
7" DV Tool @ 6200'								
2nd Stg 7 in	LEAD	390	12.5	2.12	960' - 5472'	830	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
	TAIL	100	14.8	1.34	5472' - 6200'	134		Class C: Retarder, Fluid Loss, Defoamer
4.5 in	LEAD	560	13.5	1.85	8219' - 16983'	1040	25%	Class H: Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti-settling Agent

Design A - Mud Program

Depth	Mud Wt	Mud Type
0' - 275'	8.4 - 8.6	Fresh Water
275' - 950'	9.5 - 10.2	Brine
950' - 2370'	8.4 - 8.6	Fresh Water
2370' - 8419'	8.6 - 9.5	Cut-Brine
8419' - 16983'	10.0 - 12.	OBM

Geology

Formation	Est. Top (TVD)	Mineral Resources	Formation	Est. Top (TVD)	Mineral Resources
Rustler			Yeso		
Castile			Delaware (Lamar)	2445'	Oil/Natural Gas
Salt Top	345'	None	Bell Canyon		
Salt Base	550'	None	Cherry Canyon		
Yates	645'	Oil/Natural Gas	Manzanita Marker		
Seven Rivers			Basal Brushy Canyon		
Queen			Bone Spring	4707'	Oil/Natural Gas
Capitan	1017'	Usable Water	1st Bone Spring	6220'	Oil/Natural Gas
Grayburg			2nd Bone Spring	6972'	Oil/Natural Gas
San Andres			3rd Bone Spring	8340'	Oil/Natural Gas
Glorieta			Wolfcamp	8697'	Oil/Natural Gas

All casing strings will be tested in accordance with 43 CFR Part 3170 Subpart 3172. Must have table for contingency casing.

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Is casing API approved? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	Y
If yes, does production casing cement tie back a minimum of 50' above the Reef?	Y
Is well within the designated 4 string boundary.	Y
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3 <sup>rd</sup> string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2 <sup>nd</sup> string set 100' to 600' below the base of salt?	
Is an open annulus used to satisfy R-111-Q? If yes, see cement design.	
Is an engineered weak point used to satisfy R-111-Q?	
If yes, at what depth is the weak point planned?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

Mewbourne Oil Company, Tough Ombres 6/5 Fed Com #716H

Sec 7, T21S, R27E

SHL: 330' FNL 1220' FWL (Sec 7)

BHL: 660' FSL 2548' FWL (Sec 5)

Casing Program Design B						BLM Minimum Safety Factors	1.125	1.0	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet
String	Hole Size	Top MD	Top TVD	Bot MD	Bot TVD	Csg. Size	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
Surface	26'	0'	0'	275'	275'	18 5/8" 87.5# J55 BTC	5.12	18.30	55.23	56.81
Int 1	17.5'	0'	0'	950'	950'	13.375" 48# H40 STC	1.53	3.43	7.06	11.86
Int 2	12.25'	0'	0'	2370'	2370'	9.625" 36# J55 LTC	1.91	3.32	5.31	6.61
Production	8.75'	0'	0'	9340'	8756'	7" 26# P110 LTC	1.44	2.30	2.85	3.42

Design B - Cement Program

Casing		# Sacks	Wt. lb/gal	Yield ft³/sack	TOC/BOC	Volume ft³	% Excess	Slurry Description
20.000 in	LEAD	270	12.5	2.12	0' - 186'	580	100%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	186' - 275'	268		Class C: Retarder
13.375 in	LEAD	340	12.5	2.12	0' - 695'	730	50%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	695' - 950'	268		Class C: Retarder
1st Stg 9.625 in	LEAD	130	12.5	2.12	992' - 1696'	280	25%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	1696' - 2370'	268		Class C: Retarder
9 5/8" DV Tool @ 992'								
2nd Stg 9.625 in	LEAD	120	12.5	2.12	0' - 655'	260	25%	Class C: Salt, Gel, Extender, LCM
	TAIL	100	14.8	1.34	655' - 992'	134		Class C: Retarder
1st Stg 7 in	LEAD	60	12.5	2.12	6200' - 6878'	130	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
	TAIL	400	15.6	1.18	6878' - 9339.9'	472		Class H: Retarder, Fluid Loss, Defoamer
7" DV Tool @ 6200'								
2nd Stg 7 in	LEAD	390	12.5	2.12	960' - 5472'	830	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
	TAIL	100	14.8	1.34	5472' - 6200'	134		Class C: Retarder, Fluid Loss, Defoamer

Design B - Mud Program

Depth	Mud Wt	Mud Type
0' - 275'	8.4 - 8.6	Fresh Water
275' - 950'	9.5 - 10.2	Brine
950' - 2370'	8.4 - 8.6	Fresh Water
2370' - 9339.9'	8.6 - 9.5	Cut-Brine
9339.9' - 16983'	10.0 - 12.	OBM

Geology

Formation	Est. Top (TVD)	Mineral Resources	Formation	Est. Top (TVD)	Mineral Resources
Rustler			Yeso		
Castile			Delaware (Lamar)	2445'	Oil/Natural Gas
Salt Top	345'	None	Bell Canyon		
Salt Base	550'	None	Cherry Canyon		
Yates	645'	Oil/Natural Gas	Manzanita Marker		
Seven Rivers			Basal Brushy Canyon		
Queen			Bone Spring	4707'	Oil/Natural Gas
Capitan	1017'	Usable Water	1st Bone Spring	6220'	Oil/Natural Gas
Grayburg			2nd Bone Spring	6972'	Oil/Natural Gas
San Andres			3rd Bone Spring	8340'	Oil/Natural Gas
Glorieta			Wolfcamp	8697'	Oil/Natural Gas

All casing strings will be tested in accordance with 43 CFR Part 3170 Subpart 3172. Must have table for contingency casing.

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Is casing API approved? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	Y
If yes, does production casing cement tie back a minimum of 50' above the Reef?	Y
Is well within the designated 4 string boundary.	Y
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3 <sup>rd</sup> string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2 <sup>nd</sup> string set 100' to 600' below the base of salt?	
Is an open annulus used to satisfy R-111-Q? If yes, see cement design.	
Is an engineered weak point used to satisfy R-111-Q?	
If yes, at what depth is the weak point planned?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

Mewbourne Oil Company, Tough Ombres 6/5 Fed Com #716H  
Sec 7, T21S, R27E  
SHL: 330' FNL 1220' FWL (Sec 7)  
BHL: 660' FSL 2548' FWL (Sec 5)

Casing Program Design A						BLM Minimum Safety Factors	1.125	1.0	1.6 Dry	1.6 Dry
									1.8 Wet	1.8 Wet
String	Hole Size	Top MD	Top TVD	Bot MD	Bot TVD	Csg. Size	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
Surface	26'	0'	0'	275'	275'	18 5/8" 87.5# J55 BTC	5.12	18.30	55.23	56.81
Int 1	17.5'	0'	0'	950'	950'	13.375" 48# H40 STC	1.53	3.43	7.06	11.86
Int 2	12.25'	0'	0'	2370'	2370'	9.625" 36# J55 LTC	1.91	3.32	5.31	6.61
Production	8.75'	0'	0'	8419'	8148'	7" 26# P110 LTC	1.55	2.47	3.17	3.79
Liner	6.125'	8219'	7948'	16983'	8899'	4.5" 13.5# P110 LTC	1.92	2.23	2.86	3.57

Cement Program

Casing		# Sacks	Wt. lb/gal	Yield ft³/sack	TOC/BOC	Volume ft³	% Excess	Slurry Description
20,000 in	LEAD	270	12.5	2.12	0' - 186'	580	100%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	186' - 275'	268		Class C: Retarder
13,375 in	LEAD	340	12.5	2.12	0' - 695'	730	50%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	695' - 950'	268		Class C: Retarder
1st Stg 9,625 in	LEAD	130	12.5	2.12	992' - 1696'	280	25%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	1696' - 2370'	268		Class C: Retarder
9 5/8" DV Tool @ 992'								
2nd Stg 9,625 in	LEAD	120	12.5	2.12	0' - 655'	260	25%	Class C: Salt, Gel, Extender, LCM
	TAIL	100	14.8	1.34	655' - 992'	134		Class C: Retarder
1st Stg 7 in	LEAD	50	12.5	2.12	6200' - 6619'	110	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
	TAIL	400	15.6	1.18	6619' - 8419'	472		Class H: Retarder, Fluid Loss, Defoamer
7" DV Tool @ 6200'								
2nd Stg 7 in	LEAD	390	12.5	2.12	960' - 5472'	830	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
	TAIL	100	14.8	1.34	5472' - 6200'	134		Class C: Retarder, Fluid Loss, Defoamer
4.5 in	LEAD	560	13.5	1.85	8219' - 16983'	1040	25%	Class H: Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti-settling Agent

Design A - Mud Program

Depth	Mud Wt	Mud Type
0' - 275'	8.4 - 8.6	Fresh Water
275' - 950'	9.5 - 10.2	Brine
950' - 2370'	8.4 - 8.6	Fresh Water
2370' - 8419'	8.6 - 9.5	Cut-Brine
8419' - 16983'	10.0 - 12.	OBM

Geology

Formation	Est. Top (TVD)	Mineral Resources	Formation	Est. Top (TVD)	Mineral Resources
Rustler			Yeso		
Castile			Delaware (Lamar)	2445'	Oil/Natural Gas
Salt Top	345'	None	Bell Canyon		
Salt Base	550'	None	Cherry Canyon		
Yates	645'	Oil/Natural Gas	Manzanita Marker		
Seven Rivers			Basal Brushy Canyon		
Queen			Bone Spring	4707'	Oil/Natural Gas
Capitan	1017'	Usable Water	1st Bone Spring	6220'	Oil/Natural Gas
Grayburg			2nd Bone Spring	6972'	Oil/Natural Gas
San Andres			3rd Bone Spring	8340'	Oil/Natural Gas
Glorieta			Wolfcamp	8697'	Oil/Natural Gas

All casing strings will be tested in accordance with 43 CFR Part 3170 Subpart 3172. Must have table for contingency casing.

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Is casing API approved? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	Y
If yes, does production casing cement tie back a minimum of 50' above the Reef?	Y
Is well within the designated 4 string boundary.	Y
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3 <sup>rd</sup> string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2 <sup>nd</sup> string set 100' to 600' below the base of salt?	
Is an open annulus used to satisfy R-111-Q? If yes, see cement design.	
Is an engineered weak point used to satisfy R-111-Q?	
If yes, at what depth is the weak point planned?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

Mewbourne Oil Company, Tough Ombres 6/5 Fed Com #716H

Sec 7, T21S, R27E

SHL: 330' FNL 1220' FWL (Sec 7)

BHL: 660' FSL 2548' FWL (Sec 5)

Casing Program Design B						BLM Minimum Safety Factors	1.125	1.0	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet
String	Hole Size	Top MD	Top TVD	Bot MD	Bot TVD	Csg. Size	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
Surface	26'	0'	0'	275'	275'	18 5/8" 87.5# J55 BTC	5.12	18.30	55.23	56.81
Int 1	17.5'	0'	0'	950'	950'	13.375" 48# H40 STC	1.53	3.43	7.06	11.86
Int 2	12.25'	0'	0'	2370'	2370'	9.625" 36# J55 LTC	1.91	3.32	5.31	6.61
Production	8.75'	0'	0'	9340'	8756'	7" 26# P110 LTC	1.44	2.30	2.85	3.42

Design B - Cement Program

Casing		# Sacks	Wt. lb/gal	Yield ft³/sack	TOC/BOC	Volume ft³	% Excess	Slurry Description
20.000 in	LEAD	270	12.5	2.12	0' - 186'	580	100%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	186' - 275'	268		Class C: Retarder
13.375 in	LEAD	340	12.5	2.12	0' - 695'	730	50%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	695' - 950'	268		Class C: Retarder
1st Stg 9.625 in	LEAD	130	12.5	2.12	992' - 1696'	280	25%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	1696' - 2370'	268		Class C: Retarder
9 5/8" DV Tool @ 992'								
2nd Stg 9.625 in	LEAD	120	12.5	2.12	0' - 655'	260	25%	Class C: Salt, Gel, Extender, LCM
	TAIL	100	14.8	1.34	655' - 992'	134		Class C: Retarder
1st Stg 7 in	LEAD	60	12.5	2.12	6200' - 6878'	130	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
	TAIL	400	15.6	1.18	6878' - 9339.9'	472		Class H: Retarder, Fluid Loss, Defoamer
7" DV Tool @ 6200'								
2nd Stg 7 in	LEAD	390	12.5	2.12	960' - 5472'	830	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
	TAIL	100	14.8	1.34	5472' - 6200'	134		Class C: Retarder, Fluid Loss, Defoamer

Design B - Mud Program

Depth	Mud Wt	Mud Type
0' - 275'	8.4 - 8.6	Fresh Water
275' - 950'	9.5 - 10.2	Brine
950' - 2370'	8.4 - 8.6	Fresh Water
2370' - 9339.9'	8.6 - 9.5	Cut-Brine
9339.9' - 16983'	10.0 - 12.	OBM

Geology

Formation	Est. Top (TVD)	Mineral Resources	Formation	Est. Top (TVD)	Mineral Resources
Rustler			Yeso		
Castile			Delaware (Lamar)	2445'	Oil/Natural Gas
Salt Top	345'	None	Bell Canyon		
Salt Base	550'	None	Cherry Canyon		
Yates	645'	Oil/Natural Gas	Manzanita Marker		
Seven Rivers			Basal Brushy Canyon		
Queen			Bone Spring	4707'	Oil/Natural Gas
Capitan	1017'	Usable Water	1st Bone Spring	6220'	Oil/Natural Gas
Grayburg			2nd Bone Spring	6972'	Oil/Natural Gas
San Andres			3rd Bone Spring	8340'	Oil/Natural Gas
Glorieta			Wolfcamp	8697'	Oil/Natural Gas

All casing strings will be tested in accordance with 43 CFR Part 3170 Subpart 3172. Must have table for contingency casing.

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Is casing API approved? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	Y
If yes, does production casing cement tie back a minimum of 50' above the Reef?	Y
Is well within the designated 4 string boundary.	Y
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3 <sup>rd</sup> string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2 <sup>nd</sup> string set 100' to 600' below the base of salt?	
Is an open annulus used to satisfy R-111-Q? If yes, see cement design.	
Is an engineered weak point used to satisfy R-111-Q?	
If yes, at what depth is the weak point planned?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	



Mewbourne Oil Company, Tough Ombres 6/5 Fed Com #716H  
Sec 7, T21S, R27E  
SHL: 330' FNL 1220' FWL (Sec 7)  
BHL: 660' FSL 2548' FWL (Sec 5)

Casing Program Design A						BLM Minimum Safety Factors	1.125	1.0	1.6 Dry	1.6 Dry
									1.8 Wet	1.8 Wet
String	Hole Size	Top MD	Top TVD	Bot MD	Bot TVD	Csg. Size	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
Surface	26'	0'	0'	275'	275'	18 5/8" 87.5# J55 BTC	5.12	18.30	55.23	56.81
Int 1	17.5'	0'	0'	950'	950'	13.375" 48# H40 STC	1.53	3.43	7.06	11.86
Int 2	12.25'	0'	0'	2370'	2370'	9.625" 36# J55 LTC	1.91	3.32	5.31	6.61
Production	8.75'	0'	0'	8419'	8148'	7" 26# P110 LTC	1.55	2.47	3.17	3.79
Liner	6.125'	8219'	7948'	16983'	8899'	4.5" 13.5# P110 LTC	1.92	2.23	2.86	3.57

Cement Program

Casing		# Sacks	Wt. lb/gal	Yield ft³/sack	TOC/BOC	Volume ft³	% Excess	Slurry Description
20,000 in	LEAD	270	12.5	2.12	0' - 186'	580	100%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	186' - 275'	268		Class C: Retarder
13,375 in	LEAD	340	12.5	2.12	0' - 695'	730	50%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	695' - 950'	268		Class C: Retarder
1st Stg 9,625 in	LEAD	130	12.5	2.12	992' - 1696'	280	25%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	1696' - 2370'	268		Class C: Retarder
9 5/8" DV Tool @ 992'								
2nd Stg 9,625 in	LEAD	120	12.5	2.12	0' - 655'	260	25%	Class C: Salt, Gel, Extender, LCM
	TAIL	100	14.8	1.34	655' - 992'	134		Class C: Retarder
1st Stg 7 in	LEAD	50	12.5	2.12	6200' - 6619'	110	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
	TAIL	400	15.6	1.18	6619' - 8419'	472		Class H: Retarder, Fluid Loss, Defoamer
7" DV Tool @ 6200'								
2nd Stg 7 in	LEAD	390	12.5	2.12	960' - 5472'	830	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
	TAIL	100	14.8	1.34	5472' - 6200'	134		Class C: Retarder, Fluid Loss, Defoamer
4.5 in	LEAD	560	13.5	1.85	8219' - 16983'	1040	25%	Class H: Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti-settling Agent

Design A - Mud Program

Depth	Mud Wt	Mud Type
0' - 275'	8.4 - 8.6	Fresh Water
275' - 950'	9.5 - 10.2	Brine
950' - 2370'	8.4 - 8.6	Fresh Water
2370' - 8419'	8.6 - 9.5	Cut-Brine
8419' - 16983'	10.0 - 12.	OBM

Geology

Formation	Est. Top (TVD)	Mineral Resources	Formation	Est. Top (TVD)	Mineral Resources
Rustler			Yeso		
Castile			Delaware (Lamar)	2445'	Oil/Natural Gas
Salt Top	345'	None	Bell Canyon		
Salt Base	550'	None	Cherry Canyon		
Yates	645'	Oil/Natural Gas	Manzanita Marker		
Seven Rivers			Basal Brushy Canyon		
Queen			Bone Spring	4707'	Oil/Natural Gas
Capitan	1017'	Usable Water	1st Bone Spring	6220'	Oil/Natural Gas
Grayburg			2nd Bone Spring	6972'	Oil/Natural Gas
San Andres			3rd Bone Spring	8340'	Oil/Natural Gas
Glorieta			Wolfcamp	8697'	Oil/Natural Gas

All casing strings will be tested in accordance with 43 CFR Part 3170 Subpart 3172. Must have table for contingency casing.

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Is casing API approved? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	Y
If yes, does production casing cement tie back a minimum of 50' above the Reef?	Y
Is well within the designated 4 string boundary.	Y
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3 <sup>rd</sup> string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2 <sup>nd</sup> string set 100' to 600' below the base of salt?	
Is an open annulus used to satisfy R-111-Q? If yes, see cement design.	
Is an engineered weak point used to satisfy R-111-Q?	
If yes, at what depth is the weak point planned?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
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Sec 7, T21S, R27E  
SHL: 330' FNL 1220' FWL (Sec 7)  
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Casing Program Design B						BLM Minimum Safety Factors	1.125	1.0	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet
String	Hole Size	Top MD	Top TVD	Bot MD	Bot TVD	Csg. Size	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
Surface	26'	0'	0'	275'	275'	18 5/8" 87.5# J55 BTC	5.12	18.30	55.23	56.81
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Production	8.75'	0'	0'	9340'	8756'	7" 26# P110 LTC	1.44	2.30	2.85	3.42

Design B - Cement Program

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	TAIL	100	14.8	1.34	655' - 992'	134		Class C: Retarder
1st Stg 7 in	LEAD	60	12.5	2.12	6200' - 6878'	130	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
	TAIL	400	15.6	1.18	6878' - 9339.9'	472		Class H: Retarder, Fluid Loss, Defoamer
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2nd Stg 7 in	LEAD	390	12.5	2.12	960' - 5472'	830	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
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Design B - Mud Program

Depth	Mud Wt	Mud Type
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Geology

Formation	Est. Top (TVD)	Mineral Resources	Formation	Est. Top (TVD)	Mineral Resources
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Castile			Delaware (Lamar)	2445'	Oil/Natural Gas
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Queen			Bone Spring	4707'	Oil/Natural Gas
Capitan	1017'	Usable Water	1st Bone Spring	6220'	Oil/Natural Gas
Grayburg			2nd Bone Spring	6972'	Oil/Natural Gas
San Andres			3rd Bone Spring	8340'	Oil/Natural Gas
Glorieta			Wolfcamp	8697'	Oil/Natural Gas

All casing strings will be tested in accordance with 43 CFR Part 3170 Subpart 3172. Must have table for contingency casing.

	Y or N
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Is casing API approved? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	Y
If yes, does production casing cement tie back a minimum of 50' above the Reef?	Y
Is well within the designated 4 string boundary.	Y
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3 <sup>rd</sup> string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2 <sup>nd</sup> string set 100' to 600' below the base of salt?	
Is an open annulus used to satisfy R-111-Q? If yes, see cement design.	
Is an engineered weak point used to satisfy R-111-Q?	
If yes, at what depth is the weak point planned?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

Mewbourne Oil Company, Tough Ombres 6/5 Fed Com #716H

Sec 7, T21S, R27E

SHL: 330' FNL 1220' FWL (Sec 7)

BHL: 660' FSL 2548' FWL (Sec 5)

Casing Program Design A						BLM Minimum Safety Factors	1.125	1.0	1.6 Dry	1.6 Dry
									1.8 Wet	1.8 Wet
String	Hole Size	Top MD	Top TVD	Bot MD	Bot TVD	Csg. Size	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
Surface	26'	0'	0'	275'	275'	18 5/8" 87.5# J55 BTC	5.12	18.30	55.23	56.81
Int 1	17.5'	0'	0'	950'	950'	13.375" 48# H40 STC	1.53	3.43	7.06	11.86
Int 2	12.25'	0'	0'	2370'	2370'	9.625" 36# J55 LTC	1.91	3.32	5.31	6.61
Production	8.75'	0'	0'	8419'	8148'	7" 26# P110 LTC	1.55	2.47	3.17	3.79
Liner	6.125'	8219'	7948'	16983'	8899'	4.5" 13.5# P110 LTC	1.92	2.23	2.86	3.57

Cement Program								
Casing		# Sacks	Wt. lb/gal	Yield ft³/sack	TOC/BOC	Volume ft³	% Excess	Slurry Description
20,000 in	LEAD	270	12.5	2.12	0' - 186'	580	100%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	186' - 275'	268		Class C: Retarder
13,375 in	LEAD	340	12.5	2.12	0' - 695'	730	50%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	695' - 950'	268		Class C: Retarder
1st Stg 9.625 in	LEAD	130	12.5	2.12	992' - 1696'	280	25%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	1696' - 2370'	268		Class C: Retarder
9 5/8" DV Tool @ 992'								
2nd Stg 9.625 in	LEAD	120	12.5	2.12	0' - 655'	260	25%	Class C: Salt, Gel, Extender, LCM
	TAIL	100	14.8	1.34	655' - 992'	134		Class C: Retarder
1st Stg 7 in	LEAD	50	12.5	2.12	6200' - 6619'	110	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
	TAIL	400	15.6	1.18	6619' - 8419'	472		Class H: Retarder, Fluid Loss, Defoamer
7" DV Tool @ 6200'								
2nd Stg 7 in	LEAD	390	12.5	2.12	960' - 5472'	830	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
	TAIL	100	14.8	1.34	5472' - 6200'	134		Class C: Retarder, Fluid Loss, Defoamer
4.5 in	LEAD	560	13.5	1.85	8219' - 16983'	1040	25%	Class H: Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti-settling Agent

Depth	Mud Wt	Mud Type
0' - 275'	8.4 - 8.6	Fresh Water
275' - 950'	9.5 - 10.2	Brine
950' - 2370'	8.4 - 8.6	Fresh Water
2370' - 8419'	8.6 - 9.5	Cut-Brine
8419' - 16983'	10.0 - 12.	OBM

Formation	Est. Top (TVD)	Mineral Resources	Formation	Est. Top (TVD)	Mineral Resources
Rustler			Yeso		
Castile			Delaware (Lamar)	2445'	Oil/Natural Gas
Salt Top	345'	None	Bell Canyon		
Salt Base	550'	None	Cherry Canyon		
Yates	645'	Oil/Natural Gas	Manzanita Marker		
Seven Rivers			Basal Brushy Canyon		
Queen			Bone Spring	4707'	Oil/Natural Gas
Capitan	1017'	Usable Water	1st Bone Spring	6220'	Oil/Natural Gas
Grayburg			2nd Bone Spring	6972'	Oil/Natural Gas
San Andres			3rd Bone Spring	8340'	Oil/Natural Gas
Glorieta			Wolfcamp	8697'	Oil/Natural Gas

All casing strings will be tested in accordance with 43 CFR Part 3170 Subpart 3172. Must have table for contingency casing.

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Is casing API approved? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	Y
If yes, does production casing cement tie back a minimum of 50' above the Reef?	Y
Is well within the designated 4 string boundary.	Y
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3 <sup>rd</sup> string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2 <sup>nd</sup> string set 100' to 600' below the base of salt?	
Is an open annulus used to satisfy R-111-Q? If yes, see cement design.	
Is an engineered weak point used to satisfy R-111-Q?	
If yes, at what depth is the weak point planned?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

Mewbourne Oil Company, Tough Ombres 6/5 Fed Com #716H

Sec 7, T21S, R27E

SHL: 330' FNL 1220' FWL (Sec 7)

BHL: 660' FSL 2548' FWL (Sec 5)

Casing Program Design B						BLM Minimum Safety Factors	1.125	1.0	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet
String	Hole Size	Top MD	Top TVD	Bot MD	Bot TVD	Csg. Size	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
Surface	26'	0'	0'	275'	275'	18 5/8" 87.5# J55 BTC	5.12	18.30	55.23	56.81
Int 1	17.5'	0'	0'	950'	950'	13.375" 48# H40 STC	1.53	3.43	7.06	11.86
Int 2	12.25'	0'	0'	2370'	2370'	9.625" 36# J55 LTC	1.91	3.32	5.31	6.61
Production	8.75'	0'	0'	9340'	8756'	7" 26# P110 LTC	1.44	2.30	2.85	3.42

Design B - Cement Program

Casing		# Sacks	Wt. lb/gal	Yield ft³/sack	TOC/BOC	Volume ft³	% Excess	Slurry Description
20.000 in	LEAD	270	12.5	2.12	0' - 186'	580	100%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	186' - 275'	268		Class C: Retarder
13.375 in	LEAD	340	12.5	2.12	0' - 695'	730	50%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	695' - 950'	268		Class C: Retarder
1st Stg 9.625 in	LEAD	130	12.5	2.12	992' - 1696'	280	25%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	1696' - 2370'	268		Class C: Retarder
9 5/8" DV Tool @ 992'								
2nd Stg 9.625 in	LEAD	120	12.5	2.12	0' - 655'	260	25%	Class C: Salt, Gel, Extender, LCM
	TAIL	100	14.8	1.34	655' - 992'	134		Class C: Retarder
1st Stg 7 in	LEAD	60	12.5	2.12	6200' - 6878'	130	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
	TAIL	400	15.6	1.18	6878' - 9339.9'	472		Class H: Retarder, Fluid Loss, Defoamer
7" DV Tool @ 6200'								
2nd Stg 7 in	LEAD	390	12.5	2.12	960' - 5472'	830	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
	TAIL	100	14.8	1.34	5472' - 6200'	134		Class C: Retarder, Fluid Loss, Defoamer

Design B - Mud Program

Depth	Mud Wt	Mud Type
0' - 275'	8.4 - 8.6	Fresh Water
275' - 950'	9.5 - 10.2	Brine
950' - 2370'	8.4 - 8.6	Fresh Water
2370' - 9339.9'	8.6 - 9.5	Cut-Brine
9339.9' - 16983'	10.0 - 12.	OBM

Geology

Formation	Est. Top (TVD)	Mineral Resources	Formation	Est. Top (TVD)	Mineral Resources
Rustler			Yeso		
Castile			Delaware (Lamar)	2445'	Oil/Natural Gas
Salt Top	345'	None	Bell Canyon		
Salt Base	550'	None	Cherry Canyon		
Yates	645'	Oil/Natural Gas	Manzanita Marker		
Seven Rivers			Basal Brushy Canyon		
Queen			Bone Spring	4707'	Oil/Natural Gas
Capitan	1017'	Usable Water	1st Bone Spring	6220'	Oil/Natural Gas
Grayburg			2nd Bone Spring	6972'	Oil/Natural Gas
San Andres			3rd Bone Spring	8340'	Oil/Natural Gas
Glorieta			Wolfcamp	8697'	Oil/Natural Gas

All casing strings will be tested in accordance with 43 CFR Part 3170 Subpart 3172. Must have table for contingency casing.

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Is casing API approved? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	Y
If yes, does production casing cement tie back a minimum of 50' above the Reef?	Y
Is well within the designated 4 string boundary.	Y
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3 <sup>rd</sup> string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2 <sup>nd</sup> string set 100' to 600' below the base of salt?	
Is an open annulus used to satisfy R-111-Q? If yes, see cement design.	
Is an engineered weak point used to satisfy R-111-Q?	
If yes, at what depth is the weak point planned?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

Mewbourne Oil Company, Tough Ombres 6/5 Fed Com #716H

Sec 7, T21S, R27E

SHL: 330' FNL 1220' FWL (Sec 7)

BHL: 660' FSL 2548' FWL (Sec 5)

Casing Program Design A						BLM Minimum Safety Factors	1.125	1.0	1.6 Dry	1.6 Dry
									1.8 Wet	1.8 Wet
String	Hole Size	Top MD	Top TVD	Bot MD	Bot TVD	Csg. Size	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
Surface	26'	0'	0'	275'	275'	18 5/8" 87.5# J55 BTC	5.12	18.30	55.23	56.81
Int 1	17.5'	0'	0'	950'	950'	13.375" 48# H40 STC	1.53	3.43	7.06	11.86
Int 2	12.25'	0'	0'	2370'	2370'	9.625" 36# J55 LTC	1.91	3.32	5.31	6.61
Production	8.75'	0'	0'	8419'	8148'	7" 26# P110 LTC	1.55	2.47	3.17	3.79
Liner	6.125'	8219'	7948'	16983'	8899'	4.5" 13.5# P110 LTC	1.92	2.23	2.86	3.57

Cement Program								
Casing		# Sacks	Wt. lb/gal	Yield ft³/sack	TOC/BOC	Volume ft³	% Excess	Slurry Description
20,000 in	LEAD	270	12.5	2.12	0' - 186'	580	100%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	186' - 275'	268		Class C: Retarder
13,375 in	LEAD	340	12.5	2.12	0' - 695'	730	50%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	695' - 950'	268		Class C: Retarder
1st Stg 9,625 in	LEAD	130	12.5	2.12	992' - 1696'	280	25%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	1696' - 2370'	268		Class C: Retarder
9 5/8" DV Tool @ 992'								
2nd Stg 9,625 in	LEAD	120	12.5	2.12	0' - 655'	260	25%	Class C: Salt, Gel, Extender, LCM
	TAIL	100	14.8	1.34	655' - 992'	134		Class C: Retarder
1st Stg 7 in	LEAD	50	12.5	2.12	6200' - 6619'	110	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
	TAIL	400	15.6	1.18	6619' - 8419'	472		Class H: Retarder, Fluid Loss, Defoamer
7" DV Tool @ 6200'								
2nd Stg 7 in	LEAD	390	12.5	2.12	960' - 5472'	830	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
	TAIL	100	14.8	1.34	5472' - 6200'	134		Class C: Retarder, Fluid Loss, Defoamer
4.5 in	LEAD	560	13.5	1.85	8219' - 16983'	1040	25%	Class H: Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti-settling Agent

Design A - Mud Program

Depth	Mud Wt	Mud Type
0' - 275'	8.4 - 8.6	Fresh Water
275' - 950'	9.5 - 10.2	Brine
950' - 2370'	8.4 - 8.6	Fresh Water
2370' - 8419'	8.6 - 9.5	Cut-Brine
8419' - 16983'	10.0 - 12.	OBM

Geology

Formation	Est. Top (TVD)	Mineral Resources	Formation	Est. Top (TVD)	Mineral Resources
Rustler			Yeso		
Castile			Delaware (Lamar)	2445'	Oil/Natural Gas
Salt Top	345'	None	Bell Canyon		
Salt Base	550'	None	Cherry Canyon		
Yates	645'	Oil/Natural Gas	Manzanita Marker		
Seven Rivers			Basal Brushy Canyon		
Queen			Bone Spring	4707'	Oil/Natural Gas
Capitan	1017'	Usable Water	1st Bone Spring	6220'	Oil/Natural Gas
Grayburg			2nd Bone Spring	6972'	Oil/Natural Gas
San Andres			3rd Bone Spring	8340'	Oil/Natural Gas
Glorieta			Wolfcamp	8697'	Oil/Natural Gas

All casing strings will be tested in accordance with 43 CFR Part 3170 Subpart 3172. Must have table for contingency casing.

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Is casing API approved? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	Y
If yes, does production casing cement tie back a minimum of 50' above the Reef?	Y
Is well within the designated 4 string boundary.	Y
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3 <sup>rd</sup> string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2 <sup>nd</sup> string set 100' to 600' below the base of salt?	
Is an open annulus used to satisfy R-111-Q? If yes, see cement design.	
Is an engineered weak point used to satisfy R-111-Q?	
If yes, at what depth is the weak point planned?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
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If yes, are there three strings cemented to surface?	

Mewbourne Oil Company, Tough Ombres 6/5 Fed Com #716H

Sec 7, T21S, R27E

SHL: 330' FNL 1220' FWL (Sec 7)

BHL: 660' FSL 2548' FWL (Sec 5)

Casing Program Design B						BLM Minimum Safety Factors	1.125	1.0	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet
String	Hole Size	Top MD	Top TVD	Bot MD	Bot TVD	Csg. Size	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
Surface	26'	0'	0'	275'	275'	18 5/8" 87.5# J55 BTC	5.12	18.30	55.23	56.81
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Production	8.75'	0'	0'	9340'	8756'	7" 26# P110 LTC	1.44	2.30	2.85	3.42

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1st Stg 7 in	LEAD	60	12.5	2.12	6200' - 6878'	130	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
	TAIL	400	15.6	1.18	6878' - 9339.9'	472		Class H: Retarder, Fluid Loss, Defoamer
7" DV Tool @ 6200'								
2nd Stg 7 in	LEAD	390	12.5	2.12	960' - 5472'	830	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
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Design B - Mud Program

Depth	Mud Wt	Mud Type
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9339.9' - 16983'	10.0 - 12.	OBM

Geology

Formation	Est. Top (TVD)	Mineral Resources	Formation	Est. Top (TVD)	Mineral Resources
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Castile			Delaware (Lamar)	2445'	Oil/Natural Gas
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San Andres			3rd Bone Spring	8340'	Oil/Natural Gas
Glorieta			Wolfcamp	8697'	Oil/Natural Gas

All casing strings will be tested in accordance with 43 CFR Part 3170 Subpart 3172. Must have table for contingency casing.

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Is casing API approved? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	Y
If yes, does production casing cement tie back a minimum of 50' above the Reef?	Y
Is well within the designated 4 string boundary.	Y
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3 <sup>rd</sup> string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2 <sup>nd</sup> string set 100' to 600' below the base of salt?	
Is an open annulus used to satisfy R-111-Q? If yes, see cement design.	
Is an engineered weak point used to satisfy R-111-Q?	
If yes, at what depth is the weak point planned?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

# **Mewbourne Oil Company**

Eddy County, New Mexico NAD 83

Tough Ombres 6/5 Fed Com #716H

Sec 07, T21S, R27E

SHL: 330' FNL & 1220' FWL (Sec 7)

BHL: 660' FSL & 2548' FWL (Sec 5)

Plan: Design #1

## **Standard Planning Report**

26 March, 2024

Planning Report

Database:	Hobbs	Local Co-ordinate Reference:	Site Tough Ombres 6/5 Fed Com #716H
Company:	Mewbourne Oil Company	TVD Reference:	Well @ 3259.0usft (Original Well)
Project:	Eddy County, New Mexico NAD 83	MD Reference:	Well @ 3259.0usft (Original Well)
Site:	Tough Ombres 6/5 Fed Com #716H	North Reference:	Grid
Well:	Sec 07, T21S, R27E	Survey Calculation Method:	Minimum Curvature
Wellbore:	BHL: 660' FSL & 2548' FWL (Sec 5)		
Design:	Design #1		

Project	Eddy County, New Mexico NAD 83		
Map System:	US State Plane 1983	System Datum:	Ground Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Tough Ombres 6/5 Fed Com #716H		
Site Position:		Northing:	545,930.30 usft
From:	Map	Easting:	572,132.70 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32.5007837
		Longitude:	-104.2334434

Well	Sec 07, T21S, R27E		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	3,259.0 usft
Grid Convergence:	0.05 °	Ground Level:	3,231.0 usft
		Latitude:	32.5007837
		Longitude:	-104.2334434

Wellbore	BHL: 660' FSL & 2548' FWL (Sec 5)				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/31/2014	7.47	60.24	48,332.66060414

Design	Design #1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	80.50

Plan Survey Tool Program	Date	3/26/2024		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	16,982.9	Design #1 (BHL: 660' FSL & 2548	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
550.0	0.00	0.00	550.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,362.5	16.25	301.07	1,351.6	59.1	-98.0	2.00	2.00	0.00	301.07	
7,606.7	16.25	301.07	7,346.4	960.7	-1,594.7	0.00	0.00	0.00	0.00	
8,419.1	0.00	0.01	8,148.0	1,019.8	-1,692.7	2.00	-2.00	0.00	180.00	KOP: 733' FSL & 473'
9,364.6	88.93	89.50	8,757.0	1,025.0	-1,095.0	9.41	9.41	0.00	89.50	
16,982.9	88.93	89.50	8,899.0	1,091.8	6,521.7	0.00	0.00	0.00	0.00	BHL: 660' FSL & 2548'



## Planning Report

<b>Database:</b>	Hobbs	<b>Local Co-ordinate Reference:</b>	Site Tough Ombres 6/5 Fed Com #716H
<b>Company:</b>	Mewbourne Oil Company	<b>TVD Reference:</b>	Well @ 3259.0usft (Original Well)
<b>Project:</b>	Eddy County, New Mexico NAD 83	<b>MD Reference:</b>	Well @ 3259.0usft (Original Well)
<b>Site:</b>	Tough Ombres 6/5 Fed Com #716H	<b>North Reference:</b>	Grid
<b>Well:</b>	Sec 07, T21S, R27E	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BHL: 660' FSL & 2548' FWL (Sec 5)		
<b>Design:</b>	Design #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
SHL: 330' FNL & 1220' FWL (Sec 7)									
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
550.0	0.00	0.00	550.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	1.00	301.07	600.0	0.2	-0.4	-0.3	2.00	2.00	0.00
700.0	3.00	301.07	699.9	2.0	-3.4	-3.0	2.00	2.00	0.00
800.0	5.00	301.07	799.7	5.6	-9.3	-8.3	2.00	2.00	0.00
900.0	7.00	301.07	899.1	11.0	-18.3	-16.2	2.00	2.00	0.00
1,000.0	9.00	301.07	998.2	18.2	-30.2	-26.8	2.00	2.00	0.00
1,100.0	11.00	301.07	1,096.6	27.2	-45.1	-40.0	2.00	2.00	0.00
1,200.0	13.00	301.07	1,194.4	37.9	-62.9	-55.8	2.00	2.00	0.00
1,300.0	15.00	301.07	1,291.5	50.4	-83.6	-74.1	2.00	2.00	0.00
1,362.5	16.25	301.07	1,351.6	59.1	-98.0	-86.9	2.00	2.00	0.00
1,400.0	16.25	301.07	1,387.7	64.5	-107.0	-94.9	0.00	0.00	0.00
1,500.0	16.25	301.07	1,483.7	78.9	-131.0	-116.2	0.00	0.00	0.00
1,600.0	16.25	301.07	1,579.7	93.4	-155.0	-137.4	0.00	0.00	0.00
1,700.0	16.25	301.07	1,675.7	107.8	-178.9	-158.7	0.00	0.00	0.00
1,800.0	16.25	301.07	1,771.7	122.2	-202.9	-179.9	0.00	0.00	0.00
1,900.0	16.25	301.07	1,867.7	136.7	-226.9	-201.2	0.00	0.00	0.00
2,000.0	16.25	301.07	1,963.7	151.1	-250.8	-222.4	0.00	0.00	0.00
2,100.0	16.25	301.07	2,059.7	165.6	-274.8	-243.7	0.00	0.00	0.00
2,200.0	16.25	301.07	2,155.7	180.0	-298.8	-264.9	0.00	0.00	0.00
2,300.0	16.25	301.07	2,251.7	194.4	-322.7	-286.2	0.00	0.00	0.00
2,400.0	16.25	301.07	2,347.7	208.9	-346.7	-307.5	0.00	0.00	0.00
2,500.0	16.25	301.07	2,443.7	223.3	-370.7	-328.7	0.00	0.00	0.00
2,600.0	16.25	301.07	2,539.7	237.8	-394.6	-350.0	0.00	0.00	0.00
2,700.0	16.25	301.07	2,635.7	252.2	-418.6	-371.2	0.00	0.00	0.00
2,800.0	16.25	301.07	2,731.7	266.6	-442.6	-392.5	0.00	0.00	0.00
2,900.0	16.25	301.07	2,827.7	281.1	-466.5	-413.7	0.00	0.00	0.00
3,000.0	16.25	301.07	2,923.7	295.5	-490.5	-435.0	0.00	0.00	0.00
3,100.0	16.25	301.07	3,019.7	310.0	-514.5	-456.2	0.00	0.00	0.00
3,200.0	16.25	301.07	3,115.7	324.4	-538.5	-477.5	0.00	0.00	0.00
3,300.0	16.25	301.07	3,211.7	338.8	-562.4	-498.8	0.00	0.00	0.00
3,400.0	16.25	301.07	3,307.8	353.3	-586.4	-520.0	0.00	0.00	0.00
3,500.0	16.25	301.07	3,403.8	367.7	-610.4	-541.3	0.00	0.00	0.00
3,600.0	16.25	301.07	3,499.8	382.2	-634.3	-562.5	0.00	0.00	0.00
3,700.0	16.25	301.07	3,595.8	396.6	-658.3	-583.8	0.00	0.00	0.00
3,800.0	16.25	301.07	3,691.8	411.0	-682.3	-605.0	0.00	0.00	0.00
3,900.0	16.25	301.07	3,787.8	425.5	-706.2	-626.3	0.00	0.00	0.00
4,000.0	16.25	301.07	3,883.8	439.9	-730.2	-647.5	0.00	0.00	0.00
4,100.0	16.25	301.07	3,979.8	454.4	-754.2	-668.8	0.00	0.00	0.00
4,200.0	16.25	301.07	4,075.8	468.8	-778.1	-690.1	0.00	0.00	0.00
4,300.0	16.25	301.07	4,171.8	483.2	-802.1	-711.3	0.00	0.00	0.00
4,400.0	16.25	301.07	4,267.8	497.7	-826.1	-732.6	0.00	0.00	0.00
4,500.0	16.25	301.07	4,363.8	512.1	-850.0	-753.8	0.00	0.00	0.00
4,600.0	16.25	301.07	4,459.8	526.6	-874.0	-775.1	0.00	0.00	0.00
4,700.0	16.25	301.07	4,555.8	541.0	-898.0	-796.3	0.00	0.00	0.00
4,800.0	16.25	301.07	4,651.8	555.4	-922.0	-817.6	0.00	0.00	0.00
4,900.0	16.25	301.07	4,747.8	569.9	-945.9	-838.8	0.00	0.00	0.00
5,000.0	16.25	301.07	4,843.8	584.3	-969.9	-860.1	0.00	0.00	0.00

## Planning Report

<b>Database:</b>	Hobbs	<b>Local Co-ordinate Reference:</b>	Site Tough Ombres 6/5 Fed Com #716H
<b>Company:</b>	Mewbourne Oil Company	<b>TVD Reference:</b>	Well @ 3259.0usft (Original Well)
<b>Project:</b>	Eddy County, New Mexico NAD 83	<b>MD Reference:</b>	Well @ 3259.0usft (Original Well)
<b>Site:</b>	Tough Ombres 6/5 Fed Com #716H	<b>North Reference:</b>	Grid
<b>Well:</b>	Sec 07, T21S, R27E	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BHL: 660' FSL & 2548' FWL (Sec 5)		
<b>Design:</b>	Design #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
5,100.0	16.25	301.07	4,939.8	598.8	-993.9	-881.4	0.00	0.00	0.00	
5,200.0	16.25	301.07	5,035.8	613.2	-1,017.8	-902.6	0.00	0.00	0.00	
5,300.0	16.25	301.07	5,131.9	627.7	-1,041.8	-923.9	0.00	0.00	0.00	
5,400.0	16.25	301.07	5,227.9	642.1	-1,065.8	-945.1	0.00	0.00	0.00	
5,500.0	16.25	301.07	5,323.9	656.5	-1,089.7	-966.4	0.00	0.00	0.00	
5,600.0	16.25	301.07	5,419.9	671.0	-1,113.7	-987.6	0.00	0.00	0.00	
5,700.0	16.25	301.07	5,515.9	685.4	-1,137.7	-1,008.9	0.00	0.00	0.00	
5,800.0	16.25	301.07	5,611.9	699.9	-1,161.6	-1,030.1	0.00	0.00	0.00	
5,900.0	16.25	301.07	5,707.9	714.3	-1,185.6	-1,051.4	0.00	0.00	0.00	
6,000.0	16.25	301.07	5,803.9	728.7	-1,209.6	-1,072.7	0.00	0.00	0.00	
6,100.0	16.25	301.07	5,899.9	743.2	-1,233.5	-1,093.9	0.00	0.00	0.00	
6,200.0	16.25	301.07	5,995.9	757.6	-1,257.5	-1,115.2	0.00	0.00	0.00	
6,300.0	16.25	301.07	6,091.9	772.1	-1,281.5	-1,136.4	0.00	0.00	0.00	
6,400.0	16.25	301.07	6,187.9	786.5	-1,305.5	-1,157.7	0.00	0.00	0.00	
6,500.0	16.25	301.07	6,283.9	800.9	-1,329.4	-1,178.9	0.00	0.00	0.00	
6,600.0	16.25	301.07	6,379.9	815.4	-1,353.4	-1,200.2	0.00	0.00	0.00	
6,700.0	16.25	301.07	6,475.9	829.8	-1,377.4	-1,221.4	0.00	0.00	0.00	
6,800.0	16.25	301.07	6,571.9	844.3	-1,401.3	-1,242.7	0.00	0.00	0.00	
6,900.0	16.25	301.07	6,667.9	858.7	-1,425.3	-1,264.0	0.00	0.00	0.00	
7,000.0	16.25	301.07	6,763.9	873.1	-1,449.3	-1,285.2	0.00	0.00	0.00	
7,100.0	16.25	301.07	6,859.9	887.6	-1,473.2	-1,306.5	0.00	0.00	0.00	
7,200.0	16.25	301.07	6,955.9	902.0	-1,497.2	-1,327.7	0.00	0.00	0.00	
7,300.0	16.25	301.07	7,052.0	916.5	-1,521.2	-1,349.0	0.00	0.00	0.00	
7,400.0	16.25	301.07	7,148.0	930.9	-1,545.1	-1,370.2	0.00	0.00	0.00	
7,500.0	16.25	301.07	7,244.0	945.3	-1,569.1	-1,391.5	0.00	0.00	0.00	
7,606.7	16.25	301.07	7,346.4	960.7	-1,594.7	-1,414.2	0.00	0.00	0.00	
7,700.0	14.38	301.07	7,436.4	973.5	-1,615.8	-1,432.9	2.00	-2.00	0.00	
7,800.0	12.38	301.07	7,533.7	985.4	-1,635.6	-1,450.5	2.00	-2.00	0.00	
7,900.0	10.38	301.07	7,631.7	995.6	-1,652.5	-1,465.5	2.00	-2.00	0.00	
8,000.0	8.38	301.07	7,730.3	1,004.0	-1,666.5	-1,477.8	2.00	-2.00	0.00	
8,100.0	6.38	301.07	7,829.5	1,010.6	-1,677.5	-1,487.6	2.00	-2.00	0.00	
8,200.0	4.38	301.07	7,929.1	1,015.5	-1,685.5	-1,494.7	2.00	-2.00	0.00	
8,300.0	2.38	301.07	8,028.9	1,018.5	-1,690.6	-1,499.2	2.00	-2.00	0.00	
8,400.0	0.38	301.07	8,128.9	1,019.8	-1,692.6	-1,501.0	2.00	-2.00	0.00	
8,419.1	0.00	0.01	8,148.0	1,019.8	-1,692.7	-1,501.1	2.00	-2.00	0.00	
KOP: 733' FSL & 473' FEL (Sec 1)										
8,450.0	2.90	89.50	8,178.8	1,019.8	-1,691.9	-1,500.3	9.41	9.41	0.00	
8,500.0	7.61	89.50	8,228.6	1,019.8	-1,687.3	-1,495.8	9.41	9.41	0.00	
8,550.0	12.31	89.50	8,277.9	1,019.9	-1,678.7	-1,487.3	9.41	9.41	0.00	
8,600.0	17.01	89.50	8,326.2	1,020.0	-1,666.0	-1,474.8	9.41	9.41	0.00	
8,650.0	21.72	89.50	8,373.4	1,020.2	-1,649.5	-1,458.4	9.41	9.41	0.00	
8,700.0	26.42	89.50	8,419.0	1,020.4	-1,629.1	-1,438.3	9.41	9.41	0.00	
8,750.0	31.12	89.50	8,462.8	1,020.6	-1,605.0	-1,414.5	9.41	9.41	0.00	
8,800.0	35.83	89.50	8,504.5	1,020.8	-1,577.5	-1,387.3	9.41	9.41	0.00	
8,850.0	40.53	89.50	8,543.8	1,021.1	-1,546.6	-1,356.7	9.41	9.41	0.00	
8,900.0	45.23	89.50	8,580.4	1,021.4	-1,512.6	-1,323.2	9.41	9.41	0.00	
8,950.0	49.94	89.50	8,614.2	1,021.7	-1,475.7	-1,286.7	9.41	9.41	0.00	
9,000.0	54.64	89.50	8,644.7	1,022.0	-1,436.1	-1,247.7	9.41	9.41	0.00	
9,050.0	59.34	89.50	8,672.0	1,022.4	-1,394.2	-1,206.2	9.41	9.41	0.00	
9,100.0	64.04	89.50	8,695.7	1,022.8	-1,350.2	-1,162.8	9.41	9.41	0.00	
9,150.0	68.75	89.50	8,715.7	1,023.2	-1,304.4	-1,117.5	9.41	9.41	0.00	
9,200.0	73.45	89.50	8,731.9	1,023.6	-1,257.1	-1,070.8	9.41	9.41	0.00	
9,250.0	78.15	89.50	8,744.1	1,024.0	-1,208.6	-1,023.0	9.41	9.41	0.00	

## Planning Report

<b>Database:</b>	Hobbs	<b>Local Co-ordinate Reference:</b>	Site Tough Ombres 6/5 Fed Com #716H
<b>Company:</b>	Mewbourne Oil Company	<b>TVD Reference:</b>	Well @ 3259.0usft (Original Well)
<b>Project:</b>	Eddy County, New Mexico NAD 83	<b>MD Reference:</b>	Well @ 3259.0usft (Original Well)
<b>Site:</b>	Tough Ombres 6/5 Fed Com #716H	<b>North Reference:</b>	Grid
<b>Well:</b>	Sec 07, T21S, R27E	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BHL: 660' FSL & 2548' FWL (Sec 5)		
<b>Design:</b>	Design #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
9,300.0	82.86	89.50	8,752.4	1,024.5	-1,159.3	-974.3	9.41	9.41	0.00	
9,339.9	86.61	89.50	8,756.0	1,024.8	-1,119.7	-935.1	9.41	9.41	0.00	
FTP/LP: 758' FSL & 100' FWL (Sec 6)										
9,350.0	87.56	89.50	8,756.6	1,024.9	-1,109.5	-925.1	9.41	9.41	0.00	
9,364.6	88.93	89.50	8,757.0	1,025.0	-1,095.0	-910.7	9.41	9.41	0.00	
9,400.0	88.93	89.50	8,757.7	1,025.3	-1,059.5	-875.7	0.00	0.00	0.00	
9,500.0	88.93	89.50	8,759.5	1,026.2	-959.6	-777.0	0.00	0.00	0.00	
9,600.0	88.93	89.50	8,761.4	1,027.1	-859.6	-678.2	0.00	0.00	0.00	
9,700.0	88.93	89.50	8,763.3	1,028.0	-759.6	-579.5	0.00	0.00	0.00	
9,800.0	88.93	89.50	8,765.1	1,028.9	-659.6	-480.7	0.00	0.00	0.00	
9,900.0	88.93	89.50	8,767.0	1,029.7	-559.7	-382.0	0.00	0.00	0.00	
10,000.0	88.93	89.50	8,768.8	1,030.6	-459.7	-283.2	0.00	0.00	0.00	
10,100.0	88.93	89.50	8,770.7	1,031.5	-359.7	-184.5	0.00	0.00	0.00	
10,200.0	88.93	89.50	8,772.6	1,032.4	-259.7	-85.7	0.00	0.00	0.00	
10,300.0	88.93	89.50	8,774.4	1,033.2	-159.7	13.1	0.00	0.00	0.00	
10,400.0	88.93	89.50	8,776.3	1,034.1	-59.8	111.8	0.00	0.00	0.00	
10,500.0	88.93	89.50	8,778.2	1,035.0	40.2	210.6	0.00	0.00	0.00	
10,600.0	88.93	89.50	8,780.0	1,035.9	140.2	309.3	0.00	0.00	0.00	
10,700.0	88.93	89.50	8,781.9	1,036.7	240.2	408.1	0.00	0.00	0.00	
10,800.0	88.93	89.50	8,783.8	1,037.6	340.2	506.8	0.00	0.00	0.00	
10,900.0	88.93	89.50	8,785.6	1,038.5	440.1	605.6	0.00	0.00	0.00	
11,000.0	88.93	89.50	8,787.5	1,039.4	540.1	704.3	0.00	0.00	0.00	
11,100.0	88.93	89.50	8,789.3	1,040.2	640.1	803.1	0.00	0.00	0.00	
11,200.0	88.93	89.50	8,791.2	1,041.1	740.1	901.8	0.00	0.00	0.00	
11,300.0	88.93	89.50	8,793.1	1,042.0	840.0	1,000.6	0.00	0.00	0.00	
11,400.0	88.93	89.50	8,794.9	1,042.9	940.0	1,099.3	0.00	0.00	0.00	
11,500.0	88.93	89.50	8,796.8	1,043.8	1,040.0	1,198.1	0.00	0.00	0.00	
11,600.0	88.93	89.50	8,798.7	1,044.6	1,140.0	1,296.8	0.00	0.00	0.00	
11,700.0	88.93	89.50	8,800.5	1,045.5	1,240.0	1,395.6	0.00	0.00	0.00	
11,800.0	88.93	89.50	8,802.4	1,046.4	1,339.9	1,494.3	0.00	0.00	0.00	
11,900.0	88.93	89.50	8,804.3	1,047.3	1,439.9	1,593.1	0.00	0.00	0.00	
12,000.0	88.93	89.50	8,806.1	1,048.1	1,539.9	1,691.8	0.00	0.00	0.00	
12,100.0	88.93	89.50	8,808.0	1,049.0	1,639.9	1,790.6	0.00	0.00	0.00	
12,200.0	88.93	89.50	8,809.9	1,049.9	1,739.9	1,889.3	0.00	0.00	0.00	
12,300.0	88.93	89.50	8,811.7	1,050.8	1,839.8	1,988.1	0.00	0.00	0.00	
12,400.0	88.93	89.50	8,813.6	1,051.6	1,939.8	2,086.8	0.00	0.00	0.00	
12,500.0	88.93	89.50	8,815.4	1,052.5	2,039.8	2,185.6	0.00	0.00	0.00	
12,600.0	88.93	89.50	8,817.3	1,053.4	2,139.8	2,284.3	0.00	0.00	0.00	
12,700.0	88.93	89.50	8,819.2	1,054.3	2,239.7	2,383.1	0.00	0.00	0.00	
12,800.0	88.93	89.50	8,821.0	1,055.1	2,339.7	2,481.8	0.00	0.00	0.00	
12,900.0	88.93	89.50	8,822.9	1,056.0	2,439.7	2,580.6	0.00	0.00	0.00	
13,000.0	88.93	89.50	8,824.8	1,056.9	2,539.7	2,679.3	0.00	0.00	0.00	
13,100.0	88.93	89.50	8,826.6	1,057.8	2,639.7	2,778.1	0.00	0.00	0.00	
13,200.0	88.93	89.50	8,828.5	1,058.6	2,739.6	2,876.8	0.00	0.00	0.00	
13,300.0	88.93	89.50	8,830.4	1,059.5	2,839.6	2,975.6	0.00	0.00	0.00	
13,400.0	88.93	89.50	8,832.2	1,060.4	2,939.6	3,074.3	0.00	0.00	0.00	
13,500.0	88.93	89.50	8,834.1	1,061.3	3,039.6	3,173.1	0.00	0.00	0.00	
13,600.0	88.93	89.50	8,835.9	1,062.2	3,139.6	3,271.8	0.00	0.00	0.00	
13,700.0	88.93	89.50	8,837.8	1,063.0	3,239.5	3,370.6	0.00	0.00	0.00	
13,800.0	88.93	89.50	8,839.7	1,063.9	3,339.5	3,469.3	0.00	0.00	0.00	
13,900.0	88.93	89.50	8,841.5	1,064.8	3,439.5	3,568.1	0.00	0.00	0.00	
14,000.0	88.93	89.50	8,843.4	1,065.7	3,539.5	3,666.8	0.00	0.00	0.00	
14,100.0	88.93	89.50	8,845.3	1,066.5	3,639.5	3,765.6	0.00	0.00	0.00	
14,200.0	88.93	89.50	8,847.1	1,067.4	3,739.4	3,864.4	0.00	0.00	0.00	

Planning Report

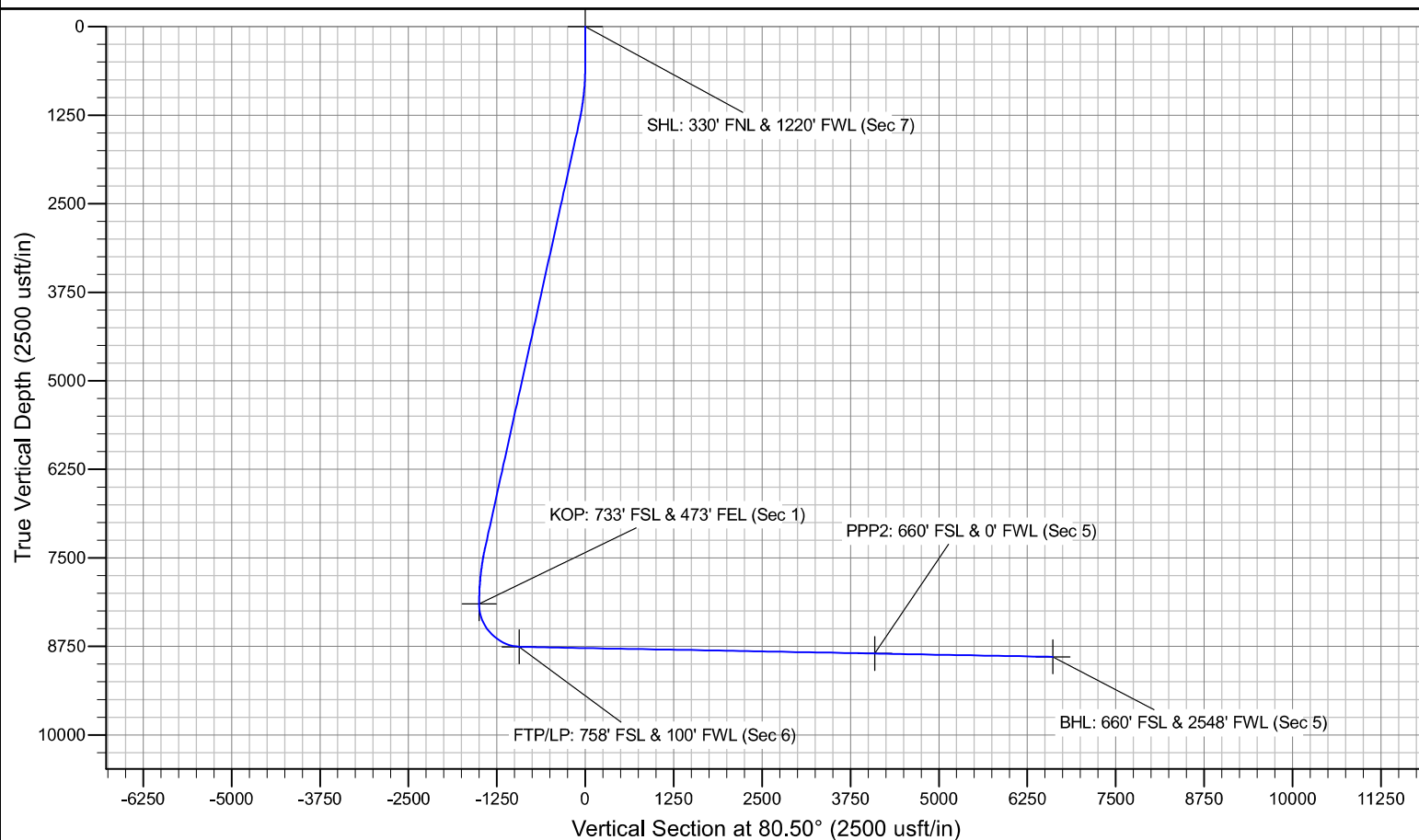
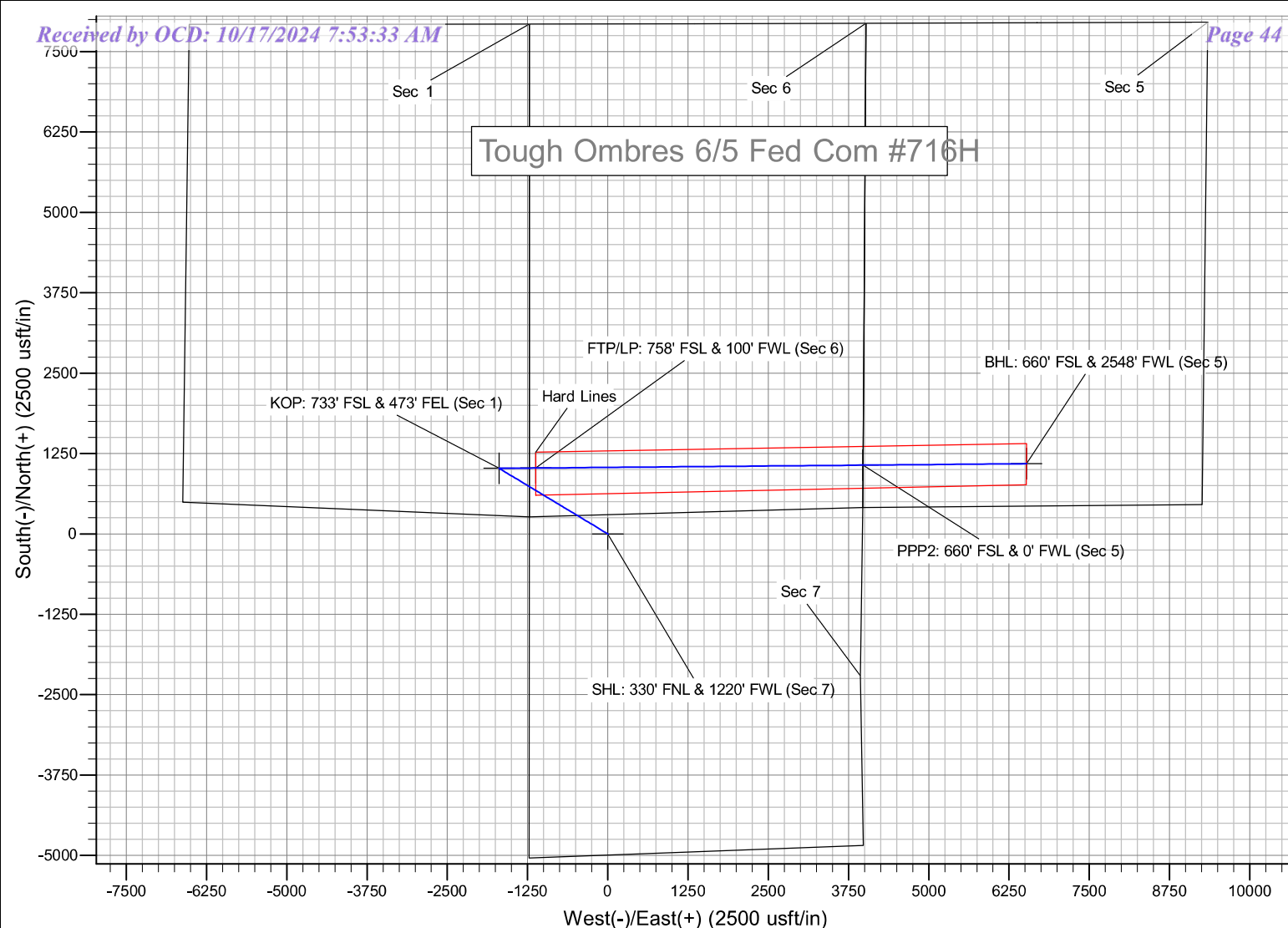
Database:	Hobbs	Local Co-ordinate Reference:	Site Tough Ombres 6/5 Fed Com #716H
Company:	Mewbourne Oil Company	TVD Reference:	Well @ 3259.0usft (Original Well)
Project:	Eddy County, New Mexico NAD 83	MD Reference:	Well @ 3259.0usft (Original Well)
Site:	Tough Ombres 6/5 Fed Com #716H	North Reference:	Grid
Well:	Sec 07, T21S, R27E	Survey Calculation Method:	Minimum Curvature
Wellbore:	BHL: 660' FSL & 2548' FWL (Sec 5)		
Design:	Design #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
14,300.0	88.93	89.50	8,849.0	1,068.3	3,839.4	3,963.1	0.00	0.00	0.00	
14,400.0	88.93	89.50	8,850.9	1,069.2	3,939.4	4,061.9	0.00	0.00	0.00	
14,434.0	88.93	89.50	8,851.5	1,069.5	3,973.4	4,095.4	0.00	0.00	0.00	
PPP2: 660' FSL & 0' FWL (Sec 5)										
14,500.0	88.93	89.50	8,852.7	1,070.0	4,039.4	4,160.6	0.00	0.00	0.00	
14,600.0	88.93	89.50	8,854.6	1,070.9	4,139.3	4,259.4	0.00	0.00	0.00	
14,700.0	88.93	89.50	8,856.4	1,071.8	4,239.3	4,358.1	0.00	0.00	0.00	
14,800.0	88.93	89.50	8,858.3	1,072.7	4,339.3	4,456.9	0.00	0.00	0.00	
14,900.0	88.93	89.50	8,860.2	1,073.5	4,439.3	4,555.6	0.00	0.00	0.00	
15,000.0	88.93	89.50	8,862.0	1,074.4	4,539.3	4,654.4	0.00	0.00	0.00	
15,100.0	88.93	89.50	8,863.9	1,075.3	4,639.2	4,753.1	0.00	0.00	0.00	
15,200.0	88.93	89.50	8,865.8	1,076.2	4,739.2	4,851.9	0.00	0.00	0.00	
15,300.0	88.93	89.50	8,867.6	1,077.1	4,839.2	4,950.6	0.00	0.00	0.00	
15,400.0	88.93	89.50	8,869.5	1,077.9	4,939.2	5,049.4	0.00	0.00	0.00	
15,500.0	88.93	89.50	8,871.4	1,078.8	5,039.2	5,148.1	0.00	0.00	0.00	
15,600.0	88.93	89.50	8,873.2	1,079.7	5,139.1	5,246.9	0.00	0.00	0.00	
15,700.0	88.93	89.50	8,875.1	1,080.6	5,239.1	5,345.6	0.00	0.00	0.00	
15,800.0	88.93	89.50	8,877.0	1,081.4	5,339.1	5,444.4	0.00	0.00	0.00	
15,900.0	88.93	89.50	8,878.8	1,082.3	5,439.1	5,543.1	0.00	0.00	0.00	
16,000.0	88.93	89.50	8,880.7	1,083.2	5,539.0	5,641.9	0.00	0.00	0.00	
16,100.0	88.93	89.50	8,882.5	1,084.1	5,639.0	5,740.6	0.00	0.00	0.00	
16,200.0	88.93	89.50	8,884.4	1,084.9	5,739.0	5,839.4	0.00	0.00	0.00	
16,300.0	88.93	89.50	8,886.3	1,085.8	5,839.0	5,938.1	0.00	0.00	0.00	
16,400.0	88.93	89.50	8,888.1	1,086.7	5,939.0	6,036.9	0.00	0.00	0.00	
16,500.0	88.93	89.50	8,890.0	1,087.6	6,038.9	6,135.6	0.00	0.00	0.00	
16,600.0	88.93	89.50	8,891.9	1,088.4	6,138.9	6,234.4	0.00	0.00	0.00	
16,700.0	88.93	89.50	8,893.7	1,089.3	6,238.9	6,333.1	0.00	0.00	0.00	
16,800.0	88.93	89.50	8,895.6	1,090.2	6,338.9	6,431.9	0.00	0.00	0.00	
16,900.0	88.93	89.50	8,897.5	1,091.1	6,438.9	6,530.6	0.00	0.00	0.00	
16,982.9	88.93	89.50	8,899.0	1,091.8	6,521.7	6,612.5	0.00	0.00	0.00	
BHL: 660' FSL & 2548' FWL (Sec 5)										

Planning Report

Database:	Hobbs	Local Co-ordinate Reference:	Site Tough Ombres 6/5 Fed Com #716H
Company:	Mewbourne Oil Company	TVD Reference:	Well @ 3259.0usft (Original Well)
Project:	Eddy County, New Mexico NAD 83	MD Reference:	Well @ 3259.0usft (Original Well)
Site:	Tough Ombres 6/5 Fed Com #716H	North Reference:	Grid
Well:	Sec 07, T21S, R27E	Survey Calculation Method:	Minimum Curvature
Wellbore:	BHL: 660' FSL & 2548' FWL (Sec 5)		
Design:	Design #1		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
SHL: 330' FNL & 1220' F	0.00	0.00	0.0	0.0	0.0	545,930.30	572,132.70	32.5007837	-104.2334434
- plan hits target center									
- Point									
KOP: 733' FSL & 473' FI	0.00	0.01	8,148.0	1,019.8	-1,692.7	546,950.10	570,440.00	32.5035912	-104.2389311
- plan hits target center									
- Point									
FTP/LP: 758' FSL & 100	0.00	0.00	8,756.0	1,024.8	-1,119.7	546,955.10	571,013.04	32.5036035	-104.2370722
- plan hits target center									
- Point									
PPP2: 660' FSL & 0' FW	0.00	0.00	8,851.5	1,069.5	3,973.4	546,999.77	576,106.07	32.5037126	-104.2205514
- plan hits target center									
- Point									
BHL: 660' FSL & 2548' F	0.00	0.00	8,899.0	1,091.8	6,521.7	547,022.10	578,654.40	32.5037663	-104.2122851
- plan hits target center									
- Point									





## Mewbourne Oil Company, Tough Ombres 6/5 Fed Com #716H

Sec 7, T21S, R27E

SHL: 330' FNL 1220' FWL (Sec 7)

BHL: 660' FSL 2548' FWL (Sec 5)

Operator Name:	Property Name:	Well Number
Mewbourne Oil Company	Tough Ombres 6/5 Fed Com	#716H

## Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Lot 40	1	21	26	40	733'	FSL	473'	FEL	Eddy
\					Longitude			NAD	
32.5035912					-104.2389311			83	

## First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Lot 18	6	21	27	18	758'	FSL	100'	FWL	Eddy
Latitude					Longitude			NAD	
32.5036035					-104.2370722			83	

## Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
K	5	21	27	22	660'	FSL	2548'	FWL	Eddy
Latitude					Longitude			NAD	
32.5037663					-104.2122851			83	

Is this well the defining well for the Horizontal Spacing Unit?

Y

Is this well an infill well?

N

If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

API #

Operator Name:	Property Name:	Well Number

PECOS DISTRICT  
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:

MEWBOURNE OIL COMPANY

WELL NAME & NO.:

TOUGH OMBRES 6/5 FED COM 716H

APD ID:

10400097991

LOCATION:

Section 7, T21S, R27E. NMP.

COUNTY:

Eddy County, New Mexico

COA

H <sub>2</sub> S	<input type="radio"/> No <input checked="" type="radio"/> Yes			
Potash / WIPP	<input checked="" type="radio"/> None	<input type="radio"/> Secretary	<input type="radio"/> R-111-Q	<input type="checkbox"/> Open Annulus <input type="checkbox"/> WIPP
Cave / Karst	<input type="radio"/> Low	<input type="radio"/> Medium	<input checked="" type="radio"/> High	<input type="radio"/> Critical
Wellhead	<input type="radio"/> Conventional	<input checked="" type="radio"/> Multibowl	<input type="radio"/> Both	<input type="radio"/> Diverter
Cementing	<input type="checkbox"/> Primary Squeeze	<input type="checkbox"/> Cont. Squeeze	<input type="checkbox"/> EchoMeter	<input checked="" type="checkbox"/> DV Tool
Special Req	<input checked="" type="checkbox"/> Capitan Reef	<input type="checkbox"/> Water Disposal	<input checked="" type="checkbox"/> COM	<input type="checkbox"/> Unit
Waste Prev.	<input type="radio"/> Self-Certification	<input type="radio"/> Waste Min. Plan	<input checked="" type="radio"/> APD Submitted prior to 06/10/2024	
Additional Language	<input checked="" type="checkbox"/> Flex Hose	<input type="checkbox"/> Casing Clearance	<input type="checkbox"/> Pilot Hole	<input checked="" type="checkbox"/> Break Testing
	<input checked="" type="checkbox"/> Four-String	<input checked="" type="checkbox"/> Offline Cementing	<input type="checkbox"/> Fluid-Filled	

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H<sub>2</sub>S) Drilling Plan shall be activated **AT SPUD**. As a result, the Hydrogen Sulfide area must meet **43 CFR 3176** requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

B. CASING DESIGN

*Only the primary casing program was approved at this time.*

1. The **18-5/8-inch** surface casing shall be set at approximately **275 ft.** (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite and above the salt) and cemented to the surface. **If salt is encountered set casing at least 25 ft. above the salt.**

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

- completing the cement job.
  - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or **500 psi compressive strength**, whichever is greater. (This is to include the lead cement)
  - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 psi compressive strength, whichever is greater.
  - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The **13-3/8** inch 1<sup>st</sup> intermediate casing shall be set in a competent bed at approximately **950 ft**. The minimum required fill of cement behind the **13-3/8** inch intermediate casing is:

**Option 1 (Single Stage): Cement to surface.** If cement does not circulate, see B.1.a, c-d above. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to **Cave/Karst and Capitan reef**.

**Option 2 (Two-stage):** Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

- a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.
  - b. Second stage above DV tool: **Cement to surface**. If cement does not circulate, contact the appropriate BLM office. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to **Cave/Karst and Capitan reef**.
- ❖ In Capitan Reef Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3<sup>rd</sup> casing string must come to surface.
  - ❖ In High Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3<sup>rd</sup> casing string must come to surface.
  - ❖ **Special Capitan Reef requirements.** If lost circulation (50% or greater) occurs below the Base of the Salt, the operator shall do the following:  
**(Use this for 3 string wells in the Capitan Reef, if 4 string well ensure FW based mud used across the Capitan interval)**
    - Switch to freshwater mud to protect the Capitan Reef and use freshwater mud until setting the intermediate casing. The appropriate BLM office is to be notified for a PET to witness the switch to fresh water.
    - Daily drilling reports from the Base of the Salt to the setting of the intermediate casing are to be submitted to the BLM CFO engineering staff via e-mail by

0800 hours each morning. Any lost circulation encountered is to be recorded on these drilling reports. The daily drilling report should show mud volume per shift/tour. Failure to submit these reports will result in an Incidence of Non-Compliance being issued for failure to comply with the Conditions of Approval. If not already planned, the operator shall run a caliper survey for the intermediate well bore and submit to the appropriate BLM office.

**Note:** The 2<sup>nd</sup> intermediate casing set depth was adjusted per BLM geologist's recommendation.

3. The 9-5/8 inch 2<sup>nd</sup> intermediate casing shall be set at approximately **2,370 ft.** in the base of Capitan reef. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is:

**Option 1 (Single Stage):** Cement should tie-back **at least 200 feet** into previous casing string or **50 ft. above Capitan reef top**, whichever is greater. Operator shall provide method of verification. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to **Cave/Karst and Capitan reef**.

**Option 2 (Two-stage):** Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

- a. **First stage to DV tool:** Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.
  - b. **Second stage above DV tool:** Cement should tie-back **at least 200 feet** into previous casing string or **50 ft. above Capitan reef top**, whichever is greater. Operator shall provide method of verification. If cement does not circulate, contact the appropriate BLM office. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to **Cave/Karst and Capitan reef**.
4. Operator has proposed to set **7 in.** production casing at approximately **8,419 ft.** (8,148 ft. TVD). The minimum required fill of cement behind the **7 in.** production casing is:

**Option 1 (Single Stage):** Cement should tie-back **at least 200 feet** into previous casing string. Operator shall provide method of verification. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to **Cave/Karst and Capitan reef**.

**Option 2 (Two-stage):** Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

- a. **First stage to DV tool:** Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.

- b. **Second stage above DV tool:** Cement should tie-back **at least 200 feet** into previous casing string. Operator shall provide method of verification. If cement does not circulate, contact the appropriate BLM office. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to **Cave/Karst and Capitan reef**.
5. The minimum required fill of cement behind the **4-1/2 in.** production liner is:
  - Cement should tie-back **at least 100 feet** into previous casing string. Operator shall provide method of verification.

### **Offline Cementing**

Operator has been (**Approved**) to pump the proposed cement program offline in the **Surface and intermediate(s) intervals**. Offline cementing should commence within 24 hours of landing the casing for the interval. Notify the BLM 4hrs prior to cementing offline at **Eddy County: 575-361-2822**.

### **C. PRESSURE CONTROL**

1. Variance approved to use **flex line** from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).
2. Operator has proposed a **multi-bowl wellhead** assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M) psi**. The BOP/BOPE and annular preventer shall be pressure-tested in accordance with **title 43 CFR 3172 and API Standard 53**.
  - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
  - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
  - c. Manufacturer representative shall install the test plug for the initial BOP test.
  - d. If the cement does not circulate and one-inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
  - e. Whenever any seal subject to test pressure is broken, all the tests in the **title 43 CFR 3172.6(b)(9)** must be followed.

**BOPE Break Testing Variance (Approved)**

**(Note: For a minimum 5M BOPE or less (Utilizing a 10M BOPE system))**

- BOPE Break Testing is ONLY permitted for 5M BOPE or less. **(Annular preventer must be tested to a minimum of 70% of BOPE working pressure and shall be higher than the MASP)**
- BOPE Break Testing is NOT permitted to drilling the production hole section.
- Variance only pertains to the intermediate hole-sections and no deeper than the Bone Springs formation.
- While in transfer between wells, the BOPE shall be secured by the hydraulic carrier or cradle.
- Any well control event while drilling require notification to the BLM Petroleum Engineer **(575-706-2779)** prior to the commencement of any BOPE Break Testing operations.
- A full BOPE test is required prior to drilling the first deep intermediate hole section. If any subsequent hole interval is deeper than the first, a full BOPE test will be required. (200' TVD tolerance between intermediate shoes is allowable).
- The BLM is to be contacted **(575-361-2822 Eddy County)** 4 hours prior to BOPE tests.
- As a minimum, a full BOPE test shall be performed at **21-day** intervals.
- In the event any repairs or replacement of the BOPE is required, the BOPE shall test as per **43 CFR part 3170 Subpart 3172**.
- If in the event break testing is not utilized, then a full BOPE test would be conducted.

**D. SPECIAL REQUIREMENT (S)****Communitization Agreement**

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.



## GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

- a. Spudding well (minimum of 24 hours)
- b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
- c. BOPE tests (minimum of 4 hours)

**Contact Eddy County Petroleum Engineering Inspection Staff:**

Email or call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220; [BLM\\_NM\\_CFO\\_DrillingNotifications@BLM.GOV](mailto:BLM_NM_CFO_DrillingNotifications@BLM.GOV); (575) 361-2822.

1. 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.
  - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
  - b. When the operator proposes to set surface casing with Spudder Rig
    - i. Notify the BLM when moving in and removing the Spudder Rig.
    - ii. Notify the BLM when moving in the 2<sup>nd</sup> Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
    - iii. BOP/BOPE test to be conducted per **43 CFR 3172** as soon as 2<sup>nd</sup> Rig is rigged up on well.
2. 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 doghouse or stairway area.
3. For intervals in which cement to surface is required, cement to surface should be verified with a visual check and density or pH check to differentiate cement from spacer and drilling mud. The results should be documented in the driller's log and daily reports.

### A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the

- approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends of both lead and tail cement, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
  3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
  4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
  5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
  6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
  7. 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.
  8. Whenever a casing string is cemented in the R-111-Q potash area, the NMOC requirements shall be followed.

## **B. PRESSURE CONTROL**

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in **43 CFR 3172**.

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
  - i. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
  - ii. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
  - iii. Manufacturer representative shall install the test plug for the initial BOP test.
  - iv. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.
  - v. If the cement does not circulate and one-inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
  - i. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead cement), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

- ii. In potash areas, 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. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve open. (Only applies to single stage cement jobs, prior to the cement setting up.)
- iii. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to **43 CFR 3172** 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 8 hours or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
- iv. The test shall be run on a 5000-psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one-hour chart. A circular chart shall have a maximum 2-hour clock. If a twelve hour or twenty-four-hour chart is used, tester shall make a notation that it is run with a two hour clock.
- v. The results of the test shall be reported to the appropriate BLM office.
- vi. 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.
- vii. The BOP/BOPE test shall include a low-pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- viii. 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 **43 CFR 3172**.

### C. 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.

**D. WASTE MATERIAL AND FLUIDS**

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

**SA 10/10/2024**

Hydrogen Sulfide Drilling Operations Plan  
**Mewbourne Oil Company**

**1. General Requirements**

Rule 118 does not apply to this well because MOC has researched this area and no high concentrations of H<sub>2</sub>S were found. MOC will have on location and working all H<sub>2</sub>S safety equipment before the Delaware formation for purposes of safety and insurance requirements.

**2. Hydrogen Sulfide Training**

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will have received training from a qualified instructor in the following areas prior to entering the drilling pad area of the well:

1. The hazards and characteristics of hydrogen sulfide gas.
2. The proper use of personal protective equipment and life support systems.
3. The proper use of hydrogen sulfide detectors, alarms, warning systems, briefing areas, evacuation procedures.
4. The proper techniques for first aid and rescue operations.

Additionally, supervisory personnel will be trained in the following areas:

- 1 The effects of hydrogen sulfide on metal components. If high tensile tubular systems are utilized, supervisory personnel will be trained in their special maintenance requirements.
- 2 Corrective action and shut in procedures, blowout prevention, and well control procedures while drilling a well.
- 3 The contents of the Hydrogen Sulfide Drilling Operations Plan.

There will be an initial training session prior to encountering a known hydrogen sulfide source. The initial training session shall include a review of the site specific Hydrogen Sulfide Drilling Operations Plan.

**3. Hydrogen Sulfide Safety Equipment and Systems**

All hydrogen sulfide safety equipment and systems will be installed, tested, and operational prior to drilling below the 9 5/8" intermediate casing.

1. Well Control Equipment
  - A. Choke manifold with minimum of one adjustable choke/remote choke.
  - B. Blowout preventers equipped with blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit
  - C. Auxiliary equipment including annular type blowout preventer.
2. Protective Equipment for Essential Personnel

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

Additionally: If H<sub>2</sub>S is encountered in concentrations less than 10 ppm, fans will be placed in work areas to prevent the accumulation of hazardous amounts of poisonous gas. If higher concentrations of H<sub>2</sub>S are detected the well will be shut in and a rotating head, mud/gas separator, remote choke and flare line with igniter will be installed.

3. Hydrogen Sulfide Protection and Monitoring Equipment

Two portable hydrogen sulfide monitors positioned on location for optimum coverage and detection. The units shall have audible sirens to notify personnel when hydrogen sulfide levels exceed 20 PPM.

4. Visual Warning Systems

A. Wind direction indicators as indicated on the wellsite diagram.

B. Caution signs shall be posted on roads providing access to location. Signs shall be painted a high visibility color with lettering of sufficient size to be readable at reasonable distances from potentially contaminated areas.

4. **Mud Program**

The mud program has been designed to minimize the amount of hydrogen sulfide entrained in the mud system. Proper mud weight, safe drilling practices, and the use of hydrogen sulfide scavengers will minimize hazards while drilling the well.

5. **Metallurgy**

All tubular systems, wellheads, blowout preventers, drilling spools, kill lines, choke manifolds, and valves shall be suitable for service in a hydrogen sulfide environment when chemically treated.

6. **Communications**

State & County Officials phone numbers are posted on rig floor and supervisors trailer. Communications in company vehicles and toolpushers are either two way radios or cellular phones.

7. **Well Testing**

Drill stem testing is not an anticipated requirement for evaluation of this well. If 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**

<b>Eddy County Sheriff's Office</b>	<b>911 or 575-887-7551</b>
<b>Ambulance Service</b>	<b>911 or 575-885-2111</b>
<b>Carlsbad Fire Dept</b>	<b>911 or 575-885-2111</b>
<b>Loco Hills Volunteer Fire Dept.</b>	<b>911 or 575-677-3266</b>
<b>Closest Medical Facility - Columbia Medical Center of Carlsbad</b>	<b>575-492-5000</b>

<b>Mewbourne Oil Company</b>	<b>Hobbs District Office</b>	<b>575-393-5905</b>
	<b>Fax</b>	<b>575-397-6252</b>
	<b>2<sup>nd</sup> Fax</b>	<b>575-393-7259</b>

<b>District Manager</b>	<b>Robin Terrell</b>	<b>575-390-4816</b>
<b>Drilling Superintendent</b>	<b>Frosty Lathan</b>	<b>575-390-4103</b>
	<b>Bradley Bishop</b>	<b>575-390-6838</b>
<b>Drilling Foreman</b>	<b>Wesley Noseff</b>	<b>575-441-0729</b>



**Operator Name:** MEWBOURNE OIL COMPANY**Well Name:** TOUGH OMBRES 6/5 FED COM**Well Number:** 716H**Waste type:** GARBAGE**Waste content description:** Garbage & trash from all drilling & completion procedures**Amount of waste:** 1500 pounds**Waste disposal frequency :** One Time Only**Safe containment description:** Enclosed trash trailers**Safe containmant attachment:****Waste disposal type:** HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** PRIVATE**Disposal type description:****Disposal location description:** County of Eddy waste management

### Reserve Pit

**Reserve Pit being used?** NO**Temporary disposal of produced water into reserve pit?** NO**Reserve pit length (ft.)****Reserve pit width (ft.)****Reserve pit depth (ft.)****Reserve pit volume (cu. yd.)****Is at least 50% of the reserve pit in cut?****Reserve pit liner****Reserve pit liner specifications and installation description**

### Cuttings Area

**Cuttings Area being used?** NO**Are you storing cuttings on location?** Y

**Description of cuttings location** Drill cuttings will be properly contained in steel tanks (20 yard roll off bins.) and taken to an NMOCD approved disposal facility listed below. After drilling and completion operations, trash, chemicals, salts, frac sand and other waste material will be removed and disposed of properly at the said facilities. NMOCD approved waste disposal locations are CRI or Lea Land, both facilities are located on HWY 62/180, Sec. 27 T20S R32E.

**Cuttings area length (ft.)****Cuttings area width (ft.)****Cuttings area depth (ft.)****Cuttings area volume (cu. yd.)****Is at least 50% of the cuttings area in cut?****WCuttings area liner****Cuttings area liner specifications and installation description**

Operator Name: MEWBOURNE OIL COMPANY

Well Name: TOUGH OMBRES 6/5 FED COM

Well Number: 716H

### Section 8 - Ancillary

Are you requesting any Ancillary Facilities?: N

Ancillary Facilities

Comments:

### Section 9 - Well Site

Well Site Layout Diagram:

TOUGH\_OMBRES\_6\_5\_FED\_COM\_716H\_WellSiteLayout\_20240410105017.pdf

Comments: NONE

### Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance

Multiple Well Pad Name: Tough Ombres 6/5 715 &amp; 716

Multiple Well Pad Number: 2

Recontouring

Drainage/Erosion control construction: None required

Drainage/Erosion control reclamation: None required

Well pad proposed disturbance (acres): 5.5	Well pad interim reclamation (acres): 0.8	Well pad long term disturbance (acres): 5.5
Road proposed disturbance (acres): 0.101	Road interim reclamation (acres): 0	Road long term disturbance (acres): 0
Powerline proposed disturbance (acres): 0	Powerline interim reclamation (acres): 0	Powerline long term disturbance (acres): 0
Pipeline proposed disturbance (acres): 0	Pipeline interim reclamation (acres): 0	Pipeline long term disturbance (acres): 0
Other proposed disturbance (acres): 0	Other interim reclamation (acres): 0	Other long term disturbance (acres): 0
<b>Total proposed disturbance: 5.601</b>	<b>Total interim reclamation: 0.8</b>	<b>Total long term disturbance: 5.5</b>

Disturbance Comments: The length of the pipeline is unknown. A sundry notice will be filed for approval of said pipeline.

Reconstruction method: Remove caliche, redistribute topsoil over reclaimed area &amp; reseed.

Topsoil redistribution: Use backhoe/loader to spread material.

Soil treatment: None

Existing Vegetation at the well pad: Various brush &amp; grasses.

Existing Vegetation at the well pad

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

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

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

**District IV**  
1220 S. St Francis Dr., Santa Fe, NM 87505  
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico

Energy, Minerals and Natural Resources

Oil Conservation Division

1220 S. St Francis Dr.

Santa Fe, NM 87505

CONDITIONS

Action 393320

CONDITIONS

Operator: MEWBOURNE OIL CO P.O. Box 5270 Hobbs, NM 88241	OGRID:
	14744
	Action Number:
	393320
Action Type:	
[C-101] BLM - Federal/Indian Land Lease (Form 3160-3)	

CONDITIONS

Created By	Condition	Condition Date
ward.rikala	Notify OCD 24 hours prior to casing & cement	10/21/2024
ward.rikala	Will require a File As Drilled C-102 and a Directional Survey with the C-104	10/21/2024
ward.rikala	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string	10/21/2024
ward.rikala	Cement is required to circulate on both surface and intermediate1 strings of casing	10/21/2024
ward.rikala	If cement does not circulate on any string, a CBL is required for that string of casing	10/21/2024
ward.rikala	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system	10/21/2024
ward.rikala	This well is in the Capitan Reef. The 1st intermediate string shall be sat and cemented immediately above the top of the Capitan Reef. The 2nd intermediate string shall be sat and cemented immediately below the base of the Capitan Reef.	10/21/2024