

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

APPLICATION FOR PERMIT TO DRILL OR REENTER

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

1a. Type of work: ☒ DRILL ☐ REENTER		5. Lease Serial No. NMLC067132
1b. Type of Well: ☒ Oil Well ☐ Gas Well ☐ Other		6. If Indian, Allottee or Tribe Name
1c. Type of Completion: ☐ Hydraulic Fracturing ☒ Single Zone ☐ Multiple Zone		7. If Unit or CA Agreement, Name and No.
2. Name of Operator MEWBOURNE OIL COMPANY		8. Lease Name and Well No. PRETTY BIRD 20/19 FED COM
3a. Address P O BOX 5270, HOBBS, NM 88241		9. API Well No. 526H 30-015-55924
3b. Phone No. (include area code) (575) 393-5905		10. Field and Pool, or Exploratory PALMILLO EAST/BONE SPRING
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface SESE / 1080 FSL / 55 FEL / LAT 32.728675 / LONG -104.088519 At proposed prod. zone NWSW / 1850 FSL / 100 FWL / LAT 32.730742 / LONG -104.121545		11. Sec., T. R. M. or Blk. and Survey or Area SEC 20/T18S/R29E/NMP
14. Distance in miles and direction from nearest town or post office* 10 miles		12. County or Parish EDDY
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 210 feet		13. State NM
16. No of acres in lease		17. Spacing Unit dedicated to this well 640.0
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 330 feet		20. BLM/BIA Bond No. in file FED: NM1693
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3511 feet		22. Approximate date work will start* 10/16/2021
		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 (Electronic Submission)	Name (Printed/Typed) BRADLEY BISHOP / Ph: (575) 393-5905	Date 09/03/2024
Title Regulatory		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) CODY LAYTON / Ph: (575) 234-5959	Date 12/11/2024
Title Assistant Field Manager Lands & Minerals		
Office Carlsbad Field Office		
Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon. Conditions of approval, if any, are attached.		
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.		

APPROVED WITH CONDITIONS

(Continued on page 2)

*(Instructions on page 2)

C-102 Submit Electronically Via OCD Permitting	State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION	Revised July 9, 2024	
		Submittal Type:	☒ Initial Submittal
			☐ Amended Report
			☐ As Drilled

WELL LOCATION INFORMATION

API Number 30-015-55924	Pool Code 49553	Pool Name PALMILLO; BONE SPRING, EAST
Property Code 336608	Property Name PRETTY BIRD 20/19 FED COM	Well Number 526H
OGRID No. 14744	Operator Name MEWBOURNE OIL COMPANY	Ground Level Elevation 3511'
Surface Owner: ☐ State ☒ Fee ☐ Tribal ☐ Federal		Mineral Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal

Surface Location

UL P	Section 20	Township 18S	Range 29E	Lot	Ft. from N/S 1080 FSL	Ft. from E/W 55 FEL	Latitude 32.728675°N	Longitude 104.088519°W	County EDDY
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Bottom Hole Location

UL L	Section 19	Township 18S	Range 29E	Lot 3	Ft. from N/S 1850 FSL	Ft. from E/W 100 FWL	Latitude 32.730742°N	Longitude 104.121455°W	County EDDY
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Dedicated Acres 320	Infill or Defining Well Infill	Defining Well API	Overlapping Spacing Unit (Y/N)	Consolidation Code
Order Numbers.			Well setbacks are under Common Ownership: ☐ Yes ☐ No	

Kick Off Point (KOP)

UL I	Section 20	Township 18S	Range 29E	Lot	Ft. from N/S 1850 FSL	Ft. from E/W 10 FEL	Latitude 32.730791°N	Longitude 104.088378°W	County EDDY
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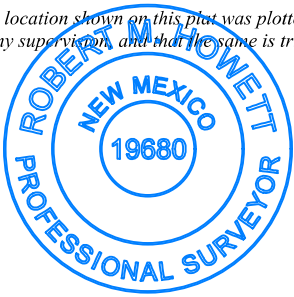
First Take Point (FTP)

UL I	Section 20	Township 18S	Range 29E	Lot	Ft. from N/S 1850 FSL	Ft. from E/W 100 FEL	Latitude 32.730791°N	Longitude 104.088671°W	County EDDY
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Last Take Point (LTP)

UL L	Section 19	Township 18S	Range 29E	Lot 3	Ft. from N/S 1850 FSL	Ft. from E/W 100 FWL	Latitude 32.730742°N	Longitude 104.121455°W	County EDDY
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Unitized Area or Area of Uniform Interest	Spacing Unit Type ☒ Horizontal ☐ Vertical	Ground Floor Elevation: 3539'
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OPERATOR CERTIFICATIONS <i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</i> <i>If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.</i> <i>Andrew W Taylor</i> 8/29/2024 Signature Date Andrew Taylor Printed Name ataylor@mewbourne.com Email Address		SURVEYOR CERTIFICATIONS <i>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me under my supervision, and that the same is true and correct to the best of my belief.</i>  Signature and Seal of Professional Surveyor <i>Robert M. Howett</i> Certificate Number 19680 Date of Survey 04/18/2024	
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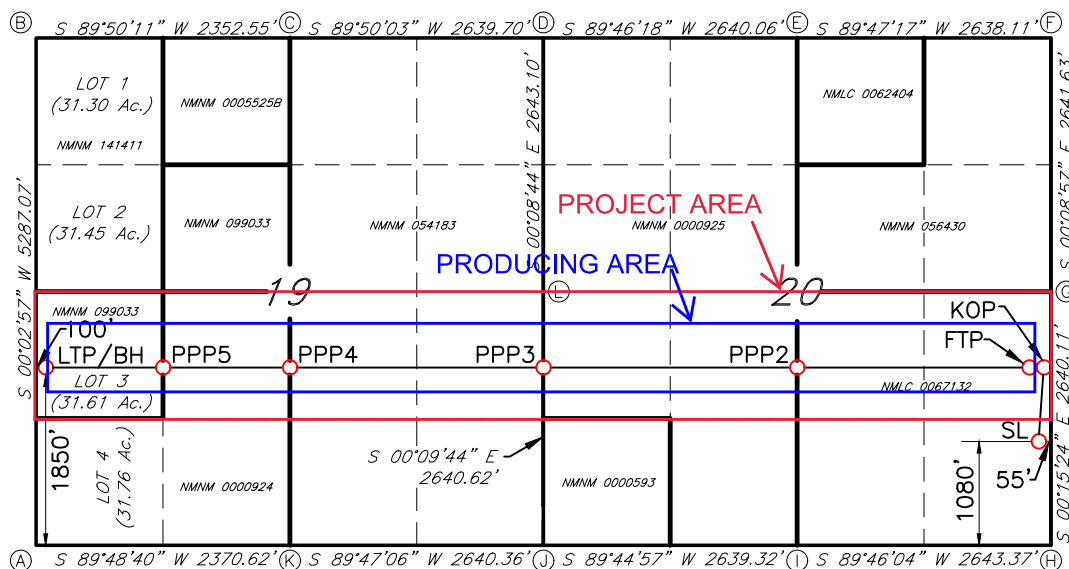
Note: No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

ACREAGE DEDICATION PLATS

This grid represents a standard section. You may superimpose a non-standard section, or larger area, over this grid. Operators must outline the dedicated acreage in a red box, clearly show the well surface location and bottom hole location, if it is a directionally drilled, with the dimensions from the section lines in the cardinal directions. If this is a horizontal wellbore show on this plat the location of the First Take Point and Last Take Point, and the point within the Completed interval (other than the First Take Point or Last Take Point) that is closest to any outer boundary of the tract.

Surveyors shall use the latest United States government survey or dependent resurvey. Well locations will be in reference to the New Mexico Principal Meridian. If the land is not surveyed, contact the OCD Engineering Bureau. Independent subdivision surveys will not be acceptable.

PRETTY BIRD 20/19 FED COM #526H



GEODETIC DATA

NAD 83 GRID - NM EAST

SURFACE LOCATION (SL)

N: 628910.4 - E: 616620.7
 LAT: 32.728675° N
 LONG: 104.088519° W

KICK OFF POINT (KOP)

1850' FSL & 10' FEL (SEC.20)
 N: 629680.4 - E: 616662.4
 LAT: 32.730791° N
 LONG: 104.088378° W

FIRST TAKE POINT (FTP)

1850' FSL & 100' FEL (SEC.20)
 N: 629680.0 - E: 616572.4
 LAT: 32.730791° N
 LONG: 104.088671° W

PROPOSED PENETRATION POINT 2 (PPP2)

1850' FSL & 2640' FWL (SEC.20)
 N: 629670.2 - E: 614033.2
 LAT: 32.730779° N
 LONG: 104.096928° W

PROPOSED PENETRATION POINT 3 (PPP3)

1852' FSL & 0' FWL (SEC.20)
 N: 629659.9 - E: 611394.1
 LAT: 32.730767° N
 LONG: 104.105511° W

PROPOSED PENETRATION POINT 4 (PPP4)

1851' FSL & 2364' FWL (SEC.19)
 N: 629649.6 - E: 608754.9
 LAT: 32.730754° N
 LONG: 104.114093° W

PROPOSED PENETRATION POINT 5 (PPP5)

1851' FSL & 1044' FWL (SEC.19)
 N: 629644.5 - E: 607435.2
 LAT: 32.730747° N
 LONG: 104.118385° W

LAST TAKE POINT (LTP)/BOTTOM HOLE (BH)

N: 629640.8 - E: 606491.2
 LAT: 32.730742° N
 LONG: 104.1214545° W

CORNER DATA

NAD 83 GRID - NM EAST

A: FOUND BRASS CAP "1916"
 N 627790.9 - E 606389.6

B: FOUND BRASS CAP "1916"
 N 633076.7 - E 606394.1

C: FOUND BRASS CAP "1916"
 N 633083.4 - E 608746.1

D: FOUND BRASS CAP "1916"
 N 633091.0 - E 611385.1

E: FOUND BRASS CAP "1916"
 N 633101.6 - E 614024.5

F: FOUND BRASS CAP "1916"
 N 633111.3 - E 616661.9

G: FOUND BRASS CAP "1916"
 N 630470.3 - E 616668.8

H: FOUND BRASS CAP "1916"
 N 627830.9 - E 616680.7

I: FOUND BRASS CAP "1916"
 N 627820.2 - E 614038.0

J: FOUND BRASS CAP "1916"
 N 627808.7 - E 611399.3

K: FOUND BRASS CAP "1916"
 N 627798.7 - E 608759.6

L: FOUND BRASS CAP "1916"
 N 630448.6 - E 611391.8

State of New Mexico
Energy, Minerals and Natural Resources Department

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

Submit Electronically
Via E-permitting

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 Company OGRID: 14744 Date: 08 / 21 / 2024

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
Pretty Bird 20/19 Fed Com 526H		20, 18S, 29E	1080 FSL & 55 FEL	2000	4000	4000
				Y1: 500; Y2 300; Y3 200	Y1: 1500; Y2: 900; Y3: 600	Y1: 200; Y2 150; Y3; 100

IV. Central Delivery Point Name: Pretty Bird 20/19 Fed Com #526H [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
Pretty Bird 20/19 Fed Com #526H		11/21/2024	12/21/2024	01/21/2025	02/05/2025	02/10/2025

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:

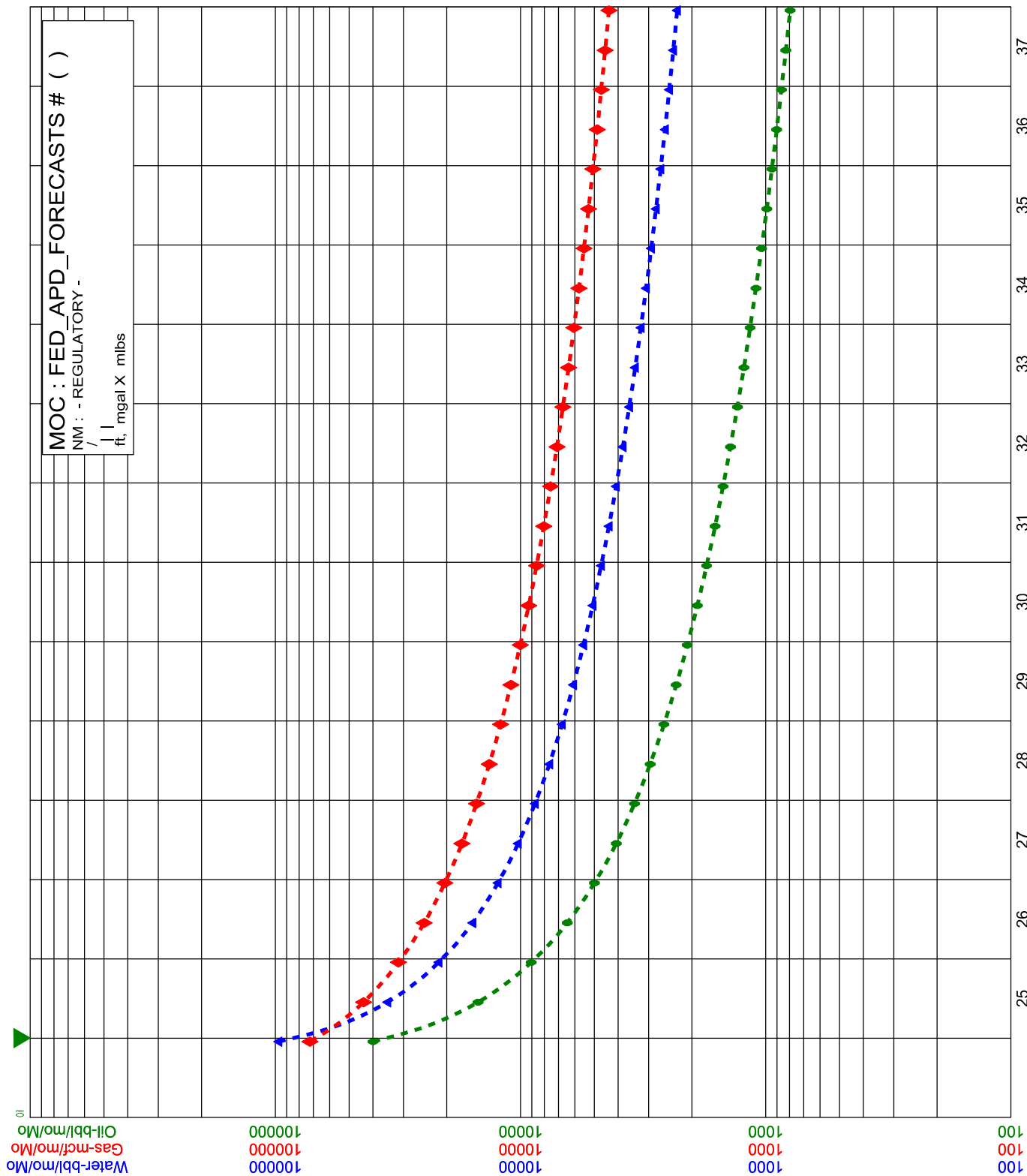
(a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit 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.

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:	<i>Bradley Bishop</i>
Printed Name:	BRADLEY BISHOP
Title:	REGULATORY MANAGER
E-mail Address:	BBISHOP@MEWBOURNE.COM
Date:	08/21/2024
Phone:	575-393-5905
OIL CONSERVATION DIVISION (Only applicable when submitted as a standalone form)	
Approved By:	
Title:	
Approval Date:	
Conditions of Approval:	



Oil-bbl/mo
Qual= EDDYBS2.0
Ref= 1/2025
Cum= 645133
Rem= 645133
EUR= 60.000
Yrs= 34979.2
Qi= 0.950000
b= 75.000000
De= 6.000000
Dmin= 42.1
Qab= 235.9

Gas-mcf/mo
Qual= EDDYBS2.0
Ref= 1/2025
Cum= 2733989
Rem= 2733989
EUR= 60.000
Yrs= 68437.5
Qi= 1.050000
b= 55.000000
De= 6.000000
Dmin= 235.9
Qab= 235.9

Water-bbl/mo
Qual= EDDYBS2.0
Ref= 1/2025
Cum= 1679939
Rem= 1679939
EUR= 60.000
Yrs= 83645.8
Qi= 1.050000
b= 75.000000
De= 6.000000
Dmin= 123.8
Qab= 123.8



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

Drilling Plan Data Report

12/12/2024

APD ID: 10400099958

Submission Date: 09/03/2024

Highlighted data
reflects the most
recent changes

Operator Name: MEWBOURNE OIL COMPANY

Well Name: PRETTY BIRD 20/19 FED COM

Well Number: 526H

Well Type: OIL WELL

Well Work Type: Drill

[Show Final Text](#)

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
14664099	UNKNOWN	3511	28	28	OTHER : Topsoil	NONE	N
14664110	TOP SALT	3191	320	320	SALT	NONE	N
14664111	BASE OF SALT	2636	875	875	SALT	NONE	N
14664103	YATES	2506	1005	1005	SANDSTONE	NATURAL GAS, OIL	N
14664112	SEVEN RIVERS	2161	1350	1350	DOLOMITE	NATURAL GAS, OIL	N
14664104	QUEEN	1501	2010	2010	DOLOMITE	NATURAL GAS, OIL	N
14664105	GRAYBURG	1141	2370	2370	DOLOMITE, SANDSTONE	NATURAL GAS, OIL	N
14664113	SAN ANDRES	681	2830	2830	LIMESTONE	NATURAL GAS, OIL	N
14664107	BONE SPRING	-349	3860	3860	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	N
14664108	BONE SPRING 1ST	-3119	6630	6630	SANDSTONE	NATURAL GAS, OIL	N
14664109	BONE SPRING 2ND	-3759	7270	7270	SANDSTONE	NATURAL GAS, OIL	Y
14664098	BONE SPRING 3RD	-4829	8340	8340	SANDSTONE	NATURAL GAS, OIL	N

Section 2 - Blowout Prevention

Pressure Rating (PSI): 3M

Rating Depth: 17707

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

Requesting Variance? YES

Variance request: A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart. Anchors are not required by manufacturer. A variance is requested to use a multi-bowl wellhead. A variance is requested to perform break testing according to the attached procedure. If a break testing variance is approved & incorporated, API Std 53 will

Operator Name: MEWBOURNE OIL COMPANY**Well Name:** PRETTY BIRD 20/19 FED COM**Well Number:** 526H

be incorporated & testing annular BOP to 70% of RWP or 100% of MASP, whichever is greater, will be performed.

Testing Procedure: BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested. Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets.

Choke Diagram Attachment:

Pretty_Bird_20_19_Fed_Com_526H_3M_BOPE_Choke_Diagram_20240822142936.pdf

Pretty_Bird_20_19_Fed_Com_526H_Flex_Line_Specs_API_16C_20240822142936.pdf

BOP Diagram Attachment:

Pretty_Bird_20_19_Fed_Com_526H_3M_BOPE_Schematic_20240822143029.pdf

Mewbourne_Break_Testing_Variance_20240822143029.pdf

Pretty_Bird_20_19_Fed_Com_526H_5M_Multi_Bowl_WH_20240822143030.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	275	0	275	3515	3240	275	H-40	48	ST&C	6.26	14.0	DRY	24.3	DRY	40.9
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	1050	0	1050		2465	1050	J-55	36	LT&C	3.63	6.32	DRY	11.9	DRY	14.9
3	PRODUCTION	8.75	7.0	NEW	API	N	0	7207	0	7156		-3641	7207	P-110	26	LT&C	1.73	2.76	DRY	3.7	DRY	4.43
4	LINER	6.125	4.5	NEW	API	N	7007	17707	6956	7729	-3441	-4214	10700	P-110	13.5	LT&C	2.65	3.09	DRY	2.34	DRY	2.92

Casing Attachments

Operator Name: MEWBOURNE OIL COMPANY**Well Name:** PRETTY BIRD 20/19 FED COM**Well Number:** 526H**Casing Attachments**

Casing ID: 1 **String** SURFACE**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**Pretty_Bird_20_19_Fed_Com_526H_CsgAssumptions_20240822144925.pdf

Casing ID: 2 **String** INTERMEDIATE**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**Pretty_Bird_20_19_Fed_Com_526H_CsgAssumptions_20240830165443.pdf

Casing ID: 3 **String** PRODUCTION**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**Pretty_Bird_20_19_Fed_Com_526H_CsgAssumptions_20240830165429.pdf

Operator Name: MEWBOURNE OIL COMPANY

Well Name: PRETTY BIRD 20/19 FED COM

Well Number: 526H

Casing Attachments

Casing ID: 4 String LINER

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Pretty_Bird_20_19_Fed_Com_526H_CsgAssumptions_20240830165506.pdf

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	90	60	2.12	12.5	130	100	Class C	Salt, Gel, Extender, LCM
SURFACE	Tail		90	275	200	1.34	14.8	268	100	Class C	Retarder
INTERMEDIATE	Lead		0	377	70	2.12	12.5	150	25	Class C	Salt, Gel, Extender, LCM
INTERMEDIATE	Tail		377	1050	200	1.34	14.8	268	25	Class C	Retarder
PRODUCTION	Lead		850	4710	340	2.12	12.5	730	25	Class C	Salt, Gel, Extender, LCM, Defoamer
PRODUCTION	Tail		4710	7205	400	1.18	15.6	472	25	Class H	Retarder, Fluid loss, defoamer
LINER	Lead		7007	17707	680	1.85	13.5	1260	25	Class C	Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti-settling Agent

Operator Name: MEWBOURNE OIL COMPANY

Well Name: PRETTY BIRD 20/19 FED COM

Well Number: 526H

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

Describe the mud monitoring system utilized: Pason/PVT/visual monitoring

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	275	SPUD MUD	8.4	8.8							
275	1050	SALT SATURATED	9.5	10.2							
1050	7207	WATER-BASED MUD	8.6	9.7							
7207	17707	OIL-BASED MUD	8.6	10							

Section 6 - Test, Logging, Coring

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

Ran GR/CNL in offset Pretty Bird 20/19 Fed Com #618H (30-015-53748)

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

Operator Name: MEWBOURNE OIL COMPANY

Well Name: PRETTY BIRD 20/19 FED COM

Well Number: 526H

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 4019

Anticipated Surface Pressure: 2326

Anticipated Bottom Hole Temperature(F): 140

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

Describe:

Contingency Plans geohazards description:

Contingency Plans geohazards

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations

Pretty_Bird_20_19_Fed_Com_526H_H2S_Plan_20240822145803.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Pretty_Bird_20_19_Fed_Com_526H_Dir_Plot_20240822145847.pdf

Pretty_Bird_20_19_Fed_Com_526H_Dir_Plan_20240830165654.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

Pretty_Bird_20_19_Fed_Com_526H_NGMP_20240822155852.pdf

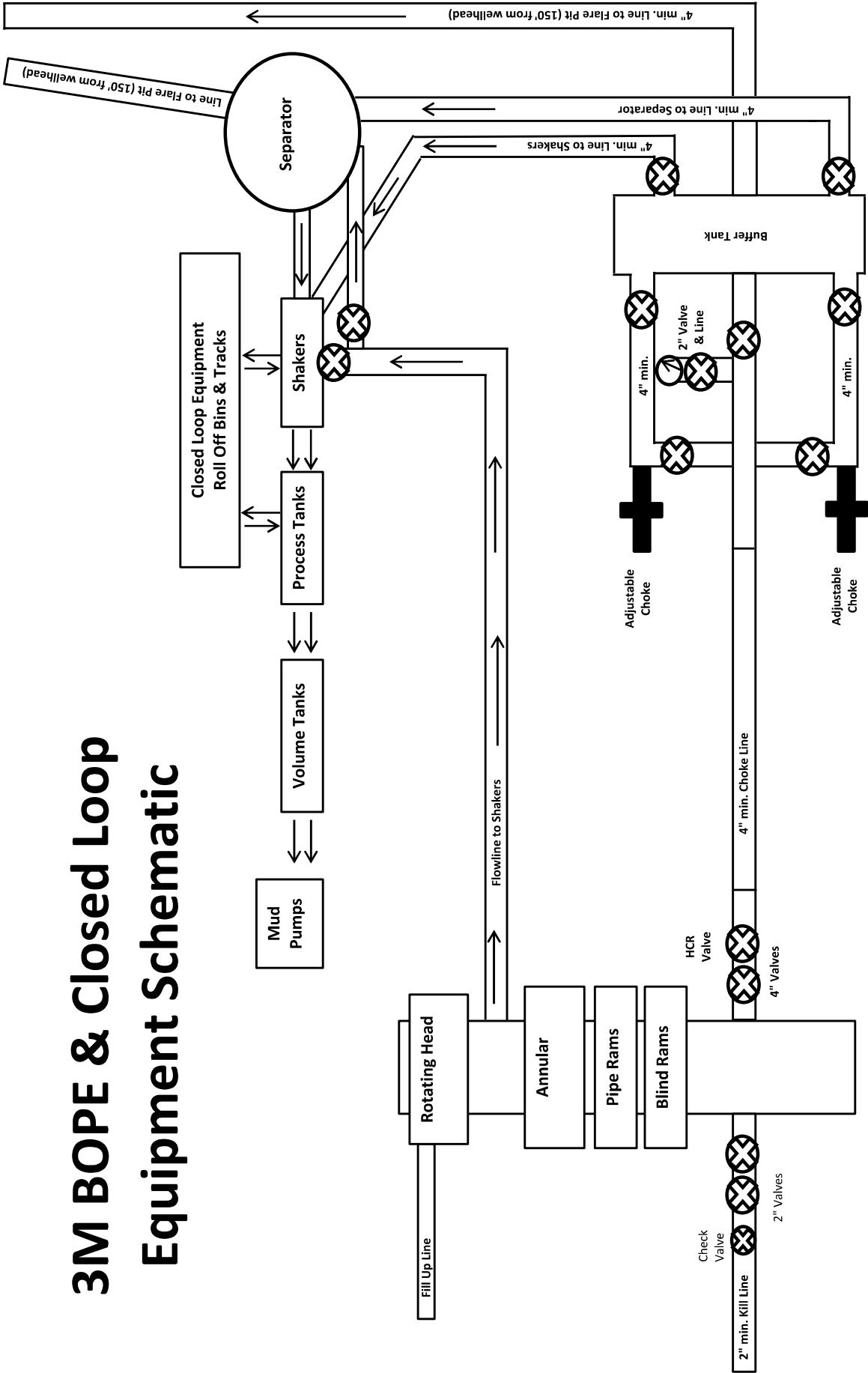
EDDYBS2.0_20240827111631.pdf

Pretty_Bird_20_19_Fed_Com_526H_Drlg_Program_20240830165644.pdf

Other Variance attachment:

Mewbourne_Offline_Cementing_Variance_20240822150432.pdf

3M BOPE & Closed Loop Equipment Schematic



Drawing not to scale



LUOHE LETONE HYDRAULICS TECHNOLOGY CO.,LTD

HYDROSTATIC TESTING REPORT

LTTY/QR-5.7.1-28

No: 230826015

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



LUOHE LETONE HYDRAULICS TECHNOLOGY CO.,LTD

CERTIFICATE OF QUALITY

LTTY/QR-5.7.1-19B

No: LT2023-126-002

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

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



LUOHE LETONE HYDRAULICS TECHNOLOGY CO.,LTD

CERTIFICATE OF CONFORMANCE

No:LT230826016

Product Name: Choke And Kill Hose

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

Serial Number: 7660143~7660144

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

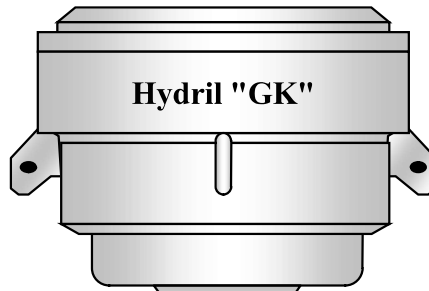
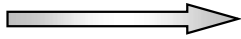
The Choke And Kill Hose assembly was produced by LUOHE LETONE HYDRAULICS TECHNOLOGY CO.,LTD . in Aug 2023, and inspected by LUOHE LETONE HYDRAULICS TECHNOLOGY CO.,LTD. according to API Spec 16C 3rd edition on Aug 26, 2023. The overall condition is good. This is to certify that the Choke And Kill Hose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

QC Manager:

Jiaolong Chen

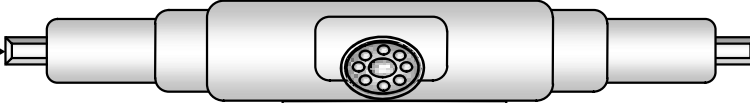
Date:Aug 26, 2023

Hydril "GK"
13 5/8" 3M

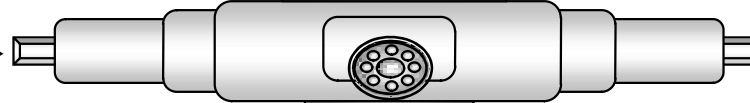


Hydril "GK"

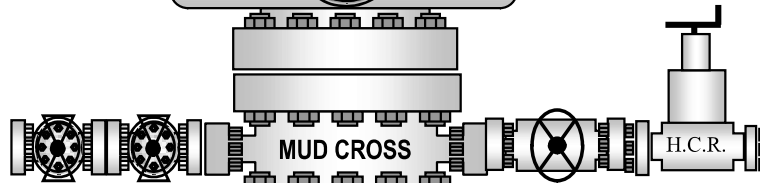
Cameron Type U
13 5/8" 3M



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

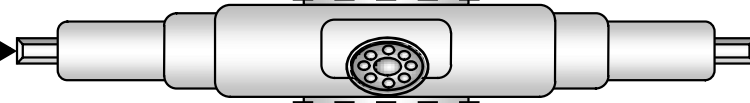


BLIND RAMS



MUD CROSS

H.C.R.



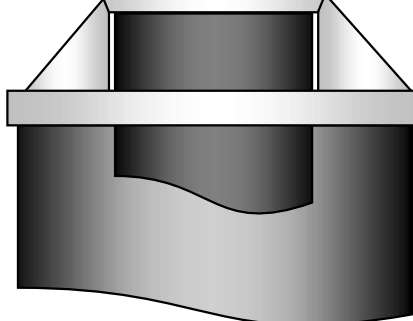
7" RAMS



13 5/8" 3M

13 5/8" 3M

13 5/8" 3M





Mewbourne Oil Co.

BOP Break Testing Variance

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

Procedures

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



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

Barriers

Before Nipple Down:

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

After Nipple Down:

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

Summary

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

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

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

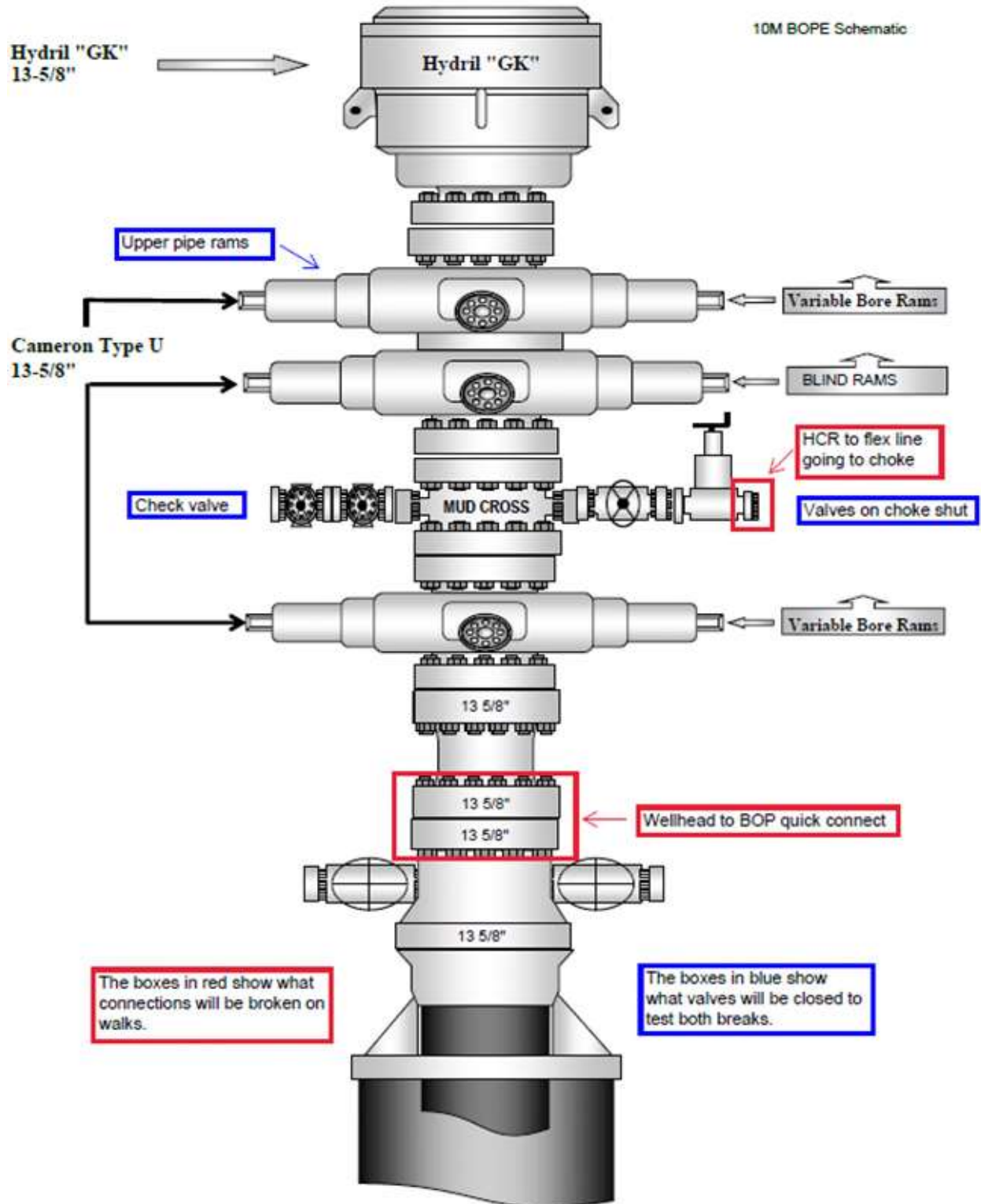


Figure 1. BOP diagram



5M BOPE & Closed Loop Equipment Schematic

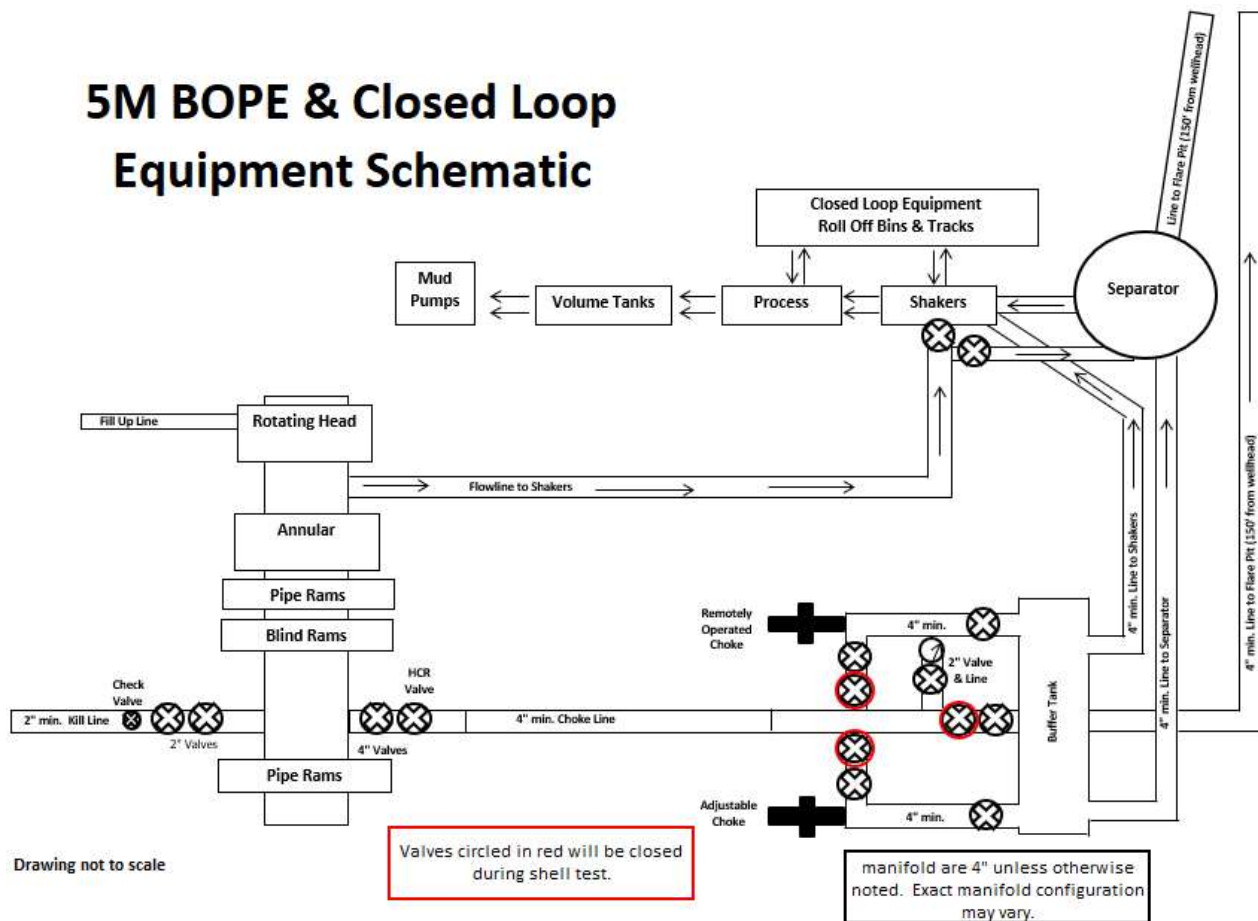


Figure 2. BOPE diagram



Figure 3. BOP handling system



Figure 4. BOP handling system

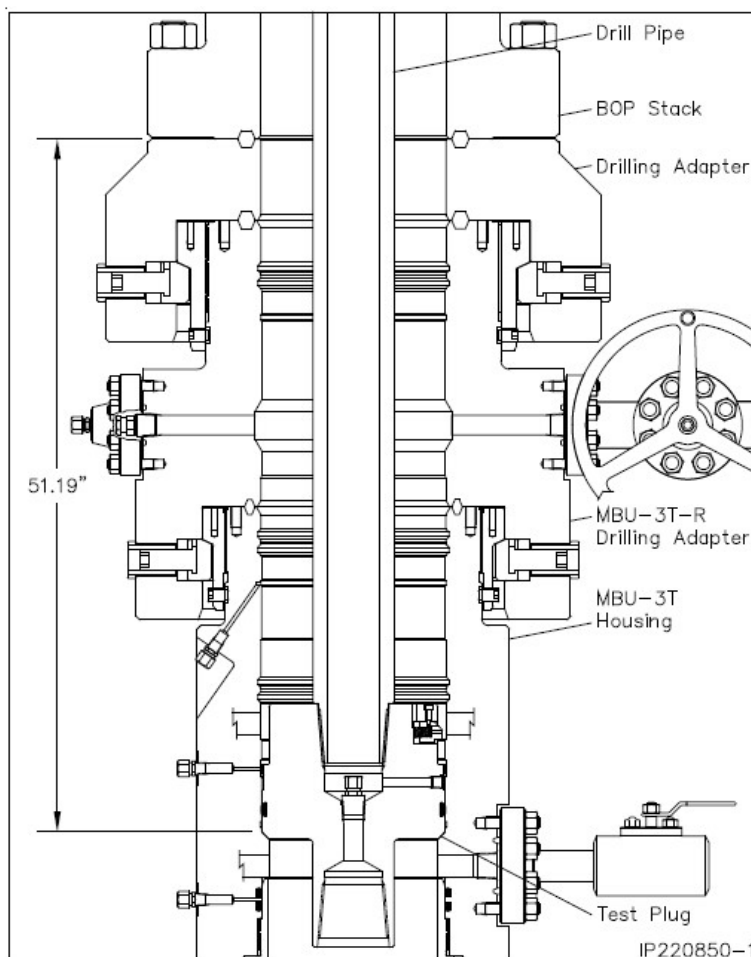


Figure 5. Cactus 5M wellhead with BOP quick connect

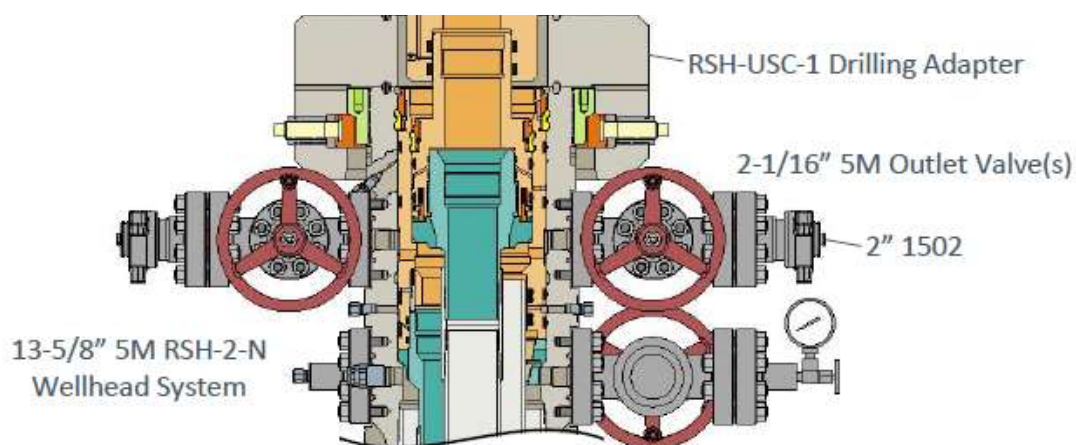
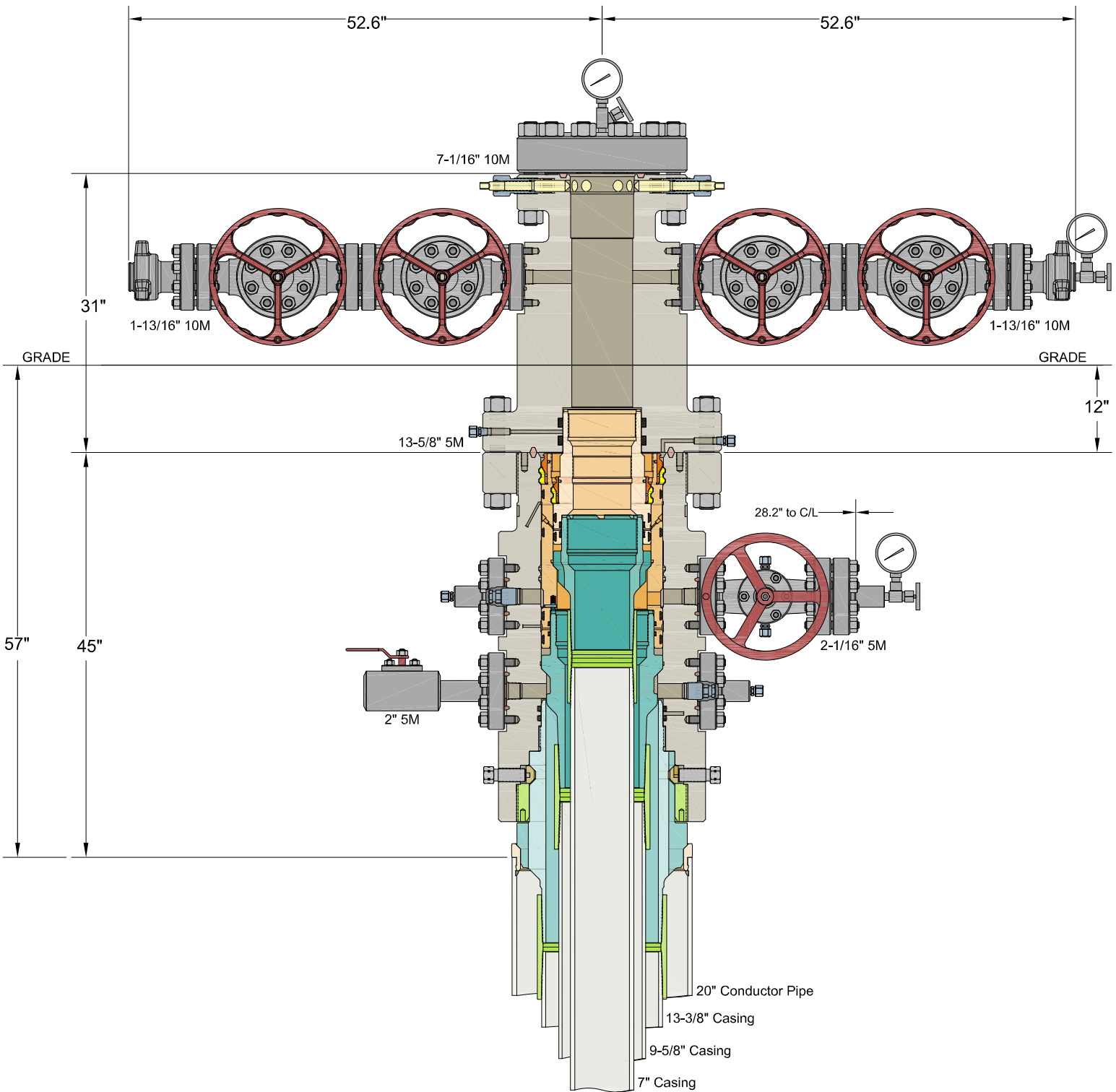


Figure 6. Vault 5M wellhead with BOP quick connect



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ALL DIMENSIONS APPROXIMATE

CACTUS WELLHEAD LLC

MEWBOURNE OIL COMPANY
NEW MEXICO

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

DRAWN	DLE	18APR22
APPRV		
DRAWING NO.	HBE0000660	

Sec 20, T18S, R29E

SHL: 1080' FSL 55' FEL (Sec 20)

BHL: 1850' FSL 100' FWL (Sec 19)

Casing Program Design A						BLM Minimum Safety Factors	1.125	1.0	1.6 Dry	1.6 Dry
									1.8 Wet	1.8 Wet
String	Hole Size	Top MD	Top TVD	Bot MD	Bot TVD	Csg. Size	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
Surface	17.5"	0'	0'	275'	275'	13.375" 48# H40 STC	6.26	14.07	24.39	40.98
Int	12.25"	0'	0'	1050'	1050'	9.625" 36# J55 LTC	3.63	6.32	11.98	14.92
Production	8.75"	0'	0'	7205'	7156'	7" 26# P110 LTC	1.73	2.76	3.70	4.43
Liner	6.125"	7005'	6957'	17705'	7729'	4.5" 13.5# P110 LTC	2.65	3.09	2.34	2.92

Casing		# Sacks	Wt. lb/gal	Yield ft³/sack	TOC/BOC	Volume ft³	% Excess	Slurry Description
13.375 in	LEAD	60	12.5	2.12	0' - 90'	130	100%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	90' - 275'	268		Class C: Retarder
9.625 in	LEAD	70	12.5	2.12	0' - 377'	150	25%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	377' - 1050'	268		Class C: Retarder
7 in	LEAD	340	12.5	2.12	850' - 4710'	730	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
	TAIL	400	15.6	1.18	4710' - 7205'	472		Class H: Retarder, Fluid Loss, Defoamer
4.5 in	LEAD	680	13.5	1.85	7005' - 17705'	1260	25%	Class H: Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti-

Depth	Mud Wt	Mud Type
	8.4 - 8.6	
0' - 275'	8.4 - 8.6	Fresh Water
275' - 1050'	9.5 - 10.2	Brine
1050' - 7205'	8.6 - 9.7	Cut-Brine
7205' - 17705'	8.6 - 10.	OBM

Formation	Est. Top (TVD)	Mineral Resources	Formation	Est. Top (TVD)	Mineral Resources
Rustler			Yeso		
Castile			Delaware (Lamar)		
Salt Top	320'	None	Bell Canyon		
Salt Base	875'	None	Cherry Canyon		
Yates	1005'	Oil/Natural Gas	Manzanita Marker		
Seven Rivers	1350'	Oil/Natural Gas	Basal Brushy Canyon		
Queen	2010'	Oil/Natural Gas	Bone Spring	3860'	Oil/Natural Gas
Capitan			1st Bone Spring	6630'	Oil/Natural Gas
Grayburg	2370'	None	2nd Bone Spring	7270'	Oil/Natural Gas
San Andres	2830'	Oil/Natural Gas	3rd Bone Spring	8340'	Oil/Natural Gas
Glorieta			Wolfcamp		

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

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

Mewbourne Oil Company, Pretty Bird 20/19 Fed Com 526H
Sec 20, T18S, R29E
SHL: 1080' FSL 55' FEL (Sec 20)
BHL: 1850' FSL 100' FWL (Sec 19)

Casing Program Design B						BLM Minimum Safety Factors	1.125	1.0	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet
String	Hole Size	Top MD	Top TVD	Bot MD	Bot TVD	Csg. Size	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
Surface	17.5"	0'	0'	275'	275'	13.375" 48# H40 STC	6.26	14.07	24.39	40.98
Int	12.25"	0'	0'	1050'	1050'	9.625" 36# J55 LTC	3.63	6.32	11.98	14.92
Production	8.75"	0'	0'	8115'	7729'	7" 26# P110 LTC	1.60	2.55	3.28	3.93
Liner	6.125"	7205'	7156'	17705'	7729'	4.5" 13.5# P110 LTC	2.65	3.09	2.38	2.98

Design B - Cement Program

Casing		# Sacks	Wt. lb/gal	Yield ft ³ /sack	TOC/BOC	Volume ft ³	% Excess	Slurry Description
13.375 in	LEAD	60	12.5	2.12	0' - 90'	130	100%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	90' - 275'	268		Class C: Retarder
9.625 in	LEAD	70	12.5	2.12	0' - 377'	150	25%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	377' - 1050'	268		Class C: Retarder
1st Stg 7 in	LEAD	420	12.5	2.12	850' - 5616'	900	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
	TAIL	400	15.6	1.18	5616' - 8115'	472		Class H: Retarder, Fluid Loss, Defoamer
4.5 in	LEAD	670	13.5	1.85	7205' - 17705'	1240	25%	Class H: Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti-

Design B - Mud Program

Depth	Mud Wt	Mud Type
	8.4 - 8.6	
0' - 275'	8.4 - 8.6	Fresh Water
275' - 1050'	9.5 - 10.2	Brine
1050' - 8115'	8.6 - 9.7	Cut-Brine
8115' - 17705'	8.6 - 10.	OBM

Geology

Formation	Est. Top (TVD)	Mineral Resources	Formation	Est. Top (TVD)	Mineral Resources
Rustler			Yeso		
Castile			Delaware (Lamar)		
Salt Top	320'	None	Bell Canyon		
Salt Base	875'	None	Cherry Canyon		
Yates	1005'	Oil/Natural Gas	Manzanita Marker		
Seven Rivers	1350'	Oil/Natural Gas	Basal Brushy Canyon		
Queen	2010'	Oil/Natural Gas	Bone Spring	3860'	Oil/Natural Gas
Capitan			1st Bone Spring	6630'	Oil/Natural Gas
Grayburg	2370'	None	2nd Bone Spring	7270'	Oil/Natural Gas
San Andres	2830'	Oil/Natural Gas	3rd Bone Spring	8340'	Oil/Natural Gas
Glorieta			Wolfcamp		

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

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

Mewbourne Oil Company, Pretty Bird 20/19 Fed Com 526H

Sec 20, T18S, R29E

SHL: 1080' FSL 55' FEL (Sec 20)

BHL: 1850' FSL 100' FWL (Sec 19)

Casing Program Design A						BLM Minimum Safety Factors	1.125	1.0	1.6 Dry	1.6 Dry
									1.8 Wet	1.8 Wet
String	Hole Size	Top MD	Top TVD	Bot MD	Bot TVD	Csg. Size	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
Surface	17.5"	0'	0'	275'	275'	13.375" 48# H40 STC	6.26	14.07	24.39	40.98
Int	12.25"	0'	0'	1050'	1050'	9.625" 36# J55 LTC	3.63	6.32	11.98	14.92
Production	8.75"	0'	0'	7207'	7156'	7" 26# P110 LTC	1.73	2.76	3.70	4.43
Liner	6.125"	7007'	6956'	17707'	7729'	4.5" 13.5# P110 LTC	2.65	3.09	2.34	2.92

Cement Program

Casing		# Sacks	Wt. lb/gal	Yield ft³/sack	TOC/BOC	Volume ft³	% Excess	Slurry Description
13.375 in	LEAD	60	12.5	2.12	0' - 90'	130	100%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	90' - 275'	268		Class C: Retarder
9.625 in	LEAD	70	12.5	2.12	0' - 377'	150	25%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	377' - 1050'	268		Class C: Retarder
7 in	LEAD	340	12.5	2.12	850' - 4711'	730	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
	TAIL	400	15.6	1.18	4711' - 7207'	472		Class H: Retarder, Fluid Loss, Defoamer
4.5 in	LEAD	680	13.5	1.85	7007' - 17707'	1260	25%	Class H: Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti-

Design A - Mud Program

Depth	Mud Wt	Mud Type
	8.4 - 8.6	
0' - 275'	8.4 - 8.6	Fresh Water
275' - 1050'	9.5 - 10.2	Brine
1050' - 7207'	8.6 - 9.7	Cut-Brine
7207' - 17707'	8.6 - 10.	OBM

Geology

Formation	Est. Top (TVD)	Mineral Resources	Formation	Est. Top (TVD)	Mineral Resources
Rustler			Yeso		
Castile			Delaware (Lamar)		
Salt Top	320'	None	Bell Canyon		
Salt Base	875'	None	Cherry Canyon		
Yates	1005'	Oil/Natural Gas	Manzanita Marker		
Seven Rivers	1350'	Oil/Natural Gas	Basal Brushy Canyon		
Queen	2010'	Oil/Natural Gas	Bone Spring	3860'	Oil/Natural Gas
Capitan			1st Bone Spring	6630'	Oil/Natural Gas
Grayburg	2370'	None	2nd Bone Spring	7270'	Oil/Natural Gas
San Andres	2830'	Oil/Natural Gas	3rd Bone Spring	8340'	Oil/Natural Gas
Glorieta			Wolfcamp		

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

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

Mewbourne Oil Company, Pretty Bird 20/19 Fed Com 526H
Sec 20, T18S, R29E
SHL: 1080' FSL 55' FEL (Sec 20)
BHL: 1850' FSL 100' FWL (Sec 19)

Casing Program Design B						BLM Minimum Safety Factors	1.125	1.0	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet
String	Hole Size	Top MD	Top TVD	Bot MD	Bot TVD	Csg. Size	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
Surface	17.5"	0'	0'	275'	275'	13.375" 48# H40 STC	6.26	14.07	24.39	40.98
Int	12.25"	0'	0'	1050'	1050'	9.625" 36# J55 LTC	3.63	6.32	11.98	14.92
Production	8.75"	0'	0'	8117'	7729'	7" 26# P110 LTC	1.60	2.55	3.28	3.93
Liner	6.125"	7207'	7156'	17707'	7729'	4.5" 13.5# P110 LTC	2.65	3.09	2.38	2.98

Design B - Cement Program

Casing		# Sacks	Wt. lb/gal	Yield ft³/sack	TOC/BOC	Volume ft³	% Excess	Slurry Description
13.375 in	LEAD	60	12.5	2.12	0' - 90'	130	100%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	90' - 275'	268		Class C: Retarder
9.625 in	LEAD	70	12.5	2.12	0' - 377'	150	25%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	377' - 1050'	268		Class C: Retarder
7 in	LEAD	420	12.5	2.12	850' - 5617'	900	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
	TAIL	400	15.6	1.18	5617' - 8117'	472		Class H: Retarder, Fluid Loss, Defoamer
4.5 in	LEAD	670	13.5	1.85	7207' - 17707'	1240	25%	Class H: Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti-

Design B - Mud Program

Depth	Mud Wt	Mud Type
	8.4 - 8.6	
0' - 275'	8.4 - 8.6	Fresh Water
275' - 1050'	9.5 - 10.2	Brine
1050' - 8117'	8.6 - 9.7	Cut-Brine
8117' - 17707'	8.6 - 10.	OBM

Geology

Formation	Est. Top (TVD)	Mineral Resources	Formation	Est. Top (TVD)	Mineral Resources
Rustler			Yeso		
Castile			Delaware (Lamar)		
Salt Top	320'	None	Bell Canyon		
Salt Base	875'	None	Cherry Canyon		
Yates	1005'	Oil/Natural Gas	Manzanita Marker		
Seven Rivers	1350'	Oil/Natural Gas	Basal Brushy Canyon		
Queen	2010'	Oil/Natural Gas	Bone Spring	3860'	Oil/Natural Gas
Capitan			1st Bone Spring	6630'	Oil/Natural Gas
Grayburg	2370'	None	2nd Bone Spring	7270'	Oil/Natural Gas
San Andres	2830'	Oil/Natural Gas	3rd Bone Spring	8340'	Oil/Natural Gas
Glorieta			Wolfcamp		

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

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

Mewbourne Oil Company, Pretty Bird 20/19 Fed Com 526H

Sec 20, T18S, R29E

SHL: 1080' FSL 55' FEL (Sec 20)

BHL: 1850' FSL 100' FWL (Sec 19)

Casing Program Design A						BLM Minimum Safety Factors	1.125	1.0	1.6 Dry	1.6 Dry
									1.8 Wet	1.8 Wet
String	Hole Size	Top MD	Top TVD	Bot MD	Bot TVD	Csg. Size	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
Surface	17.5"	0'	0'	275'	275'	13.375" 48# H40 STC	6.26	14.07	24.39	40.98
Int	12.25"	0'	0'	1050'	1050'	9.625" 36# J55 LTC	3.63	6.32	11.98	14.92
Production	8.75"	0'	0'	7207'	7156'	7" 26# P110 LTC	1.73	2.76	3.70	4.43
Liner	6.125"	7007'	6956'	17707'	7729'	4.5" 13.5# P110 LTC	2.65	3.09	2.34	2.92

Casing		# Sacks	Wt. lb/gal	Yield ft³/sack	TOC/BOC	Volume ft³	% Excess	Slurry Description
13.375 in	LEAD	60	12.5	2.12	0' - 90'	130	100%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	90' - 275'	268		Class C: Retarder
9.625 in	LEAD	70	12.5	2.12	0' - 377'	150	25%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	377' - 1050'	268		Class C: Retarder
7 in	LEAD	340	12.5	2.12	850' - 4711'	730	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
	TAIL	400	15.6	1.18	4711' - 7207'	472		Class H: Retarder, Fluid Loss, Defoamer
4.5 in	LEAD	680	13.5	1.85	7007' - 17707'	1260	25%	Class H: Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti-

Design A - Mud Program		
Depth	Mud Wt	Mud Type
	8.4 - 8.6	
0' - 275'	8.4 - 8.6	Fresh Water
275' - 1050'	9.5 - 10.2	Brine
1050' - 7207'	8.6 - 9.7	Cut-Brine
7207' - 17707'	8.6 - 10.	OBM

Geology					
Formation	Est. Top (TVD)	Mineral Resources	Formation	Est. Top (TVD)	Mineral Resources
Rustler			Yeso		
Castile			Delaware (Lamar)		
Salt Top	320'	None	Bell Canyon		
Salt Base	875'	None	Cherry Canyon		
Yates	1005'	Oil/Natural Gas	Manzanita Marker		
Seven Rivers	1350'	Oil/Natural Gas	Basal Brushy Canyon		
Queen	2010'	Oil/Natural Gas	Bone Spring	3860'	Oil/Natural Gas
Capitan			1st Bone Spring	6630'	Oil/Natural Gas
Grayburg	2370'	None	2nd Bone Spring	7270'	Oil/Natural Gas
San Andres	2830'	Oil/Natural Gas	3rd Bone Spring	8340'	Oil/Natural Gas
Glorieta			Wolfcamp		

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

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

Mewbourne Oil Company, Pretty Bird 20/19 Fed Com 526H
Sec 20, T18S, R29E
SHL: 1080' FSL 55' FEL (Sec 20)
BHL: 1850' FSL 100' FWL (Sec 19)

Casing Program Design B						BLM Minimum Safety Factors	1.125	1.0	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet
String	Hole Size	Top MD	Top TVD	Bot MD	Bot TVD	Csg. Size	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
Surface	17.5"	0'	0'	275'	275'	13.375" 48# H40 STC	6.26	14.07	24.39	40.98
Int	12.25"	0'	0'	1050'	1050'	9.625" 36# J55 LTC	3.63	6.32	11.98	14.92
Production	8.75"	0'	0'	8117'	7729'	7" 26# P110 LTC	1.60	2.55	3.28	3.93
Liner	6.125"	7207'	7156'	17707'	7729'	4.5" 13.5# P110 LTC	2.65	3.09	2.38	2.98

Design B - Cement Program

Casing		# Sacks	Wt. lb/gal	Yield ft³/sack	TOC/BOC	Volume ft³	% Excess	Slurry Description
13.375 in	LEAD	60	12.5	2.12	0' - 90'	130	100%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	90' - 275'	268		Class C: Retarder
9.625 in	LEAD	70	12.5	2.12	0' - 377'	150	25%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	377' - 1050'	268		Class C: Retarder
7 in	LEAD	420	12.5	2.12	850' - 5617'	900	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
	TAIL	400	15.6	1.18	5617' - 8117'	472		Class H: Retarder, Fluid Loss, Defoamer
4.5 in	LEAD	670	13.5	1.85	7207' - 17707'	1240	25%	Class H: Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti-

Design B - Mud Program

Depth	Mud Wt	Mud Type
	8.4 - 8.6	
0' - 275'	8.4 - 8.6	Fresh Water
275' - 1050'	9.5 - 10.2	Brine
1050' - 8117'	8.6 - 9.7	Cut-Brine
8117' - 17707'	8.6 - 10.	OBM

Geology

Formation	Est. Top (TVD)	Mineral Resources	Formation	Est. Top (TVD)	Mineral Resources
Rustler			Yeso		
Castile			Delaware (Lamar)		
Salt Top	320'	None	Bell Canyon		
Salt Base	875'	None	Cherry Canyon		
Yates	1005'	Oil/Natural Gas	Manzanita Marker		
Seven Rivers	1350'	Oil/Natural Gas	Basal Brushy Canyon		
Queen	2010'	Oil/Natural Gas	Bone Spring	3860'	Oil/Natural Gas
Capitan			1st Bone Spring	6630'	Oil/Natural Gas
Grayburg	2370'	None	2nd Bone Spring	7270'	Oil/Natural Gas
San Andres	2830'	Oil/Natural Gas	3rd Bone Spring	8340'	Oil/Natural Gas
Glorieta			Wolfcamp		

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

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

Mewbourne Oil Company, Pretty Bird 20/19 Fed Com 526H

Sec 20, T18S, R29E

SHL: 1080' FSL 55' FEL (Sec 20)

BHL: 1850' FSL 100' FWL (Sec 19)

Casing Program Design A						BLM Minimum Safety Factors	1.125	1.0	1.6 Dry	1.6 Dry
									1.8 Wet	1.8 Wet
String	Hole Size	Top MD	Top TVD	Bot MD	Bot TVD	Csg. Size	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
Surface	17.5"	0'	0'	275'	275'	13.375" 48# H40 STC	6.26	14.07	24.39	40.98
Int	12.25"	0'	0'	1050'	1050'	9.625" 36# J55 LTC	3.63	6.32	11.98	14.92
Production	8.75"	0'	0'	7207'	7156'	7" 26# P110 LTC	1.73	2.76	3.70	4.43
Liner	6.125"	7007'	6956'	17707'	7729'	4.5" 13.5# P110 LTC	2.65	3.09	2.34	2.92

Casing		# Sacks	Wt. lb/gal	Yield ft³/sack	TOC/BOC	Volume ft³	% Excess	Slurry Description
13.375 in	LEAD	60	12.5	2.12	0' - 90'	130	100%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	90' - 275'	268		Class C: Retarder
9.625 in	LEAD	70	12.5	2.12	0' - 377'	150	25%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	377' - 1050'	268		Class C: Retarder
7 in	LEAD	340	12.5	2.12	850' - 4711'	730	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
	TAIL	400	15.6	1.18	4711' - 7207'	472		Class H: Retarder, Fluid Loss, Defoamer
4.5 in	LEAD	680	13.5	1.85	7007' - 17707'	1260	25%	Class H: Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti-

Design A - Mud Program		
Depth	Mud Wt	Mud Type
	8.4 - 8.6	
0' - 275'	8.4 - 8.6	Fresh Water
275' - 1050'	9.5 - 10.2	Brine
1050' - 7207'	8.6 - 9.7	Cut-Brine
7207' - 17707'	8.6 - 10.	OBM

Geology					
Formation	Est. Top (TVD)	Mineral Resources	Formation	Est. Top (TVD)	Mineral Resources
Rustler			Yeso		
Castile			Delaware (Lamar)		
Salt Top	320'	None	Bell Canyon		
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Yates	1005'	Oil/Natural Gas	Manzanita Marker		
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Queen	2010'	Oil/Natural Gas	Bone Spring	3860'	Oil/Natural Gas
Capitan			1st Bone Spring	6630'	Oil/Natural Gas
Grayburg	2370'	None	2nd Bone Spring	7270'	Oil/Natural Gas
San Andres	2830'	Oil/Natural Gas	3rd Bone Spring	8340'	Oil/Natural Gas
Glorieta			Wolfcamp		

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

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

Mewbourne Oil Company, Pretty Bird 20/19 Fed Com 526H

Sec 20, T18S, R29E

SHL: 1080' FSL 55' FEL (Sec 20)

BHL: 1850' FSL 100' FWL (Sec 19)

Casing Program Design B						BLM Minimum Safety Factors	1.125	1.0	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet
String	Hole Size	Top MD	Top TVD	Bot MD	Bot TVD	Csg. Size	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
Surface	17.5"	0'	0'	275'	275'	13.375" 48# H40 STC	6.26	14.07	24.39	40.98
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Design B - Mud Program

Depth	Mud Wt	Mud Type
	8.4 - 8.6	
0' - 275'	8.4 - 8.6	Fresh Water
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1050' - 8117'	8.6 - 9.7	Cut-Brine
8117' - 17707'	8.6 - 10.	OBM

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Yates	1005'	Oil/Natural Gas	Manzanita Marker		
Seven Rivers	1350'	Oil/Natural Gas	Basal Brushy Canyon		
Queen	2010'	Oil/Natural Gas	Bone Spring	3860'	Oil/Natural Gas
Capitan			1st Bone Spring	6630'	Oil/Natural Gas
Grayburg	2370'	None	2nd Bone Spring	7270'	Oil/Natural Gas
San Andres	2830'	Oil/Natural Gas	3rd Bone Spring	8340'	Oil/Natural Gas
Glorieta			Wolfcamp		

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

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

Mewbourne Oil Company, Pretty Bird 20/19 Fed Com 526H**Sec 20, T18S, R29E****SHL: 1080' FSL 55' FEL (Sec 20)****BHL: 1850' FSL 100' FWL (Sec 19)**

Operator Name:	Property Name:	Well Number
Mewbourne Oil Company	Pretty Bird 20/19 Fed Com	526H

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
I	20	18	29	-	1850'	FSL	10'	FEL	Eddy
Latitude					Longitude			NAD	
32.730791					-104.0883780			83	

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
I	20	18	29	-	1850'	FSL	100'	FEL	Eddy
Latitude					Longitude			NAD	
32.730791					-104.0886710			83	

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
L	19	18	29	-	1850'	FSL	100'	FWL	Eddy
Latitude					Longitude			NAD	
32.730742					-104.1215450			83	

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

N

Is this well an infill well?

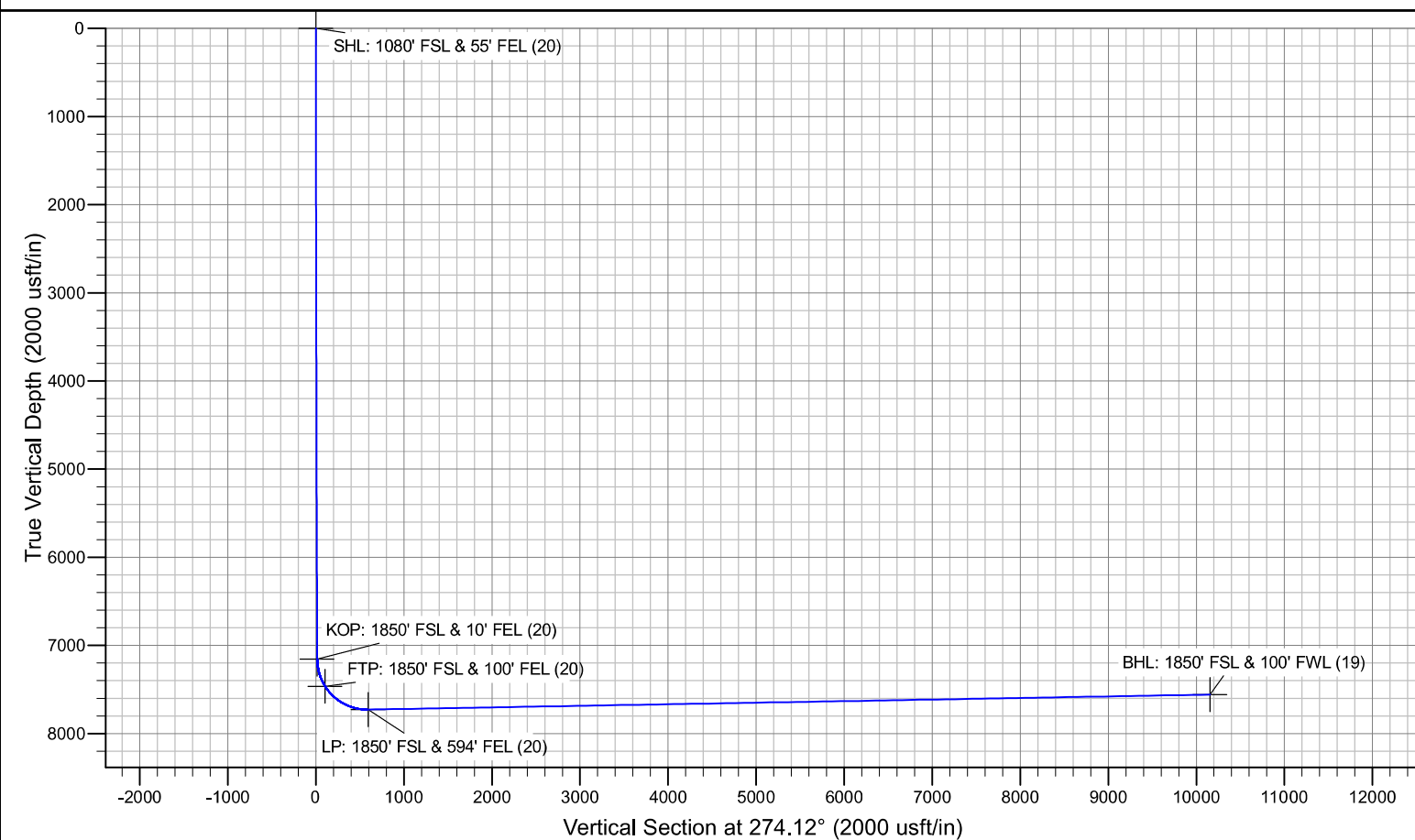
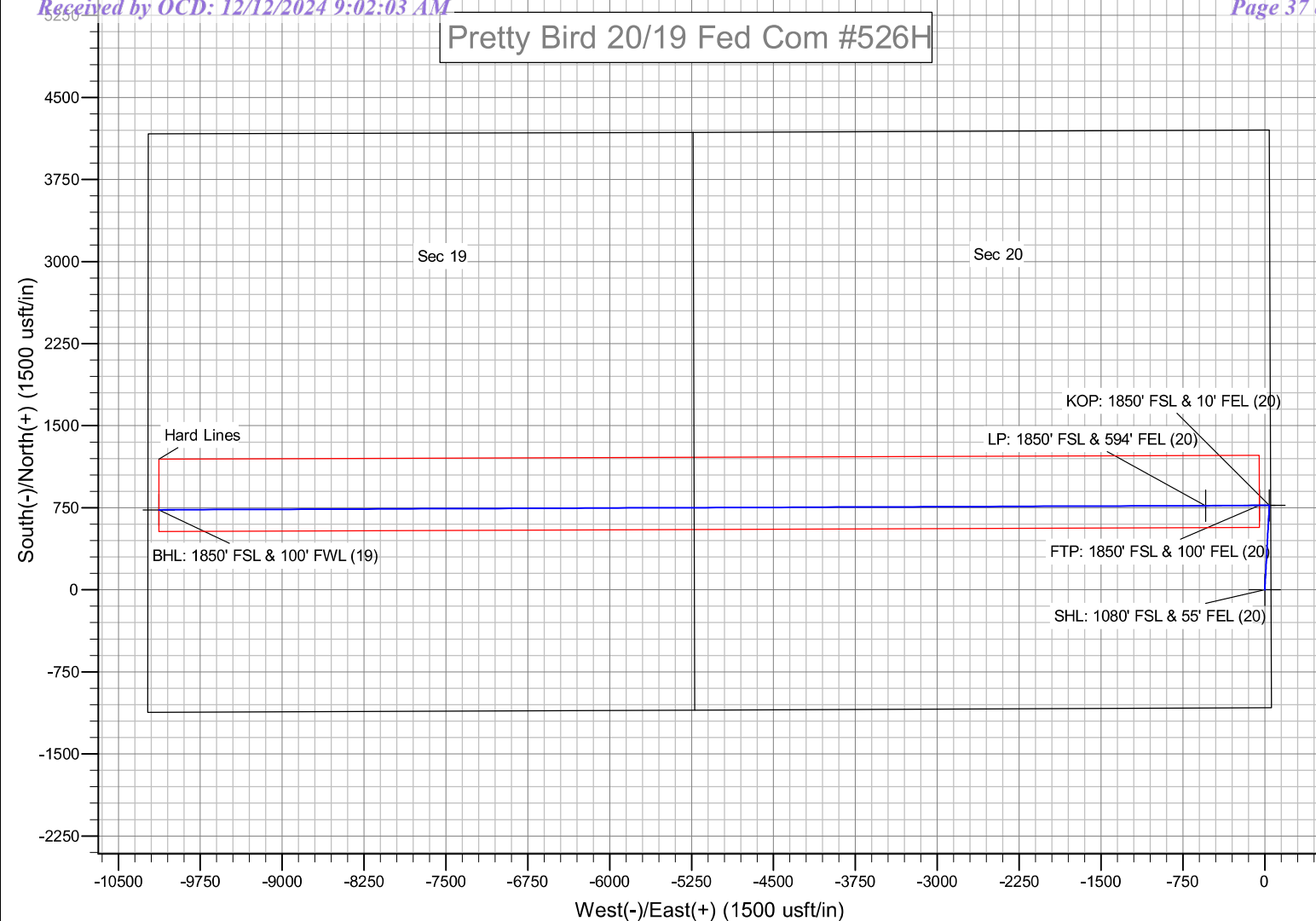
Y

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

API #

Operator Name:	Property Name:	Well Number
Mewbourne Oil Company	Pretty Bird 20/19 Fed Com	616H

Pretty Bird 20/19 Fed Com #526H



Mewbourne Oil Company

Eddy County, New Mexico NAD 83

Pretty Bird 20/19 Fed Com #526H

Sec 20, T18S, R29E

SHL: 1080' FSL & 55' FEL, Sec 20

BHL: 1850' FSL & 100' FWL, Sec 19

Plan: Design #1

Standard Planning Report

30 August, 2024

Planning Report

Database:	Hobbs	Local Co-ordinate Reference:	Site Pretty Bird 20/19 Fed Com #526H
Company:	Mewbourne Oil Company	TVD Reference:	WELL @ 3539.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	MD Reference:	WELL @ 3539.0usft (Original Well Elev)
Site:	Pretty Bird 20/19 Fed Com #526H	North Reference:	Grid
Well:	Sec 20, T18S, R29E	Survey Calculation Method:	Minimum Curvature
Wellbore:	BHL: 1850' FSL & 100' FWL, Sec 19		
Design:	Design #1		

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

Site	Pretty Bird 20/19 Fed Com #526H			
Site Position:		Northing:	628,910.40 usft	Latitude: 32.7286748
From:	Map	Easting:	616,620.70 usft	Longitude: -104.0885193
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	

Well	Sec 20, T18S, R29E			
Well Position	+N/-S	0.0 usft	Northing:	628,910.40 usft
	+E/-W	0.0 usft	Easting:	616,620.70 usft
Position Uncertainty		0.0 usft	Wellhead Elevation:	3,539.0 usft
Grid Convergence:		0.13 °	Ground Level:	3,511.0 usft

Wellbore	BHL: 1850' FSL & 100' FWL, Sec 19				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/31/2014	7.43	60.48	48,482.84386464

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	274.12

Plan Survey Tool Program	Date	6/27/2024		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	17,707.0	Design #1 (BHL: 1850' FSL & 100	

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	
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,487.6	7.75	3.10	1,486.4	26.1	1.4	2.00	2.00	0.00	3.10	
6,819.5	7.75	3.10	6,769.6	744.3	40.3	0.00	0.00	0.00	0.00	
7,207.1	0.00	0.00	7,156.0	770.4	41.7	2.00	-2.00	0.00	180.00	KOP: 1850' FSL & 10'
8,117.4	91.02	269.77	7,729.0	768.1	-541.5	10.00	10.00	0.00	-90.23	
17,707.0	91.02	269.77	7,559.0	730.4	-10,129.5	0.00	0.00	0.00	0.00	BHL: 1850' FSL & 100'

Planning Report

Database:	Hobbs	Local Co-ordinate Reference:	Site Pretty Bird 20/19 Fed Com #526H
Company:	Mewbourne Oil Company	TVD Reference:	WELL @ 3539.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	MD Reference:	WELL @ 3539.0usft (Original Well Elev)
Site:	Pretty Bird 20/19 Fed Com #526H	North Reference:	Grid
Well:	Sec 20, T18S, R29E	Survey Calculation Method:	Minimum Curvature
Wellbore:	BHL: 1850' FSL & 100' FWL, Sec 19		
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: 1080' FSL & 55' FEL (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	2.00	3.10	1,200.0	1.7	0.1	0.0	2.00	2.00	0.00
1,300.0	4.00	3.10	1,299.8	7.0	0.4	0.1	2.00	2.00	0.00
1,400.0	6.00	3.10	1,399.5	15.7	0.8	0.3	2.00	2.00	0.00
1,487.6	7.75	3.10	1,486.4	26.1	1.4	0.5	2.00	2.00	0.00
1,500.0	7.75	3.10	1,498.7	27.8	1.5	0.5	0.00	0.00	0.00
1,600.0	7.75	3.10	1,597.8	41.3	2.2	0.7	0.00	0.00	0.00
1,700.0	7.75	3.10	1,696.9	54.7	3.0	1.0	0.00	0.00	0.00
1,800.0	7.75	3.10	1,796.0	68.2	3.7	1.2	0.00	0.00	0.00
1,900.0	7.75	3.10	1,895.1	81.7	4.4	1.5	0.00	0.00	0.00
2,000.0	7.75	3.10	1,994.1	95.2	5.2	1.7	0.00	0.00	0.00
2,100.0	7.75	3.10	2,093.2	108.6	5.9	1.9	0.00	0.00	0.00
2,200.0	7.75	3.10	2,192.3	122.1	6.6	2.2	0.00	0.00	0.00
2,300.0	7.75	3.10	2,291.4	135.6	7.3	2.4	0.00	0.00	0.00
2,400.0	7.75	3.10	2,390.5	149.0	8.1	2.7	0.00	0.00	0.00
2,500.0	7.75	3.10	2,489.6	162.5	8.8	2.9	0.00	0.00	0.00
2,600.0	7.75	3.10	2,588.7	176.0	9.5	3.2	0.00	0.00	0.00
2,700.0	7.75	3.10	2,687.7	189.4	10.3	3.4	0.00	0.00	0.00
2,800.0	7.75	3.10	2,786.8	202.9	11.0	3.6	0.00	0.00	0.00
2,900.0	7.75	3.10	2,885.9	216.4	11.7	3.9	0.00	0.00	0.00
3,000.0	7.75	3.10	2,985.0	229.8	12.4	4.1	0.00	0.00	0.00
3,100.0	7.75	3.10	3,084.1	243.3	13.2	4.4	0.00	0.00	0.00
3,200.0	7.75	3.10	3,183.2	256.8	13.9	4.6	0.00	0.00	0.00
3,300.0	7.75	3.10	3,282.3	270.2	14.6	4.8	0.00	0.00	0.00
3,400.0	7.75	3.10	3,381.3	283.7	15.4	5.1	0.00	0.00	0.00
3,500.0	7.75	3.10	3,480.4	297.2	16.1	5.3	0.00	0.00	0.00
3,600.0	7.75	3.10	3,579.5	310.6	16.8	5.6	0.00	0.00	0.00
3,700.0	7.75	3.10	3,678.6	324.1	17.5	5.8	0.00	0.00	0.00
3,800.0	7.75	3.10	3,777.7	337.6	18.3	6.1	0.00	0.00	0.00
3,900.0	7.75	3.10	3,876.8	351.0	19.0	6.3	0.00	0.00	0.00
4,000.0	7.75	3.10	3,975.9	364.5	19.7	6.5	0.00	0.00	0.00
4,100.0	7.75	3.10	4,074.9	378.0	20.5	6.8	0.00	0.00	0.00
4,200.0	7.75	3.10	4,174.0	391.5	21.2	7.0	0.00	0.00	0.00
4,300.0	7.75	3.10	4,273.1	404.9	21.9	7.3	0.00	0.00	0.00
4,400.0	7.75	3.10	4,372.2	418.4	22.6	7.5	0.00	0.00	0.00
4,500.0	7.75	3.10	4,471.3	431.9	23.4	7.7	0.00	0.00	0.00
4,600.0	7.75	3.10	4,570.4	445.3	24.1	8.0	0.00	0.00	0.00
4,700.0	7.75	3.10	4,669.5	458.8	24.8	8.2	0.00	0.00	0.00
4,800.0	7.75	3.10	4,768.5	472.3	25.6	8.5	0.00	0.00	0.00
4,900.0	7.75	3.10	4,867.6	485.7	26.3	8.7	0.00	0.00	0.00
5,000.0	7.75	3.10	4,966.7	499.2	27.0	9.0	0.00	0.00	0.00
5,100.0	7.75	3.10	5,065.8	512.7	27.7	9.2	0.00	0.00	0.00

Planning Report

Database:	Hobbs	Local Co-ordinate Reference:	Site Pretty Bird 20/19 Fed Com #526H
Company:	Mewbourne Oil Company	TVD Reference:	WELL @ 3539.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	MD Reference:	WELL @ 3539.0usft (Original Well Elev)
Site:	Pretty Bird 20/19 Fed Com #526H	North Reference:	Grid
Well:	Sec 20, T18S, R29E	Survey Calculation Method:	Minimum Curvature
Wellbore:	BHL: 1850' FSL & 100' FWL, Sec 19		
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	7.75	3.10	5,164.9	526.1	28.5	9.4	0.00	0.00	0.00
5,300.0	7.75	3.10	5,264.0	539.6	29.2	9.7	0.00	0.00	0.00
5,400.0	7.75	3.10	5,363.1	553.1	29.9	9.9	0.00	0.00	0.00
5,500.0	7.75	3.10	5,462.2	566.5	30.7	10.2	0.00	0.00	0.00
5,600.0	7.75	3.10	5,561.2	580.0	31.4	10.4	0.00	0.00	0.00
5,700.0	7.75	3.10	5,660.3	593.5	32.1	10.6	0.00	0.00	0.00
5,800.0	7.75	3.10	5,759.4	606.9	32.9	10.9	0.00	0.00	0.00
5,900.0	7.75	3.10	5,858.5	620.4	33.6	11.1	0.00	0.00	0.00
6,000.0	7.75	3.10	5,957.6	633.9	34.3	11.4	0.00	0.00	0.00
6,100.0	7.75	3.10	6,056.7	647.4	35.0	11.6	0.00	0.00	0.00
6,200.0	7.75	3.10	6,155.8	660.8	35.8	11.8	0.00	0.00	0.00
6,300.0	7.75	3.10	6,254.8	674.3	36.5	12.1	0.00	0.00	0.00
6,400.0	7.75	3.10	6,353.9	687.8	37.2	12.3	0.00	0.00	0.00
6,500.0	7.75	3.10	6,453.0	701.2	38.0	12.6	0.00	0.00	0.00
6,600.0	7.75	3.10	6,552.1	714.7	38.7	12.8	0.00	0.00	0.00
6,700.0	7.75	3.10	6,651.2	728.2	39.4	13.1	0.00	0.00	0.00
6,800.0	7.75	3.10	6,750.3	741.6	40.1	13.3	0.00	0.00	0.00
6,819.5	7.75	3.10	6,769.6	744.3	40.3	13.3	0.00	0.00	0.00
6,900.0	6.14	3.10	6,849.5	754.0	40.8	13.5	2.00	-2.00	0.00
7,000.0	4.14	3.10	6,949.1	762.9	41.3	13.7	2.00	-2.00	0.00
7,100.0	2.14	3.10	7,048.9	768.4	41.6	13.8	2.00	-2.00	0.00
7,207.1	0.00	0.00	7,156.0	770.4	41.7	13.8	2.00	-2.00	0.00
KOP: 1850' FSL & 10' FEL (20)									
7,250.0	4.29	269.77	7,198.9	770.4	40.1	15.4	10.00	10.00	0.00
7,300.0	9.29	269.77	7,248.5	770.4	34.2	21.3	10.00	10.00	0.00
7,350.0	14.29	269.77	7,297.4	770.3	24.0	31.5	10.00	10.00	0.00
7,400.0	19.28	269.77	7,345.3	770.3	9.5	45.9	10.00	10.00	0.00
7,450.0	24.28	269.77	7,391.7	770.2	-9.0	64.4	10.00	10.00	0.00
7,500.0	29.28	269.77	7,436.3	770.1	-31.5	86.8	10.00	10.00	0.00
7,532.7	32.55	269.77	7,464.3	770.0	-48.3	103.6	10.00	10.00	0.00
FTP: 1850' FSL & 100' FEL (20)									
7,550.0	34.28	269.77	7,478.8	770.0	-57.9	113.1	10.00	10.00	0.00
7,600.0	39.28	269.77	7,518.9	769.9	-87.8	142.9	10.00	10.00	0.00
7,650.0	44.28	269.77	7,556.1	769.8	-121.1	176.1	10.00	10.00	0.00
7,700.0	49.28	269.77	7,590.4	769.6	-157.5	212.5	10.00	10.00	0.00
7,750.0	54.28	269.77	7,621.3	769.5	-196.8	251.6	10.00	10.00	0.00
7,800.0	59.28	269.77	7,648.7	769.3	-238.6	293.3	10.00	10.00	0.00
7,850.0	64.28	269.77	7,672.3	769.1	-282.6	337.2	10.00	10.00	0.00
7,900.0	69.28	269.77	7,692.0	768.9	-328.6	383.0	10.00	10.00	0.00
7,950.0	74.28	269.77	7,707.6	768.8	-376.0	430.4	10.00	10.00	0.00
8,000.0	79.27	269.77	7,719.1	768.6	-424.7	478.9	10.00	10.00	0.00
8,050.0	84.27	269.77	7,726.2	768.4	-474.2	528.2	10.00	10.00	0.00
8,100.0	89.27	269.77	7,729.0	768.2	-524.1	578.0	10.00	10.00	0.00
8,117.4	91.02	269.77	7,729.0	768.1	-541.5	595.3	10.00	10.00	0.00
LP: 1850' FSL & 594' FEL (20)									
8,200.0	91.02	269.77	7,727.5	767.8	-624.1	677.7	0.00	0.00	0.00
8,300.0	91.02	269.77	7,725.8	767.4	-724.0	777.4	0.00	0.00	0.00
8,400.0	91.02	269.77	7,724.0	767.0	-824.0	877.1	0.00	0.00	0.00
8,500.0	91.02	269.77	7,722.2	766.6	-924.0	976.8	0.00	0.00	0.00
8,600.0	91.02	269.77	7,720.4	766.2	-1,024.0	1,076.4	0.00	0.00	0.00
8,700.0	91.02	269.77	7,718.7	765.8	-1,124.0	1,176.1	0.00	0.00	0.00
8,800.0	91.02	269.77	7,716.9	765.4	-1,224.0	1,275.8	0.00	0.00	0.00
8,900.0	91.02	269.77	7,715.1	765.0	-1,323.9	1,375.5	0.00	0.00	0.00

Planning Report

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Company:	Mewbourne Oil Company	TVD Reference:	WELL @ 3539.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	MD Reference:	WELL @ 3539.0usft (Original Well Elev)
Site:	Pretty Bird 20/19 Fed Com #526H	North Reference:	Grid
Well:	Sec 20, T18S, R29E	Survey Calculation Method:	Minimum Curvature
Wellbore:	BHL: 1850' FSL & 100' FWL, Sec 19		
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)	
9,000.0	91.02	269.77	7,713.4	764.6	-1,423.9	1,475.2	0.00	0.00	0.00	
9,100.0	91.02	269.77	7,711.6	764.2	-1,523.9	1,574.9	0.00	0.00	0.00	
9,200.0	91.02	269.77	7,709.8	763.8	-1,623.9	1,674.6	0.00	0.00	0.00	
9,300.0	91.02	269.77	7,708.0	763.5	-1,723.9	1,774.3	0.00	0.00	0.00	
9,400.0	91.02	269.77	7,706.3	763.1	-1,823.9	1,874.0	0.00	0.00	0.00	
9,500.0	91.02	269.77	7,704.5	762.7	-1,923.8	1,973.7	0.00	0.00	0.00	
9,600.0	91.02	269.77	7,702.7	762.3	-2,023.8	2,073.4	0.00	0.00	0.00	
9,700.0	91.02	269.77	7,700.9	761.9	-2,123.8	2,173.1	0.00	0.00	0.00	
9,800.0	91.02	269.77	7,699.2	761.5	-2,223.8	2,272.8	0.00	0.00	0.00	
9,900.0	91.02	269.77	7,697.4	761.1	-2,323.8	2,372.5	0.00	0.00	0.00	
10,000.0	91.02	269.77	7,695.6	760.7	-2,423.8	2,472.2	0.00	0.00	0.00	
10,100.0	91.02	269.77	7,693.9	760.3	-2,523.7	2,571.9	0.00	0.00	0.00	
10,163.8	91.02	269.77	7,692.7	760.1	-2,587.5	2,635.5	0.00	0.00	0.00	
PPP2: 1850' FSL & 2640' FWL (20)										
10,200.0	91.02	269.77	7,692.1	759.9	-2,623.7	2,671.6	0.00	0.00	0.00	
10,300.0	91.02	269.77	7,690.3	759.5	-2,723.7	2,771.3	0.00	0.00	0.00	
10,400.0	91.02	269.77	7,688.5	759.1	-2,823.7	2,871.0	0.00	0.00	0.00	
10,500.0	91.02	269.77	7,686.8	758.7	-2,923.7	2,970.7	0.00	0.00	0.00	
10,600.0	91.02	269.77	7,685.0	758.3	-3,023.7	3,070.4	0.00	0.00	0.00	
10,700.0	91.02	269.77	7,683.2	758.0	-3,123.6	3,170.1	0.00	0.00	0.00	
10,800.0	91.02	269.77	7,681.4	757.6	-3,223.6	3,269.8	0.00	0.00	0.00	
10,900.0	91.02	269.77	7,679.7	757.2	-3,323.6	3,369.5	0.00	0.00	0.00	
11,000.0	91.02	269.77	7,677.9	756.8	-3,423.6	3,469.2	0.00	0.00	0.00	
11,100.0	91.02	269.77	7,676.1	756.4	-3,523.6	3,568.9	0.00	0.00	0.00	
11,200.0	91.02	269.77	7,674.4	756.0	-3,623.6	3,668.6	0.00	0.00	0.00	
11,300.0	91.02	269.77	7,672.6	755.6	-3,723.5	3,768.2	0.00	0.00	0.00	
11,400.0	91.02	269.77	7,670.8	755.2	-3,823.5	3,867.9	0.00	0.00	0.00	
11,500.0	91.02	269.77	7,669.0	754.8	-3,923.5	3,967.6	0.00	0.00	0.00	
11,600.0	91.02	269.77	7,667.3	754.4	-4,023.5	4,067.3	0.00	0.00	0.00	
11,700.0	91.02	269.77	7,665.5	754.0	-4,123.5	4,167.0	0.00	0.00	0.00	
11,800.0	91.02	269.77	7,663.7	753.6	-4,223.5	4,266.7	0.00	0.00	0.00	
11,900.0	91.02	269.77	7,661.9	753.2	-4,323.5	4,366.4	0.00	0.00	0.00	
12,000.0	91.02	269.77	7,660.2	752.8	-4,423.4	4,466.1	0.00	0.00	0.00	
12,100.0	91.02	269.77	7,658.4	752.4	-4,523.4	4,565.8	0.00	0.00	0.00	
12,200.0	91.02	269.77	7,656.6	752.1	-4,623.4	4,665.5	0.00	0.00	0.00	
12,300.0	91.02	269.77	7,654.9	751.7	-4,723.4	4,765.2	0.00	0.00	0.00	
12,400.0	91.02	269.77	7,653.1	751.3	-4,823.4	4,864.9	0.00	0.00	0.00	
12,500.0	91.02	269.77	7,651.3	750.9	-4,923.4	4,964.6	0.00	0.00	0.00	
12,600.0	91.02	269.77	7,649.5	750.5	-5,023.3	5,064.3	0.00	0.00	0.00	
12,700.0	91.02	269.77	7,647.8	750.1	-5,123.3	5,164.0	0.00	0.00	0.00	
12,800.0	91.02	269.77	7,646.0	749.7	-5,223.3	5,263.7	0.00	0.00	0.00	
12,803.3	91.02	269.77	7,645.9	749.7	-5,226.6	5,267.0	0.00	0.00	0.00	
PPP3: 1852' FSL & 0' FEL (19)										
12,900.0	91.02	269.77	7,644.2	749.3	-5,323.3	5,363.4	0.00	0.00	0.00	
13,000.0	91.02	269.77	7,642.4	748.9	-5,423.3	5,463.1	0.00	0.00	0.00	
13,100.0	91.02	269.77	7,640.7	748.5	-5,523.3	5,562.8	0.00	0.00	0.00	
13,200.0	91.02	269.77	7,638.9	748.1	-5,623.2	5,662.5	0.00	0.00	0.00	
13,300.0	91.02	269.77	7,637.1	747.7	-5,723.2	5,762.2	0.00	0.00	0.00	
13,400.0	91.02	269.77	7,635.4	747.3	-5,823.2	5,861.9	0.00	0.00	0.00	
13,500.0	91.02	269.77	7,633.6	746.9	-5,923.2	5,961.6	0.00	0.00	0.00	
13,600.0	91.02	269.77	7,631.8	746.5	-6,023.2	6,061.3	0.00	0.00	0.00	
13,700.0	91.02	269.77	7,630.0	746.2	-6,123.2	6,161.0	0.00	0.00	0.00	
13,800.0	91.02	269.77	7,628.3	745.8	-6,223.1	6,260.7	0.00	0.00	0.00	
13,900.0	91.02	269.77	7,626.5	745.4	-6,323.1	6,360.4	0.00	0.00	0.00	

Planning Report

Database:	Hobbs	Local Co-ordinate Reference:	Site Pretty Bird 20/19 Fed Com #526H
Company:	Mewbourne Oil Company	TVD Reference:	WELL @ 3539.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	MD Reference:	WELL @ 3539.0usft (Original Well Elev)
Site:	Pretty Bird 20/19 Fed Com #526H	North Reference:	Grid
Well:	Sec 20, T18S, R29E	Survey Calculation Method:	Minimum Curvature
Wellbore:	BHL: 1850' FSL & 100' FWL, Sec 19		
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)
14,000.0	91.02	269.77	7,624.7	745.0	-6,423.1	6,460.0	0.00	0.00	0.00
14,100.0	91.02	269.77	7,622.9	744.6	-6,523.1	6,559.7	0.00	0.00	0.00
14,200.0	91.02	269.77	7,621.2	744.2	-6,623.1	6,659.4	0.00	0.00	0.00
14,300.0	91.02	269.77	7,619.4	743.8	-6,723.1	6,759.1	0.00	0.00	0.00
14,400.0	91.02	269.77	7,617.6	743.4	-6,823.0	6,858.8	0.00	0.00	0.00
14,500.0	91.02	269.77	7,615.9	743.0	-6,923.0	6,958.5	0.00	0.00	0.00
14,600.0	91.02	269.77	7,614.1	742.6	-7,023.0	7,058.2	0.00	0.00	0.00
14,700.0	91.02	269.77	7,612.3	742.2	-7,123.0	7,157.9	0.00	0.00	0.00
14,800.0	91.02	269.77	7,610.5	741.8	-7,223.0	7,257.6	0.00	0.00	0.00
14,900.0	91.02	269.77	7,608.8	741.4	-7,323.0	7,357.3	0.00	0.00	0.00
15,000.0	91.02	269.77	7,607.0	741.0	-7,422.9	7,457.0	0.00	0.00	0.00
15,100.0	91.02	269.77	7,605.2	740.7	-7,522.9	7,556.7	0.00	0.00	0.00
15,200.0	91.02	269.77	7,603.4	740.3	-7,622.9	7,656.4	0.00	0.00	0.00
15,300.0	91.02	269.77	7,601.7	739.9	-7,722.9	7,756.1	0.00	0.00	0.00
15,400.0	91.02	269.77	7,599.9	739.5	-7,822.9	7,855.8	0.00	0.00	0.00
15,442.9	91.02	269.77	7,599.1	739.3	-7,865.8	7,898.6	0.00	0.00	0.00
PPP4: 1851' FSL & 2364' FWL (19)									
15,500.0	91.02	269.77	7,598.1	739.1	-7,922.9	7,955.5	0.00	0.00	0.00
15,600.0	91.02	269.77	7,596.4	738.7	-8,022.8	8,055.2	0.00	0.00	0.00
15,700.0	91.02	269.77	7,594.6	738.3	-8,122.8	8,154.9	0.00	0.00	0.00
15,800.0	91.02	269.77	7,592.8	737.9	-8,222.8	8,254.6	0.00	0.00	0.00
15,900.0	91.02	269.77	7,591.0	737.5	-8,322.8	8,354.3	0.00	0.00	0.00
16,000.0	91.02	269.77	7,589.3	737.1	-8,422.8	8,454.0	0.00	0.00	0.00
16,100.0	91.02	269.77	7,587.5	736.7	-8,522.8	8,553.7	0.00	0.00	0.00
16,200.0	91.02	269.77	7,585.7	736.3	-8,622.7	8,653.4	0.00	0.00	0.00
16,300.0	91.02	269.77	7,583.9	735.9	-8,722.7	8,753.1	0.00	0.00	0.00
16,400.0	91.02	269.77	7,582.2	735.5	-8,822.7	8,852.8	0.00	0.00	0.00
16,500.0	91.02	269.77	7,580.4	735.1	-8,922.7	8,952.5	0.00	0.00	0.00
16,600.0	91.02	269.77	7,578.6	734.8	-9,022.7	9,052.2	0.00	0.00	0.00
16,700.0	91.02	269.77	7,576.9	734.4	-9,122.7	9,151.9	0.00	0.00	0.00
16,762.9	91.02	269.77	7,575.7	734.1	-9,185.5	9,214.5	0.00	0.00	0.00
PPP5: 1851' FSL & 1044' FWL (19)									
16,800.0	91.02	269.77	7,575.1	734.0	-9,222.6	9,251.5	0.00	0.00	0.00
16,900.0	91.02	269.77	7,573.3	733.6	-9,322.6	9,351.2	0.00	0.00	0.00
17,000.0	91.02	269.77	7,571.5	733.2	-9,422.6	9,450.9	0.00	0.00	0.00
17,100.0	91.02	269.77	7,569.8	732.8	-9,522.6	9,550.6	0.00	0.00	0.00
17,200.0	91.02	269.77	7,568.0	732.4	-9,622.6	9,650.3	0.00	0.00	0.00
17,300.0	91.02	269.77	7,566.2	732.0	-9,722.6	9,750.0	0.00	0.00	0.00
17,400.0	91.02	269.77	7,564.4	731.6	-9,822.5	9,849.7	0.00	0.00	0.00
17,500.0	91.02	269.77	7,562.7	731.2	-9,922.5	9,949.4	0.00	0.00	0.00
17,600.0	91.02	269.77	7,560.9	730.8	-10,022.5	10,049.1	0.00	0.00	0.00
17,707.0	91.02	269.77	7,559.0	730.4	-10,129.5	10,155.8	0.00	0.00	0.00
BHL: 1850' FSL & 100' FWL (19)									

Planning Report

Database:	Hobbs	Local Co-ordinate Reference:	Site Pretty Bird 20/19 Fed Com #526H
Company:	Mewbourne Oil Company	TVD Reference:	WELL @ 3539.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	MD Reference:	WELL @ 3539.0usft (Original Well Elev)
Site:	Pretty Bird 20/19 Fed Com #526H	North Reference:	Grid
Well:	Sec 20, T18S, R29E	Survey Calculation Method:	Minimum Curvature
Wellbore:	BHL: 1850' FSL & 100' FWL, Sec 19		
Design:	Design #1		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
SHL: 1080' FSL & 55' FE - plan hits target center - Point	0.00	0.00	0.0	0.0	0.0	628,910.40	616,620.70	32.7286748	-104.0885193
KOP: 1850' FSL & 10' FI - plan hits target center - Point	0.00	0.00	7,156.0	770.4	41.7	629,680.80	616,662.40	32.7307921	-104.0883779
FTP: 1850' FSL & 100' F - plan hits target center - Point	0.00	0.00	7,464.3	770.0	-48.3	629,680.45	616,572.40	32.7307917	-104.0886706
BHL: 1850' FSL & 100' F - plan hits target center - Point	0.00	0.00	7,559.0	730.4	-10,129.5	629,640.80	606,491.20	32.7307424	-104.1214546
PPP5: 1851' FSL & 104' - plan hits target center - Point	0.00	0.00	7,575.7	734.1	-9,185.5	629,644.52	607,435.20	32.7307474	-104.1183847
PPP4: 1851' FSL & 236' - plan hits target center - Point	0.00	0.00	7,599.1	739.3	-7,865.8	629,649.71	608,754.90	32.7307542	-104.1140930
PPP3: 1852' FSL & 0' FE - plan hits target center - Point	0.00	0.00	7,645.9	749.7	-5,226.6	629,660.09	611,394.10	32.7307674	-104.1055104
PPP2: 1850' FSL & 264' - plan hits target center - Point	0.00	0.00	7,692.7	760.1	-2,587.5	629,670.46	614,033.20	32.7307801	-104.0969281
LP: 1850' FSL & 594' FE - plan hits target center - Point	0.00	0.00	7,729.0	768.1	-541.5	629,678.51	616,079.20	32.7307895	-104.0902745

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	MEWBOURNE OIL COMPANY
WELL NAME & NO.:	PRETTY BIRD 20/19 FED COM 526H
APD ID:	10400099958
LOCATION:	Section 20, T.18 S., R.29 E. NMP.
COUNTY:	Eddy County, New Mexico ▼

COA

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

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H₂S) Drilling Plan shall be activated **AT SPUD**. As a result, the Hydrogen Sulfide area must meet **43 CFR 3176** requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

B. CASING DESIGN

Primary Casing Program

1. The **13-3/8** inch surface casing shall be set at approximately **275 ft.** (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite and above the salt) and cemented to the surface. **If salt is encountered, set casing at least 25 ft. above the salt.**
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic-type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8**

- hours** or **500 psi compressive strength**, whichever is greater. (This is to include the lead cement)
- c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 psi compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The **9-5/8** inch intermediate casing shall be set in a competent bed at approximately **1,050 ft.** 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.
- Note:** 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.
3. Operator has proposed to set **7 in.** production casing at approximately **7,207 ft.** (7,156 ft. TVD). The minimum required fill of cement behind the **7 in.** production casing is:
- 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 in.** production liner is:
- Cement should tie-back **at least 100 feet** into previous casing string. Operator shall provide method of verification.

Alternate Casing Program

1. The **13-3/8** inch surface casing shall be set at approximately **275 ft.** (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite and above the salt) and cemented to the surface. **If salt is encountered, set casing at least 25 ft. above the salt.**
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic-type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or **500 psi compressive strength**, whichever is greater. (This is to include the lead cement)
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 psi compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that

string.

2. The **9-5/8** inch intermediate casing shall be set in a competent bed at approximately **1,050 ft.** 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.

Note: 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.

3. Operator has proposed to set **7 in.** production casing at approximately **8,117 ft.** (7,729 ft. TVD). The minimum required fill of cement behind the **7 in.** production casing is:

- 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 in.** production liner is:

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

Offline Cementing

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

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).
2. Operator has proposed a multi-bowl wellhead assembly. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M) psi.** Before drilling out surface casing shoe, BOP/ BOPE and annular preventer must be pressure tested in accordance with **title 43 CFR 3172 and API Standard 53.**
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.

- c. Manufacturer representative shall install the test plug for the initial BOP test.
- d. If the cement does not circulate and one-inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
- e. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172 must be followed.

BOPE Break Testing Variance

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

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

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

GENERAL REQUIREMENTS

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

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

Contact Eddy County Petroleum Engineering Inspection Staff:

Email or call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220;
BLM_NM_CFO_DrillingNotifications@BLM.GOV; (575) 361-2822.

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
 - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
 - b. When the operator proposes to set surface casing with Spudder Rig
 - i. Notify the BLM when moving in and removing the Spudder Rig.
 - ii. Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
 - iii. BOP/BOPE test to be conducted per **43 CFR 3172** as soon as 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. For intervals in which cement to surface is required, cement to surface should be verified with a visual check and density or pH check to differentiate cement from spacer and drilling mud. The results should be documented in the driller's log and daily reports.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends of both lead and tail cement, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-Q potash area, the 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 3172**.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and

- equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
 4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
 - i. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - ii. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - iii. Manufacturer representative shall install the test plug for the initial BOP test.
 - iv. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.
 - v. If the cement does not circulate and one-inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
 5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - i. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead cement), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
 - ii. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve open. (Only applies to single stage cement jobs, prior to the cement setting up.)
 - iii. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing

valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to **43 CFR 3172** with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for 8 hours or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

- iv. The test shall be run on a 5000-psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one-hour chart. A circular chart shall have a maximum 2-hour clock. If a twelve hour or twenty-four-hour chart is used, tester shall make a notation that it is run with a two hour clock.
- v. The results of the test shall be reported to the appropriate BLM office.
- vi. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- vii. The BOP/BOPE test shall include a low-pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- viii. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per **43 CFR 3172**.

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

SA 11/19/2024

Hydrogen Sulfide Drilling Operations Plan
Mewbourne Oil Company

1. General Requirements

Rule 118 does not apply to this well because MOC has researched this area and no high concentrations of 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 known hydrogen sulfide source. The initial training session shall include a review of the site specific Hydrogen Sulfide Drilling Operations Plan.

3. Hydrogen Sulfide Safety Equipment and Systems

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

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

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

Additionally: If 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:** PRETTY BIRD 20/19 FED COM**Well Number:** 526H**Waste type:** SEWAGE**Waste content description:** Human waste & grey water**Amount of waste:** 1500 gallons**Waste disposal frequency :** Weekly**Safe containment description:** 2,000 gallon plastic container**Safe containmant attachment:****Waste disposal type:** HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** PRIVATE**Disposal type description:****Disposal location description:** City of Carlsbad Water Treatment facility**Waste type:** 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

Operator Name: MEWBOURNE OIL COMPANY**Well Name:** PRETTY BIRD 20/19 FED COM**Well Number:** 526H**Description of cuttings location****Cuttings area length (ft.)****Cuttings area width (ft.)****Cuttings area depth (ft.)****Cuttings area volume (cu. yd.)****Is at least 50% of the cuttings area in cut?****WCuttings area liner****Cuttings area liner specifications and installation description****Section 8 - Ancillary****Are you requesting any Ancillary Facilities?:** N**Ancillary Facilities****Comments:****Section 9 - Well Site****Well Site Layout Diagram:**

PRETTY_BIRD__20_19_FED_COM__526Hwellsitelayout_20240821103308.pdf

Comments:**Section 10 - Plans for Surface Reclamation****Type of disturbance:** New Surface Disturbance**Multiple Well Pad Name:** Puma Blanca 22 B3AD & B3HE Fed Com wells**Multiple Well Pad Number:** 2**Recontouring****Drainage/Erosion control construction:** NONE**Drainage/Erosion control reclamation:** NONE**Well pad proposed disturbance (acres):** 5.92**Well pad interim reclamation (acres):** 1.27**Well pad long term disturbance (acres):** 4.65**Road proposed disturbance (acres):** 0.18**Road interim reclamation (acres):** 0**Road long term disturbance (acres):** 0**Powerline proposed disturbance (acres):** 0**Powerline interim reclamation (acres):** 0**Powerline long term disturbance (acres):** 0**Pipeline proposed disturbance (acres):** 0**Pipeline interim reclamation (acres):** 0**Pipeline long term disturbance (acres):** 0**Other proposed disturbance (acres):** 0**Other interim reclamation (acres):** 0**Other long term disturbance (acres):** 0**Total proposed disturbance:** 6.1**Total interim reclamation:** 1.27**Total long term disturbance:** 4.65

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/ocd/contact-us>

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 411063

CONDITIONS

Operator: MEWBOURNE OIL CO P.O. Box 5270 Hobbs, NM 88241	OGRID: 14744
	Action Number: 411063
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
mleal	Cement is required to circulate on both surface and intermediate1 strings of casing.	12/12/2024
mleal	If cement does not circulate on any string, a Cement Bond Log (CBL) is required for that string of casing.	12/12/2024
ward.rikala	Notify the OCD 24 hours prior to casing & cement.	12/26/2024
ward.rikala	File As Drilled C-102 and a directional Survey with C-104 completion packet.	12/26/2024
ward.rikala	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string.	12/26/2024
ward.rikala	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.	12/26/2024