Form 3160-3
(June 2015)

FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.: NMNM105562

6. If Indian, Allotee or Tribe Name:

1a. Type of work: ☑ DRILL ☐ REENTER

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

1c. Type of Completion: ☐ Hydraulic Fracturing ☑ Single Zone ☐ Multiple Zone

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

8. Lease Name and Well No.: RED HILLS WEST 22 W1CN FED COM 2H [331307]

2. Name of Operator: MEWBOURNE OIL COMPANY [14744]

9. API Well No.: 30-025-49412

3a. Address: PO Box 5270 Hobbs NM 88240

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

10. Field and Pool, or Exploratory [98065]: SANDERS TANK / WILDCAT WOLFCAM

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

At surface: NENW / 205 FNL / 1950 FWL / LAT 32.0350243 / LONG -103.6651003

At proposed prod. zone: SESW / 100 FSL / 1650 FWL / LAT 32.0211461 / LONG -103.6660406

11. Sec., T. R. M. or Blk. and Survey or Area: SEC 22 / T26S / R32E / NMP

14. Distance in miles and direction from nearest town or post office*: 30 miles

12. County or Parish: LEA

13. State: NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any): 185 feet

16. No of acres in lease:

17. Spacing Unit dedicated to this well: 320

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: 50 feet

19. Proposed Depth: 11941 feet / 16934 feet

20. BLM/BIA Bond No. in file: FED: NM1693

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 3148 feet

22. Approximate date work will start*: 09/27/2018

23. 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.
2. A Drilling Plan.
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).
5. Operator certification.
6. Such other site specific information and/or plans as may be requested by the BLM.

25. Signature: (Electronic Submission) | Name *(Printed/Typed)*: | Date: 11/02/2018

Title:

Approved by *(Signature)*: (Electronic Submission) | Name *(Printed/Typed)*: Cody Layton / Ph: (575)234-5959 | Date: 07/19/2021

Title: Assistant Field Manager Lands & Minerals | Office: CARLSBAD

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

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.

NGMP Rec 09/14/2021

APPROVED WITH CONDITIONS

KZ
09/28/2021

SL

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 07/19/2021

Confidential

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

WC-025 G-08 S263205N;UPPER WOLFCAMP

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
30-025-49412	98065	WILDCAT; WOLFCAMP

4 Property Code	5 Property Name	6 Well Number
331307	RED HILLS WEST 22 W1CN FED COM	2H

7 OGRID NO.	8 Operator Name	9 Elevation
14744	MEWBOURNE OIL COMPANY	3148'

10 Surface Location

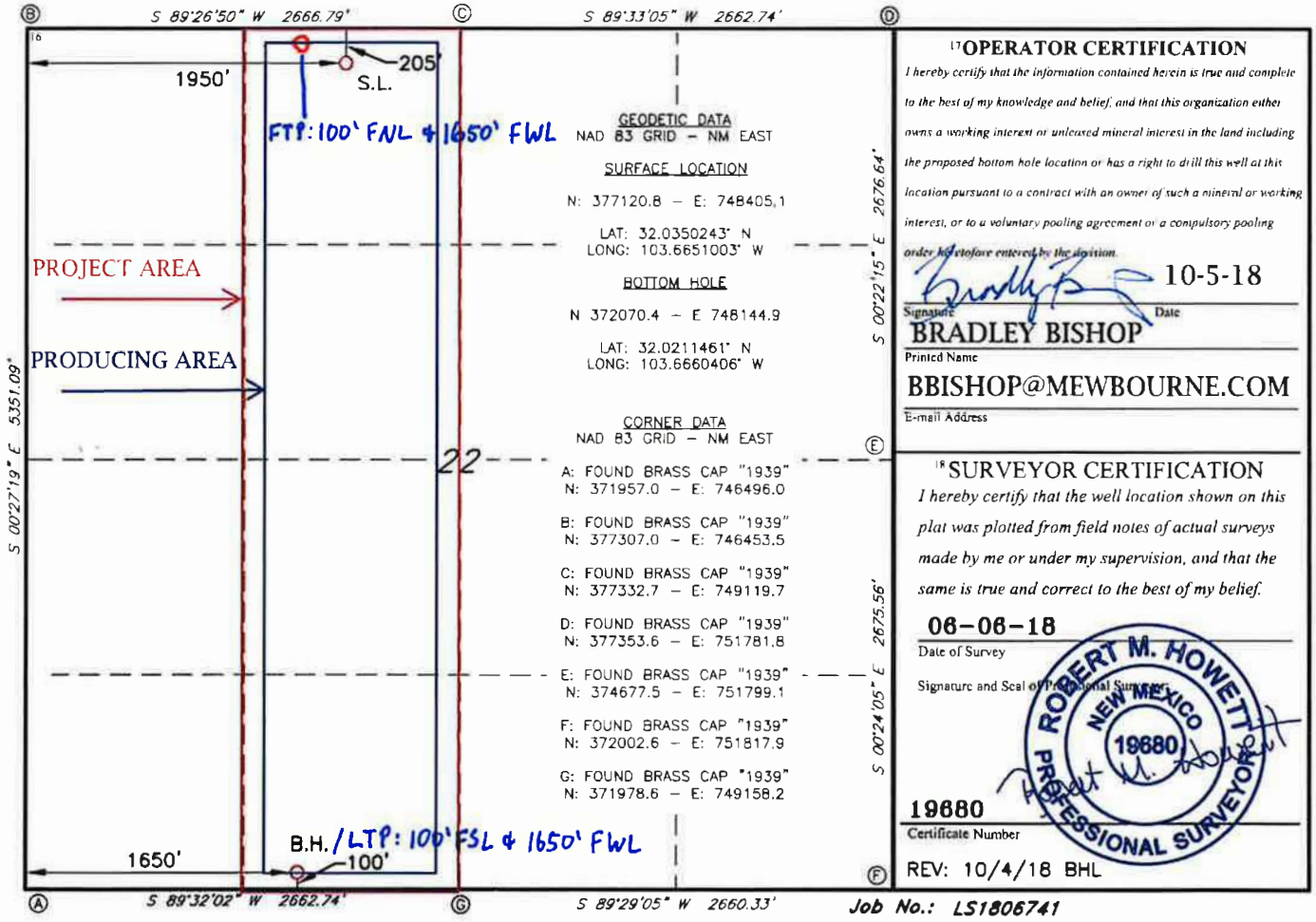
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet From the	East/West line	County
C	22	26S	32E		205	NORTH	1950	WEST	LEA

11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	22	26S	32E		100	SOUTH	1650	WEST	LEA

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.
160			

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.



17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location 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.

Signature 10-5-18 Date

BRADLEY BISHOP
Printed Name

BBISHOP@MEWBOURNE.COM
E-mail Address

18 SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

06-06-18
Date of Survey

Signature and Seal of Professional Surveyor: ROBERT M. HOWETT NEW MEXICO 19680 PROFESSIONAL SURVEYOR

19680
Certificate Number

REV: 10/4/18 BHL

Job No.: LS1806741

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

Section 1 – Plan Description
Effective May 25, 2021

I. Operator: Mewbourne Oil Co. **OGRID:** 14744 **Date:** 9/2/21

II. Type: ☒ Original ☐ Amendment due to ☐ 19.15.27.9.D(6)(a) NMAC ☐ 19.15.27.9.D(6)(b) NMAC ☐ Other.

If Other, please describe: _____

III. Well(s): Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
Red Hills West 22 W1CN Fed Com #2H	30-025-49412	C 22 26S 32E	205' FNL x 1950' FWL	1500	2500	3500

IV. Central Delivery Point Name: Red Hills West 22 W1CN Fed Com #2H [See 19.15.27.9(D)(1) NMAC]

V. Anticipated Schedule: Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Red Hills West 22 W1CN Fed Com #2H	30-025-49412	11/2/21	12/2/21	1/2/22	1/17/22	1/17/22

VI. Separation Equipment: ☒ Attach a complete description of how Operator will size separation equipment to optimize gas capture.

VII. Operational Practices: ☒ Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

VIII. Best Management Practices: ☒ Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

Section 2 – Enhanced Plan
EFFECTIVE APRIL 1, 2022

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

☐ Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

IX. Anticipated Natural Gas Production:

Well	API	Anticipated Average Natural Gas Rate MCF/D	Anticipated Volume of Natural Gas for the First Year MCF

X. Natural Gas Gathering System (NGGS):

Operator	System	ULSTR of Tie-in	Anticipated Gathering Start Date	Available Maximum Daily Capacity of System Segment Tie-in

XI. Map. ☐ Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.

XII. Line Capacity. The natural gas gathering system ☐ will ☐ will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

XIII. Line Pressure. Operator ☐ does ☐ does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

☐ Attach Operator's plan to manage production in response to the increased line pressure.

XIV. Confidentiality: ☐ Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific information for which confidentiality is asserted and the basis for such assertion.

Section 3 - Certifications

Effective May 25, 2021

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

☒ Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or

☐ Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system. ***If Operator checks this box, Operator will select one of the following:***

Well Shut-In. ☐ Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

Venting and Flaring Plan. ☐ Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- **(a)** power generation on lease;
- **(b)** power generation for grid;
- **(c)** compression on lease;
- **(d)** liquids removal on lease;
- **(e)** reinjection for underground storage;
- **(f)** reinjection for temporary storage;
- **(g)** reinjection for enhanced oil recovery;
- **(h)** fuel cell production; and
- **(i)** other alternative beneficial uses approved by the division.

Section 4 - Notices

1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or

(b) Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

Page 8

I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

Signature:	Bradley Bishop
Printed Name:	BRADLEY BISHOP
Title:	REGULATORY MANAGER
E-mail Address:	BBISHOP@MEWBOURNE.COM
Date:	9/2/21
Phone:	575-393-5905

OIL CONSERVATION DIVISION
(Only applicable when submitted as a standalone form)

Approved By:	
Title:	
Approval Date:	
Conditions of Approval:	

Mewbourne Oil Company

Natural Gas Management Plan – Attachment

VI. Separation equipment will be sized by construction engineering staff based on stated manufacturer daily throughput capacities and anticipated daily production rates to ensure adequate capacity. Closed vent system piping, compression needs, and VRUs will be sized utilizing ProMax modelling software to ensure adequate capacity for anticipated production volumes and conditions.

VII. Mewbourne Oil Company (MOC) will take following actions to comply with the regulations listed in 19.15.27.8 :

A. MOC will maximize the recovery of natural gas by minimizing the waste, as defined by 19.15.2 NMAC, of natural gas through venting and flaring. MOC will ensure that well(s) will be connected to a natural gas gathering system with sufficient capacity to transport natural gas. If there is no adequate takeaway for the gas, well(s) will be shut in until the natural gas gathering system is available.

B. All drilling operations will be equipped with a rig flare located at least 100 ft from the nearest surface hole. Rig flare will be utilized to combust any natural gas that is brought to surface during normal drilling operations. In the case of emergency venting or flaring the volumes will be estimated and reported appropriately.

C. During completion operations any natural gas brought to surface will be flared. Immediately following the finish of completion operations, all well flow will be directed to permanent separation equipment. Produced natural gas from separation equipment will be sent to sales. It is not anticipated that gas will not meet pipeline standards. However, if natural gas does not meet gathering pipeline quality specifications, MOC will flare the natural gas for 60 days or until the natural gas meets the pipeline quality specifications, whichever is sooner. MOC will ensure that the flare is sized properly and is equipped with automatic igniter or continuous pilot. The gas sample will analyzed twice per week and the gas will be routed into a gathering system as soon as pipeline specifications are met.

D. Natural gas will not be flared with the exceptions and provisions listed in the 19.15.27.8 D.(1) through (4). If there is no adequate takeaway for the separator gas, well(s) will be shut in until the natural gas gathering system is available with exception of emergency or malfunction situations. Venting and/or flaring volumes will be estimated and reported appropriately.

E. MOC will comply with the performance standards requirements and provisions listed in 19.15.27.8 E.(1) through (8). All equipment will be designed and sized to handle maximum anticipated pressures and throughputs in order to minimize the waste. Production storage tanks constructed after May 25, 2021 will be equipped with automatic gauging system. Flares constructed after May 25, 2021 will be equipped with automatic igniter or continuous pilot. Flares will be located at least 100' from the well and storage tanks unless otherwise approved by the division. MOC will conduct AVO inspections as described in 19.15.27.8 E (5) (a) with frequencies specified in 19.15.27.8 E (5) (b) and (c). All emergencies will be resolved as quickly and safely as feasible to minimize waste.

F. The volume of natural gas that is vented or flared as the result of malfunction or emergency during drilling and completions operations will be estimated. The volume of natural gas that is vented, flared or beneficially used during production operations, will be measured or estimated. MOC will install equipment to measure

the volume of natural gas flared from existing process piping or a flowline piped from equipment such as high pressure separators, heater treaters, or vapor recovery units associated with a well or facility associated with a well authorized by an APD issued after May 25, 2021 that has an average daily production greater than 60 Mcf/day. If metering is not practicable due to circumstances such as low flow rate or low pressure venting and flaring, MOC will estimate the volume of vented or flared natural gas. Measuring equipment will conform to industry standards and will not be designed or equipped with a manifold that allows the diversion of natural gas around the metering element except for the sole purpose of inspecting and servicing the measurement equipment.

VIII. For maintenance activities involving production equipment and compression, venting will be limited to the depressurization of the subject equipment to ensure safe working conditions. For maintenance of production and compression equipment the associated producing wells will be shut in to eliminate venting. For maintenance of VRUs all gas normally routed to the VRU will be routed to flare to eliminate venting.

AFMSS

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

Drilling Plan Data Report

09/01/2021

APD ID: 10400035880 **Submission Date:** 11/02/2018

Operator Name: MEWBOURNE OIL COMPANY

Well Name: RED HILLS WEST 22 W1CN FED COM **Well Number:** 2H

Well Type: CONVENTIONAL GAS WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
334126	UNKNOWN	3148	27	27		NONE	N
334137	RUSTLER	2611	537	537	ANHYDRITE, DOLOMITE	USEABLE WATER	N
334138	TOP SALT	1987	1161	1161	SALT	NONE	N
334127	BOTTOM SALT	-1081	4229	4229	SALT	NONE	N
334134	LAMAR	-1301	4449	4449	LIMESTONE	NATURAL GAS, OIL	N
334130	BELL CANYON	-1341	4489	4489	SANDSTONE	NATURAL GAS, OIL	N
334131	CHERRY CANYON	-2361	5509	5509	SANDSTONE	NATURAL GAS, OIL	N
334132	MANZANITA	-2521	5669	5669	LIMESTONE	NATURAL GAS, OIL	N
334135	BRUSHY CANYON	-4045	7193	7193	SANDSTONE	NATURAL GAS, OIL	N
334125	BONE SPRING	-5417	8565	8565	LIMESTONE, SHALE	NATURAL GAS, OIL	N
334128	BONE SPRING 1ST	-6346	9494	9494	SANDSTONE	NATURAL GAS, OIL	N
334129	BONE SPRING 2ND	-6971	10119	10119	SANDSTONE	NATURAL GAS, OIL	N
334136	BONE SPRING 3RD	-8144	11292	11292	SANDSTONE	NATURAL GAS, OIL	N
334133	WOLFCAMP	-8541	11689	11689	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Operator Name: MEWBOURNE OIL COMPANY

Well Name: RED HILLS WEST 22 W1CN FED COM **Well Number:** 2H

Pressure Rating (PSI): 10M **Rating Depth:** 16934

Equipment: Annular, Pipe Rams, Blind Rams

Requesting Variance? YES

Variance request: A variance is requested for use of a 5000 psi annular BOP with the 10,000 psi BOP stack. Request variance for the use of a flexible choke line from the BOP to Choke Manifold. Anchors not required by manufacturer. A multi-bowl wellhead will be used. See attached schematic.
Testing Procedure: BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher 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. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold.
Choke Diagram Attachment:

Red_Hills_West_22_W1CN_Fed_Com_2H_Flex_Line_Specs_20181031134958.pdf

Red_Hills_West_22_W1CN_Fed_Com_2H_10M_BOPE_Choke_Diagram_20181031135022.pdf

BOP Diagram Attachment:

Red_Hills_West_22_W1CN_Fed_Com_2H_10M_BOPE_Schematic_w_5M_Annular_20181031135131.pdf

Red_Hills_West_22_W1CN_Fed_Com_2H_10M_Multi_Bowl_WH_Running_Proc_20181031135134.pdf

Red_Hills_West_22_W1CN_Fed_Com_2H_10M_Annular_BOP_Variance_20181031135129.doc

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	17.5	13.375	NEW	API	N	0	565	0	565			565	H-40	48	ST&C	2.98	6.69	DRY	11.87	DRY	19.95
2	INTERMEDIATE	12.25	9.625	NEW	API	Y	0	4375	0	4375			4375	J-55	36	LT&C	1.13	1.96	DRY	2.81	DRY	3.5
3	PRODUCTION	8.75	7.0	NEW	API	N	0	12256	0	11926			12256	P-110	26	LT&C	1.32	1.69	DRY	2.61	DRY	2.18
4	LINER	6.125	4.5	NEW	API	N	11359	16934	11353	11941			5575	P-110	13.5	LT&C	1.32	1.54	DRY	4.49	DRY	5.61

Casing Attachments

Operator Name: MEWBOURNE OIL COMPANY

Well Name: RED HILLS WEST 22 W1CN FED COM **Well Number:** 2H

Casing Attachments

Casing ID: 1 **String Type:** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Red_Hills_West_22_W1CN_Fed_Com_2H_Csg_Assumptions_20181031135444.pdf

Casing ID: 2 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Red_Hills_West_22_W1CN_Fed_Com_2H_Intermediate_Tapered_String_Diagram_20181031140418.xlsx

Casing Design Assumptions and Worksheet(s):

Red_Hills_West_22_W1CN_Fed_Com_2H_Csg_Assumptions_20181031140525.pdf

Casing ID: 3 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Red_Hills_West_22_W1CN_Fed_Com_2H_Csg_Assumptions_20181031140913.pdf

Operator Name: MEWBOURNE OIL COMPANY

Well Name: RED HILLS WEST 22 W1CN FED COM **Well Number:** 2H

Casing Attachments

Casing ID: 4 **String Type:** LINER

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Red_Hills_West_22_W1CN_Fed_Com_2H_Csg_Assumptions_20181031141132.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	372	250	2.12	12.5	530	100	Class C	Salt, Gel, Extender, LCM
SURFACE	Tail		372	565	200	1.34	14.8	268	100	Class C	Retarder
INTERMEDIATE	Lead		0	3684	680	2.12	12.5	1442	25	Class C	Salt, Gel, Extender, LCM
INTERMEDIATE	Tail		3684	4375	200	1.34	14.8	268	25	Class C	Retarder
PRODUCTION	Lead	5669	4175	4952	70	2.12	12.5	148	25	Class C	Gel, Retarder, Defoamer, Extender
PRODUCTION	Tail		4952	5669	100	1.34	14.8	134	25	Class C	Retarder
PRODUCTION	Lead	5669	5669	9744	365	2.12	12.5	774	25	Class C	Gel, Retarder, Defoamer, Extender
PRODUCTION	Tail		9744	12256	400	1.18	15.6	472	25	Class H	Retarder, Fluid Loss, Defoamer
LINER	Lead		11359	16934	220	2.97	11.2	653	25	Class C	Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti-Settling Agent

Operator Name: MEWBOURNE OIL COMPANY

Well Name: RED HILLS WEST 22 W1CN FED COM **Well Number:** 2H

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: Lost circulation material Sweeps Mud scavengers in surface hole

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
0	4375	SALT SATURATED	10	10							
0	12256	WATER-BASED MUD	8.6	9.5							
11359	11941	OIL-BASED MUD	10	13							
0	565	SPUD MUD	8.6	8.8							

Section 6 - Test, Logging, Coring

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

Will run GR/CNL from KOP (11359') to surface.
Will run MWD GR from KOP (11359') to TD.

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

CNL,DS,GR,MWD,MUDLOG

Coring operation description for the well:

None

Operator Name: MEWBOURNE OIL COMPANY

Well Name: RED HILLS WEST 22 W1CN FED COM **Well Number:** 2H

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 8072 **Anticipated Surface Pressure:** 5401.2

Anticipated Bottom Hole Temperature(F): 165

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

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

Red_Hills_West_22_W1CN_Fed_Com_2H_H2S_Plan_20181031160310.doc

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Red_Hills_West_22_W1CN_Fed_Com_2H__Dir_Plan_20181031160546.pdf
Red_Hills_West_22_W1CN_Fed_Com_2H__Dir_Plot_20181031160546.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

Red_Hills_West_22_W1CN_Fed_Com_2H_Drlg_Program_20181031160752.pdf
Red_Hills_West_22_W1CN_Fed_Com_2H_C101_20181031160752.pdf

Other Variance attachment:

CONFIDENTIAL

Mewbourne Oil Company, Red Hills West 22 W1CN Fed Com #2H
Sec 22, T26S, R32E
SL: 205' FNL & 1950' FWL
BHL: 100' FSL & 1662' FWL

2. Casing Program

Hole Size	Casing Interval From	Casing Interval To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
17.5"	0'	565'	13.375"	48	H40	STC	2.98	6.69	11.87	19.95
12.25"	0'	3453'	9.625"	36	J55	LTC	1.13	1.96	2.81	3.50
12.25"	3453'	4375'	9.625"	40	J55	LTC	1.36	2.53	19.69	24.81
8.75"	0'	12,256'	7"	26	HCP110	LTC	1.32	1.69	2.18	2.61
6.125"	11,359'	16,934'	4.5"	13.5	P110	LTC	1.32	1.54	4.49	5.61
			BLM Minimum Safety Factor				1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

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?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd 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 2nd string set 100' to 600' below the base of salt?	
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, Red Hills West 22 W1CN Fed Com #2H
Sec 22, T26S, R32E
SL: 205' FNL & 1950' FWL
BHL: 100' FSL & 1662' FWL

2. Casing Program

Hole Size	Casing Interval From	Casing Interval To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
17.5"	0'	565'	13.375"	48	H40	STC	2.98	6.69	11.87	19.95
12.25"	0'	3453'	9.625"	36	J55	LTC	1.13	1.96	2.81	3.50
12.25"	3453'	4375'	9.625"	40	J55	LTC	1.36	2.53	19.69	24.81
8.75"	0'	12,256'	7"	26	HCP110	LTC	1.32	1.69	2.18	2.61
6.125"	11,359'	16,934'	4.5"	13.5	P110	LTC	1.32	1.54	4.49	5.61
			BLM Minimum Safety Factor				1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

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?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd 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 2nd string set 100' to 600' below the base of salt?	
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, Red Hills West 22 W1CN Fed Com #2H
Sec 22, T26S, R32E
SL: 205' FNL & 1950' FWL
BHL: 100' FSL & 1662' FWL

2. Casing Program

Hole Size	Casing Interval From	Casing Interval To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
17.5"	0'	565'	13.375"	48	H40	STC	2.98	6.69	11.87	19.95
12.25"	0'	3453'	9.625"	36	J55	LTC	1.13	1.96	2.81	3.50
12.25"	3453'	4375'	9.625"	40	J55	LTC	1.36	2.53	19.69	24.81
8.75"	0'	12,256'	7"	26	HCP110	LTC	1.32	1.69	2.18	2.61
6.125"	11,359'	16,934'	4.5"	13.5	P110	LTC	1.32	1.54	4.49	5.61
			BLM Minimum Safety Factor				1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

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?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd 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 2nd string set 100' to 600' below the base of salt?	
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, Red Hills West 22 W1CN Fed Com #2H
Sec 22, T26S, R32E
SL: 205' FNL & 1950' FWL
BHL: 100' FSL & 1662' FWL

2. Casing Program

Hole Size	Casing Interval From	Casing Interval To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
17.5"	0'	565'	13.375"	48	H40	STC	2.98	6.69	11.87	19.95
12.25"	0'	3453'	9.625"	36	J55	LTC	1.13	1.96	2.81	3.50
12.25"	3453'	4375'	9.625"	40	J55	LTC	1.36	2.53	19.69	24.81
8.75"	0'	12,256'	7"	26	HCP110	LTC	1.32	1.69	2.18	2.61
6.125"	11,359'	16,934'	4.5"	13.5	P110	LTC	1.32	1.54	4.49	5.61
			BLM Minimum Safety Factor				1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

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?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd 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 2nd string set 100' to 600' below the base of salt?	
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
Red Hills West 22 W1CN Federal Com #2H
SL: 205 FNL & 1950 FWL
Sec 22, T26S, R32E
BHL: 330 FSL & 1650 FWL

Plan: Design #1

Standard Planning Report

31 October, 2018

Planning Report

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Red Hills West 22 W1CN Federal Com #2H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3175.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3175.0usft (Original Well Elev)
Site:	Red Hills West 22 W1CN Federal Com #2H	**North Reference:**	Grid
Well:	SL: 205 FNL & 1950 FWL	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 330 FSL & 1650 FWL		
Design:	Design #1		

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

Site	Red Hills West 22 W1CN Federal Com #2H				
Site Position:		**Northing:**	377,121.00 usft	**Latitude:**	32.0350248
From:	Map	**Easting:**	748,405.00 usft	**Longitude:**	-103.6651005
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.35 °

Well	SL: 205 FNL & 1950 FWL					
Well Position	**+N/-S**	0.0 usft	**Northing:**	377,121.00 usft	**Latitude:**	32.0350248
	+E/-W	0.0 usft	**Easting:**	748,405.00 usft	**Longitude:**	-103.6651005
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	3,175.0 usft	**Ground Level:**	3,148.0 usft

Wellbore	BHL: 330 FSL & 1650 FWL				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2010	10/30/2018	6.70	59.81	47,759

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	182.81	

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	
565.0	0.00	0.00	565.0	0.0	0.0	0.00	0.00	0.00	0.00	
689.0	1.86	303.46	689.0	1.1	-1.7	1.50	1.50	0.00	303.46	
11,234.6	1.86	303.46	11,229.0	189.9	-287.3	0.00	0.00	0.00	0.00	
11,358.6	0.00	0.00	11,353.0	191.0	-289.0	1.50	-1.50	0.00	180.00	KOP: 10 FNL & 1662
12,256.8	89.82	179.55	11,926.0	-380.1	-284.5	10.00	10.00	0.00	179.55	
16,933.9	89.82	179.55	11,941.0	-5,057.0	-248.0	0.00	0.00	0.00	0.00	BHL: 100 FSL & 1662

Planning Report

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Red Hills West 22 W1CN Federal Com #2H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3175.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3175.0usft (Original Well Elev)
Site:	Red Hills West 22 W1CN Federal Com #2H	**North Reference:**	Grid
Well:	SL: 205 FNL & 1950 FWL	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 330 FSL & 1650 FWL		
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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
SL: 205 FNL & 1950 FWL									
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
565.0	0.00	0.00	565.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.53	303.46	600.0	0.1	-0.1	-0.1	1.50	1.50	0.00
689.0	1.86	303.46	689.0	1.1	-1.7	-1.0	1.50	1.50	0.00
700.0	1.86	303.46	700.0	1.3	-2.0	-1.2	0.00	0.00	0.00
800.0	1.86	303.46	799.9	3.1	-4.7	-2.9	0.00	0.00	0.00
900.0	1.86	303.46	899.9	4.9	-7.4	-4.5	0.00	0.00	0.00
1,000.0	1.86	303.46	999.8	6.7	-10.1	-6.2	0.00	0.00	0.00
1,100.0	1.86	303.46	1,099.8	8.5	-12.8	-7.8	0.00	0.00	0.00
1,200.0	1.86	303.46	1,199.7	10.3	-15.5	-9.5	0.00	0.00	0.00
1,300.0	1.86	303.46	1,299.7	12.0	-18.2	-11.1	0.00	0.00	0.00
1,400.0	1.86	303.46	1,399.6	13.8	-20.9	-12.8	0.00	0.00	0.00
1,500.0	1.86	303.46	1,499.6	15.6	-23.6	-14.5	0.00	0.00	0.00
1,600.0	1.86	303.46	1,599.5	17.4	-26.4	-16.1	0.00	0.00	0.00
1,700.0	1.86	303.46	1,699.4	19.2	-29.1	-17.8	0.00	0.00	0.00
1,800.0	1.86	303.46	1,799.4	21.0	-31.8	-19.4	0.00	0.00	0.00
1,900.0	1.86	303.46	1,899.3	22.8	-34.5	-21.1	0.00	0.00	0.00
2,000.0	1.86	303.46	1,999.3	24.6	-37.2	-22.7	0.00	0.00	0.00
2,100.0	1.86	303.46	2,099.2	26.4	-39.9	-24.4	0.00	0.00	0.00
2,200.0	1.86	303.46	2,199.2	28.2	-42.6	-26.0	0.00	0.00	0.00
2,300.0	1.86	303.46	2,299.1	29.9	-45.3	-27.7	0.00	0.00	0.00
2,400.0	1.86	303.46	2,399.1	31.7	-48.0	-29.3	0.00	0.00	0.00
2,500.0	1.86	303.46	2,499.0	33.5	-50.7	-31.0	0.00	0.00	0.00
2,600.0	1.86	303.46	2,599.0	35.3	-53.4	-32.7	0.00	0.00	0.00
2,700.0	1.86	303.46	2,698.9	37.1	-56.1	-34.3	0.00	0.00	0.00
2,800.0	1.86	303.46	2,798.9	38.9	-58.9	-36.0	0.00	0.00	0.00
2,900.0	1.86	303.46	2,898.8	40.7	-61.6	-37.6	0.00	0.00	0.00
3,000.0	1.86	303.46	2,998.8	42.5	-64.3	-39.3	0.00	0.00	0.00
3,100.0	1.86	303.46	3,098.7	44.3	-67.0	-40.9	0.00	0.00	0.00
3,200.0	1.86	303.46	3,198.7	46.1	-69.7	-42.6	0.00	0.00	0.00
3,300.0	1.86	303.46	3,298.6	47.9	-72.4	-44.2	0.00	0.00	0.00
3,400.0	1.86	303.46	3,398.5	49.6	-75.1	-45.9	0.00	0.00	0.00
3,500.0	1.86	303.46	3,498.5	51.4	-77.8	-47.6	0.00	0.00	0.00
3,600.0	1.86	303.46	3,598.4	53.2	-80.5	-49.2	0.00	0.00	0.00
3,700.0	1.86	303.46	3,698.4	55.0	-83.2	-50.9	0.00	0.00	0.00
3,800.0	1.86	303.46	3,798.3	56.8	-85.9	-52.5	0.00	0.00	0.00
3,900.0	1.86	303.46	3,898.3	58.6	-88.7	-54.2	0.00	0.00	0.00
4,000.0	1.86	303.46	3,998.2	60.4	-91.4	-55.8	0.00	0.00	0.00
4,100.0	1.86	303.46	4,098.2	62.2	-94.1	-57.5	0.00	0.00	0.00
4,200.0	1.86	303.46	4,198.1	64.0	-96.8	-59.1	0.00	0.00	0.00
4,300.0	1.86	303.46	4,298.1	65.8	-99.5	-60.8	0.00	0.00	0.00
4,400.0	1.86	303.46	4,398.0	67.5	-102.2	-62.5	0.00	0.00	0.00
4,500.0	1.86	303.46	4,498.0	69.3	-104.9	-64.1	0.00	0.00	0.00
4,600.0	1.86	303.46	4,597.9	71.1	-107.6	-65.8	0.00	0.00	0.00
4,700.0	1.86	303.46	4,697.9	72.9	-110.3	-67.4	0.00	0.00	0.00
4,800.0	1.86	303.46	4,797.8	74.7	-113.0	-69.1	0.00	0.00	0.00
4,900.0	1.86	303.46	4,897.8	76.5	-115.7	-70.7	0.00	0.00	0.00

Planning Report

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Red Hills West 22 W1CN Federal Com #2H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3175.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3175.0usft (Original Well Elev)
Site:	Red Hills West 22 W1CN Federal Com #2H	**North Reference:**	Grid
Well:	SL: 205 FNL & 1950 FWL	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 330 FSL & 1650 FWL		
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)
5,000.0	1.86	303.46	4,997.7	78.3	-118.4	-72.4	0.00	0.00	0.00
5,100.0	1.86	303.46	5,097.7	80.1	-121.2	-74.0	0.00	0.00	0.00
5,200.0	1.86	303.46	5,197.6	81.9	-123.9	-75.7	0.00	0.00	0.00
5,300.0	1.86	303.46	5,297.5	83.7	-126.6	-77.4	0.00	0.00	0.00
5,400.0	1.86	303.46	5,397.5	85.4	-129.3	-79.0	0.00	0.00	0.00
5,500.0	1.86	303.46	5,497.4	87.2	-132.0	-80.7	0.00	0.00	0.00
5,600.0	1.86	303.46	5,597.4	89.0	-134.7	-82.3	0.00	0.00	0.00
5,700.0	1.86	303.46	5,697.3	90.8	-137.4	-84.0	0.00	0.00	0.00
5,800.0	1.86	303.46	5,797.3	92.6	-140.1	-85.6	0.00	0.00	0.00
5,900.0	1.86	303.46	5,897.2	94.4	-142.8	-87.3	0.00	0.00	0.00
6,000.0	1.86	303.46	5,997.2	96.2	-145.5	-88.9	0.00	0.00	0.00
6,100.0	1.86	303.46	6,097.1	98.0	-148.2	-90.6	0.00	0.00	0.00
6,200.0	1.86	303.46	6,197.1	99.8	-151.0	-92.3	0.00	0.00	0.00
6,300.0	1.86	303.46	6,297.0	101.6	-153.7	-93.9	0.00	0.00	0.00
6,400.0	1.86	303.46	6,397.0	103.3	-156.4	-95.6	0.00	0.00	0.00
6,500.0	1.86	303.46	6,496.9	105.1	-159.1	-97.2	0.00	0.00	0.00
6,600.0	1.86	303.46	6,596.9	106.9	-161.8	-98.9	0.00	0.00	0.00
6,700.0	1.86	303.46	6,696.8	108.7	-164.5	-100.5	0.00	0.00	0.00
6,800.0	1.86	303.46	6,796.8	110.5	-167.2	-102.2	0.00	0.00	0.00
6,900.0	1.86	303.46	6,896.7	112.3	-169.9	-103.8	0.00	0.00	0.00
7,000.0	1.86	303.46	6,996.7	114.1	-172.6	-105.5	0.00	0.00	0.00
7,100.0	1.86	303.46	7,096.6	115.9	-175.3	-107.1	0.00	0.00	0.00
7,200.0	1.86	303.46	7,196.5	117.7	-178.0	-108.8	0.00	0.00	0.00
7,300.0	1.86	303.46	7,296.5	119.5	-180.7	-110.5	0.00	0.00	0.00
7,400.0	1.86	303.46	7,396.4	121.2	-183.5	-112.1	0.00	0.00	0.00
7,500.0	1.86	303.46	7,496.4	123.0	-186.2	-113.8	0.00	0.00	0.00
7,600.0	1.86	303.46	7,596.3	124.8	-188.9	-115.4	0.00	0.00	0.00
7,700.0	1.86	303.46	7,696.3	126.6	-191.6	-117.1	0.00	0.00	0.00
7,800.0	1.86	303.46	7,796.2	128.4	-194.3	-118.7	0.00	0.00	0.00
7,900.0	1.86	303.46	7,896.2	130.2	-197.0	-120.4	0.00	0.00	0.00
8,000.0	1.86	303.46	7,996.1	132.0	-199.7	-122.0	0.00	0.00	0.00
8,100.0	1.86	303.46	8,096.1	133.8	-202.4	-123.7	0.00	0.00	0.00
8,200.0	1.86	303.46	8,196.0	135.6	-205.1	-125.4	0.00	0.00	0.00
8,300.0	1.86	303.46	8,296.0	137.4	-207.8	-127.0	0.00	0.00	0.00
8,400.0	1.86	303.46	8,395.9	139.1	-210.5	-128.7	0.00	0.00	0.00
8,500.0	1.86	303.46	8,495.9	140.9	-213.3	-130.3	0.00	0.00	0.00
8,600.0	1.86	303.46	8,595.8	142.7	-216.0	-132.0	0.00	0.00	0.00
8,700.0	1.86	303.46	8,695.8	144.5	-218.7	-133.6	0.00	0.00	0.00
8,800.0	1.86	303.46	8,795.7	146.3	-221.4	-135.3	0.00	0.00	0.00
8,900.0	1.86	303.46	8,895.6	148.1	-224.1	-136.9	0.00	0.00	0.00
9,000.0	1.86	303.46	8,995.6	149.9	-226.8	-138.6	0.00	0.00	0.00
9,100.0	1.86	303.46	9,095.5	151.7	-229.5	-140.3	0.00	0.00	0.00
9,200.0	1.86	303.46	9,195.5	153.5	-232.2	-141.9	0.00	0.00	0.00
9,300.0	1.86	303.46	9,295.4	155.3	-234.9	-143.6	0.00	0.00	0.00
9,400.0	1.86	303.46	9,395.4	157.0	-237.6	-145.2	0.00	0.00	0.00
9,500.0	1.86	303.46	9,495.3	158.8	-240.3	-146.9	0.00	0.00	0.00
9,600.0	1.86	303.46	9,595.3	160.6	-243.0	-148.5	0.00	0.00	0.00
9,700.0	1.86	303.46	9,695.2	162.4	-245.8	-150.2	0.00	0.00	0.00
9,800.0	1.86	303.46	9,795.2	164.2	-248.5	-151.8	0.00	0.00	0.00
9,900.0	1.86	303.46	9,895.1	166.0	-251.2	-153.5	0.00	0.00	0.00
10,000.0	1.86	303.46	9,995.1	167.8	-253.9	-155.2	0.00	0.00	0.00
10,100.0	1.86	303.46	10,095.0	169.6	-256.6	-156.8	0.00	0.00	0.00
10,200.0	1.86	303.46	10,195.0	171.4	-259.3	-158.5	0.00	0.00	0.00

Planning Report

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Red Hills West 22 W1CN Federal Com #2H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3175.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3175.0usft (Original Well Elev)
Site:	Red Hills West 22 W1CN Federal Com #2H	**North Reference:**	Grid
Well:	SL: 205 FNL & 1950 FWL	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 330 FSL & 1650 FWL		
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)
10,300.0	1.86	303.46	10,294.9	173.2	-262.0	-160.1	0.00	0.00	0.00
10,400.0	1.86	303.46	10,394.9	174.9	-264.7	-161.8	0.00	0.00	0.00
10,500.0	1.86	303.46	10,494.8	176.7	-267.4	-163.4	0.00	0.00	0.00
10,600.0	1.86	303.46	10,594.8	178.5	-270.1	-165.1	0.00	0.00	0.00
10,700.0	1.86	303.46	10,694.7	180.3	-272.8	-166.7	0.00	0.00	0.00
10,800.0	1.86	303.46	10,794.6	182.1	-275.5	-168.4	0.00	0.00	0.00
10,900.0	1.86	303.46	10,894.6	183.9	-278.3	-170.1	0.00	0.00	0.00
11,000.0	1.86	303.46	10,994.5	185.7	-281.0	-171.7	0.00	0.00	0.00
11,100.0	1.86	303.46	11,094.5	187.5	-283.7	-173.4	0.00	0.00	0.00
11,200.0	1.86	303.46	11,194.4	189.3	-286.4	-175.0	0.00	0.00	0.00
11,234.6	1.86	303.46	11,229.0	189.9	-287.3	-175.6	0.00	0.00	0.00
11,300.0	0.88	303.46	11,294.4	190.8	-288.6	-176.4	1.50	-1.50	0.00
11,358.6	0.00	0.00	11,353.0	191.0	-289.0	-176.6	1.50	-1.50	0.00
KOP: 10 FNL & 1662 FWL									
11,400.0	4.14	179.55	11,394.4	189.5	-289.0	-175.1	10.00	10.00	0.00
11,500.0	14.14	179.55	11,493.0	173.6	-288.9	-159.3	10.00	10.00	0.00
11,600.0	24.14	179.55	11,587.3	140.9	-288.6	-126.6	10.00	10.00	0.00
11,684.1	32.55	179.55	11,661.3	101.0	-288.3	-86.7	10.00	10.00	0.00
FTP: 100 FNL & 1662 FWL									
11,700.0	34.14	179.55	11,674.6	92.3	-288.2	-78.0	10.00	10.00	0.00
11,800.0	44.14	179.55	11,752.0	29.2	-287.7	-15.1	10.00	10.00	0.00
11,900.0	54.14	179.55	11,817.4	-46.3	-287.1	60.3	10.00	10.00	0.00
12,000.0	64.13	179.55	11,868.6	-132.0	-286.5	145.9	10.00	10.00	0.00
12,100.0	74.13	179.55	11,904.2	-225.3	-285.7	239.1	10.00	10.00	0.00
12,200.0	84.13	179.55	11,923.0	-323.4	-285.0	337.0	10.00	10.00	0.00
12,256.8	89.81	179.55	11,926.0	-380.1	-284.5	393.6	10.00	10.00	0.00
LP: 585 FNL & 1662 FWL									
12,300.0	89.82	179.55	11,926.1	-423.3	-284.2	436.7	0.01	0.01	0.00
12,400.0	89.82	179.55	11,926.5	-523.3	-283.4	536.6	0.00	0.00	0.00
12,500.0	89.82	179.55	11,926.8	-623.3	-282.6	636.4	0.00	0.00	0.00
12,600.0	89.82	179.55	11,927.1	-723.3	-281.9	736.2	0.00	0.00	0.00
12,700.0	89.82	179.55	11,927.4	-823.3	-281.1	836.1	0.00	0.00	0.00
12,800.0	89.82	179.55	11,927.7	-923.3	-280.3	935.9	0.00	0.00	0.00
12,900.0	89.82	179.55	11,928.1	-1,023.3	-279.5	1,035.8	0.00	0.00	0.00
13,000.0	89.82	179.55	11,928.4	-1,123.3	-278.7	1,135.6	0.00	0.00	0.00
13,100.0	89.82	179.55	11,928.7	-1,223.3	-278.0	1,235.4	0.00	0.00	0.00
13,200.0	89.82	179.55	11,929.0	-1,323.3	-277.2	1,335.3	0.00	0.00	0.00
13,300.0	89.82	179.55	11,929.3	-1,423.3	-276.4	1,435.1	0.00	0.00	0.00
13,400.0	89.82	179.55	11,929.7	-1,523.3	-275.6	1,534.9	0.00	0.00	0.00
13,500.0	89.82	179.55	11,930.0	-1,623.3	-274.8	1,634.8	0.00	0.00	0.00
13,600.0	89.82	179.55	11,930.3	-1,723.3	-274.0	1,734.6	0.00	0.00	0.00
13,700.0	89.82	179.55	11,930.6	-1,823.3	-273.3	1,834.5	0.00	0.00	0.00
13,800.0	89.82	179.55	11,930.9	-1,923.3	-272.5	1,934.3	0.00	0.00	0.00
13,900.0	89.82	179.55	11,931.3	-2,023.3	-271.7	2,034.1	0.00	0.00	0.00
14,000.0	89.82	179.55	11,931.6	-2,123.2	-270.9	2,134.0	0.00	0.00	0.00
14,100.0	89.82	179.55	11,931.9	-2,223.2	-270.1	2,233.8	0.00	0.00	0.00
14,200.0	89.82	179.55	11,932.2	-2,323.2	-269.4	2,333.6	0.00	0.00	0.00
14,300.0	89.82	179.55	11,932.6	-2,423.2	-268.6	2,433.5	0.00	0.00	0.00
14,357.8	89.82	179.55	11,932.7	-2,481.0	-268.1	2,491.2	0.00	0.00	0.00
PPP2: 2676 FSL & 1662 FWL									
14,400.0	89.82	179.55	11,932.9	-2,523.2	-267.8	2,533.3	0.00	0.00	0.00
14,500.0	89.82	179.55	11,933.2	-2,623.2	-267.0	2,633.2	0.00	0.00	0.00
14,600.0	89.82	179.55	11,933.5	-2,723.2	-266.2	2,733.0	0.00	0.00	0.00

Planning Report

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Red Hills West 22 W1CN Federal Com #2H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3175.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3175.0usft (Original Well Elev)
Site:	Red Hills West 22 W1CN Federal Com #2H	**North Reference:**	Grid
Well:	SL: 205 FNL & 1950 FWL	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 330 FSL & 1650 FWL		
Design:	Design #1		

Planned Survey

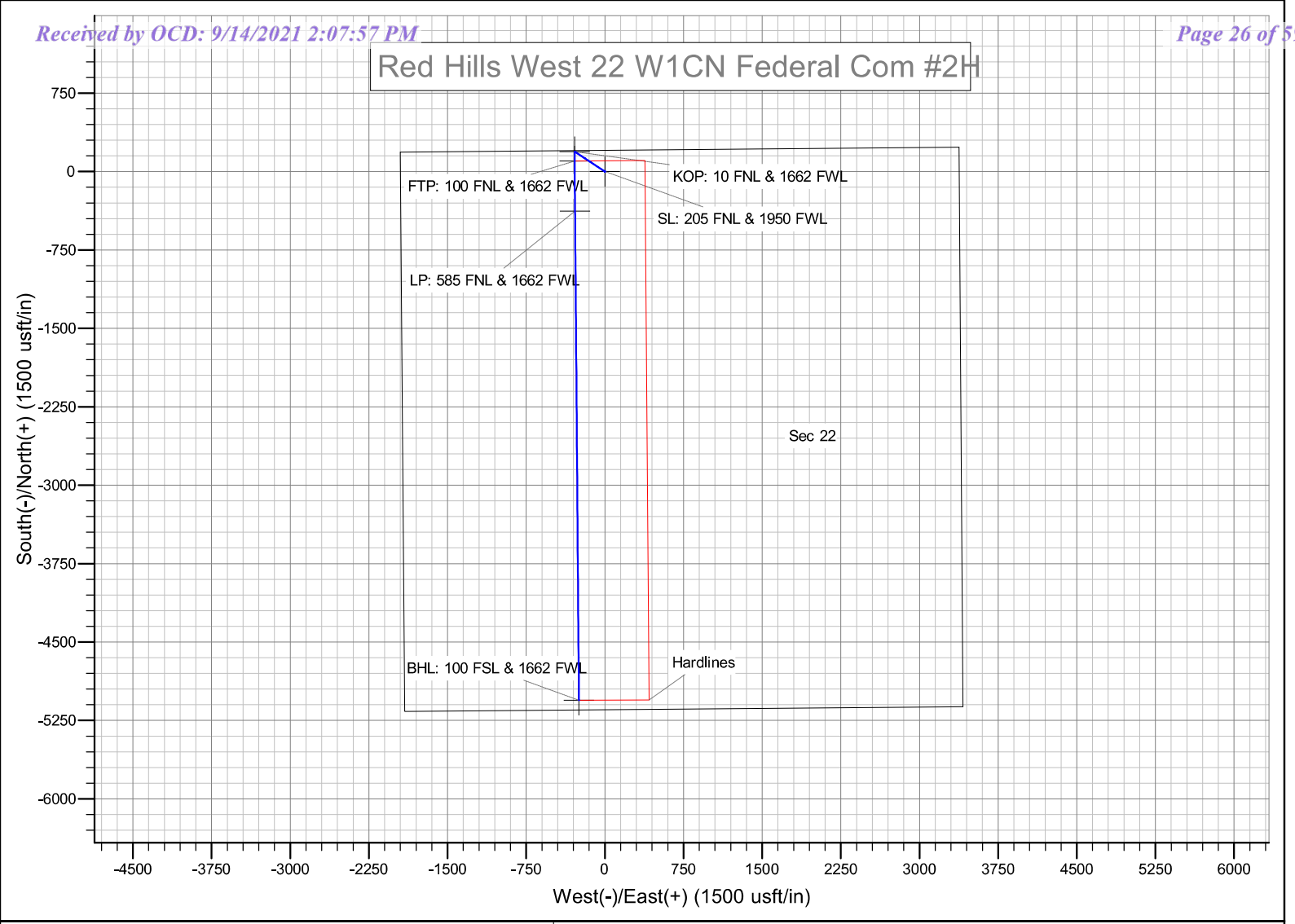
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
14,700.0	89.82	179.55	11,933.8	-2,823.2	-265.5	2,832.8	0.00	0.00	0.00
14,800.0	89.82	179.55	11,934.2	-2,923.2	-264.7	2,932.7	0.00	0.00	0.00
14,900.0	89.82	179.55	11,934.5	-3,023.2	-263.9	3,032.5	0.00	0.00	0.00
15,000.0	89.82	179.55	11,934.8	-3,123.2	-263.1	3,132.4	0.00	0.00	0.00
15,100.0	89.82	179.55	11,935.1	-3,223.2	-262.3	3,232.2	0.00	0.00	0.00
15,200.0	89.82	179.55	11,935.4	-3,323.2	-261.5	3,332.0	0.00	0.00	0.00
15,300.0	89.82	179.55	11,935.8	-3,423.2	-260.8	3,431.9	0.00	0.00	0.00
15,400.0	89.82	179.55	11,936.1	-3,523.2	-260.0	3,531.7	0.00	0.00	0.00
15,500.0	89.82	179.55	11,936.4	-3,623.2	-259.2	3,631.5	0.00	0.00	0.00
15,600.0	89.82	179.55	11,936.7	-3,723.2	-258.4	3,731.4	0.00	0.00	0.00
15,700.0	89.82	179.55	11,937.0	-3,823.2	-257.6	3,831.2	0.00	0.00	0.00
15,800.0	89.82	179.55	11,937.4	-3,923.2	-256.9	3,931.1	0.00	0.00	0.00
15,900.0	89.82	179.55	11,937.7	-4,023.2	-256.1	4,030.9	0.00	0.00	0.00
16,000.0	89.82	179.55	11,938.0	-4,123.2	-255.3	4,130.7	0.00	0.00	0.00
16,100.0	89.82	179.55	11,938.3	-4,223.2	-254.5	4,230.6	0.00	0.00	0.00
16,200.0	89.82	179.55	11,938.6	-4,323.2	-253.7	4,330.4	0.00	0.00	0.00
16,300.0	89.82	179.55	11,939.0	-4,423.2	-253.0	4,430.2	0.00	0.00	0.00
16,400.0	89.82	179.55	11,939.3	-4,523.2	-252.2	4,530.1	0.00	0.00	0.00
16,500.0	89.82	179.55	11,939.6	-4,623.2	-251.4	4,629.9	0.00	0.00	0.00
16,600.0	89.82	179.55	11,939.9	-4,723.2	-250.6	4,729.8	0.00	0.00	0.00
16,700.0	89.82	179.55	11,940.2	-4,823.2	-249.8	4,829.6	0.00	0.00	0.00
16,800.0	89.82	179.55	11,940.6	-4,923.1	-249.0	4,929.4	0.00	0.00	0.00
16,900.0	89.82	179.55	11,940.9	-5,023.1	-248.3	5,029.3	0.00	0.00	0.00
16,933.9	89.82	179.55	11,941.0	-5,057.0	-248.0	5,063.1	0.00	0.00	0.00
BHL: 100 FSL & 1662 FWL									

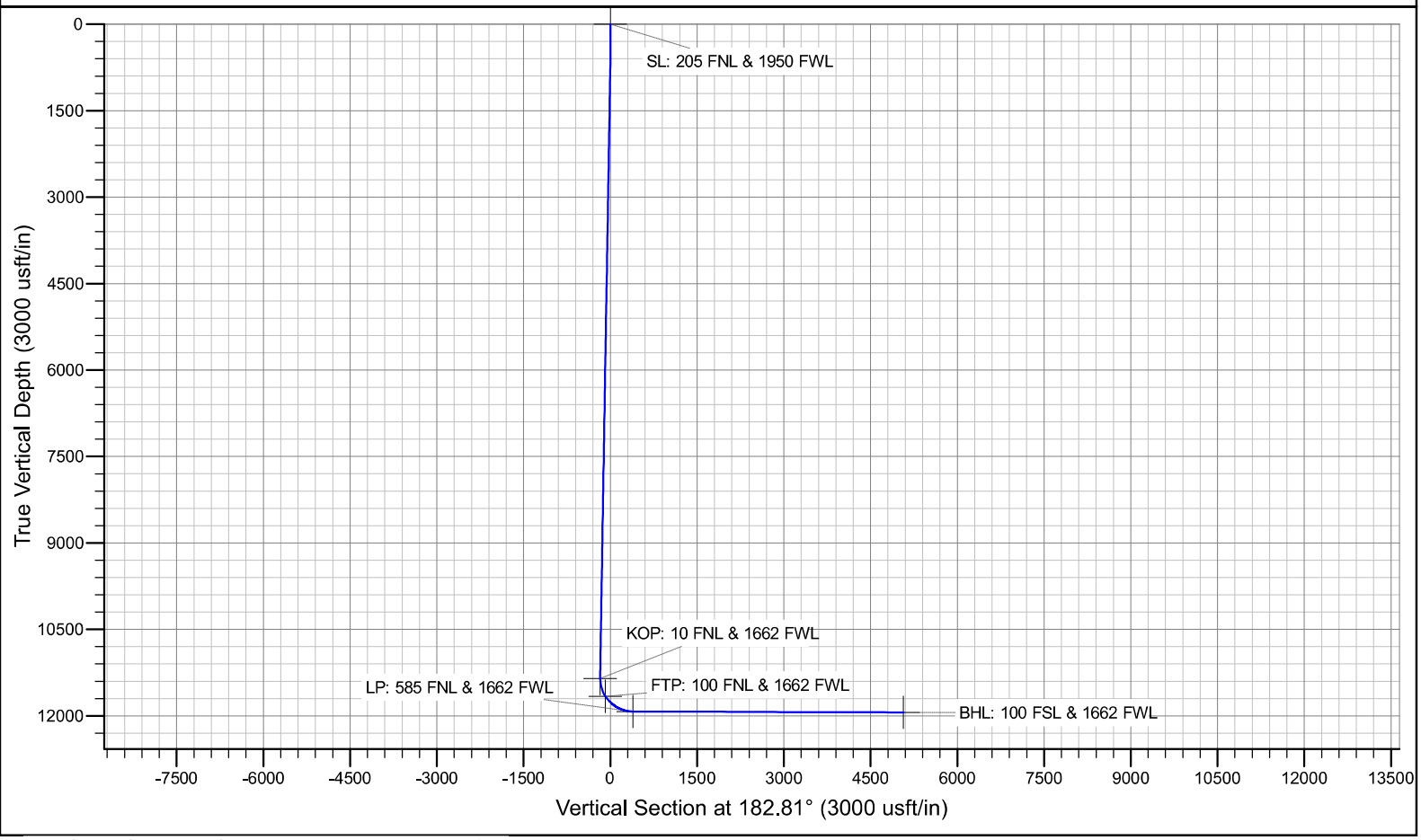
Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SL: 205 FNL & 1950 FW - plan hits target center - Point	0.00	0.00	0.0	0.0	0.0	377,121.00	748,405.00	32.0350248	-103.6651005
KOP: 10 FNL & 1662 FV - plan hits target center - Point	0.00	0.00	11,353.0	191.0	-289.0	377,312.00	748,116.00	32.0355548	-103.6660292
FTP: 100 FNL & 1662 F\ - plan hits target center - Point	0.00	0.00	11,661.3	101.0	-288.3	377,222.00	748,116.70	32.0353074	-103.6660288
LP: 585 FNL & 1662 FW - plan hits target center - Point	0.00	0.00	11,926.0	-380.1	-284.5	376,740.90	748,120.50	32.0339849	-103.6660261
PPP2: 2676 FSL & 1662 - plan hits target center - Point	0.00	0.00	11,932.7	-2,481.0	-268.1	374,640.00	748,136.87	32.0282096	-103.6660151
BHL: 100 FSL & 1662 F\ - plan hits target center - Point	0.00	0.00	11,941.0	-5,057.0	-248.0	372,064.00	748,157.00	32.0211284	-103.6660015

Planning Report

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Red Hills West 22 W1CN Federal Com #2H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3175.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3175.0usft (Original Well Elev)
Site:	Red Hills West 22 W1CN Federal Com #2H	**North Reference:**	Grid
Well:	SL: 205 FNL & 1950 FWL	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 330 FSL & 1650 FWL		
Design:	Design #1		


Red Hills West 22 W1CN Federal Com #2H
FTP: 100 FNL & 1662 FWL
KOP: 10 FNL & 1662 FWL
SL: 205 FNL & 1950 FWL
LP: 585 FNL & 1662 FWL
Sec 22
BHL: 100 FSL & 1662 FWL
Hardlines
South(-)/North(+) (1500 usft/in)
West(-)/East(+) (1500 usft/in)
750
0
-750
-1500
-2250
-3000
-3750
-4500
-5250
-6000
-4500
-3750
-3000
-2250
-1500
-750
0
750
1500
2250
3000
3750
4500
5250
6000


SL: 205 FNL & 1950 FWL
KOP: 10 FNL & 1662 FWL
LP: 585 FNL & 1662 FWL
FTP: 100 FNL & 1662 FWL
BHL: 100 FSL & 1662 FWL
True Vertical Depth (3000 usft/in)
Vertical Section at 182.81° (3000 usft/in)
0
1500
3000
4500
6000
7500
9000
10500
12000
-7500
-6000
-4500
-3000
-1500
0
1500
3000
4500
6000
7500
9000
10500
12000
13500

Intent [X] As Drilled [ ]

API #

Operator Name:	Property Name:	Well Number
MEWBOURNE OIL COMPANY	RED HILLS WEST 22 W1CN	2H

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
C	22	26S	32E		10	N	1662	W	LEA

Latitude	Longitude	NAD
32.0355548	-103.6660292	83

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
C	22	26S	32E		100	N	1662	W	LEA

Latitude	Longitude	NAD
32.0353074	-103.6660288	83

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
N	22	26S	32E		100	S	1662	W	LEA

Latitude	Longitude	NAD
32.0211284	-103.6660015	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
MEWBOURNE		

KZ 06/29/2018

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**Mewbourne Oil Company**
LEASE NO.:	**NMNM0105562**
WELL NAME & NO.:	RED HILLS WEST 22 W1CN FED COM 2H
SURFACE HOLE FOOTAGE:	205'/N & 1950'/W
BOTTOM HOLE FOOTAGE	100'/S & 1650'/W
LOCATION:	Section 22, T.26 S., R.32 E., NMP
COUNTY:	Lea County, New Mexico

COA

H2S	(•) Yes	( ) No	
Potash	(•) None	( ) Secretary	( ) R-111-P
Cave/Karst Potential	( ) Low	(•) Medium	( ) High
Cave/Karst Potential	( ) Critical		
Variance	( ) None	(•) Flex Hose	( ) Other
Wellhead	( ) Conventional	(•) Multibowl	( ) Both
Other	[ ] 4 String Area	[ ] Capitan Reef	[ ] WIPP
Other	[x] Fluid Filled	[ ] Cement Squeeze	[ ] Pilot Hole
Special Requirements	[ ] Water Disposal	[x] COM	[ ] Unit

A. HYDROGEN SULFIDE

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

B. CASING

Casing Design:

1. The **13-3/8** inch surface casing shall be set at approximately **565** feet (a minimum of **25 feet (Lea County)** into the Rustler Anhydrite and above the salt) and cemented to the surface.

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

completing the cement job.

b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds 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 pounds compressive strength, whichever is greater.
d. If cement falls back, remedial cementing will be done prior to drilling out that string.

Intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.

2. The **9-5/8** inch intermediate casing shall be set at approximately **4375** feet. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:

- Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.**
Excess cement calculates to 22%, additional cement might be required.

❖ In Medium Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

3. The minimum required fill of cement behind the **7** inch 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.
Excess cement calculates to 2%, additional cement might be required.

Option 2:

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.
Excess cement calculates to 24%, additional cement might be required.

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

- Cement should tie-back **100 feet** into the previous casing. Operator shall provide method of verification.

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.

Option 1:

a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M)** psi.
b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the intermediate casing shoe shall be **10,000 (10M)** psi. **Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) psi.**

Option 2:

1. 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 **10,000 (10M)** psi. **Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) psi.**

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 OOGO2.III.A.2.i must be followed.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Carlsbad Field Office, 620 E Greene St. Carlsbad, New Mexico 88220, 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)

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

☒ Lea County
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 393-3612

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
      - Notify the BLM when moving in and removing the Spudder Rig.
      - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
      - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd 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 dog house or stairway area.

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

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, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing intergrity 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 intergrity 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-P potash area, the NMOCD 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 Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

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:

    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. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
    e. 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.

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, 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 when specified), 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).

    b. 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 plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).

    c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for

the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

d. 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.

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

f. 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.

g. 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.

h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

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.

OTA07082021

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 H2S were found. MOC will have on location and working all H2S 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 know hydrogen sulfide source. The initial training session shall include a review of the site specific Hydrogen Sulfide Drilling Operations Plan.

3. Hydrogen Sulfide Safety Equipment and Systems

All hydrogen sulfide safety equipment and systems will be installed, tested, and operational prior to drilling below the 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 H2S 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 H2S 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

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

Mewbourne Oil Company	**Hobbs District Office**	**575-393-5905**
	Fax	**575-397-6252**
	2nd Fax	**575-393-7259**
District Manager	**Robin Terrell**	**575-390-4816**
Drilling Superintendent	**Frosty Lathan**	**575-390-4103**
	Bradley Bishop	**575-390-6838**
Drilling Foreman	**Wesley Noseff**	**575-441-0729**

Operator Name: MEWBOURNE OIL COMPANY

Well Name: RED HILLS WEST 22 W1CN FED COM **Well Number:** 2H

Waste type: SEWAGE

Waste content description: Human waste & grey water

Amount of waste: 1500 gallons

Waste disposal frequency : Weekly

Safe containment description: 2,000 gallon plastic container

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** PRIVATE

Disposal type description:

Disposal location description: City of Carlsbad Water Treatment facility

Waste type: DRILLING

Waste content description: Drill cuttings

Amount of waste: 940 barrels

Waste disposal frequency : One Time Only

Safe containment description: Drill cuttings will be properly contained in steel tanks (20 yard roll off bins.)

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** PRIVATE

Disposal type description:

Disposal location description: NMOCD approved waste disposal locations are CRI or Lea Land, both facilities are located on HWY 62/180, Sec. 27 T20S R32E.

Reserve Pit

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit?

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? NO

Operator Name: MEWBOURNE OIL COMPANY

Well Name: RED HILLS WEST 22 W1CN FED COM **Well Number:** 2H

Description of cuttings location

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

Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: NO

Ancillary Facilities attachment:

Comments:

Section 9 - Well Site Layout

Well Site Layout Diagram:

RedHillsWest22_W1CNFedCom2H__wellsitelayout_20180627143140.pdf

Comments:

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance **Multiple Well Pad Name:**

Multiple Well Pad Number:

Recontouring attachment:

Drainage/Erosion control construction: None

Drainage/Erosion control reclamation: None

Well pad proposed disturbance (acres): 3.95
Road proposed disturbance (acres): 0.1999
Powerline proposed disturbance (acres): 0
Pipeline proposed disturbance (acres): 0
Other proposed disturbance (acres): 0
Total proposed disturbance: 4.1499

Well pad interim reclamation (acres): 0.459
Road interim reclamation (acres): 0
Powerline interim reclamation (acres): 0
Pipeline interim reclamation (acres): 2.9834712E-7
Other interim reclamation (acres): 1.205
Total interim reclamation: 1.6640003

Well pad long term disturbance (acres): 3.491
Road long term disturbance (acres): 0
Powerline long term disturbance (acres): 0
Pipeline long term disturbance (acres): 2.9834712E-7
Other long term disturbance (acres): 1.205
Total long term disturbance: 4.696

AFMSS

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

Drilling Plan Data Report

09/01/2021

APD ID: 10400035880
Submission Date: 11/02/2018

Operator Name: MEWBOURNE OIL COMPANY

Well Name: RED HILLS WEST 22 W1CN FED COM
Well Number: 2H

Well Type: CONVENTIONAL GAS WELL
Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
334126	UNKNOWN	3148	27	27		NONE	N
334137	RUSTLER	2611	537	537	ANHYDRITE, DOLOMITE	USEABLE WATER	N
334138	TOP SALT	1987	1161	1161	SALT	NONE	N
334127	BOTTOM SALT	-1081	4229	4229	SALT	NONE	N
334134	LAMAR	-1301	4449	4449	LIMESTONE	NATURAL GAS, OIL	N
334130	BELL CANYON	-1341	4489	4489	SANDSTONE	NATURAL GAS, OIL	N
334131	CHERRY CANYON	-2361	5509	5509	SANDSTONE	NATURAL GAS, OIL	N
334132	MANZANITA	-2521	5669	5669	LIMESTONE	NATURAL GAS, OIL	N
334135	BRUSHY CANYON	-4045	7193	7193	SANDSTONE	NATURAL GAS, OIL	N
334125	BONE SPRING	-5417	8565	8565	LIMESTONE, SHALE	NATURAL GAS, OIL	N
334128	BONE SPRING 1ST	-6346	9494	9494	SANDSTONE	NATURAL GAS, OIL	N
334129	BONE SPRING 2ND	-6971	10119	10119	SANDSTONE	NATURAL GAS, OIL	N
334136	BONE SPRING 3RD	-8144	11292	11292	SANDSTONE	NATURAL GAS, OIL	N
334133	WOLFCAMP	-8541	11689	11689	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

AFMSS

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

Drilling Plan Data Report

09/01/2021

APD ID: 10400035880
Submission Date: 11/02/2018

Operator Name: MEWBOURNE OIL COMPANY

Well Name: RED HILLS WEST 22 W1CN FED COM
Well Number: 2H

Well Type: CONVENTIONAL GAS WELL
Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
334126	UNKNOWN	3148	27	27		NONE	N
334137	RUSTLER	2611	537	537	ANHYDRITE, DOLOMITE	USEABLE WATER	N
334138	TOP SALT	1987	1161	1161	SALT	NONE	N
334127	BOTTOM SALT	-1081	4229	4229	SALT	NONE	N
334134	LAMAR	-1301	4449	4449	LIMESTONE	NATURAL GAS, OIL	N
334130	BELL CANYON	-1341	4489	4489	SANDSTONE	NATURAL GAS, OIL	N
334131	CHERRY CANYON	-2361	5509	5509	SANDSTONE	NATURAL GAS, OIL	N
334132	MANZANITA	-2521	5669	5669	LIMESTONE	NATURAL GAS, OIL	N
334135	BRUSHY CANYON	-4045	7193	7193	SANDSTONE	NATURAL GAS, OIL	N
334125	BONE SPRING	-5417	8565	8565	LIMESTONE, SHALE	NATURAL GAS, OIL	N
334128	BONE SPRING 1ST	-6346	9494	9494	SANDSTONE	NATURAL GAS, OIL	N
334129	BONE SPRING 2ND	-6971	10119	10119	SANDSTONE	NATURAL GAS, OIL	N
334136	BONE SPRING 3RD	-8144	11292	11292	SANDSTONE	NATURAL GAS, OIL	N
334133	WOLFCAMP	-8541	11689	11689	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Operator Name: MEWBOURNE OIL COMPANY

Well Name: RED HILLS WEST 22 W1CN FED COM **Well Number:** 2H

Pressure Rating (PSI): 10M **Rating Depth:** 16934

Equipment: Annular, Pipe Rams, Blind Rams

Requesting Variance? YES

Variance request: A variance is requested for use of a 5000 psi annular BOP with the 10,000 psi BOP stack. Request variance for the use of a flexible choke line from the BOP to Choke Manifold. Anchors not required by manufacturer. A multi-bowl wellhead will be used. See attached schematic.
Testing Procedure: BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher 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. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold.
Choke Diagram Attachment:

Red_Hills_West_22_W1CN_Fed_Com_2H_Flex_Line_Specs_20181031134958.pdf

Red_Hills_West_22_W1CN_Fed_Com_2H_10M_BOPE_Choke_Diagram_20181031135022.pdf

BOP Diagram Attachment:

Red_Hills_West_22_W1CN_Fed_Com_2H_10M_BOPE_Schematic_w_5M_Annular_20181031135131.pdf

Red_Hills_West_22_W1CN_Fed_Com_2H_10M_Multi_Bowl_WH_Running_Proc_20181031135134.pdf

Red_Hills_West_22_W1CN_Fed_Com_2H_10M_Annular_BOP_Variance_20181031135129.doc

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	17.5	13.375	NEW	API	N	0	565	0	565			565	H-40	48	ST&C	2.98	6.69	DRY	11.87	DRY	19.95
2	INTERMEDIATE	12.25	9.625	NEW	API	Y	0	4375	0	4375			4375	J-55	36	LT&C	1.13	1.96	DRY	2.81	DRY	3.5
3	PRODUCTION	8.75	7.0	NEW	API	N	0	12256	0	11926			12256	P-110	26	LT&C	1.32	1.69	DRY	2.61	DRY	2.18
4	LINER	6.125	4.5	NEW	API	N	11359	16934	11353	11941			5575	P-110	13.5	LT&C	1.32	1.54	DRY	4.49	DRY	5.61

Casing Attachments

Operator Name: MEWBOURNE OIL COMPANY

Well Name: RED HILLS WEST 22 W1CN FED COM **Well Number:** 2H

Casing Attachments

Casing ID: 1 **String Type:** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Red_Hills_West_22_W1CN_Fed_Com_2H_Csg_Assumptions_20181031135444.pdf

Casing ID: 2 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Red_Hills_West_22_W1CN_Fed_Com_2H_Intermediate_Tapered_String_Diagram_20181031140418.xlsx

Casing Design Assumptions and Worksheet(s):

Red_Hills_West_22_W1CN_Fed_Com_2H_Csg_Assumptions_20181031140525.pdf

Casing ID: 3 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Red_Hills_West_22_W1CN_Fed_Com_2H_Csg_Assumptions_20181031140913.pdf

Operator Name: MEWBOURNE OIL COMPANY

Well Name: RED HILLS WEST 22 W1CN FED COM **Well Number:** 2H

Casing Attachments

Casing ID: 4 **String Type:** LINER

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Red_Hills_West_22_W1CN_Fed_Com_2H_Csg_Assumptions_20181031141132.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	372	250	2.12	12.5	530	100	Class C	Salt, Gel, Extender, LCM
SURFACE	Tail		372	565	200	1.34	14.8	268	100	Class C	Retarder
INTERMEDIATE	Lead		0	3684	680	2.12	12.5	1442	25	Class C	Salt, Gel, Extender, LCM
INTERMEDIATE	Tail		3684	4375	200	1.34	14.8	268	25	Class C	Retarder
PRODUCTION	Lead	5669	4175	4952	70	2.12	12.5	148	25	Class C	Gel, Retarder, Defoamer, Extender
PRODUCTION	Tail		4952	5669	100	1.34	14.8	134	25	Class C	Retarder
PRODUCTION	Lead	5669	5669	9744	365	2.12	12.5	774	25	Class C	Gel, Retarder, Defoamer, Extender
PRODUCTION	Tail		9744	12256	400	1.18	15.6	472	25	Class H	Retarder, Fluid Loss, Defoamer
LINER	Lead		11359	16934	220	2.97	11.2	653	25	Class C	Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti-Settling Agent

Operator Name: MEWBOURNE OIL COMPANY

Well Name: RED HILLS WEST 22 W1CN FED COM **Well Number:** 2H

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: Lost circulation material Sweeps Mud scavengers in surface hole

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
0	4375	SALT SATURATED	10	10							
0	12256	WATER-BASED MUD	8.6	9.5							
11359	11941	OIL-BASED MUD	10	13							
0	565	SPUD MUD	8.6	8.8							

Section 6 - Test, Logging, Coring

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

Will run GR/CNL from KOP (11359') to surface.
Will run MWD GR from KOP (11359') to TD.

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

CNL,DS,GR,MWD,MUDLOG

Coring operation description for the well:

None

Operator Name: MEWBOURNE OIL COMPANY

Well Name: RED HILLS WEST 22 W1CN FED COM **Well Number:** 2H

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 8072 **Anticipated Surface Pressure:** 5401.2

Anticipated Bottom Hole Temperature(F): 165

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

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

Red_Hills_West_22_W1CN_Fed_Com_2H_H2S_Plan_20181031160310.doc

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Red_Hills_West_22_W1CN_Fed_Com_2H__Dir_Plan_20181031160546.pdf
Red_Hills_West_22_W1CN_Fed_Com_2H__Dir_Plot_20181031160546.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

Red_Hills_West_22_W1CN_Fed_Com_2H_Drlg_Program_20181031160752.pdf
Red_Hills_West_22_W1CN_Fed_Com_2H_C101_20181031160752.pdf

Other Variance attachment:

CONFIDENTIAL

10M BOPE & Closed Loop Equipment Schematic

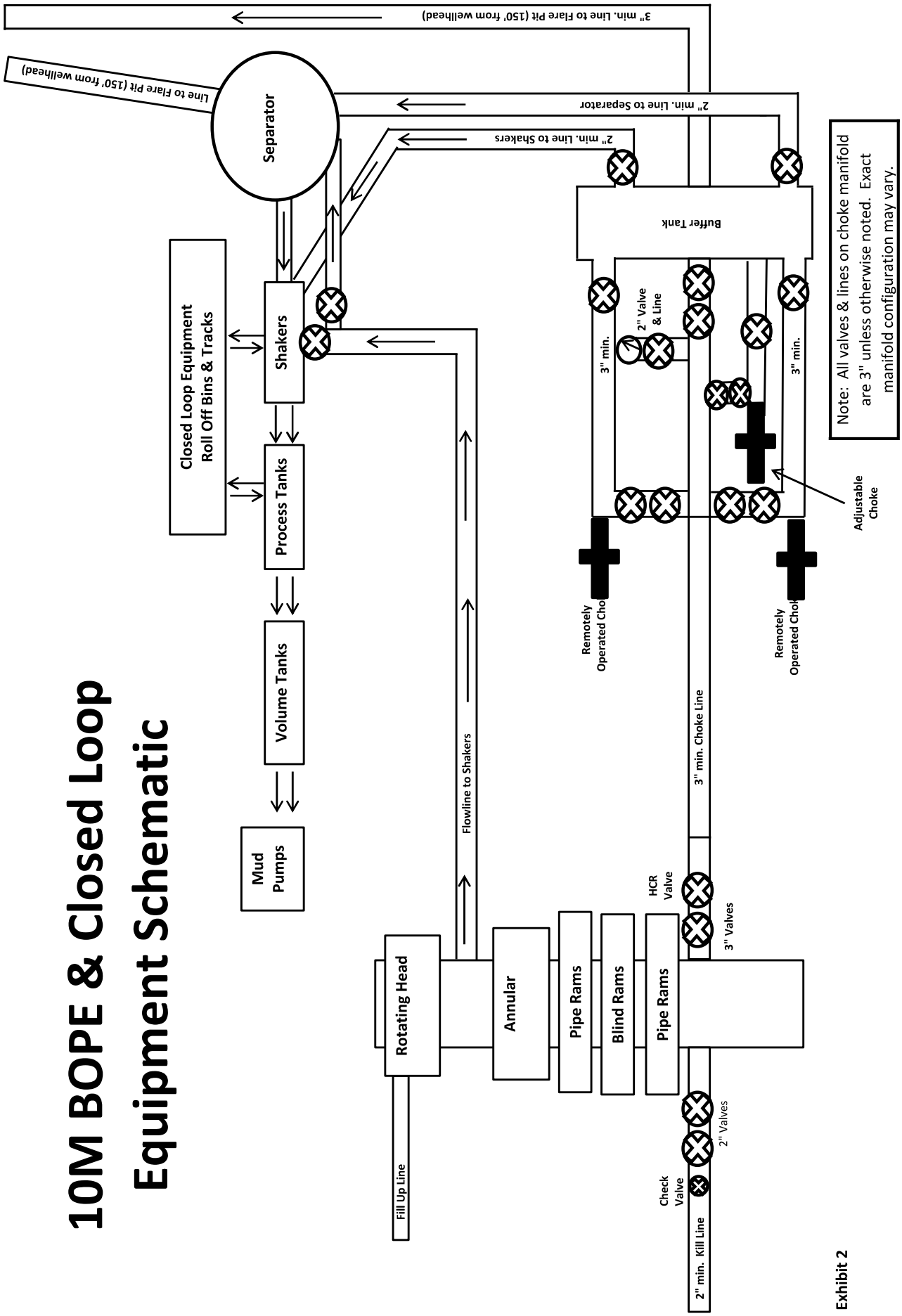
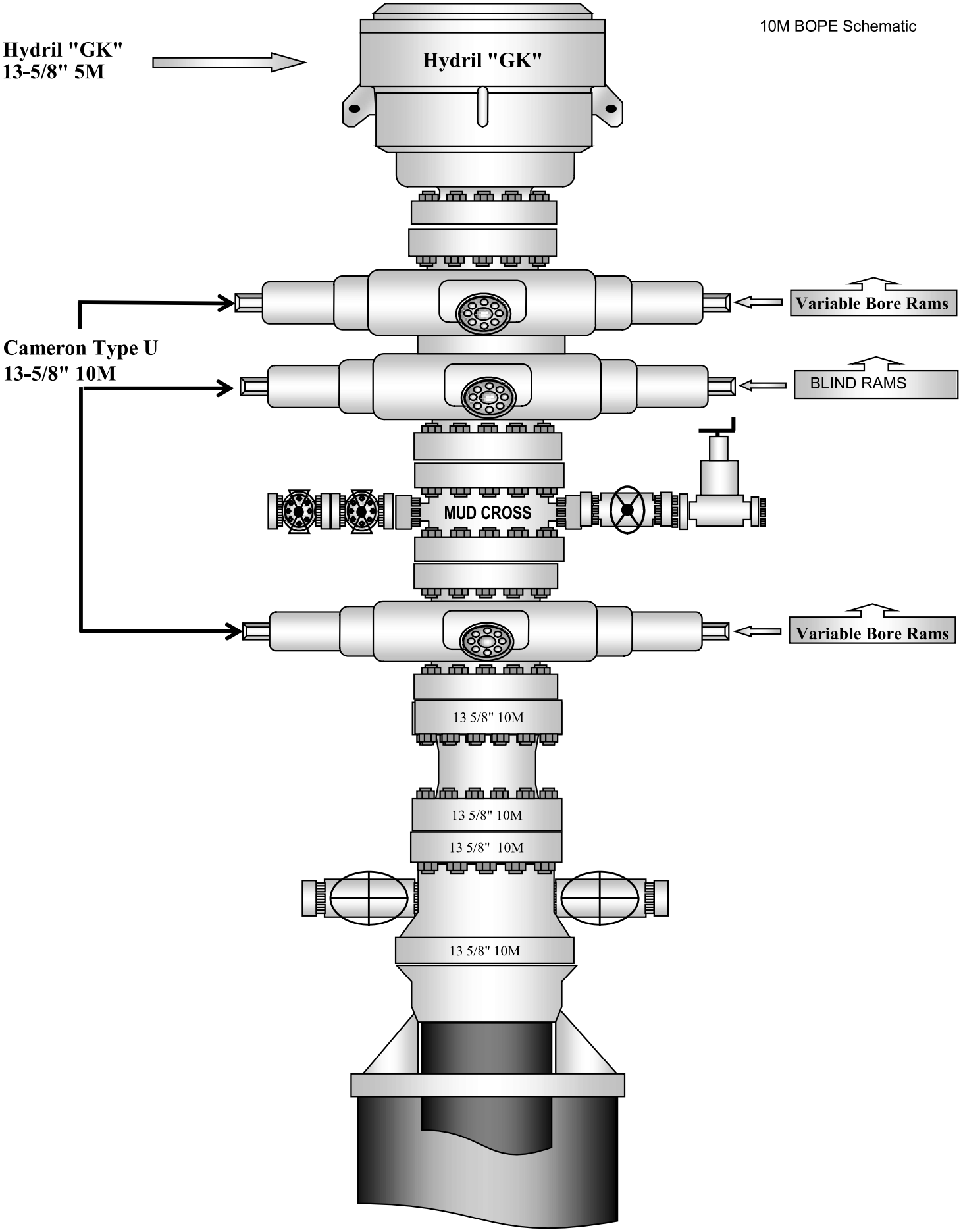


Exhibit 2

10M BOPE Schematic



10,000 PSI Annular BOP Variance Request

Mewbourne Oil Company request a variance to use a 5000 psi annular BOP with a 10,000 psi BOP stack. The component and compatibility tables along with the general well control plans demonstrate how the 5000 psi annular BOP will be protected from pressures that exceed its rated working pressure (RWP). The pressure at which the control of the wellbore is transferred from the annular preventer to another available preventer will not exceed 3500 psi (70% of the RWP of the 5000 psi annular BOP).

1. Component and Preventer Compatibility Tables

The tables below outline the tubulars and the compatible preventers in use. This table, combined with the drilling fluid, documents that two barriers to flow will be maintained at all times.

12-1/4" Intermediate Hole Section 10M psi Requirement					
Component	**OD**	**Primary Preventer**	**RWP**	**Alternate Preventer(s)**	**RWP**
Drillpipe	5.000" or 4.500"	Annular	5M	Upper 3.5"-5.5" VBR Lower 3.5"-5.5" VBR	10M 10M
HWDP	5.000" or 4.500"	Annular	5M	Upper 3.5"-5.5" VBR Lower 3.5"-5.5" VBR	10M 10M
Jars	6.500"	Annular	5M	-	-
DCs and MWD tools	6.500"- 8.000"	Annular	5M	-	-
Mud Motor	8.000"- 9.625"	Annular	5M	-	-
Intermediate Casing	9.625"	Annular	5M	-	-
Open-Hole	-	Blind Rams	10M	-	-

8-3/4" Production Hole Section 10M psi Requirement					
Component	**OD**	**Primary Preventer**	**RWP**	**Alternate Preventer(s)**	**RWP**
Drillpipe	5.000" or 4.500"	Annular	5M	Upper 3.5"-5.5" VBR Lower 3.5"-5.5" VBR	10M 10M
HWDP	5.000" or 4.500"	Annular	5M	Upper 3.5"-5.5" VBR Lower 3.5"-5.5" VBR	10M 10M
Jars	6.500"	Annular	5M	-	-
DCs and MWD tools	6.500"- 8.000"	Annular	5M	-	-
Mud Motor	6.750"- 8.000"	Annular	5M	-	-
Production Casing	7"	Annular	5M	-	-

Open-Hole	-	Blind Rams	10M	-	-

6-1/8" Lateral Hole Section 10M psi Requirement					
Component	**OD**	**Primary Preventer**	**RWP**	**Alternate Preventer(s)**	**RWP**
Drillpipe	4.500"	Annular	5M	Upper 3.5"-5.5" VBR Lower 3.5"-5.5" VBR	10M 10M
HWDP	4.500"	Annular	5M	Upper 3.5"-5.5" VBR Lower 3.5"-5.5" VBR	10M 10M
DCs and MWD tools	4.750"- 5.500"	Annular	5M	Upper 3.5"-5.5" VBR Lower 3.5"-5.5" VBR	10M 10M
Mud Motor	4.750"- 5.500"	Annular	5M	Upper 3.5"-5.5" VBR Lower 3.5"-5.5" VBR	10M 10M
Production Casing	4.500"	Annular	5M	Upper 3.5"-5.5" VBR Upper 3.5"-5.5" VBR	10M 10M
Open-Hole	-	Blind Rams	10M	-	-

VBR = Variable Bore Ram

2. Well Control Procedures

Below are the minimal high-level tasks prescribed to assure a proper shut-in while drilling, tripping, running casing, pipe out of the hole (open hole), and moving the BHA through the BOPs. At least one well control drill will be performed weekly per crew to demonstrate compliance with the procedure and well control plan. The well control drill will be recorded in the daily drilling log. The type of drill will be determined by the ongoing operations, but reasonable attempts will be made to vary the type of drill conducted (pit, trip, open hole, choke, etc.). This well control plan will be available for review by rig personnel in the Mewbourne Oil Company drilling supervisor's office on location and on the rig floor. All BOP equipment will be tested as per Onshore O&G Order No. 2 with the exception of the 5000 psi annular which will be tested to 70% of its RWP.

General Procedure While Drilling

1. Sound alarm (alert crew)
2. Space out drill string
3. Shut down pumps (stop pumps and rotary)
4. Shut-in well (uppermost applicable BOP, typically annular preventer, first. HCR & choke will already be in the closed position.)

5. Confirm shut-in
6. Notify toolpusher/company representative
7. Read and record the following:
    a. SIDPP & SICP
    b. Pit gain
    c. Time
8. Regroup and identify forward plan
9. If pressure has built or is anticipated during the kill to reach 70% or greater of the RWP of the annular preventer, confirm spacing and close the upper variable bore rams.

General Procedure While Tripping

1. Sound alarm (alert crew)
2. Stab full-opening safety valve & close
3. Space out drill string
4. Shut-in well (uppermost applicable BOP, typically annular preventer, first. HCR & choke will already be in the closed position.)
5. Confirm shut-in
6. Notify toolpusher/company representative
7. Read and record the following:
    a. SIDPP & SICP
    b. Pit gain
    c. Time
8. Regroup and identify forward plan
9. If pressure has built or is anticipated during the kill to reach 70% of the RWP of the annular preventer, confirm spacing and close the upper variable bore rams.

General Procedure While Running Production Casing

1. Sound alarm (alert crew)

2. Stab crossover and full-opening safety valve and close
3. Space out string
4. Shut-in well (uppermost applicable BOP, typically annular preventer, first. HCR & choke will already be in the closed position.)
5. Confirm shut-in
6. Notify toolpusher/company representative
7. Read and record the following:
    a. SIDPP & SICP
    b. Pit gain
    c. Time
8. Regroup and identify forward plan
9. If pressure has built or is anticipated during the kill to reach 70% or greater of the RWP of the annular preventer, confirm spacing and close the upper variable bore rams.

General Procedure With No Pipe In Hole (Open Hole)

1. Sound alarm (alert crew)
2. Shut-in with blind rams (HCR & choke will already be in the closed position)
3. Confirm shut-in
4. Notify toolpusher/company representative
5. Read and record the following:
    a. SICP
    b. Pit gain
    c. Time
6. Regroup and identify forward plan

General Procedures While Pulling BHA Through Stack

1. PRIOR to pulling last joint of drillpipe through stack:
    a. Perform flow check. If flowing, continue to (b).
    b. Sound alarm (alert crew)
    c. Stab full-opening safety valve and close
    d. Space out drill string with tool joint just beneath the upper variable bore rams
    e. Shut-in using upper variable bore rams (HCR & choke will already be in the closed position)
    f. Confirm shut-in
    g. Notify toolpusher/company representative
    h. Read and record the following:
        i. SIDPP & SICP
        ii. Pit gain
        iii. Time
    i. Regroup and identify forward plan
2. With BHA in the stack and compatible ram preventer and pipe combination immediately available:
    a. Sound alarm (alert crew)
    b. Stab crossover and full-opening safety valve and close
    c. Space out drill string with upset just beneath the upper variable bore rams
    d. Shut-in using upper variable bore rams (HCR & choke will already be in the closed position)
    e. Confirm shut-in
    f. Notify toolpusher/company representative
    g. Read and record the following:
        i. SIDPP & SICP
        ii. Pit gain

iii. Time

h. Regroup and identify forward plan

3. With BHA in the stack and NO compatible ram preventer and pipe combination immediately available:

a. Sound alarm (alert crew)

b. If possible, pull string clear of the stack and follow "Open Hole" procedure.

c. If impossible to pull string clear of the stack:

d. Stab crossover, make up one joint/stand of drillpipe and full-opening safety valve and close

e. Space out drill string with tooljoint just beneath the upper variable bore ram

f. Shut-in using upper variable bore ram (HCR & choke will already be in the closed position)

g. Confirm shut-in

h. Notify toolpusher/company representative

i. Read and record the following:

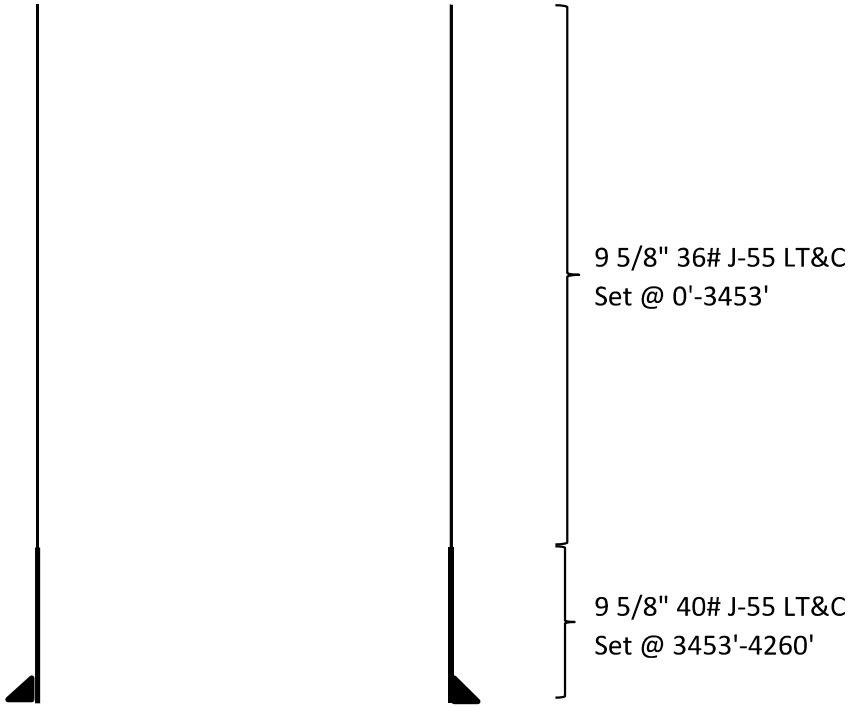
i. SIDPP & SICP

ii. Pit gain

iii. Time

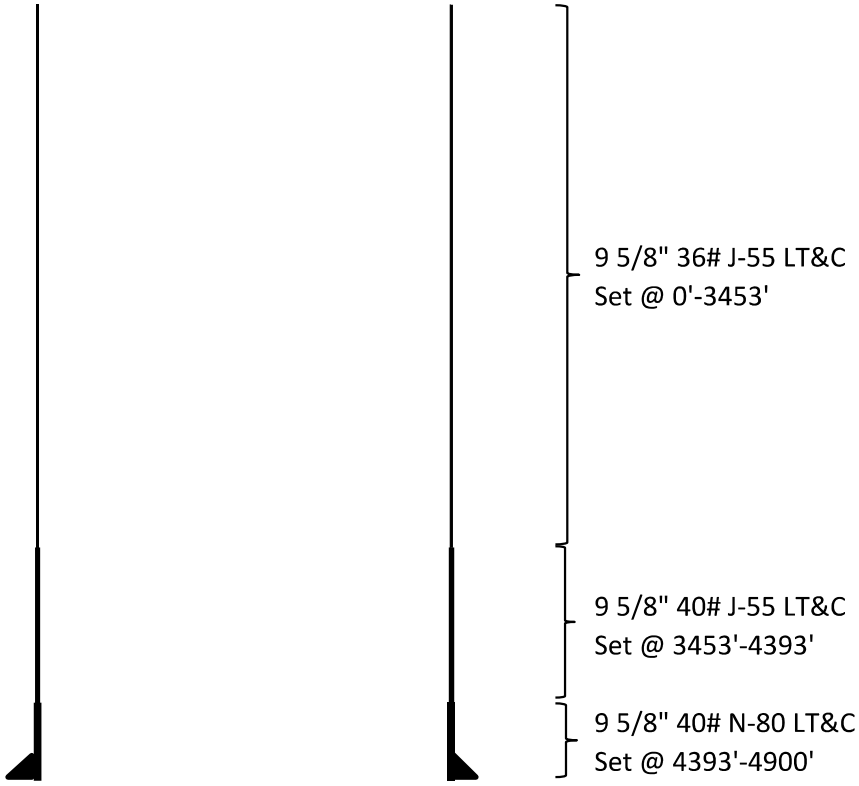
j. Regroup and identify forward plan

Red Hills West Unit #018H
Intermediate Casing



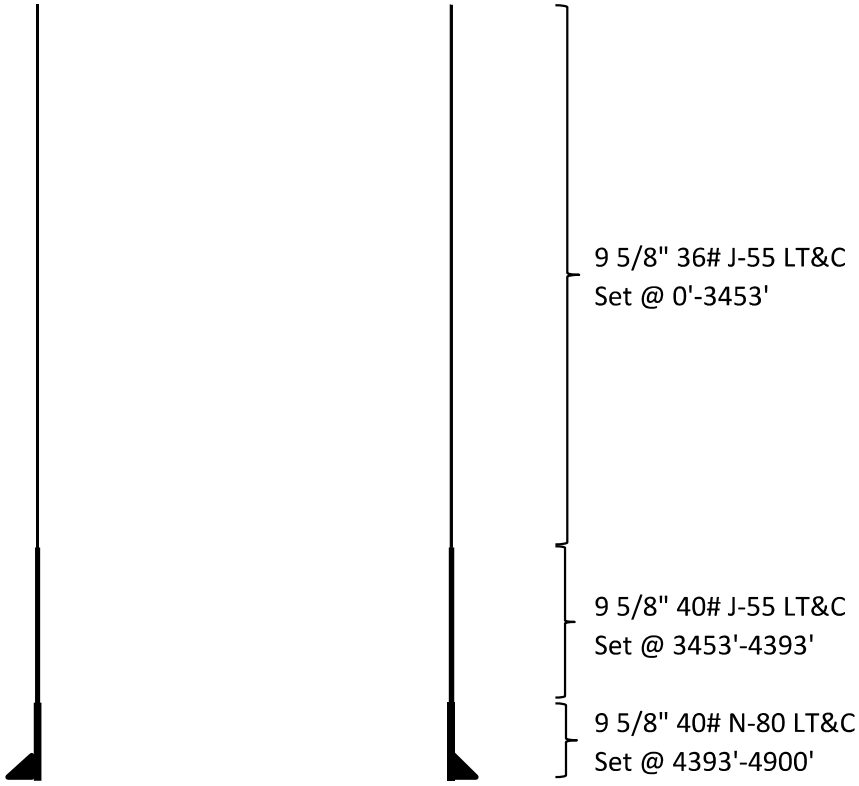
Casing	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
36# J-55	1.13	1.96	2.89	4.54
40# J-55	1.16	1.78	16.11	19.52

Salado Draw 9 W1DM Fed Com #3H
Intermediate Casing



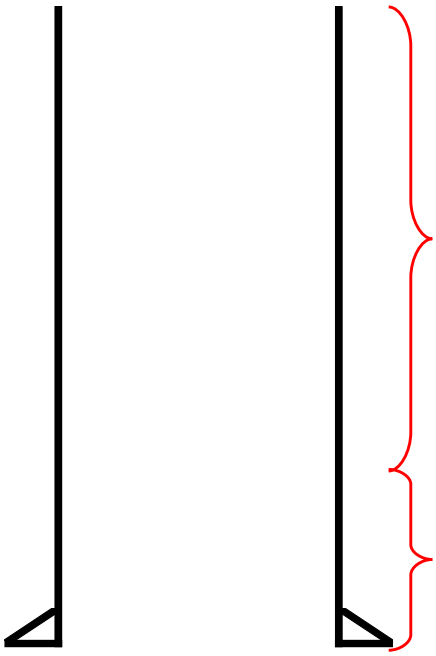
Casing	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
36# J-55	1.13	1.96	2.49	4.54
40# J-55	1.13	1.73	8.98	16.75
40# N-80	1.21	2.26	36.35	45.18

Salado Draw 9/16 W1BO Fed Com #3H
Intermediate Casing



Casing	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
36# J-55	1.13	1.96	2.78	4.54
40# J-55	1.13	1.73	8.98	16.75
40# N-80	1.21	2.26	36.35	45.18

TAPERED STRING DIAGRAM



	COLLAPSE	BURST	JOINT YIELD	BODY YIELD
36#	1.130	1.960	2.810	3.500
40#	1.360	2.530	19.691	24.810

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 48673

CONDITIONS

Operator:	OGRID:
MEWBOURNE OIL CO P.O. Box 5270 Hobbs, NM 88241	14744
	Action Number: 48673
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104	9/28/2021
pkautz	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	9/28/2021
pkautz	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	9/28/2021
pkautz	Cement is required to circulate on both surface and intermediate1 strings of casing	9/28/2021