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.: NMNM0160973Z

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.: ZACH 17 FED [334564] 452H

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

9. API Well No.: 30-025-51806

3a. Address: P O BOX 5270, HOBBS, NM 88241

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

10. Field and Pool, or Exploratory: BRADLEY/BONE SPRING

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

At surface: NWNW / 210 FNL / 1160 FWL / LAT 32.0356942 / LONG -103.5990803

At proposed prod. zone: NWNW / 100 FNL / 1300 FWL / LAT 32.0505132 / LONG -103.5986419

11. Sec., T. R. M. or Blk. and Survey or Area: SEC 20/T26S/R33E/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): 320 feet

16. No of acres in lease:

17. Spacing Unit dedicated to this well: 160.0

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

19. Proposed Depth: 10274 feet / 15750 feet

20. BLM/BIA Bond No. in file: FED: NM 1693

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 3261 feet

22. Approximate date work will start*: 05/17/2021

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	Name *(Printed/Typed)*	Date
(Electronic Submission)	BRADLEY BISHOP / Ph: (575) 393-5905	03/21/2023

Title: Regulatory

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	CODY LAYTON / Ph: (575) 234-5959	07/18/2023

Title	Office
Assistant Field Manager Lands & Minerals	Carlsbad Field Office

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

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 08/08/2023

SL

APPROVED WITH CONDITIONS

KZ
08/08/2023

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 07/18/2023

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

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
30-025-51806	7280	Bradley; Bone Spring

4 Property Code	5 Property Name	6 Well Number
334564	ZACH 17 FED	452H

7 OGRID NO.	8 Operator Name	9 Elevation
14744	MEWBOURNE OIL COMPANY	3261'

10 Surface Location

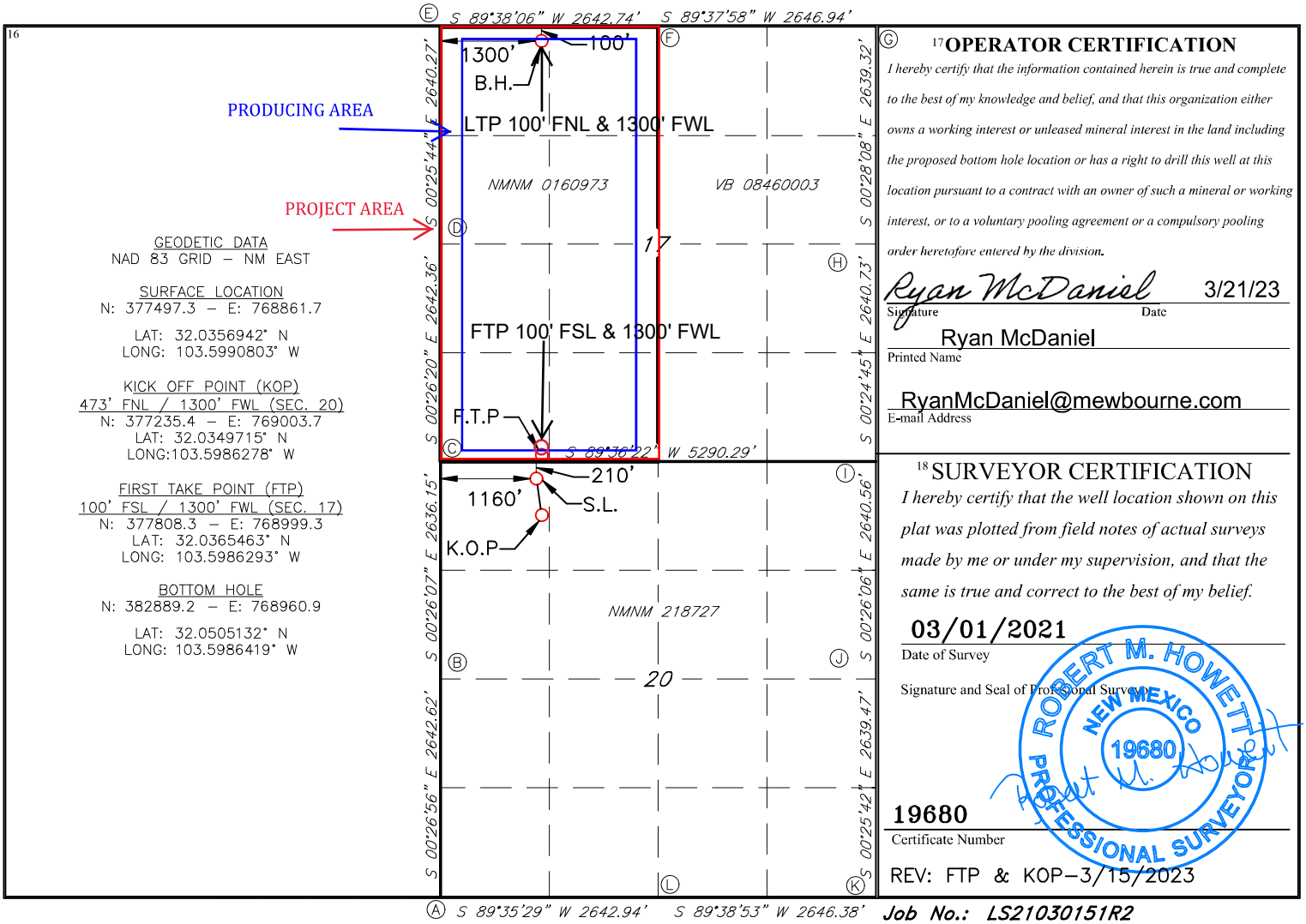
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet From the	East/West line	County
D	20	26S	33E		210	NORTH	1160	WEST	LEA

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
D	17	26S	33E		100	NORTH	1300	WEST	LEA

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.
320			

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.



GEODETIC DATA
NAD 83 GRID – NM EAST

SURFACE LOCATION
N: 377497.3 – E: 768861.7
LAT: 32.0356942° N
LONG: 103.5990803° W

KICK OFF POINT (KOP)
473' FNL / 1300' FWL (SEC. 20)
N: 377235.4 – E: 769003.7
LAT: 32.0349715° N
LONG:103.5986278° W

FIRST TAKE POINT (FTP)
100' FSL / 1300' FWL (SEC. 17)
N: 377808.3 – E: 768999.3
LAT: 32.0365463° N
LONG: 103.5986293° W

BOTTOM HOLE
N: 382889.2 – E: 768960.9
LAT: 32.0505132° N
LONG: 103.5986419° W

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.

Ryan McDaniel 3/21/23
Signature Date

Ryan McDaniel
Printed Name

RyanMcDaniel@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.

03/01/2021
Date of Survey

Signature and Seal of Professional Surveyor:

ROBERT M. HOWETT NEW MEXICO 19680 PROFESSIONAL SURVEYOR

19680
Certificate Number

REV: FTP & KOP–3/15/2023

Job No.: LS21030151R2

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:** 5/2/22

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
Zach 17 Fed #452	30-025-51806	D 20 26S 33E	210' FNL x 1160' FWL	1500	3500	3500

IV. Central Delivery Point Name: Zach 17 Fed #452 [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
Zach 17 Fed #452	30-025-51806	7/2/22	8/2/22	9/2/22	9/17/22	9/17/22

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:	5/2/22
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 pressureventing 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 thediversion 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
07/24/2023

APD ID: 10400091226
Submission Date: 03/21/2023
Operator Name: MEWBOURNE OIL COMPANY
Well Name: ZACH 17 FED
Well Number: 452H
Well Type: OIL 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	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
10095873	UNKNOWN	3261	28	28	OTHER : Top Soil	NONE	N
10095884	RUSTLER	2461	800	800	ANHYDRITE, DOLOMITE	USEABLE WATER	N
10095885	TOP SALT	2161	1100	1100	SALT	NONE	N
10095874	BOTTOM SALT	-1339	4600	4600	SALT	NONE	N
10095881	LAMAR	-1589	4850	4850	LIMESTONE	NATURAL GAS, OIL	N
10095877	BELL CANYON	-1609	4870	4870	SANDSTONE	NATURAL GAS, OIL	N
10095878	CHERRY CANYON	-2659	5920	5920	SANDSTONE	NATURAL GAS, OIL	N
10095872	BRUSHY CANYON	-4039	7300	7300	SANDSTONE	NATURAL GAS, OIL	N
10095875	BONE SPRING	-5749	9010	9010	LIMESTONE, SHALE	NATURAL GAS, OIL	N
10095886	BONE SPRING 1ST	-6729	9990	9990	SANDSTONE	NATURAL GAS, OIL	N
10095887	BONE SPRING 2ND	-7308	10569	10569	SANDSTONE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 5M
Rating Depth: 15750

Equipment: Annular, Pipe Rams, Blind Rams

Requesting Variance? YES

Variance request: 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

Operator Name: MEWBOURNE OIL COMPANY

Well Name: ZACH 17 FED **Well Number:** 452H

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. See attached schematics.

Choke Diagram Attachment:

Zach_17_Fed_452H_5M_BOPE_Choke_Diagram_20230321135850.pdf

Zach_17_Fed_452H_Flex_Line_Specs_API_16C_20230321135858.pdf

Zach_17_Fed_452H_Flex_Line_Specs_20230321135858.pdf

BOP Diagram Attachment:

Zach_17_Fed_452H_5M_BOPE_Schematic_20230321135905.pdf

Zach_17_Fed_452H_5M_Mutli_Bowl_WH_20230321135905.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	1050	0	1050	3261	2211	1050	H-40	48	ST&C	1.6	3.6	DRY	6.39	DRY	10.73
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	3453	0	3453	3326	-192	3453	J-55	36	LT&C	1.13	1.96	DRY	2.56	DRY	3.18
3	INTERMEDIATE	12.25	9.625	NEW	API	N	3453	4393	3453	4393	-192	-1132	940	J-55	40	LT&C	1.13	1.73	DRY	9.83	DRY	11.91
4	INTERMEDIATE	12.25	9.625	NEW	API	N	4393	4775	4393	4775	-1125	-1514	382	N-80	40	LT&C	1.24	2.32	DRY	48.25	DRY	59.97
5	PRODUCTION	8.75	7.0	NEW	API	N	0	9800	0	9793	3326	-6532	9800	P-110	26	LT&C	1.26	2.01	DRY	2.51	DRY	3.26
6	LINER	6.125	4.5	NEW	API	N	9568	15750	9510	10274	-6249	-7013	6182	P-110	13.5	LT&C	1.65	1.92	DRY	4.05	DRY	5.06

Casing Attachments

Operator Name: MEWBOURNE OIL COMPANY

Well Name: ZACH 17 FED **Well Number:** 452H

Casing Attachments

Casing ID: 1 **String** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Zach_17_Fed_452H_Csg_Data_20230321135950.pdf

Casing ID: 2 **String** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Zach_17_Fed_452H_Csg_Data_20230321140048.pdf

Casing ID: 3 **String** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Zach_17_Fed_452H_Csg_Data_20230321135936.pdf

Operator Name: MEWBOURNE OIL COMPANY

Well Name: ZACH 17 FED **Well Number:** 452H

Casing Attachments

Casing ID: 4 **String** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Zach_17_Fed_452H_Csg_Data_20230321135926.pdf

Casing ID: 5 **String** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Zach_17_Fed_452H_Csg_Data_20230321140059.pdf

Casing ID: 6 **String** LINER

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Zach_17_Fed_452H_Csg_Data_20230321140109.pdf

Section 4 - Cement

Operator Name: MEWBOURNE OIL COMPANY

Well Name: ZACH 17 FED **Well Number:** 452H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	859	570	2.12	12.5	1208	100	Class C	Salt, Gel, Extender, LCM
SURFACE	Tail		859	1050	200	1.34	14.8	268	100	Class C	Retarder
INTERMEDIATE	Lead		0	4086	750	2.12	12.5	1590	25	Class C	Salt, Gel, Extender, LCM
INTERMEDIATE	Tail		4086	4775	200	1.34	14.8	268	25	Class C	Retarder
PRODUCTION	Lead	5900	4575	5128	420	2.12	12.5	890	25	Class C	Gel, Retarder, Defoamer, Extender
PRODUCTION	Tail		5128	5900	100	1.34	14.8	134	25	Class H	Retarder, Fluid Loss, Defoamer
PRODUCTION	Lead	5900	5900	7338	130	2.12	12.5	276	25	Class C	Gel, Retarder, Defoamer, Extender
PRODUCTION	Tail		7338	9800	400	1.18	15.6	472	25	Class H	Retarder, Fluid Loss, Defoamer
LINER	Lead		9568	15750	400	1.85	13.5	740	25	Class H	Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti-Settling Agent

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

Description of the equipment for the circulating system in accordance with Onshore Order #2:

Diagram of the equipment for the circulating system in accordance with Onshore Order #2:

Describe what will be on location to control well or mitigate other conditions: Lost circulation material Sweeps Mud scavengers in surface hole

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

Circulating Medium Table

Operator Name: MEWBOURNE OIL COMPANY

Well Name: ZACH 17 FED **Well Number:** 452H

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	1050	SPUD MUD	8.6	8.8							
1050	4775	SALT SATURATED	10	10							
4775	9800	WATER-BASED MUD	8.6	9.7							
9800	15750	OIL-BASED MUD	8.6	12							

Section 6 - Test, Logging, Coring

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

Will run GR/CNL in offset well Zach 17/8 B2NC Fed Com #3H.

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

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

Coring operation description for the well:

None

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 6448 **Anticipated Surface Pressure:** 4174

Anticipated Bottom Hole Temperature(F): 150

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

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations

Zach_17_Fed_452H_H2S_Plan_20230321140153.pdf

Operator Name: MEWBOURNE OIL COMPANY

Well Name: ZACH 17 FED **Well Number:** 452H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Zach_17_Fed_452H_MOC_Dir_Plan_20230321140208.pdf

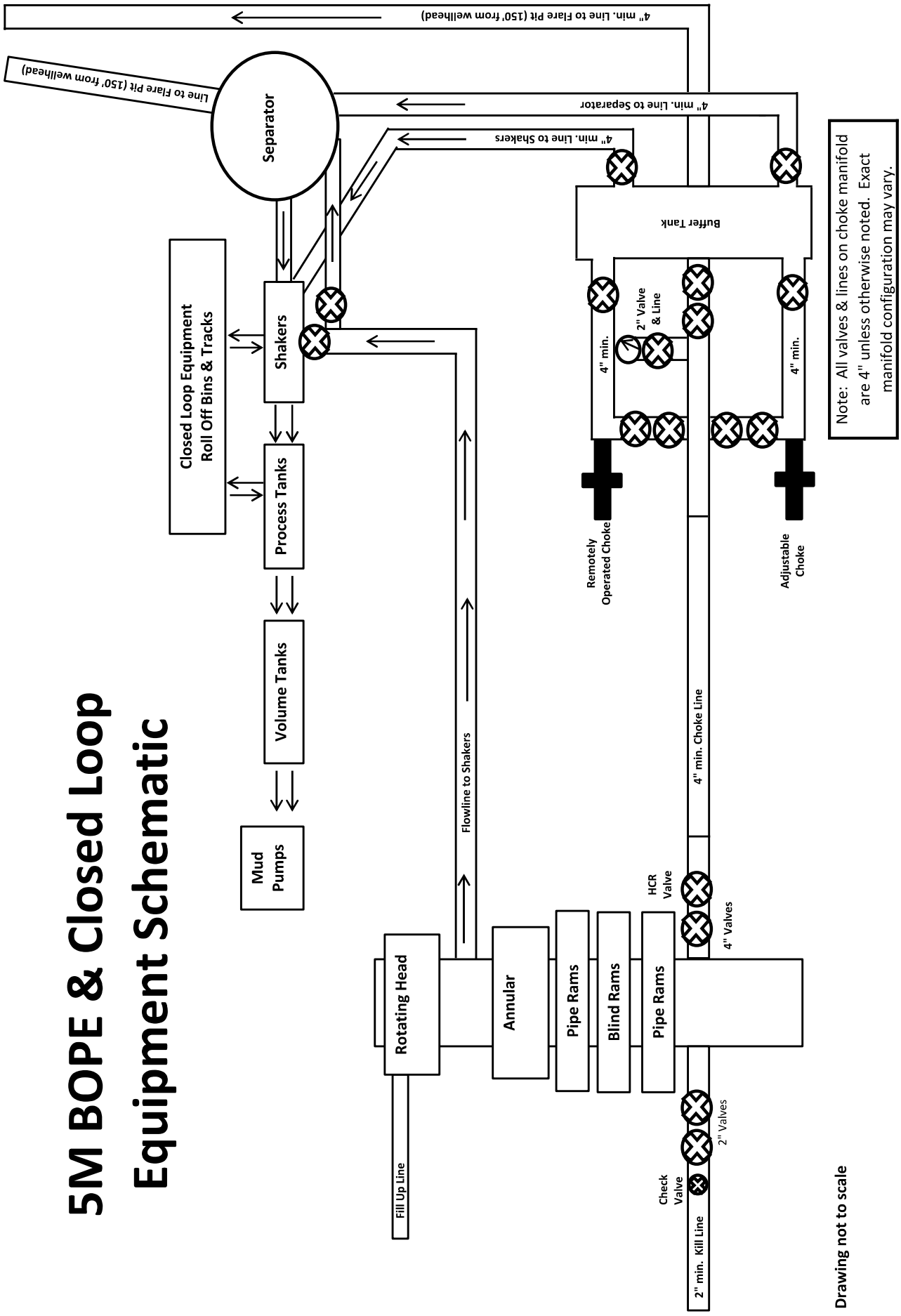
Zach_17_Fed_452H_MOC_Dir_Plot_20230321140208.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

Zach_17_Fed_452H_Add_Info_20230321140215.pdf

Other Variance attachment:


5M BOPE & Closed Loop
Equipment Schematic
4" min. Line to Flare Pit (150' from wellhead)
Line to Flare Pit (150' from wellhead)
Separator
4" min. Line to Separator
4" min. Line to Shakers
Buffer Tank
Closed Loop Equipment
Roll Off Bins & Tracks
Shakers
Process Tanks
Volume Tanks
Mud Pumps
Flowline to Shakers
4" min.
2" Valve & Line
4" min.
Remotely Operated Choke
Adjustable Choke
Note: All valves & lines on choke manifold are 4" unless otherwise noted. Exact manifold configuration may vary.
4" min. Choke Line
HCR Valve
4" Valves
Rotating Head
Annular
Pipe Rams
Blind Rams
Pipe Rams
Fill Up Line
Check Valve
2" Valves
2" min. Kill Line
Drawing not to scale

GATES ENGINEERING & SERVICES NORTH AMERICA
7603 Prairie Oak Dr.
Houston, TX 77086

PHONE: (281) 602 - 4119
FAX:
EMAIL: Troy.Schmidt@gates.com
WEB: www.gates.com

10K CHOKE & KILL ASSEMBLY PRESSURE TEST CERTIFICATE

Customer:	A-7 AUSTIN INC DBA AUSTIN HOSE	Test Date:	8/20/2018
Customer Ref.:	4101901	Hose Serial No.:	H-082018-10
Invoice No.:	511956	Created By:	Moosa Naqvi

Product Description:	10KF3.035.0CK41/1610KFLGFXDxFLT L/E

End Fitting 1:	4 1/16 in. Fixed Flange	End Fitting 2:	4 1/16 in. Float Flange
Gates Part No.:	68503010-9721632	Assembly Code:	L40695052218H-082018-10
Working Pressure:	10,000 psi.	Test Pressure:	15,000 psi.

Gates Engineering & Services North America certifies that the following hose assembly has successfully passed all pressure testing requirements set forth in Gates specifications: GTS-04-052 (for 5K assemblies) or GTS-04-053 (10K assemblies), which include reference to Specification API 16C (2nd Edition); sections 7.5.4, 7.5.9, and 10.8.7. A test graph will accompany this test certificate to illustrate conformity to test requirements.

Quality:	QUALITY	Production:	PRODUCTION
Date :	8/20/2018	Date :	8/20/2018
Signature :	Moosa Naqvi	Signature :	

Form PTC - 01 Rev.0 2

ENGINEERING & SERVICES

GATES E & S NORTH AMERICA, INC.
134 44TH STREET
CORPUS CHRISTI, TEXAS 78405

PHONE: 361-887-9807
FAX: 361-887-0812
EMAIL: *Tim.Cantu@gates.com*
WEB: www.gates.com

10K CEMENTING ASSEMBLY PRESSURE TEST CERTIFICATE

Customer :	AUSTIN DISTRIBUTING	Test Date:	4/30/2015
Customer Ref. :	4060578	Hose Serial No.:	D-043015-7
Invoice No. :	500506	Created By:	JUSTIN CROPPER

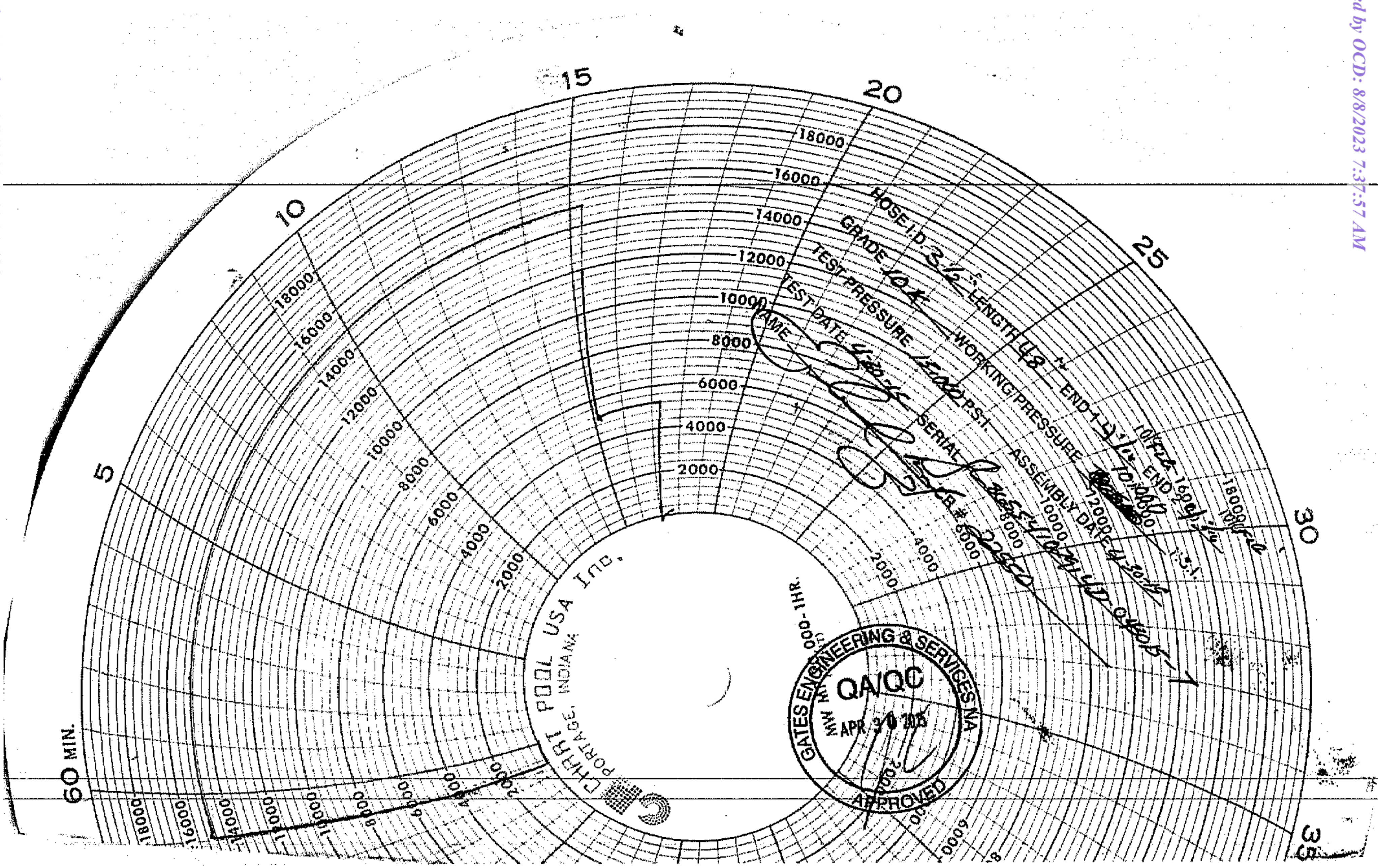
Product Description:	10K3.548.0CK4.1/1610KFLGE/E LE

End Fitting 1 :	4 1/16 10K FLG	End Fitting 2 :	4 1/16 10K FLG
Gates Part No. :	4773-6290	Assembly Code :	L36554102914D-043015-7
Working Pressure :	10,000 PSI	Test Pressure :	15,000 PSI

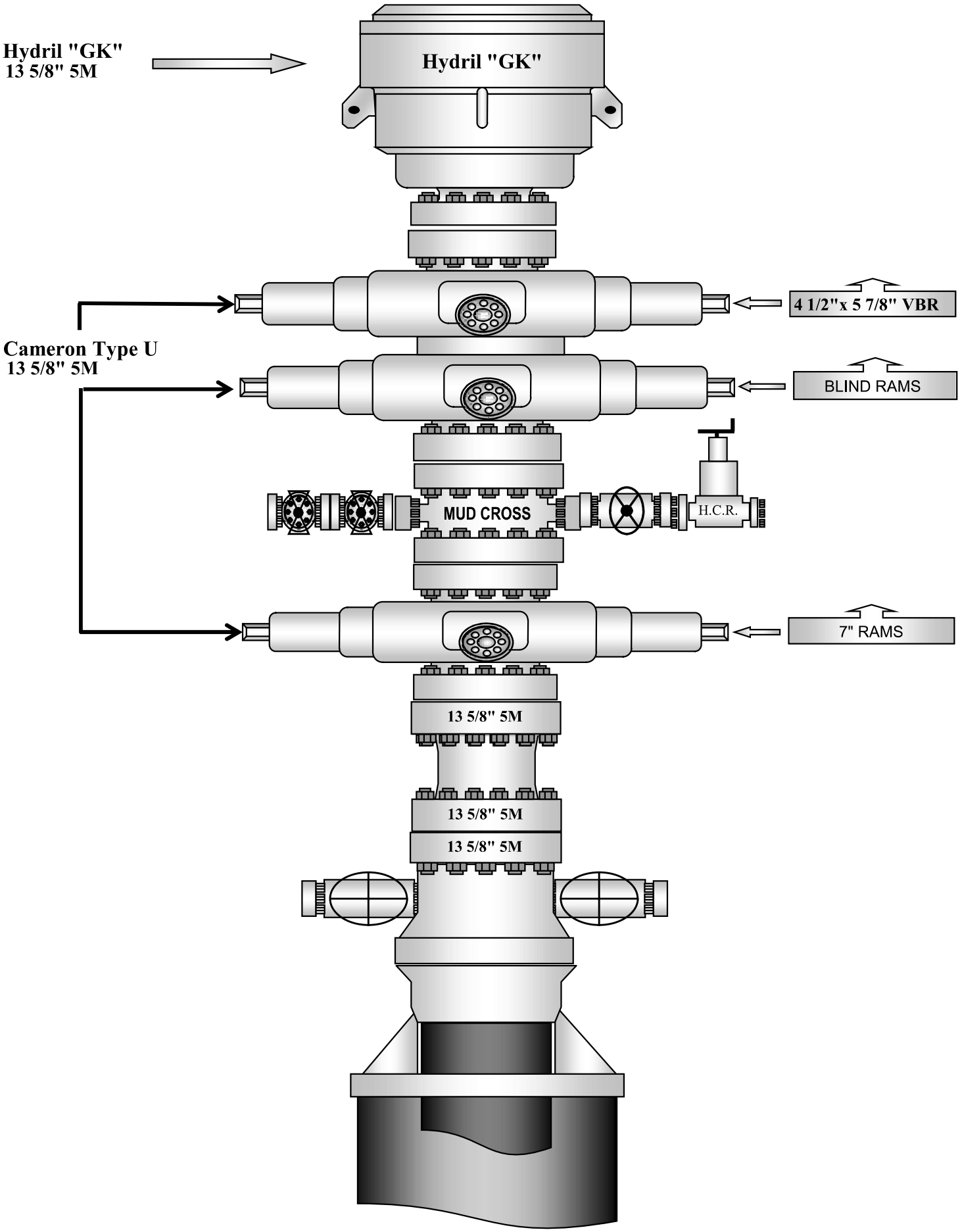
Gates E & S North America, Inc. certifies that the following hose assembly has been tested to the Gates Oilfield Roughneck Agreement/Specification requirements and passed the 15 minute hydrostatic test per API Spec 7K/Q1, Fifth Edition, June 2010, Test pressure 9.6.7 and per Table 9 to 15,000 psi in accordance with this product number. Hose burst pressure 9.6.7.2 exceeds the minimum of 2.5 times the working pressure per Table 9.

Quality Manager :	QUALITY	Produciton:	PRODUCTION
Date :	4/30/2015	Date :	4/30/2015
Signature :	Justin Cropper	Signature :	

Form PTC - 01 Rev.0 2

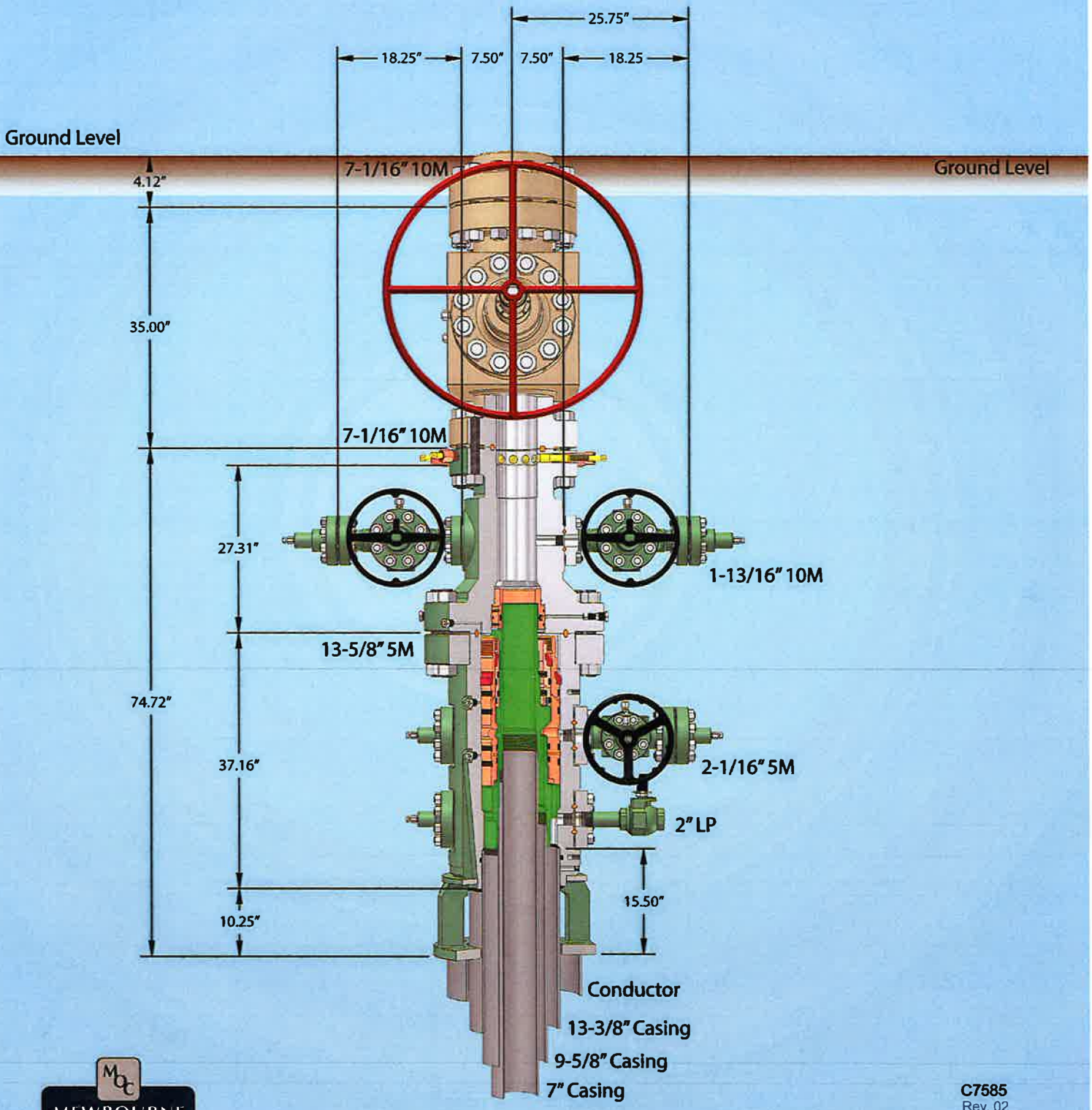


5M BOPE Schematic



CAMERON
A Schlumberger Company

13-5/8" MN-DS Wellhead System



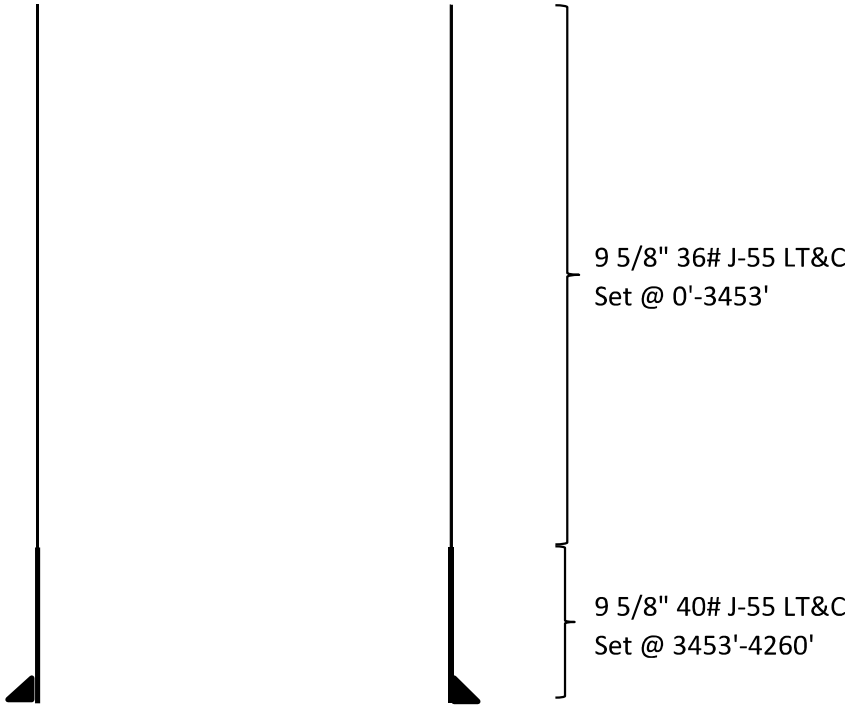
MEWBOURNE OIL COMPANY

C7585
Rev. 02

NOTE: All dimensions on this drawing are estimated measurements and should be evaluated by engineering.

Capping flange 57" conductor cut-off

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

Mewbourne Oil Company, Zach 17 Fed #452H
Sec 20 T26S R33E
SHL: 210' FNL & 1160' FWL (Sec 20)
BHL: 100' FNL & 1300' FWL (Sec 17)

Casing Program

Hole Size	From	To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
17.50	0'	1050'	13.375	48.0	H40	STC	1.60	3.60	6.39	10.73
12.25	0'	3453'	9.625	36.0	J55	LTC	1.13	1.96	2.56	3.18
12.25	3453'	4393'	9.625	40.0	J55	LTC	1.13	1.73	9.83	11.91
12.25	4393'	4775'	9.625	40.0	N80	LTC	1.24	2.32	48.25	59.97
8.75	0'	9800'	7.000	26.0	P110	LTC	1.26	2.01	2.51	3.26
6.13	9568'	15750'	4.500	13.5	P110	LTC	1.65	1.92	4.05	5.06
				BLM Minimum Safety Factor			1.125	1.0	1.6 Dry	1.6 Dry
									1.8 Wet	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.	N
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 an open annulus used to satisfy R-111-Q? If yes, see cement design.	
Is an engineered weak point used to satisfy R-111-Q?	
If yes, at what depth is the weak point planned?	-
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

Formation	Est. Top		Formation	Est. Top
Rustler	800'		Delaware (Lamar)	4850'
Salt Top	1100'		Bell Canyon	4870
Salt Base	4600'		Cherry Canyon	5920'
Yates			Manzanita Marker	
Seven Rivers			Basal Brushy Canyon	7300'
Queen			Bone Spring	9010'
Capitan			1st Bone Spring Sand	9990'
Grayburg			2nd Bone Spring Sand	10569'
San Andres			3rd Bone Spring Sand	
Glorieta			Abo	
Yeso			Wolfcamp	

Mewbourne Oil Company, Zach 17 Fed #452H
Sec 20 T26S R33E
SHL: 210' FNL & 1160' FWL (Sec 20)
BHL: 100' FNL & 1300' FWL (Sec 17)

Casing Program

Hole Size	From	To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
17.50	0'	1050'	13.375	48.0	H40	STC	1.60	3.60	6.39	10.73
12.25	0'	3453'	9.625	36.0	J55	LTC	1.13	1.96	2.56	3.18
12.25	3453'	4393'	9.625	40.0	J55	LTC	1.13	1.73	9.83	11.91
12.25	4393'	4775'	9.625	40.0	N80	LTC	1.24	2.32	48.25	59.97
8.75	0'	9800'	7.000	26.0	P110	LTC	1.26	2.01	2.51	3.26
6.13	9568'	15750'	4.500	13.5	P110	LTC	1.65	1.92	4.05	5.06
				BLM Minimum Safety Factor			1.125	1.0	1.6 Dry	1.6 Dry
									1.8 Wet	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.	N
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 an open annulus used to satisfy R-111-Q? If yes, see cement design.	
Is an engineered weak point used to satisfy R-111-Q?	
If yes, at what depth is the weak point planned?	-
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

Formation	Est. Top		Formation	Est. Top
Rustler	800'		Delaware (Lamar)	4850'
Salt Top	1100'		Bell Canyon	4870
Salt Base	4600'		Cherry Canyon	5920'
Yates			Manzanita Marker	
Seven Rivers			Basal Brushy Canyon	7300'
Queen			Bone Spring	9010'
Capitan			1st Bone Spring Sand	9990'
Grayburg			2nd Bone Spring Sand	10569'
San Andres			3rd Bone Spring Sand	
Glorieta			Abo	
Yeso			Wolfcamp	

Mewbourne Oil Company, Zach 17 Fed #452H
Sec 20 T26S R33E
SHL: 210' FNL & 1160' FWL (Sec 20)
BHL: 100' FNL & 1300' FWL (Sec 17)

Casing Program

Hole Size	From	To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
17.50	0'	1050'	13.375	48.0	H40	STC	1.60	3.60	6.39	10.73
12.25	0'	3453'	9.625	36.0	J55	LTC	1.13	1.96	2.56	3.18
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6.13	9568'	15750'	4.500	13.5	P110	LTC	1.65	1.92	4.05	5.06
				BLM Minimum Safety Factor			1.125	1.0	1.6 Dry	1.6 Dry
									1.8 Wet	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.	N
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 an open annulus used to satisfy R-111-Q? If yes, see cement design.	
Is an engineered weak point used to satisfy R-111-Q?	
If yes, at what depth is the weak point planned?	-
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

Formation	Est. Top		Formation	Est. Top
Rustler	800'		Delaware (Lamar)	4850'
Salt Top	1100'		Bell Canyon	4870
Salt Base	4600'		Cherry Canyon	5920'
Yates			Manzanita Marker	
Seven Rivers			Basal Brushy Canyon	7300'
Queen			Bone Spring	9010'
Capitan			1st Bone Spring Sand	9990'
Grayburg			2nd Bone Spring Sand	10569'
San Andres			3rd Bone Spring Sand	
Glorieta			Abo	
Yeso			Wolfcamp	

Mewbourne Oil Company, Zach 17 Fed #452H
Sec 20 T26S R33E
SHL: 210' FNL & 1160' FWL (Sec 20)
BHL: 100' FNL & 1300' FWL (Sec 17)

Casing Program

Hole Size	From	To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
17.50	0'	1050'	13.375	48.0	H40	STC	1.60	3.60	6.39	10.73
12.25	0'	3453'	9.625	36.0	J55	LTC	1.13	1.96	2.56	3.18
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6.13	9568'	15750'	4.500	13.5	P110	LTC	1.65	1.92	4.05	5.06
				BLM Minimum Safety Factor			1.125	1.0	1.6 Dry	1.6 Dry
									1.8 Wet	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.	N
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 an open annulus used to satisfy R-111-Q? If yes, see cement design.	
Is an engineered weak point used to satisfy R-111-Q?	
If yes, at what depth is the weak point planned?	-
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

Formation	Est. Top		Formation	Est. Top
Rustler	800'		Delaware (Lamar)	4850'
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Yates			Manzanita Marker	
Seven Rivers			Basal Brushy Canyon	7300'
Queen			Bone Spring	9010'
Capitan			1st Bone Spring Sand	9990'
Grayburg			2nd Bone Spring Sand	10569'
San Andres			3rd Bone Spring Sand	
Glorieta			Abo	
Yeso			Wolfcamp	

Mewbourne Oil Company, Zach 17 Fed #452H
Sec 20 T26S R33E
SHL: 210' FNL & 1160' FWL (Sec 20)
BHL: 100' FNL & 1300' FWL (Sec 17)

Casing Program

Hole Size	From	To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
17.50	0'	1050'	13.375	48.0	H40	STC	1.60	3.60	6.39	10.73
12.25	0'	3453'	9.625	36.0	J55	LTC	1.13	1.96	2.56	3.18
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6.13	9568'	15750'	4.500	13.5	P110	LTC	1.65	1.92	4.05	5.06
				BLM Minimum Safety Factor			1.125	1.0	1.6 Dry	1.6 Dry
									1.8 Wet	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.	N
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 an open annulus used to satisfy R-111-Q? If yes, see cement design.	
Is an engineered weak point used to satisfy R-111-Q?	
If yes, at what depth is the weak point planned?	-
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

Formation	Est. Top		Formation	Est. Top
Rustler	800'		Delaware (Lamar)	4850'
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Yates			Manzanita Marker	
Seven Rivers			Basal Brushy Canyon	7300'
Queen			Bone Spring	9010'
Capitan			1st Bone Spring Sand	9990'
Grayburg			2nd Bone Spring Sand	10569'
San Andres			3rd Bone Spring Sand	
Glorieta			Abo	
Yeso			Wolfcamp	

Mewbourne Oil Company, Zach 17 Fed #452H
Sec 20 T26S R33E
SHL: 210' FNL & 1160' FWL (Sec 20)
BHL: 100' FNL & 1300' FWL (Sec 17)

Casing Program

Hole Size	From	To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
17.50	0'	1050'	13.375	48.0	H40	STC	1.60	3.60	6.39	10.73
12.25	0'	3453'	9.625	36.0	J55	LTC	1.13	1.96	2.56	3.18
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12.25	4393'	4775'	9.625	40.0	N80	LTC	1.24	2.32	48.25	59.97
8.75	0'	9800'	7.000	26.0	P110	LTC	1.26	2.01	2.51	3.26
6.13	9568'	15750'	4.500	13.5	P110	LTC	1.65	1.92	4.05	5.06
				BLM Minimum Safety Factor			1.125	1.0	1.6 Dry	1.6 Dry
									1.8 Wet	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.	N
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 an open annulus used to satisfy R-111-Q? If yes, see cement design.	
Is an engineered weak point used to satisfy R-111-Q?	
If yes, at what depth is the weak point planned?	-
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

Formation	Est. Top		Formation	Est. Top
Rustler	800'		Delaware (Lamar)	4850'
Salt Top	1100'		Bell Canyon	4870
Salt Base	4600'		Cherry Canyon	5920'
Yates			Manzanita Marker	
Seven Rivers			Basal Brushy Canyon	7300'
Queen			Bone Spring	9010'
Capitan			1st Bone Spring Sand	9990'
Grayburg			2nd Bone Spring Sand	10569'
San Andres			3rd Bone Spring Sand	
Glorieta			Abo	
Yeso			Wolfcamp	

Mewbourne Oil Company

Lea County, New Mexico NAD 83
Zach 17 Fed #452H
Sec 20 T26S R33E
SHL: 210' FNL & 1160' FWL (Sec 20)
BHL: 100' FNL & 1300' FWL (Sec 17)

Plan: Design #1

Standard Planning Report

21 March, 2023

Planning Report

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Zach 17 Fed #452H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3289.0usft (Original Well Elev)
Project:	Lea County, New Mexico NAD 83	**MD Reference:**	WELL @ 3289.0usft (Original Well Elev)
Site:	Zach 17 Fed #452H	**North Reference:**	Grid
Well:	Sec 20 T26S R33E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 100' FNL & 1300' FWL (Sec 17)		
Design:	Design #1		

Project Lea 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 Zach 17 Fed #452H

Site Position:		**Northing:**	377,497.10 usft	**Latitude:**	32.0356936
From:	Map	**Easting:**	768,861.60 usft	**Longitude:**	-103.5990806
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "		

Well Sec 20 T26S R33E

Well Position	**+N/-S**	0.0 usft	**Northing:**	377,497.10 usft	**Latitude:**	32.0356936
	+E/-W	0.0 usft	**Easting:**	768,861.60 usft	**Longitude:**	-103.5990806
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	3,289.0 usft	**Ground Level:**	3,261.0 usft
Grid Convergence:		0.39 °				

Wellbore BHL: 100' FNL & 1300' FWL (Sec 17)

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/31/2014	7.15	59.92	48,147.00866351

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	1.05

Plan Survey Tool Program **Date** 2/20/2023

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	15,749.6	Design #1 (BHL: 100' FNL & 1300		

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	
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,128.6	2.57	151.54	3,128.6	-2.5	1.4	2.00	2.00	0.00	151.54	
9,639.0	2.57	151.54	9,632.4	-259.5	140.6	0.00	0.00	0.00	0.00	
9,767.6	0.00	0.00	9,761.0	-262.0	142.0	2.00	-2.00	0.00	180.00	KOP: 473' FNL & 130
10,674.6	90.68	359.57	10,334.0	317.8	137.6	10.00	10.00	0.00	-0.43	
15,749.6	90.68	359.57	10,274.0	5,392.3	99.1	0.00	0.00	0.00	0.00	BHL: 100' FNL & 130(

Planning Report

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Zach 17 Fed #452H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3289.0usft (Original Well Elev)
Project:	Lea County, New Mexico NAD 83	**MD Reference:**	WELL @ 3289.0usft (Original Well Elev)
Site:	Zach 17 Fed #452H	**North Reference:**	Grid
Well:	Sec 20 T26S R33E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 100' FNL & 1300' FWL (Sec 17)		
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
SHL: 210' FNL & 1160' FWL (Sec 20)									
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
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	2.00	151.54	3,100.0	-1.5	0.8	-1.5	2.00	2.00	0.00
3,128.6	2.57	151.54	3,128.6	-2.5	1.4	-2.5	2.00	2.00	0.00
3,200.0	2.57	151.54	3,199.9	-5.4	2.9	-5.3	0.00	0.00	0.00
3,300.0	2.57	151.54	3,299.8	-9.3	5.0	-9.2	0.00	0.00	0.00
3,400.0	2.57	151.54	3,399.7	-13.2	7.2	-13.1	0.00	0.00	0.00
3,500.0	2.57	151.54	3,499.6	-17.2	9.3	-17.0	0.00	0.00	0.00
3,600.0	2.57	151.54	3,599.5	-21.1	11.5	-20.9	0.00	0.00	0.00
3,700.0	2.57	151.54	3,699.4	-25.1	13.6	-24.8	0.00	0.00	0.00
3,800.0	2.57	151.54	3,799.3	-29.0	15.7	-28.7	0.00	0.00	0.00
3,900.0	2.57	151.54	3,899.2	-33.0	17.9	-32.6	0.00	0.00	0.00
4,000.0	2.57	151.54	3,999.1	-36.9	20.0	-36.6	0.00	0.00	0.00
4,100.0	2.57	151.54	4,099.0	-40.9	22.2	-40.5	0.00	0.00	0.00
4,200.0	2.57	151.54	4,198.9	-44.8	24.3	-44.4	0.00	0.00	0.00
4,300.0	2.57	151.54	4,298.8	-48.8	26.4	-48.3	0.00	0.00	0.00
4,400.0	2.57	151.54	4,398.7	-52.7	28.6	-52.2	0.00	0.00	0.00
4,500.0	2.57	151.54	4,498.6	-56.7	30.7	-56.1	0.00	0.00	0.00
4,600.0	2.57	151.54	4,598.5	-60.6	32.8	-60.0	0.00	0.00	0.00
4,700.0	2.57	151.54	4,698.4	-64.6	35.0	-63.9	0.00	0.00	0.00
4,800.0	2.57	151.54	4,798.3	-68.5	37.1	-67.8	0.00	0.00	0.00
4,900.0	2.57	151.54	4,898.2	-72.4	39.3	-71.7	0.00	0.00	0.00
5,000.0	2.57	151.54	4,998.1	-76.4	41.4	-75.6	0.00	0.00	0.00
5,100.0	2.57	151.54	5,098.0	-80.3	43.5	-79.5	0.00	0.00	0.00

Planning Report

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Zach 17 Fed #452H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3289.0usft (Original Well Elev)
Project:	Lea County, New Mexico NAD 83	**MD Reference:**	WELL @ 3289.0usft (Original Well Elev)
Site:	Zach 17 Fed #452H	**North Reference:**	Grid
Well:	Sec 20 T26S R33E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 100' FNL & 1300' FWL (Sec 17)		
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)
5,200.0	2.57	151.54	5,197.9	-84.3	45.7	-83.4	0.00	0.00	0.00
5,300.0	2.57	151.54	5,297.8	-88.2	47.8	-87.3	0.00	0.00	0.00
5,400.0	2.57	151.54	5,397.7	-92.2	50.0	-91.2	0.00	0.00	0.00
5,500.0	2.57	151.54	5,497.6	-96.1	52.1	-95.1	0.00	0.00	0.00
5,600.0	2.57	151.54	5,597.5	-100.1	54.2	-99.1	0.00	0.00	0.00
5,700.0	2.57	151.54	5,697.4	-104.0	56.4	-103.0	0.00	0.00	0.00
5,800.0	2.57	151.54	5,797.3	-108.0	58.5	-106.9	0.00	0.00	0.00
5,900.0	2.57	151.54	5,897.2	-111.9	60.7	-110.8	0.00	0.00	0.00
6,000.0	2.57	151.54	5,997.1	-115.9	62.8	-114.7	0.00	0.00	0.00
6,100.0	2.57	151.54	6,097.0	-119.8	64.9	-118.6	0.00	0.00	0.00
6,200.0	2.57	151.54	6,196.9	-123.7	67.1	-122.5	0.00	0.00	0.00
6,300.0	2.57	151.54	6,296.8	-127.7	69.2	-126.4	0.00	0.00	0.00
6,400.0	2.57	151.54	6,396.7	-131.6	71.3	-130.3	0.00	0.00	0.00
6,500.0	2.57	151.54	6,496.6	-135.6	73.5	-134.2	0.00	0.00	0.00
6,600.0	2.57	151.54	6,596.5	-139.5	75.6	-138.1	0.00	0.00	0.00
6,700.0	2.57	151.54	6,696.4	-143.5	77.8	-142.0	0.00	0.00	0.00
6,800.0	2.57	151.54	6,796.3	-147.4	79.9	-145.9	0.00	0.00	0.00
6,900.0	2.57	151.54	6,896.2	-151.4	82.0	-149.8	0.00	0.00	0.00
7,000.0	2.57	151.54	6,996.1	-155.3	84.2	-153.7	0.00	0.00	0.00
7,100.0	2.57	151.54	7,096.0	-159.3	86.3	-157.6	0.00	0.00	0.00
7,200.0	2.57	151.54	7,195.9	-163.2	88.5	-161.6	0.00	0.00	0.00
7,300.0	2.57	151.54	7,295.8	-167.2	90.6	-165.5	0.00	0.00	0.00
7,400.0	2.57	151.54	7,395.7	-171.1	92.7	-169.4	0.00	0.00	0.00
7,500.0	2.57	151.54	7,495.6	-175.0	94.9	-173.3	0.00	0.00	0.00
7,600.0	2.57	151.54	7,595.4	-179.0	97.0	-177.2	0.00	0.00	0.00
7,700.0	2.57	151.54	7,695.3	-182.9	99.2	-181.1	0.00	0.00	0.00
7,800.0	2.57	151.54	7,795.2	-186.9	101.3	-185.0	0.00	0.00	0.00
7,900.0	2.57	151.54	7,895.1	-190.8	103.4	-188.9	0.00	0.00	0.00
8,000.0	2.57	151.54	7,995.0	-194.8	105.6	-192.8	0.00	0.00	0.00
8,100.0	2.57	151.54	8,094.9	-198.7	107.7	-196.7	0.00	0.00	0.00
8,200.0	2.57	151.54	8,194.8	-202.7	109.8	-200.6	0.00	0.00	0.00
8,300.0	2.57	151.54	8,294.7	-206.6	112.0	-204.5	0.00	0.00	0.00
8,400.0	2.57	151.54	8,394.6	-210.6	114.1	-208.4	0.00	0.00	0.00
8,500.0	2.57	151.54	8,494.5	-214.5	116.3	-212.3	0.00	0.00	0.00
8,600.0	2.57	151.54	8,594.4	-218.5	118.4	-216.2	0.00	0.00	0.00
8,700.0	2.57	151.54	8,694.3	-222.4	120.5	-220.2	0.00	0.00	0.00
8,800.0	2.57	151.54	8,794.2	-226.4	122.7	-224.1	0.00	0.00	0.00
8,900.0	2.57	151.54	8,894.1	-230.3	124.8	-228.0	0.00	0.00	0.00
9,000.0	2.57	151.54	8,994.0	-234.2	127.0	-231.9	0.00	0.00	0.00
9,100.0	2.57	151.54	9,093.9	-238.2	129.1	-235.8	0.00	0.00	0.00
9,200.0	2.57	151.54	9,193.8	-242.1	131.2	-239.7	0.00	0.00	0.00
9,300.0	2.57	151.54	9,293.7	-246.1	133.4	-243.6	0.00	0.00	0.00
9,400.0	2.57	151.54	9,393.6	-250.0	135.5	-247.5	0.00	0.00	0.00
9,500.0	2.57	151.54	9,493.5	-254.0	137.7	-251.4	0.00	0.00	0.00
9,600.0	2.57	151.54	9,593.4	-257.9	139.8	-255.3	0.00	0.00	0.00
9,639.0	2.57	151.54	9,632.4	-259.5	140.6	-256.8	0.00	0.00	0.00
9,700.0	1.35	151.54	9,693.4	-261.3	141.6	-258.7	2.00	-2.00	0.00
9,767.6	0.00	0.00	9,761.0	-262.0	142.0	-259.3	2.00	-2.00	0.00
KOP: 473' FNL & 1300' FWL (Sec 20)									
9,800.0	3.23	359.57	9,793.3	-261.1	142.0	-258.4	10.00	10.00	0.00
9,850.0	8.23	359.57	9,843.1	-256.1	142.0	-253.4	10.00	10.00	0.00
9,900.0	13.23	359.57	9,892.2	-246.8	141.9	-244.1	10.00	10.00	0.00
9,950.0	18.23	359.57	9,940.3	-233.2	141.8	-230.6	10.00	10.00	0.00

Planning Report

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Zach 17 Fed #452H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3289.0usft (Original Well Elev)
Project:	Lea County, New Mexico NAD 83	**MD Reference:**	WELL @ 3289.0usft (Original Well Elev)
Site:	Zach 17 Fed #452H	**North Reference:**	Grid
Well:	Sec 20 T26S R33E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 100' FNL & 1300' FWL (Sec 17)		
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)
10,000.0	23.23	359.57	9,987.0	-215.5	141.6	-212.9	10.00	10.00	0.00
10,050.0	28.23	359.57	10,032.1	-193.8	141.5	-191.2	10.00	10.00	0.00
10,100.0	33.23	359.57	10,075.0	-168.3	141.3	-165.7	10.00	10.00	0.00
10,150.0	38.23	359.57	10,115.6	-139.1	141.1	-136.5	10.00	10.00	0.00
10,200.0	43.23	359.57	10,153.5	-106.5	140.8	-103.9	10.00	10.00	0.00
10,250.0	48.23	359.57	10,188.4	-70.7	140.5	-68.1	10.00	10.00	0.00
10,300.0	53.23	359.57	10,220.0	-32.0	140.3	-29.4	10.00	10.00	0.00
10,350.0	58.23	359.57	10,248.2	9.3	139.9	11.9	10.00	10.00	0.00
10,400.0	63.23	359.57	10,272.6	52.9	139.6	55.4	10.00	10.00	0.00
10,450.0	68.23	359.57	10,293.2	98.5	139.3	101.0	10.00	10.00	0.00
10,500.0	73.22	359.57	10,309.7	145.6	138.9	148.2	10.00	10.00	0.00
10,550.0	78.22	359.57	10,322.0	194.1	138.5	196.6	10.00	10.00	0.00
10,600.0	83.22	359.57	10,330.0	243.4	138.2	245.9	10.00	10.00	0.00
10,650.0	88.22	359.57	10,333.8	293.2	137.8	295.7	10.00	10.00	0.00
10,667.8	90.00	359.57	10,334.0	311.0	137.7	313.5	10.00	10.00	0.00
FTP/LP: 100' FSL & 1300' FWL (Sec 17)									
10,674.6	90.68	359.57	10,334.0	317.8	137.6	320.3	10.00	10.00	0.00
10,700.0	90.68	359.57	10,333.7	343.2	137.4	345.7	0.00	0.00	0.00
10,800.0	90.68	359.57	10,332.5	443.2	136.6	445.7	0.00	0.00	0.00
10,900.0	90.68	359.57	10,331.3	543.2	135.9	545.6	0.00	0.00	0.00
11,000.0	90.68	359.57	10,330.2	643.2	135.1	645.6	0.00	0.00	0.00
11,100.0	90.68	359.57	10,329.0	743.2	134.4	745.5	0.00	0.00	0.00
11,200.0	90.68	359.57	10,327.8	843.2	133.6	845.5	0.00	0.00	0.00
11,300.0	90.68	359.57	10,326.6	943.2	132.9	945.5	0.00	0.00	0.00
11,400.0	90.68	359.57	10,325.4	1,043.2	132.1	1,045.4	0.00	0.00	0.00
11,500.0	90.68	359.57	10,324.2	1,143.2	131.3	1,145.4	0.00	0.00	0.00
11,600.0	90.68	359.57	10,323.1	1,243.2	130.6	1,245.3	0.00	0.00	0.00
11,700.0	90.68	359.57	10,321.9	1,343.1	129.8	1,345.3	0.00	0.00	0.00
11,800.0	90.68	359.57	10,320.7	1,443.1	129.1	1,445.3	0.00	0.00	0.00
11,900.0	90.68	359.57	10,319.5	1,543.1	128.3	1,545.2	0.00	0.00	0.00
12,000.0	90.68	359.57	10,318.3	1,643.1	127.5	1,645.2	0.00	0.00	0.00
12,100.0	90.68	359.57	10,317.1	1,743.1	126.8	1,745.1	0.00	0.00	0.00
12,200.0	90.68	359.57	10,316.0	1,843.1	126.0	1,845.1	0.00	0.00	0.00
12,300.0	90.68	359.57	10,314.8	1,943.1	125.3	1,945.1	0.00	0.00	0.00
12,400.0	90.68	359.57	10,313.6	2,043.1	124.5	2,045.0	0.00	0.00	0.00
12,500.0	90.68	359.57	10,312.4	2,143.1	123.8	2,145.0	0.00	0.00	0.00
12,600.0	90.68	359.57	10,311.2	2,243.1	123.0	2,244.9	0.00	0.00	0.00
12,700.0	90.68	359.57	10,310.1	2,343.0	122.2	2,344.9	0.00	0.00	0.00
12,800.0	90.68	359.57	10,308.9	2,443.0	121.5	2,444.9	0.00	0.00	0.00
12,900.0	90.68	359.57	10,307.7	2,543.0	120.7	2,544.8	0.00	0.00	0.00
13,000.0	90.68	359.57	10,306.5	2,643.0	120.0	2,644.8	0.00	0.00	0.00
13,100.0	90.68	359.57	10,305.3	2,743.0	119.2	2,744.7	0.00	0.00	0.00
13,200.0	90.68	359.57	10,304.1	2,843.0	118.4	2,844.7	0.00	0.00	0.00
13,300.0	90.68	359.57	10,303.0	2,943.0	117.7	2,944.7	0.00	0.00	0.00
13,400.0	90.68	359.57	10,301.8	3,043.0	116.9	3,044.6	0.00	0.00	0.00
13,500.0	90.68	359.57	10,300.6	3,143.0	116.2	3,144.6	0.00	0.00	0.00
13,600.0	90.68	359.57	10,299.4	3,243.0	115.4	3,244.5	0.00	0.00	0.00
13,700.0	90.68	359.57	10,298.2	3,342.9	114.6	3,344.5	0.00	0.00	0.00
13,800.0	90.68	359.57	10,297.0	3,442.9	113.9	3,444.4	0.00	0.00	0.00
13,900.0	90.68	359.57	10,295.9	3,542.9	113.1	3,544.4	0.00	0.00	0.00
14,000.0	90.68	359.57	10,294.7	3,642.9	112.4	3,644.4	0.00	0.00	0.00
14,100.0	90.68	359.57	10,293.5	3,742.9	111.6	3,744.3	0.00	0.00	0.00
14,200.0	90.68	359.57	10,292.3	3,842.9	110.9	3,844.3	0.00	0.00	0.00
14,300.0	90.68	359.57	10,291.1	3,942.9	110.1	3,944.2	0.00	0.00	0.00

Planning Report

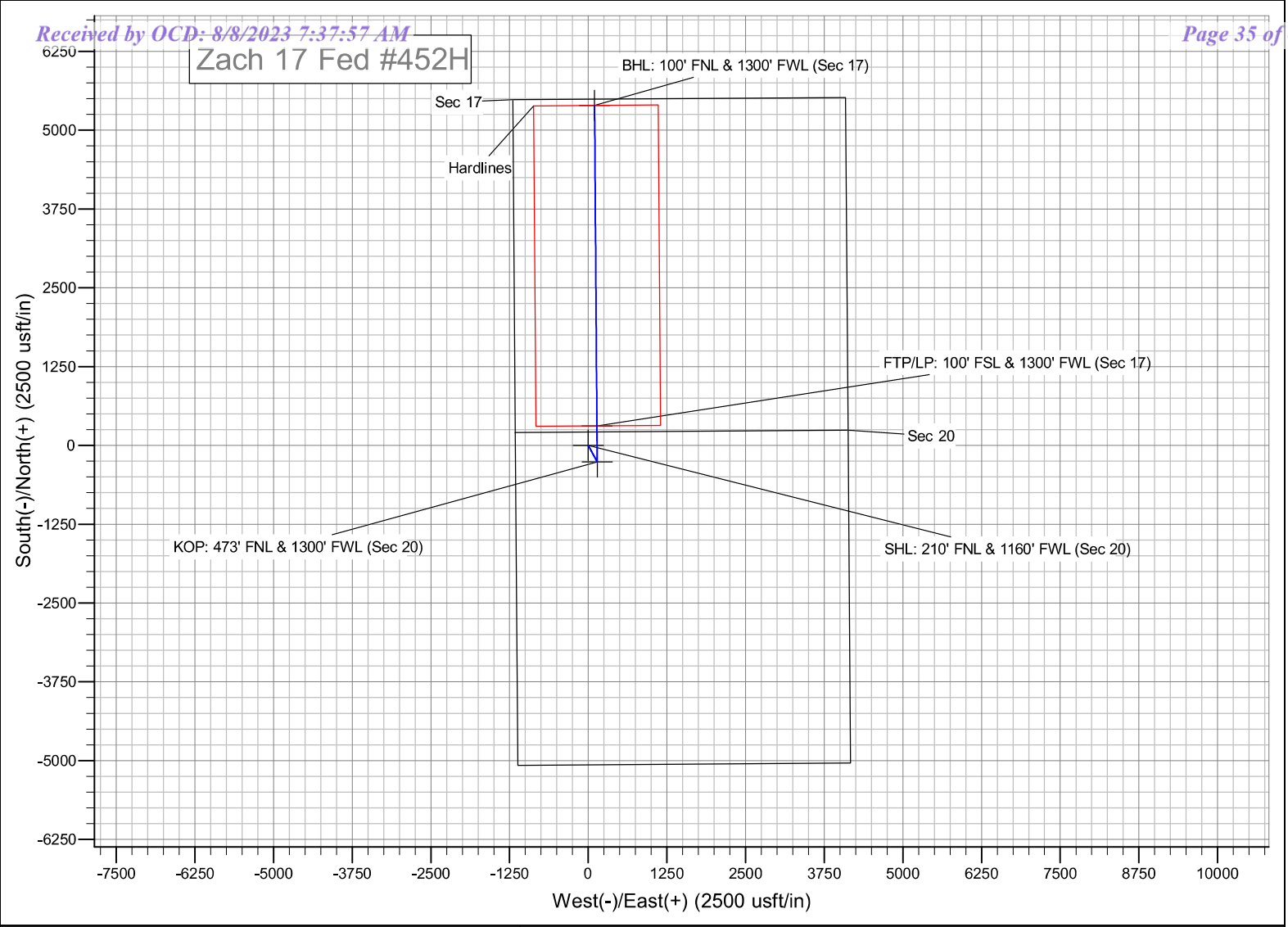
Database:	Hobbs	**Local Co-ordinate Reference:**	Site Zach 17 Fed #452H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3289.0usft (Original Well Elev)
Project:	Lea County, New Mexico NAD 83	**MD Reference:**	WELL @ 3289.0usft (Original Well Elev)
Site:	Zach 17 Fed #452H	**North Reference:**	Grid
Well:	Sec 20 T26S R33E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 100' FNL & 1300' FWL (Sec 17)		
Design:	Design #1		

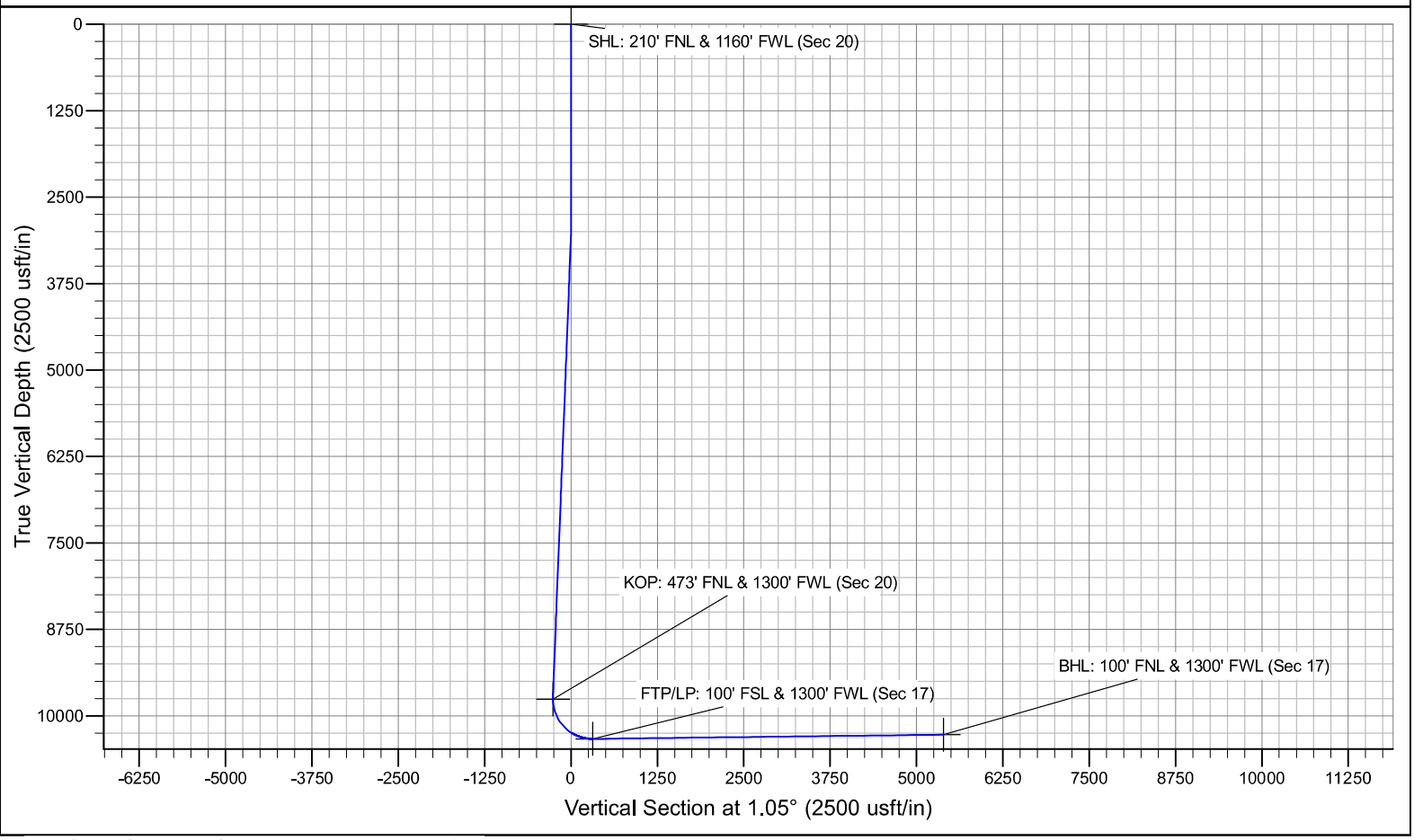
Planned Survey

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)
14,400.0	90.68	359.57	10,290.0	4,042.9	109.3	4,044.2	0.00	0.00	0.00
14,500.0	90.68	359.57	10,288.8	4,142.9	108.6	4,144.2	0.00	0.00	0.00
14,600.0	90.68	359.57	10,287.6	4,242.9	107.8	4,244.1	0.00	0.00	0.00
14,700.0	90.68	359.57	10,286.4	4,342.8	107.1	4,344.1	0.00	0.00	0.00
14,800.0	90.68	359.57	10,285.2	4,442.8	106.3	4,444.0	0.00	0.00	0.00
14,900.0	90.68	359.57	10,284.0	4,542.8	105.5	4,544.0	0.00	0.00	0.00
15,000.0	90.68	359.57	10,282.9	4,642.8	104.8	4,644.0	0.00	0.00	0.00
15,100.0	90.68	359.57	10,281.7	4,742.8	104.0	4,743.9	0.00	0.00	0.00
15,200.0	90.68	359.57	10,280.5	4,842.8	103.3	4,843.9	0.00	0.00	0.00
15,300.0	90.68	359.57	10,279.3	4,942.8	102.5	4,943.8	0.00	0.00	0.00
15,400.0	90.68	359.57	10,278.1	5,042.8	101.8	5,043.8	0.00	0.00	0.00
15,500.0	90.68	359.57	10,277.0	5,142.8	101.0	5,143.8	0.00	0.00	0.00
15,600.0	90.68	359.57	10,275.8	5,242.8	100.2	5,243.7	0.00	0.00	0.00
15,700.0	90.68	359.57	10,274.6	5,342.7	99.5	5,343.7	0.00	0.00	0.00
15,749.6	90.68	359.57	10,274.0	5,392.3	99.1	5,393.2	0.00	0.00	0.00
BHL: 100' FNL & 1300' FWL (Sec 17)									

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
SHL: 210' FNL & 1160' F - plan hits target center - Point	0.00	0.00	0.0	0.0	0.0	377,497.10	768,861.60	32.0356936	-103.5990806
KOP: 473' FNL & 1300' I - plan hits target center - Point	0.00	0.00	9,761.0	-262.0	142.0	377,235.10	769,003.60	32.0349708	-103.5986282
BHL: 100' FNL & 1300' F - plan hits target center - Point	0.00	0.00	10,274.0	5,392.3	99.1	382,889.40	768,960.70	32.0505139	-103.5986424
FTP/LP: 100' FSL & 130 - plan hits target center - Point	0.00	0.00	10,334.0	311.0	137.7	377,808.10	768,999.25	32.0365459	-103.5986296


Zach 17 Fed #452H
BHL: 100' FNL & 1300' FWL (Sec 17)
Sec 17
Hardlines
FTP/LP: 100' FSL & 1300' FWL (Sec 17)
Sec 20
KOP: 473' FNL & 1300' FWL (Sec 20)
SHL: 210' FNL & 1160' FWL (Sec 20)
South(-)/North(+) (2500 usft/in)
West(-)/East(+) (2500 usft/in)


SHL: 210' FNL & 1160' FWL (Sec 20)
KOP: 473' FNL & 1300' FWL (Sec 20)
FTP/LP: 100' FSL & 1300' FWL (Sec 17)
BHL: 100' FNL & 1300' FWL (Sec 17)
True Vertical Depth (2500 usft/in)
Vertical Section at 1.05° (2500 usft/in)

Operator Name:	Property Name:	Well Number
Mewbourne Oil Company	Zach 17 Fed	#452H

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
D	20	26S	33E	-	473'	FNL	1300'	FWL	Lea
Latitude					Longitude				NAD
32.0349708					-103.5986282				83

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
M	17	26S	33E	-	100'	FSL	1300'	FWL	Lea
Latitude					Longitude				NAD
32.0365459					-103.5986296				83

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
D	17	26S	33E	-	100'	FNL	1300'	FWL	Lea
Latitude					Longitude				NAD
32.0505132					-103.5986419				83

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

Is this well an infill well? N

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

API #

Operator Name:	Property Name:	Well Number

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	MEWBOURNE OIL COMPANY
LEASE NO.:	NMNM0160973Z
LOCATION:	Section 20, T.26 S., R.33 E., NMPM
COUNTY:	Lea County, New Mexico

WELL NAME & NO.:	ZACH 17 FED 452H
SURFACE HOLE FOOTAGE:	210'/N & 1160'/W
BOTTOM HOLE FOOTAGE	100'/N & 1300'/W
ATS/API ID:	ATS-23-1136
APD ID:	10400091226
Sundry ID:	

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
Wellhead Variance	○ Diverter		
Other	☐ 4 String	☐ Capitan Reef	☐ WIPP
Other	☐ Fluid Filled	☐ Pilot Hole	☐ Open Annulus
Cementing	☐ Contingency Cement Squeeze	☐ EchoMeter	☐ Primary Cement Squeeze
Special Requirements	☐ Water Disposal	☐ COM	☐ Unit
Special Requirements	☐ Batch Sundry		
Special Requirements Variance	☐ Break Testing	☐ Offline Cementing	☐ Casing Clearance

A. HYDROGEN SULFIDE

Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

Approval Date: 07/18/2023

B. CASING

Casing Design:

1. The **13-3/8** inch surface casing shall be set at approximately **1,050** feet (a minimum of **25 feet (Lea County)** into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface. The surface hole shall be **17 1/2** inch in diameter.

    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 **24 hours in the Potash Area** 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.

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:

    - Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.**
      Cement excess is less than 25%, more cement is required if washout occurs. Adjust cement volume and excess based on a fluid caliper or similar method that reflects the as-drilled size of the wellbore.

    ❖ 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 -5%, additional cement might be required.

 Approval Date: 07/18/2023

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.

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. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the **13-3/8** inch surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.

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 43 CFR part 3172 must be followed.

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) 689-5981

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 43 CFR part 3172 (Drilling Operations on Federal and Indian Oil and Gas Leases) 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 doghouse 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 integrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.

4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

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

6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.

7. If hard band 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 43 CFR part 3172 (Drilling Operations on Federal and Indian Oil and Gas Leases) 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 43 CFR part 3172 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 cement), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

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 cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve open. (only applies to single stage cement jobs, prior to the cement setting up.)

c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to 43 CFR part 3172 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for 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 43 CFR part 3172.

C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

D. WASTE MATERIAL AND FLUIDS

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

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

OTA 6/27/2023

Approval Date: 07/18/2023

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: ZACH 17 FED **Well Number:** 452H

Disposal type description:

Disposal location description: City of Carlsbad Water Treatment facility

Waste type: GARBAGE

Waste content description: Garbage & trash

Amount of waste: 1500 pounds

Waste disposal frequency : One Time Only

Safe containment description: Enclosed trash trailer

Safe containmant attachment:

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

Disposal type description:

Disposal location description: Waste Management facility in Carlsbad.

Reserve Pit

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit? NO

Reserve pit length (ft.) **Reserve pit width (ft.)**

Reserve pit depth (ft.) **Reserve pit volume (cu. yd.)**

Is at least 50% of the reserve pit in cut?

Reserve pit liner

Reserve pit liner specifications and installation description

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? N

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

Operator Name: MEWBOURNE OIL COMPANY

Well Name: ZACH 17 FED **Well Number:** 452H

Section 8 - Ancillary

Are you requesting any Ancillary Facilities?: N

Ancillary Facilities

Comments:

Section 9 - Well Site

Well Site Layout Diagram:

Zach_17_Fed_Com__452H_WellSiteLayout_20230320090931.pdf

Comments:

Section 10 - Plans for Surface

Type of disturbance: New Surface Disturbance

Multiple Well Pad Name: ZACH 17 Fed 401, 511, 524, 522, 404 and 452
Multiple Well Pad Number: 6

Recontouring

Drainage/Erosion control construction: None

Drainage/Erosion control reclamation: None

Well pad proposed disturbance (acres): 7.58	**Well pad interim reclamation (acres):** 0.59	**Well pad long term disturbance (acres):** 6.99
Road proposed disturbance (acres): 1	**Road interim reclamation (acres):** 0	**Road long term disturbance (acres):** 0
Powerline proposed disturbance (acres): 0	**Powerline interim reclamation (acres):** 0	**Powerline long term disturbance (acres):** 0
Pipeline proposed disturbance (acres): 0.43	**Pipeline interim reclamation (acres):** 0	**Pipeline long term disturbance (acres):** 0
Other proposed disturbance (acres): 3.673	**Other interim reclamation (acres):** 0	**Other long term disturbance (acres):** 0
Total proposed disturbance: 12.683	**Total interim reclamation:** 0.59	**Total long term disturbance:** 6.99

Disturbance Comments: In areas to be heavily disturbed, the top 6 inches of soil material, will be stripped and stockpiled on the perimeter of the well location to keep topsoil viable, and to make redistribution of topsoil more efficient during interim reclamation. Stockpiled topsoil should include vegetative material. Topsoil will be clearly segregated and stored separately from subsoils. Contaminated soil will not be stockpiled, but properly treated and handled prior to topsoil salvaging.

Reconstruction method: The areas planned for interim reclamation will then be recontoured to the original contour if feasible, or if not feasible, to an interim contour that blends with the surrounding topography as much as possible. Where applicable, the fill material of the well pad will be backfilled into the cut to bring the area back to the original contour. The interim cut and fill slopes prior to re-seeding will not be steeper than a 3:1 ratio, unless the adjacent native topography is steeper. Note: Constructed slopes may be much steeper during drilling, but will be recontoured to the above ratios during interim reclamation.

Topsoil redistribution: Topsoil will be evenly respread and aggressively revegetated over the entire disturbed area not needed for all-weather operations including cuts & fills. To seed the area, the proper BLM seed mixture, free of noxious

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 249354

CONDITIONS

Operator: MEWBOURNE OIL CO P.O. Box 5270 Hobbs, NM 88241	OGRID: 14744
	Action Number: 249354
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
pkautz	IF ON ANY STRING CEMENT DOES NOT CIRCULATE, A CBL MUST BE RUN ON THAT STRING OF CASING.	8/8/2023
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104	8/8/2023
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	8/8/2023
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	8/8/2023
pkautz	Cement is required to circulate on both surface and intermediate1 strings of casing	8/8/2023