Form 3160-3
(June 2015)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.: NMNM111533

6. If Indian, Allotee or Tribe Name:

1a. Type of work: ☑ DRILL ☐ REENTER

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

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

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

8. Lease Name and Well No.: PRINCE 31 W1EH FED COM 4H

2. Name of Operator: MEWBOURNE OIL COMPANY

9. API Well No.: 30 015 48152

3a. Address: PO Box 5270 Hobbs NM 88240

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

10. Field and Pool, or Exploratory: WELCH / PURPLE SAGE WOLFCAMP G

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

At surface: SWNW / 1630 FNL / 305 FWL / LAT 32.1766656 / LONG -104.0312557

At proposed prod. zone: SENE / 2310 FNL / 330 FEL / LAT 32.1747954 / LONG -104.016184

11. Sec., T. R. M. or Blk. and Survey or Area: SEC 31 / T24S / R29E / NMP

14. Distance in miles and direction from nearest town or post office*: 10 miles

12. County or Parish: EDDY

13. State: NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any): 210 feet

16. No of acres in lease:

17. Spacing Unit dedicated to this well: 640

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: 330 feet

19. Proposed Depth: 10035 feet / 14419 feet

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

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 2907 feet

22. Approximate date work will start*: 05/20/2019

23. Estimated duration: 60 days

24. Attachments

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

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

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)		04/02/2019

Title:

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575)234-5959	04/12/2021
Title: Assistant Field Manager Lands & Minerals	Office: CARLSBAD	

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

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

APPROVED WITH CONDITIONS

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 04/12/2021

Entered KMS - NMOCD

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

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
30 015 48152	98220	PURPLE SAGE; WOLFCAMP GAS POOL

4 Property Code	5 Property Name	6 Well Number
330650	PRINCE 31 W1EH FED COM	4H

7 OGRID NO.	8 Operator Name	9 Elevation
14744	MEWBOURNE OIL COMPANY	2907'

10 Surface Location

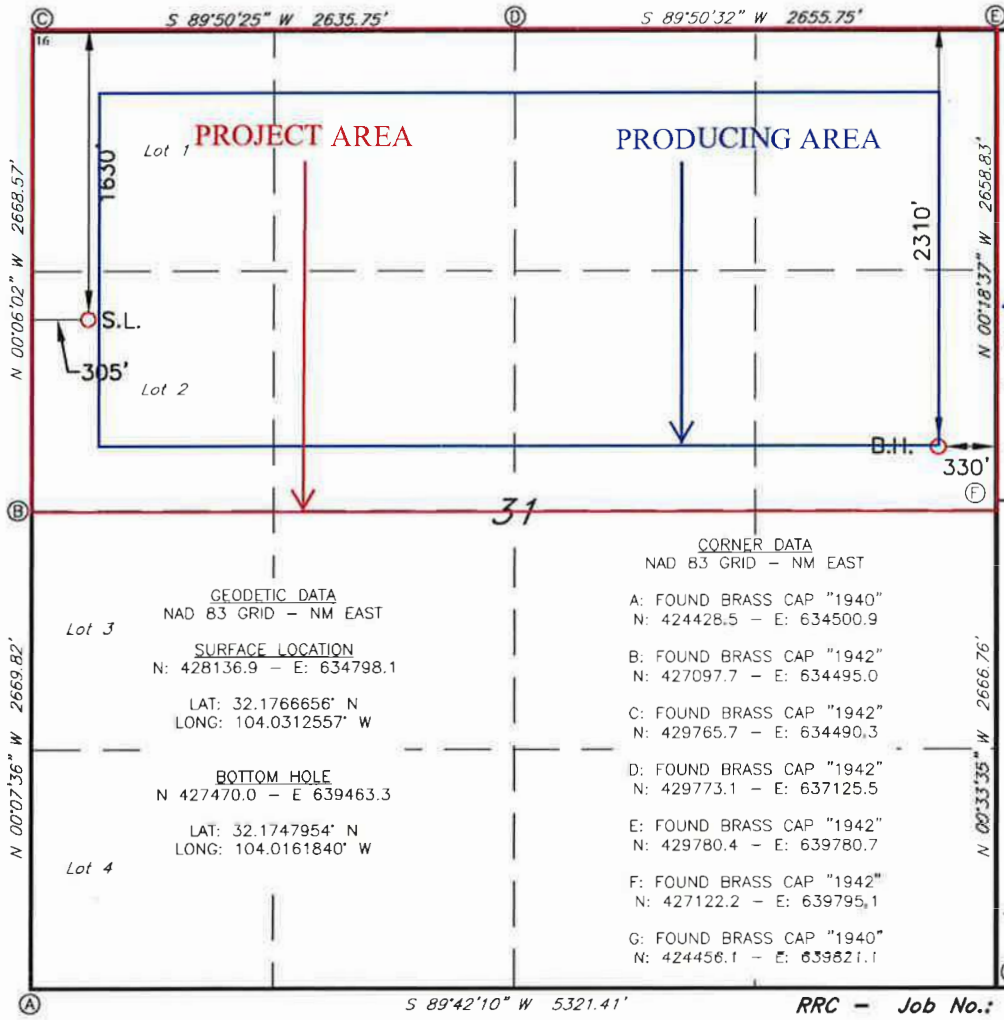
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet From the	East/West line	County
2	31	24S	29E		1630	NORTH	305	WEST	EDDY

11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	31	24S	29E		2310	NORTH	330	EAST	EDDY

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

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



17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature 3-15-19 Date

BRADLEY BISHOP
Printed Name

BBISHOP@MEWBOURNE.COM
E-mail Address

18 SURVEYOR CERTIFICATION

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

02-28-2019
Date of Survey

Signature and Seal of Professional Surveyor

ROBERT M. HOWETT NEW MEXICO 19680 PROFESSIONAL SURVEYOR

19680
Certificate Number

RRC – Job No.: LS19030251

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

State of New Mexico
Energy, Minerals and Natural Resources Department

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

Submit Original to Appropriate District Office

GAS CAPTURE PLAN

Date: 3-15-19

☒ Original
☐ Amended - Reason for Amendment: _____

Operator & OGRID No.: Mewbourne Oil Company - 14744

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomplete to new zone, re-frac) activity.

Note: Form C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule (Subsection A of 19.15.18.12 NMAC).

Well(s)/Production Facility – Name of facility

The well(s) that will be located at the production facility are shown in the table below.

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
Prince 31 W1EH Fed Com #4H		2- 31- 24S - 29E	1630 FNL & 305 FWL	0	NA	ONLINE AFTER FRAC

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to Western and will be connected to Western low/high pressure gathering system located in EDDY County, New Mexico. It will require 3,400 ' of pipeline to connect the facility to low/high pressure gathering system. Mewbourne Oil Company provides (periodically) to Western a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, Mewbourne Oil Company and Western have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at Western Processing Plant located in Sec. 36, Blk. 58 T1S, Culberson County, Texas. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on Western system at that time. Based on current information, it is Operator's belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

Alternatives to Reduce Flaring

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
  - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
  - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
  - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines

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

Drilling Plan Data Report
04/13/2021

APD ID: 10400040121 **Submission Date:** 04/02/2019

Operator Name: MEWBOURNE OIL COMPANY

Well Name: PRINCE 31 W1EH FED COM **Well Number:** 4H

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

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
420556	UNKNOWN	2907	27	27		NONE	N
420560	TOP SALT	1707	1200	1200	SALT	NONE	N
420557	BOTTOM SALT	407	2500	2500	SALT	NONE	N
420561	LAMAR	207	2700	2700	LIMESTONE	NATURAL GAS, OIL	N
420562	BELL CANYON	177	2730	2730	SANDSTONE	NATURAL GAS, OIL	N
420563	CHERRY CANYON	-703	3610	3610	SANDSTONE	NATURAL GAS, OIL	N
420564	MANZANITA	-823	3730	3730	LIMESTONE	NATURAL GAS, OIL	N
420565	BRUSHY CANYON	-1943	4850	4850	SANDSTONE	NATURAL GAS, OIL	N
420555	BONE SPRING LIME	-3513	6420	6420	LIMESTONE, SHALE	NATURAL GAS, OIL	N
420558	BONE SPRING 1ST	-4458	7365	7365	SANDSTONE	NATURAL GAS, OIL	N
420559	BONE SPRING 2ND	-5313	8220	8220	SANDSTONE	NATURAL GAS, OIL	N
420566	BONE SPRING 3RD	-6353	9260	9260	SANDSTONE	NATURAL GAS, OIL	N
420567	WOLFCAMP	-6723	9630	9630	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Operator Name: MEWBOURNE OIL COMPANY

Well Name: PRINCE 31 W1EH FED COM **Well Number:** 4H

Pressure Rating (PSI): 5M **Rating Depth:** 14419

Equipment: Annular, Pipe Ram, Blind Ram

Requesting Variance? YES

Variance request: A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. Anchors aren't required by manufacturer. A multi-bowl wellhead is being used. See attached schematic
Testing Procedure: BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested. Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold.

Choke Diagram Attachment:

Prince_31_W1EH_Fed_Com_4H_5M_BOPE_Choke_Diagram_20190401140922.pdf

Prince_31_W1EH_Fed_Com_4H_Flex_Line_Specs_20190401140922.pdf

Prince_31_W1EH_Fed_Com_4H_Flex_Line_Specs_API_16C_20200806094414.pdf

BOP Diagram Attachment:

Prince_31_W1EH_Fed_Com_4H_5M_BOPE_Schematic_20190401140933.pdf

Prince_31_W1EH_Fed_Com_4H_Multi_Bowl_WH_20190401140934.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	420	0	420			420	H-40	48	ST&C	4.01	9	DRY	15.97	DRY	26.84
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	2670	0	2670			2670	J-55	36	LT&C	1.45	2.54	DRY	4.71	DRY	5.87
3	PRODUCTION	8.75	7.0	NEW	API	N	0	10314	0	9970			10314	P-110	26	LT&C	1.26	2.02	DRY	2.58	DRY	3.1
4	LINER	6.125	4.5	NEW	API	N	9423	14419	9397	10035			4996	P-110	13.5	LT&C	1.71	1.98	DRY	5.01	DRY	6.26

Casing Attachments

Operator Name: MEWBOURNE OIL COMPANY

Well Name: PRINCE 31 W1EH FED COM **Well Number:** 4H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Prince_31_W1EH_Fed_Com_4H_Csg_Assumptions_20190401141050.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Prince_31_W1EH_Fed_Com_4H_Csg_Assumptions_20190401141208.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Prince_31_W1EH_Fed_Com_4H_Csg_Assumptions_20190401141309.pdf

Operator Name: MEWBOURNE OIL COMPANY

Well Name: PRINCE 31 W1EH FED COM **Well Number:** 4H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Prince_31_W1EH_Fed_Com_4H_Csg_Assumptions_20190401141421.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	228	150	2.12	12.5	318	100	Class C	Salt, Gel, Extender, LCM
SURFACE	Tail		228	420	200	1.34	14.8	268	100	Class C	Retarder
INTERMEDIATE	Lead		0	1990	370	2.12	12.5	784	25	Class C	Salt, Gel, Extender, LCM
INTERMEDIATE	Tail		1990	2670	200	1.34	14.8	268	25	Class C	Retarder
PRODUCTION	Lead	3730	2470	3027	50	2.12	12.5	106	25	Class C	Gel, Retarder, Defoamer, Extender
PRODUCTION	Tail		3027	3730	100	1.34	14.8	134	25	Class C	Retarder
PRODUCTION	Lead	3730	3730	7841	370	2.12	12.5	784	25	Class C	Gel, Retarder, Defoamer, Extender
PRODUCTION	Tail		7841	10314	400	1.18	15.6	472	25	Class H	Retarder, Fluid Loss, Defoamer
LINER	Lead		9423	14419	200	2.97	11.2	594	25	Class C	Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti-Settling Agent

Operator Name: MEWBOURNE OIL COMPANY

Well Name: PRINCE 31 W1EH FED COM **Well Number:** 4H

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

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

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

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

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

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	420	SPUD MUD	8.6	8.8							
420	2670	SALT SATURATED	10	10							
2670	9970	WATER-BASED MUD	8.6	9.5							
9970	10035	OIL-BASED MUD	10	12							MW up to 13.0 ppg may be required for shale control. The highest MW needed to balance formation pressure is expected to be 12.0 ppg.

Operator Name: MEWBOURNE OIL COMPANY

Well Name: PRINCE 31 W1EH FED COM **Well Number:** 4H

Section 6 - Test, Logging, Coring

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

Will run GR/CNL from KOP (9423') to surface.

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

CNL,DS,GR,MWD,MUDLOG

Coring operation description for the well:

None

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 6262 **Anticipated Surface Pressure:** 4054.3

Anticipated Bottom Hole Temperature(F): 165

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

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

Prince_31_W1EH_Fed_Com_4H_H2S_Plan_20190401142010.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Prince_31_W1EH_Fed_Com_4H_Dir_Plan_20190401142042.pdf

Prince_31_W1EH_Fed_Com_4H_Dir_Plot_20190401142043.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

Prince_31_W1EH_Fed_Com_4H_C101_20190401142059.pdf

Other Variance attachment:

Mewbourne Oil Company, Prince 31 W1EH Fed Com #4H
Sec 31, T24S, R29E
SL: 1630' FNL & 305' FWL
BHL: 2310' FNL & 330' FEL

2. Casing Program

Hole Size	Casing Interval From	Casing Interval To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
17.5"	0'	420'	13.375"	48	H40	STC	4.01	9.00	15.97	26.84
12.25"	0'	2670'	9.625"	36	J55	LTC	1.45	2.54	4.71	5.87
8.75"	0'	10314'	7"	26	P110	LTC	1.29	2.02	2.58	3.10
6.125"	9423'	14419'	4.5"	13.5	P110	LTC	1.71	1.98	5.01	6.26
			BLM Minimum Safety Factor				1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet

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

Must have table for contingency casing

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

Mewbourne Oil Company, Prince 31 W1EH Fed Com #4H
Sec 31, T24S, R29E
SL: 1630' FNL & 305' FWL
BHL: 2310' FNL & 330' FEL

2. Casing Program

Hole Size	Casing Interval From	Casing Interval To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
17.5"	0'	420'	13.375"	48	H40	STC	4.01	9.00	15.97	26.84
12.25"	0'	2670'	9.625"	36	J55	LTC	1.45	2.54	4.71	5.87
8.75"	0'	10314'	7"	26	P110	LTC	1.29	2.02	2.58	3.10
6.125"	9423'	14419'	4.5"	13.5	P110	LTC	1.71	1.98	5.01	6.26
			BLM Minimum Safety Factor				1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet

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Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
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Is 2nd string set 100' to 600' below the base of salt?	
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Mewbourne Oil Company, Prince 31 W1EH Fed Com #4H
Sec 31, T24S, R29E
SL: 1630' FNL & 305' FWL
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8.75"	0'	10314'	7"	26	P110	LTC	1.29	2.02	2.58	3.10
6.125"	9423'	14419'	4.5"	13.5	P110	LTC	1.71	1.98	5.01	6.26
			BLM Minimum Safety Factor				1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet

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

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If yes, are there three strings cemented to surface?	

Mewbourne Oil Company, Prince 31 W1EH Fed Com #4H
Sec 31, T24S, R29E
SL: 1630' FNL & 305' FWL
BHL: 2310' FNL & 330' FEL

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17.5"	0'	420'	13.375"	48	H40	STC	4.01	9.00	15.97	26.84
12.25"	0'	2670'	9.625"	36	J55	LTC	1.45	2.54	4.71	5.87
8.75"	0'	10314'	7"	26	P110	LTC	1.29	2.02	2.58	3.10
6.125"	9423'	14419'	4.5"	13.5	P110	LTC	1.71	1.98	5.01	6.26
			BLM Minimum Safety Factor				1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet

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

Must have table for contingency casing

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

Mewbourne Oil Company

Eddy County, New Mexico NAD 83
Prince 31 W1EH Fed Com #4H
SL: 1630 FNL & 305 FWL
Sec 31, T24S, R29E
BHL: 2310 FNL & 330 FEL

Plan: Design #1

Standard Planning Report

14 March, 2019

Planning Report

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Prince 31 W1EH Fed Com #4H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 2934.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 2934.0usft (Original Well Elev)
Site:	Prince 31 W1EH Fed Com #4H	**North Reference:**	Grid
Well:	SL: 1630 FNL & 305 FWL	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 2310 FNL & 330 FEL		
Design:	Design #1		

Project Eddy County, New Mexico NAD 83

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site Prince 31 W1EH Fed Com #4H

Site Position:		**Northing:**	428,136.90 usft	**Latitude:**	32.1766655
From:	Map	**Easting:**	634,798.10 usft	**Longitude:**	-104.0312559
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.16 °

Well SL: 1630 FNL & 305 FWL

Well Position	**+N/-S**	0.0 usft	**Northing:**	428,136.90 usft	**Latitude:**	32.1766655
	+E/-W	0.0 usft	**Easting:**	634,798.10 usft	**Longitude:**	-104.0312559
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	2,934.0 usft	**Ground Level:**	2,907.0 usft

Wellbore BHL: 2310 FNL & 330 FEL

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/14/2019	6.84	59.87	47,771

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	98.13

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	
420.0	0.00	0.00	420.0	0.0	0.0	0.00	0.00	0.00	0.00	
718.8	4.48	179.85	718.5	-11.7	0.0	1.50	1.50	0.00	179.85	
9,124.5	4.48	179.85	9,098.5	-668.6	1.8	0.00	0.00	0.00	0.00	
9,423.3	0.00	0.00	9,397.0	-680.3	1.8	1.50	-1.50	0.00	180.00	KOP: 2310 FNL & 30
10,314.4	89.09	89.84	9,970.0	-678.7	565.8	10.00	10.00	0.00	89.84	
14,419.3	89.09	89.84	10,035.0	-667.4	4,670.1	0.00	0.00	0.00	0.00	BHL: 2310 FNL & 330

Planning Report

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Prince 31 W1EH Fed Com #4H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 2934.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 2934.0usft (Original Well Elev)
Site:	Prince 31 W1EH Fed Com #4H	**North Reference:**	Grid
Well:	SL: 1630 FNL & 305 FWL	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 2310 FNL & 330 FEL		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
SL: 1630 FNL & 305 FWL									
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
420.0	0.00	0.00	420.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	1.20	179.85	500.0	-0.8	0.0	0.1	1.50	1.50	0.00
600.0	2.70	179.85	599.9	-4.2	0.0	0.6	1.50	1.50	0.00
700.0	4.20	179.85	699.7	-10.3	0.0	1.5	1.50	1.50	0.00
718.8	4.48	179.85	718.5	-11.7	0.0	1.7	1.50	1.50	0.00
800.0	4.48	179.85	799.4	-18.0	0.0	2.6	0.00	0.00	0.00
900.0	4.48	179.85	899.1	-25.8	0.1	3.7	0.00	0.00	0.00
1,000.0	4.48	179.85	998.8	-33.7	0.1	4.8	0.00	0.00	0.00
1,100.0	4.48	179.85	1,098.5	-41.5	0.1	6.0	0.00	0.00	0.00
1,200.0	4.48	179.85	1,198.2	-49.3	0.1	7.1	0.00	0.00	0.00
1,300.0	4.48	179.85	1,297.9	-57.1	0.2	8.2	0.00	0.00	0.00
1,400.0	4.48	179.85	1,397.6	-64.9	0.2	9.4	0.00	0.00	0.00
1,500.0	4.48	179.85	1,497.3	-72.7	0.2	10.5	0.00	0.00	0.00
1,600.0	4.48	179.85	1,597.0	-80.5	0.2	11.6	0.00	0.00	0.00
1,700.0	4.48	179.85	1,696.7	-88.4	0.2	12.7	0.00	0.00	0.00
1,800.0	4.48	179.85	1,796.4	-96.2	0.3	13.9	0.00	0.00	0.00
1,900.0	4.48	179.85	1,896.1	-104.0	0.3	15.0	0.00	0.00	0.00
2,000.0	4.48	179.85	1,995.8	-111.8	0.3	16.1	0.00	0.00	0.00
2,100.0	4.48	179.85	2,095.5	-119.6	0.3	17.2	0.00	0.00	0.00
2,200.0	4.48	179.85	2,195.2	-127.4	0.3	18.4	0.00	0.00	0.00
2,300.0	4.48	179.85	2,294.9	-135.3	0.4	19.5	0.00	0.00	0.00
2,400.0	4.48	179.85	2,394.6	-143.1	0.4	20.6	0.00	0.00	0.00
2,500.0	4.48	179.85	2,494.2	-150.9	0.4	21.7	0.00	0.00	0.00
2,600.0	4.48	179.85	2,593.9	-158.7	0.4	22.9	0.00	0.00	0.00
2,700.0	4.48	179.85	2,693.6	-166.5	0.4	24.0	0.00	0.00	0.00
2,800.0	4.48	179.85	2,793.3	-174.3	0.5	25.1	0.00	0.00	0.00
2,900.0	4.48	179.85	2,893.0	-182.1	0.5	26.2	0.00	0.00	0.00
3,000.0	4.48	179.85	2,992.7	-190.0	0.5	27.4	0.00	0.00	0.00
3,100.0	4.48	179.85	3,092.4	-197.8	0.5	28.5	0.00	0.00	0.00
3,200.0	4.48	179.85	3,192.1	-205.6	0.5	29.6	0.00	0.00	0.00
3,300.0	4.48	179.85	3,291.8	-213.4	0.6	30.8	0.00	0.00	0.00
3,400.0	4.48	179.85	3,391.5	-221.2	0.6	31.9	0.00	0.00	0.00
3,500.0	4.48	179.85	3,491.2	-229.0	0.6	33.0	0.00	0.00	0.00
3,600.0	4.48	179.85	3,590.9	-236.9	0.6	34.1	0.00	0.00	0.00
3,700.0	4.48	179.85	3,690.6	-244.7	0.6	35.3	0.00	0.00	0.00
3,800.0	4.48	179.85	3,790.3	-252.5	0.7	36.4	0.00	0.00	0.00
3,900.0	4.48	179.85	3,890.0	-260.3	0.7	37.5	0.00	0.00	0.00
4,000.0	4.48	179.85	3,989.7	-268.1	0.7	38.6	0.00	0.00	0.00
4,100.0	4.48	179.85	4,089.4	-275.9	0.7	39.8	0.00	0.00	0.00
4,200.0	4.48	179.85	4,189.0	-283.7	0.8	40.9	0.00	0.00	0.00
4,300.0	4.48	179.85	4,288.7	-291.6	0.8	42.0	0.00	0.00	0.00
4,400.0	4.48	179.85	4,388.4	-299.4	0.8	43.1	0.00	0.00	0.00
4,500.0	4.48	179.85	4,488.1	-307.2	0.8	44.3	0.00	0.00	0.00
4,600.0	4.48	179.85	4,587.8	-315.0	0.8	45.4	0.00	0.00	0.00
4,700.0	4.48	179.85	4,687.5	-322.8	0.9	46.5	0.00	0.00	0.00
4,800.0	4.48	179.85	4,787.2	-330.6	0.9	47.6	0.00	0.00	0.00
4,900.0	4.48	179.85	4,886.9	-338.5	0.9	48.8	0.00	0.00	0.00
5,000.0	4.48	179.85	4,986.6	-346.3	0.9	49.9	0.00	0.00	0.00

Planning Report

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Prince 31 W1EH Fed Com #4H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 2934.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 2934.0usft (Original Well Elev)
Site:	Prince 31 W1EH Fed Com #4H	**North Reference:**	Grid
Well:	SL: 1630 FNL & 305 FWL	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 2310 FNL & 330 FEL		
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)
5,100.0	4.48	179.85	5,086.3	-354.1	0.9	51.0	0.00	0.00	0.00
5,200.0	4.48	179.85	5,186.0	-361.9	1.0	52.1	0.00	0.00	0.00
5,300.0	4.48	179.85	5,285.7	-369.7	1.0	53.3	0.00	0.00	0.00
5,400.0	4.48	179.85	5,385.4	-377.5	1.0	54.4	0.00	0.00	0.00
5,500.0	4.48	179.85	5,485.1	-385.3	1.0	55.5	0.00	0.00	0.00
5,600.0	4.48	179.85	5,584.8	-393.2	1.0	56.7	0.00	0.00	0.00
5,700.0	4.48	179.85	5,684.5	-401.0	1.1	57.8	0.00	0.00	0.00
5,800.0	4.48	179.85	5,784.2	-408.8	1.1	58.9	0.00	0.00	0.00
5,900.0	4.48	179.85	5,883.8	-416.6	1.1	60.0	0.00	0.00	0.00
6,000.0	4.48	179.85	5,983.5	-424.4	1.1	61.2	0.00	0.00	0.00
6,100.0	4.48	179.85	6,083.2	-432.2	1.1	62.3	0.00	0.00	0.00
6,200.0	4.48	179.85	6,182.9	-440.1	1.2	63.4	0.00	0.00	0.00
6,300.0	4.48	179.85	6,282.6	-447.9	1.2	64.5	0.00	0.00	0.00
6,400.0	4.48	179.85	6,382.3	-455.7	1.2	65.7	0.00	0.00	0.00
6,500.0	4.48	179.85	6,482.0	-463.5	1.2	66.8	0.00	0.00	0.00
6,600.0	4.48	179.85	6,581.7	-471.3	1.2	67.9	0.00	0.00	0.00
6,700.0	4.48	179.85	6,681.4	-479.1	1.3	69.0	0.00	0.00	0.00
6,800.0	4.48	179.85	6,781.1	-486.9	1.3	70.2	0.00	0.00	0.00
6,900.0	4.48	179.85	6,880.8	-494.8	1.3	71.3	0.00	0.00	0.00
7,000.0	4.48	179.85	6,980.5	-502.6	1.3	72.4	0.00	0.00	0.00
7,100.0	4.48	179.85	7,080.2	-510.4	1.4	73.5	0.00	0.00	0.00
7,200.0	4.48	179.85	7,179.9	-518.2	1.4	74.7	0.00	0.00	0.00
7,300.0	4.48	179.85	7,279.6	-526.0	1.4	75.8	0.00	0.00	0.00
7,400.0	4.48	179.85	7,379.3	-533.8	1.4	76.9	0.00	0.00	0.00
7,500.0	4.48	179.85	7,479.0	-541.7	1.4	78.0	0.00	0.00	0.00
7,600.0	4.48	179.85	7,578.6	-549.5	1.5	79.2	0.00	0.00	0.00
7,700.0	4.48	179.85	7,678.3	-557.3	1.5	80.3	0.00	0.00	0.00
7,800.0	4.48	179.85	7,778.0	-565.1	1.5	81.4	0.00	0.00	0.00
7,900.0	4.48	179.85	7,877.7	-572.9	1.5	82.6	0.00	0.00	0.00
8,000.0	4.48	179.85	7,977.4	-580.7	1.5	83.7	0.00	0.00	0.00
8,100.0	4.48	179.85	8,077.1	-588.5	1.6	84.8	0.00	0.00	0.00
8,200.0	4.48	179.85	8,176.8	-596.4	1.6	85.9	0.00	0.00	0.00
8,300.0	4.48	179.85	8,276.5	-604.2	1.6	87.1	0.00	0.00	0.00
8,400.0	4.48	179.85	8,376.2	-612.0	1.6	88.2	0.00	0.00	0.00
8,500.0	4.48	179.85	8,475.9	-619.8	1.6	89.3	0.00	0.00	0.00
8,600.0	4.48	179.85	8,575.6	-627.6	1.7	90.4	0.00	0.00	0.00
8,700.0	4.48	179.85	8,675.3	-635.4	1.7	91.6	0.00	0.00	0.00
8,800.0	4.48	179.85	8,775.0	-643.3	1.7	92.7	0.00	0.00	0.00
8,900.0	4.48	179.85	8,874.7	-651.1	1.7	93.8	0.00	0.00	0.00
9,000.0	4.48	179.85	8,974.4	-658.9	1.7	94.9	0.00	0.00	0.00
9,100.0	4.48	179.85	9,074.1	-666.7	1.8	96.1	0.00	0.00	0.00
9,124.5	4.48	179.85	9,098.5	-668.6	1.8	96.3	0.00	0.00	0.00
9,200.0	3.35	179.85	9,173.8	-673.8	1.8	97.1	1.50	-1.50	0.00
9,300.0	1.85	179.85	9,273.7	-678.3	1.8	97.7	1.50	-1.50	0.00
9,400.0	0.35	179.85	9,373.7	-680.2	1.8	98.0	1.50	-1.50	0.00
9,423.3	0.00	0.00	9,397.0	-680.3	1.8	98.0	1.50	-1.50	0.00
KOP: 2310 FNL & 305 FWL									
9,500.0	7.67	89.84	9,473.5	-680.3	6.9	103.1	10.00	10.00	0.00
9,593.2	16.99	89.84	9,564.4	-680.2	26.8	122.8	10.00	10.00	0.00
FTP: 2310 FNL & 330 FWL									
9,600.0	17.66	89.84	9,570.9	-680.2	28.8	124.8	10.00	10.00	0.00
9,700.0	27.66	89.84	9,663.1	-680.1	67.3	162.8	10.00	10.00	0.00
9,800.0	37.66	89.84	9,747.1	-680.0	121.2	216.2	10.00	10.00	0.00
9,900.0	47.66	89.84	9,820.6	-679.8	188.9	283.2	10.00	10.00	0.00

Planning Report

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Prince 31 W1EH Fed Com #4H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 2934.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 2934.0usft (Original Well Elev)
Site:	Prince 31 W1EH Fed Com #4H	**North Reference:**	Grid
Well:	SL: 1630 FNL & 305 FWL	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 2310 FNL & 330 FEL		
Design:	Design #1		

Planned Survey

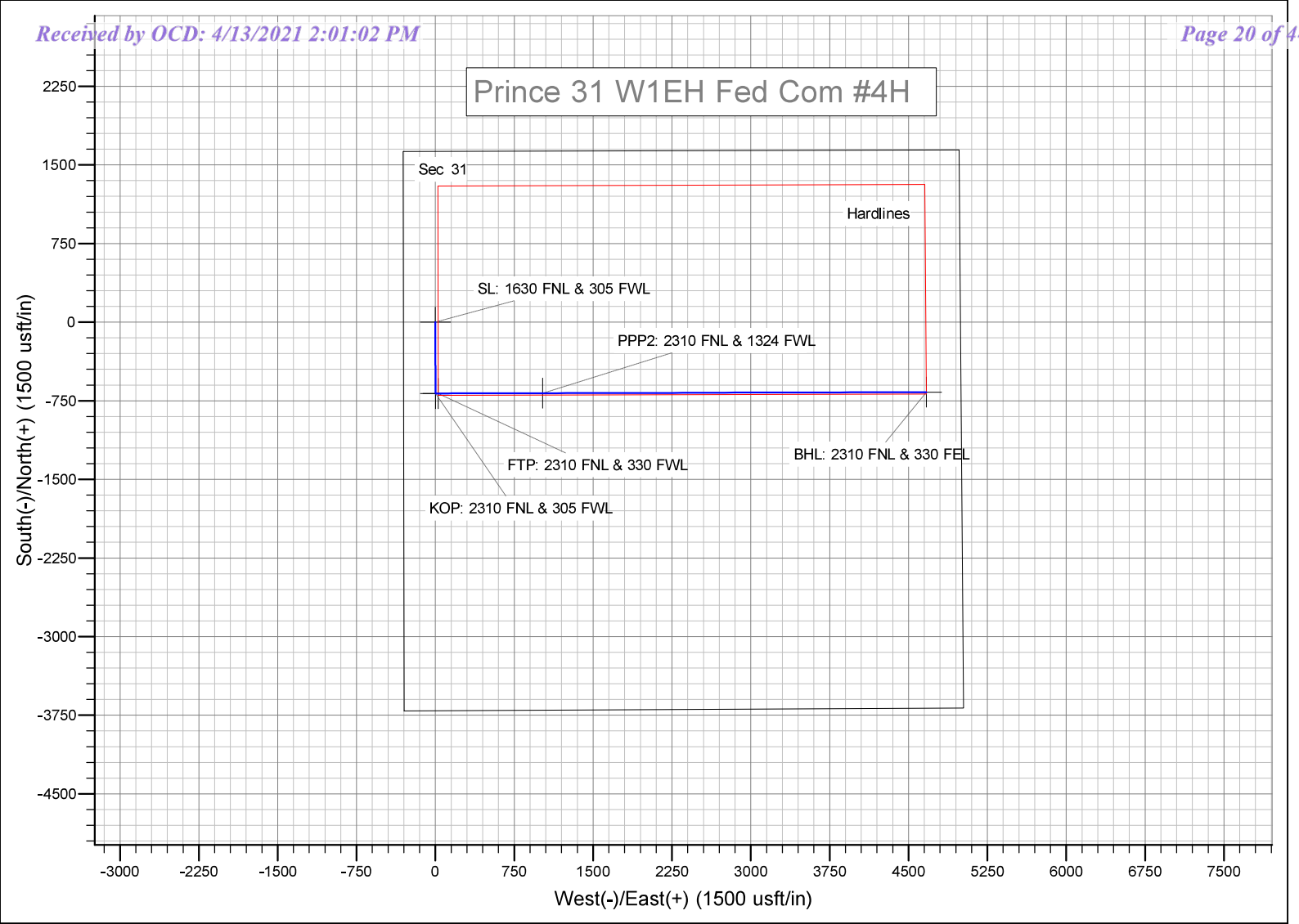
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,000.0	57.66	89.84	9,881.2	-679.6	268.3	361.7	10.00	10.00	0.00
10,100.0	67.65	89.84	9,927.0	-679.3	357.0	449.5	10.00	10.00	0.00
10,200.0	77.65	89.84	9,956.8	-679.1	452.3	543.8	10.00	10.00	0.00
10,300.0	87.65	89.84	9,969.6	-678.8	551.4	641.9	10.00	10.00	0.00
10,314.4	89.09	89.84	9,970.0	-678.7	565.8	656.1	10.00	10.00	0.00
10,400.0	89.09	89.84	9,971.4	-678.5	651.4	740.8	0.00	0.00	0.00
10,500.0	89.09	89.84	9,972.9	-678.2	751.3	839.7	0.00	0.00	0.00
10,600.0	89.09	89.84	9,974.5	-678.0	851.3	938.7	0.00	0.00	0.00
10,700.0	89.09	89.84	9,976.1	-677.7	951.3	1,037.6	0.00	0.00	0.00
10,769.5	89.09	89.84	9,977.2	-677.5	1,020.8	1,106.4	0.00	0.00	0.00
PPP2: 2310 FNL & 1324 FWL									
10,800.0	89.09	89.84	9,977.7	-677.4	1,051.3	1,136.6	0.00	0.00	0.00
10,900.0	89.09	89.84	9,979.3	-677.1	1,151.3	1,235.5	0.00	0.00	0.00
11,000.0	89.09	89.84	9,980.9	-676.8	1,251.3	1,334.5	0.00	0.00	0.00
11,100.0	89.09	89.84	9,982.4	-676.6	1,351.3	1,433.4	0.00	0.00	0.00
11,200.0	89.09	89.84	9,984.0	-676.3	1,451.3	1,532.3	0.00	0.00	0.00
11,300.0	89.09	89.84	9,985.6	-676.0	1,551.2	1,631.3	0.00	0.00	0.00
11,400.0	89.09	89.84	9,987.2	-675.7	1,651.2	1,730.2	0.00	0.00	0.00
11,500.0	89.09	89.84	9,988.8	-675.5	1,751.2	1,829.2	0.00	0.00	0.00
11,600.0	89.09	89.84	9,990.4	-675.2	1,851.2	1,928.1	0.00	0.00	0.00
11,700.0	89.09	89.84	9,991.9	-674.9	1,951.2	2,027.0	0.00	0.00	0.00
11,800.0	89.09	89.84	9,993.5	-674.6	2,051.2	2,126.0	0.00	0.00	0.00
11,900.0	89.09	89.84	9,995.1	-674.4	2,151.2	2,224.9	0.00	0.00	0.00
12,000.0	89.09	89.84	9,996.7	-674.1	2,251.2	2,323.9	0.00	0.00	0.00
12,100.0	89.09	89.84	9,998.3	-673.8	2,351.1	2,422.8	0.00	0.00	0.00
12,200.0	89.09	89.84	9,999.9	-673.5	2,451.1	2,521.8	0.00	0.00	0.00
12,300.0	89.09	89.84	10,001.4	-673.3	2,551.1	2,620.7	0.00	0.00	0.00
12,400.0	89.09	89.84	10,003.0	-673.0	2,651.1	2,719.6	0.00	0.00	0.00
12,500.0	89.09	89.84	10,004.6	-672.7	2,751.1	2,818.6	0.00	0.00	0.00
12,600.0	89.09	89.84	10,006.2	-672.4	2,851.1	2,917.5	0.00	0.00	0.00
12,700.0	89.09	89.84	10,007.8	-672.2	2,951.1	3,016.5	0.00	0.00	0.00
12,800.0	89.09	89.84	10,009.4	-671.9	3,051.0	3,115.4	0.00	0.00	0.00
12,900.0	89.09	89.84	10,010.9	-671.6	3,151.0	3,214.4	0.00	0.00	0.00
13,000.0	89.09	89.84	10,012.5	-671.3	3,251.0	3,313.3	0.00	0.00	0.00
13,100.0	89.09	89.84	10,014.1	-671.0	3,351.0	3,412.2	0.00	0.00	0.00
13,200.0	89.09	89.84	10,015.7	-670.8	3,451.0	3,511.2	0.00	0.00	0.00
13,300.0	89.09	89.84	10,017.3	-670.5	3,551.0	3,610.1	0.00	0.00	0.00
13,400.0	89.09	89.84	10,018.9	-670.2	3,651.0	3,709.1	0.00	0.00	0.00
13,500.0	89.09	89.84	10,020.4	-669.9	3,751.0	3,808.0	0.00	0.00	0.00
13,600.0	89.09	89.84	10,022.0	-669.7	3,850.9	3,907.0	0.00	0.00	0.00
13,700.0	89.09	89.84	10,023.6	-669.4	3,950.9	4,005.9	0.00	0.00	0.00
13,800.0	89.09	89.84	10,025.2	-669.1	4,050.9	4,104.8	0.00	0.00	0.00
13,900.0	89.09	89.84	10,026.8	-668.8	4,150.9	4,203.8	0.00	0.00	0.00
14,000.0	89.09	89.84	10,028.4	-668.6	4,250.9	4,302.7	0.00	0.00	0.00
14,100.0	89.09	89.84	10,029.9	-668.3	4,350.9	4,401.7	0.00	0.00	0.00
14,200.0	89.09	89.84	10,031.5	-668.0	4,450.9	4,500.6	0.00	0.00	0.00
14,300.0	89.09	89.84	10,033.1	-667.7	4,550.9	4,599.5	0.00	0.00	0.00
14,400.0	89.09	89.84	10,034.7	-667.5	4,650.8	4,698.5	0.00	0.00	0.00
14,419.3	89.09	89.84	10,035.0	-667.4	4,670.1	4,717.5	0.00	0.00	0.00
BHL: 2310 FNL & 330 FEL									

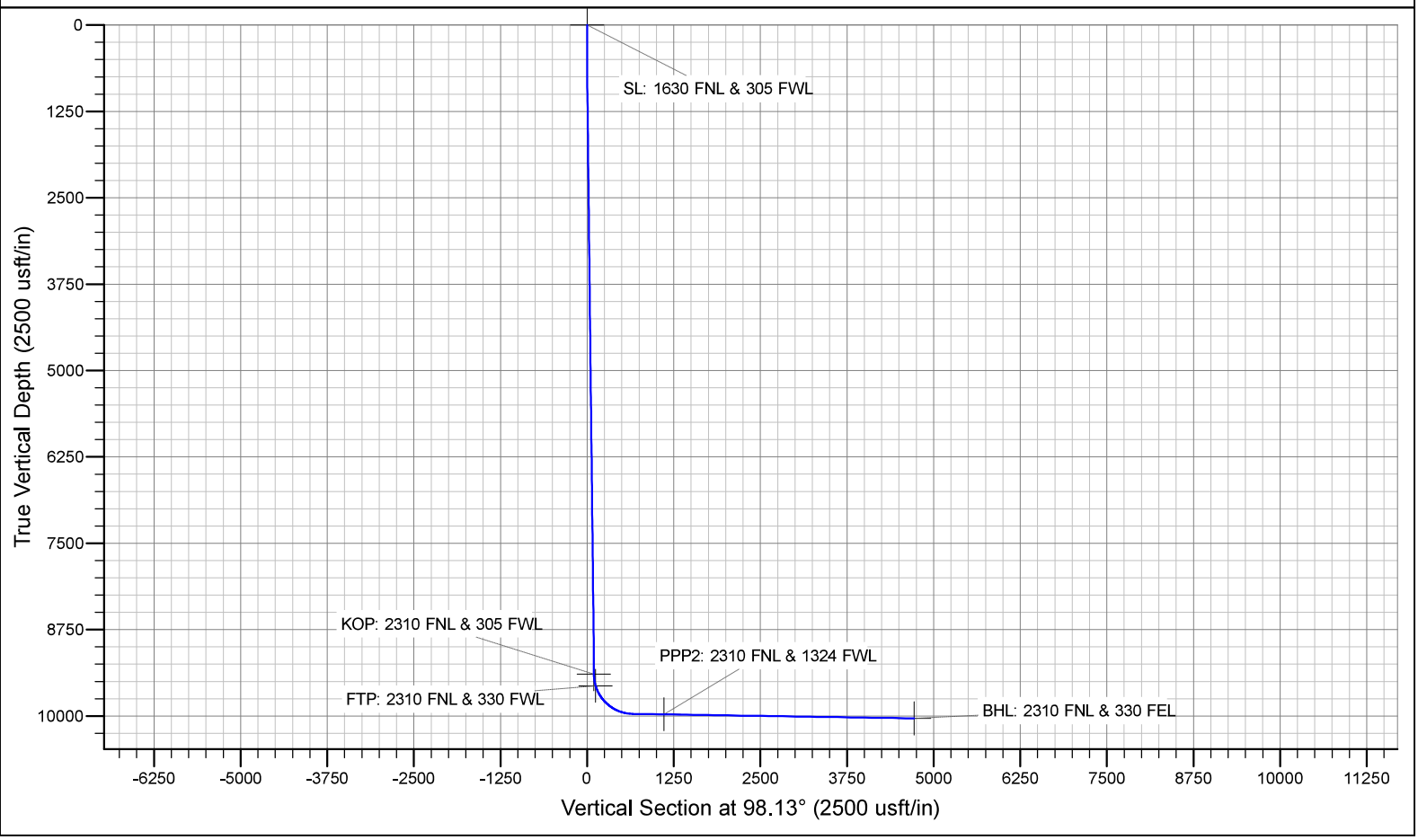
Planning Report

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Prince 31 W1EH Fed Com #4H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 2934.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 2934.0usft (Original Well Elev)
Site:	Prince 31 W1EH Fed Com #4H	**North Reference:**	Grid
Well:	SL: 1630 FNL & 305 FWL	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 2310 FNL & 330 FEL		
Design:	Design #1		

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SL: 1630 FNL & 305 FW - plan hits target center - Point	0.00	0.00	0.0	0.0	0.0	428,136.90	634,798.10	32.1766655	-104.0312559
KOP: 2310 FNL & 305 F - plan hits target center - Point	0.00	0.00	9,397.0	-680.3	1.8	427,456.60	634,799.90	32.1747954	-104.0312562
FTP: 2310 FNL & 330 F\ - plan hits target center - Point	0.00	0.00	9,564.4	-680.2	26.8	427,456.67	634,824.90	32.1747954	-104.0311754
PPP2: 2310 FNL & 1324 - plan hits target center - Point	0.00	0.00	9,977.2	-677.5	1,020.8	427,459.42	635,818.90	32.1747953	-104.0279628
BHL: 2310 FNL & 330 Fl - plan hits target center - Point	0.00	0.00	10,035.0	-667.4	4,670.1	427,469.50	639,468.20	32.1747940	-104.0161680


Prince 31 W1EH Fed Com #4H
Sec 31
Hardlines
SL: 1630 FNL & 305 FWL
PPP2: 2310 FNL & 1324 FWL
FTP: 2310 FNL & 330 FWL
BHL: 2310 FNL & 330 FEL
KOP: 2310 FNL & 305 FWL
South(-)/North(+) (1500 usft/in)
West(-)/East(+) (1500 usft/in)


SL: 1630 FNL & 305 FWL
KOP: 2310 FNL & 305 FWL
PPP2: 2310 FNL & 1324 FWL
FTP: 2310 FNL & 330 FWL
BHL: 2310 FNL & 330 FEL
True Vertical Depth (2500 usft/in)
Vertical Section at 98.13° (2500 usft/in)

Intent [X] As Drilled [ ]

API #

Operator Name:	Property Name:	Well Number
MEWBOURNE OIL COMPANY	PRINCE 31 W1EH FED COM	4H

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
E	31	24S	29E		2310	N	305	W	EDDY

Latitude	Longitude	NAD
32.1747954	-104.0312562	83

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
E	31	24S	29E		2310	N	330	W	EDDY

Latitude	Longitude	NAD
32.1747954	-104.0311754	83

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
H	31	24S	29E		2310	N	330	E	EDDY

Latitude	Longitude	NAD
32.1747940	-104.0161680	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 #
30-015-45069

Operator Name:	Property Name:	Well Number
MEWBOURNE OIL COMPANY	PRINCE 31 W1DA FED COM	2H

KZ 06/29/2018

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**Mewbourne Oil Company**
LEASE NO.:	**NMNM111533**
WELL NAME & NO.:	PRINCE 31 W1EH FED COM 4H
SURFACE HOLE FOOTAGE:	1630'/N & 305'/W
BOTTOM HOLE FOOTAGE	2310'/N & 330'/E
LOCATION:	Section 31, T.24 S., R.29 E., NMP
COUNTY:	Eddy County, New Mexico

COA

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

A. HYDROGEN SULFIDE

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

B. CASING

Casing Design:

1. The **13-3/8** inch surface casing shall be set at approximately **420** feet (a minimum of **70 feet (Eddy County)** into the Rustler Anhydrite and above the salt) and cemented to the surface.

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

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b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing which shall be set at approximately **2670** feet is:

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

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

3. The minimum required fill of cement behind the **7** inch production casing is:

Option 1 (Single Stage):

- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification. **Excess cement calculates to 6%, additional cement might be required.**

Option 2:

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

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

b. Second stage above DV tool:

- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

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

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

C. PRESSURE CONTROL

1. **Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'**

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

    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.
    d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
    e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Carlsbad Field Office, 620 E Greene St. Carlsbad, New Mexico 88220, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

GENERAL REQUIREMENTS

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

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

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

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

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
   b. When the operator proposes to set surface casing with Spudder Rig
      - Notify the BLM when moving in and removing the Spudder Rig.
      - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
      - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

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

A. CASING

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

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

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

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

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

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

7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:

    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.
    d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
    e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.

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

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

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hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).

c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

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

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

g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

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

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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

OTA02232021

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Hydrogen Sulfide Drilling Operations Plan
Mewbourne Oil Company

1. General Requirements

Rule 118 does not apply to this well because MOC has researched this area and no high concentrations of H2S were found. MOC will have on location and working all H2S safety equipment before the Delaware formation for purposes of safety and insurance requirements.

2. Hydrogen Sulfide Training

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

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

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

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

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

3. Hydrogen Sulfide Safety Equipment and Systems

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

1. Well Control Equipment
   - A. Choke manifold with minimum of one adjustable choke/remote choke.
   - B. Blowout preventers equipped with blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit
   - C. Auxiliary equipment including annular type blowout preventer.
2. Protective Equipment for Essential Personnel
   Thirty minute self contained work unit located in the dog house and at briefing areas.

Additionally: If H2S is encountered in concentrations less than 10 ppm, fans will be placed in work areas to prevent the accumulation of hazardous amounts of poisonous gas. If higher concentrations of H2S are detected the well will be shut in and a rotating head, mud/gas separator, remote choke and flare line with igniter will be installed.

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

4. Visual Warning Systems
A. Wind direction indicators as indicated on the wellsite diagram.
B. Caution signs shall be posted on roads providing access to location. Signs shall be painted a high visibility color with lettering of sufficient size to be readable at reasonable distances from potentially contaminated areas.

4. Mud Program

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

5. Metallurgy

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

6. Communications

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

7. Well Testing

Drill stem testing is not an anticipated requirement for evaluation of this well. If a drill stem test is required, it will be conducted with a minimum number of personnel in the immediate vicinity. The test will be conducted during daylight hours only.

8. Emergency Phone Numbers

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

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

Operator Name: MEWBOURNE OIL COMPANY

Well Name: PRINCE 31 W1EH FED COM **Well Number:** 4H

Safe containmant attachment:

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

Disposal type description:

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

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?

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

Operator Name: MEWBOURNE OIL COMPANY

Well Name: PRINCE 31 W1EH FED COM **Well Number:** 4H

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? NO

Description of cuttings location

Cuttings area length (ft.) **Cuttings area width (ft.)**

Cuttings area depth (ft.) **Cuttings area volume (cu. yd.)**

Is at least 50% of the cuttings area in cut?

WCuttings area liner

Cuttings area liner specifications and installation description

Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: NO

Ancillary Facilities attachment:

Comments:

Section 9 - Well Site Layout

Well Site Layout Diagram:

Prince31_W1EHFedCom4H_wellsitelayout_20190319110937.pdf

Comments:

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance

Multiple Well Pad Name: PRINCE 31 EH FED COM WELLS

Multiple Well Pad Number: 2

Recontouring attachment:

Drainage/Erosion control construction: None

Drainage/Erosion control reclamation: None

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

Drilling Plan Data Report
04/13/2021

APD ID: 10400040121 **Submission Date:** 04/02/2019

Operator Name: MEWBOURNE OIL COMPANY

Well Name: PRINCE 31 W1EH FED COM **Well Number:** 4H

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

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
420556	UNKNOWN	2907	27	27		NONE	N
420560	TOP SALT	1707	1200	1200	SALT	NONE	N
420557	BOTTOM SALT	407	2500	2500	SALT	NONE	N
420561	LAMAR	207	2700	2700	LIMESTONE	NATURAL GAS, OIL	N
420562	BELL CANYON	177	2730	2730	SANDSTONE	NATURAL GAS, OIL	N
420563	CHERRY CANYON	-703	3610	3610	SANDSTONE	NATURAL GAS, OIL	N
420564	MANZANITA	-823	3730	3730	LIMESTONE	NATURAL GAS, OIL	N
420565	BRUSHY CANYON	-1943	4850	4850	SANDSTONE	NATURAL GAS, OIL	N
420555	BONE SPRING LIME	-3513	6420	6420	LIMESTONE, SHALE	NATURAL GAS, OIL	N
420558	BONE SPRING 1ST	-4458	7365	7365	SANDSTONE	NATURAL GAS, OIL	N
420559	BONE SPRING 2ND	-5313	8220	8220	SANDSTONE	NATURAL GAS, OIL	N
420566	BONE SPRING 3RD	-6353	9260	9260	SANDSTONE	NATURAL GAS, OIL	N
420567	WOLFCAMP	-6723	9630	9630	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

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

Drilling Plan Data Report
04/13/2021

APD ID: 10400040121 **Submission Date:** 04/02/2019

Operator Name: MEWBOURNE OIL COMPANY

Well Name: PRINCE 31 W1EH FED COM **Well Number:** 4H

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Show Final Text

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420566	BONE SPRING 3RD	-6353	9260	9260	SANDSTONE	NATURAL GAS, OIL	N
420567	WOLFCAMP	-6723	9630	9630	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Operator Name: MEWBOURNE OIL COMPANY

Well Name: PRINCE 31 W1EH FED COM **Well Number:** 4H

Pressure Rating (PSI): 5M **Rating Depth:** 14419

Equipment: Annular, Pipe Ram, Blind Ram

Requesting Variance? YES

Variance request: A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. Anchors aren't required by manufacturer. A multi-bowl wellhead is being used. See attached schematic
Testing Procedure: BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested. Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold.

Choke Diagram Attachment:

Prince_31_W1EH_Fed_Com_4H_5M_BOPE_Choke_Diagram_20190401140922.pdf

Prince_31_W1EH_Fed_Com_4H_Flex_Line_Specs_20190401140922.pdf

Prince_31_W1EH_Fed_Com_4H_Flex_Line_Specs_API_16C_20200806094414.pdf

BOP Diagram Attachment:

Prince_31_W1EH_Fed_Com_4H_5M_BOPE_Schematic_20190401140933.pdf

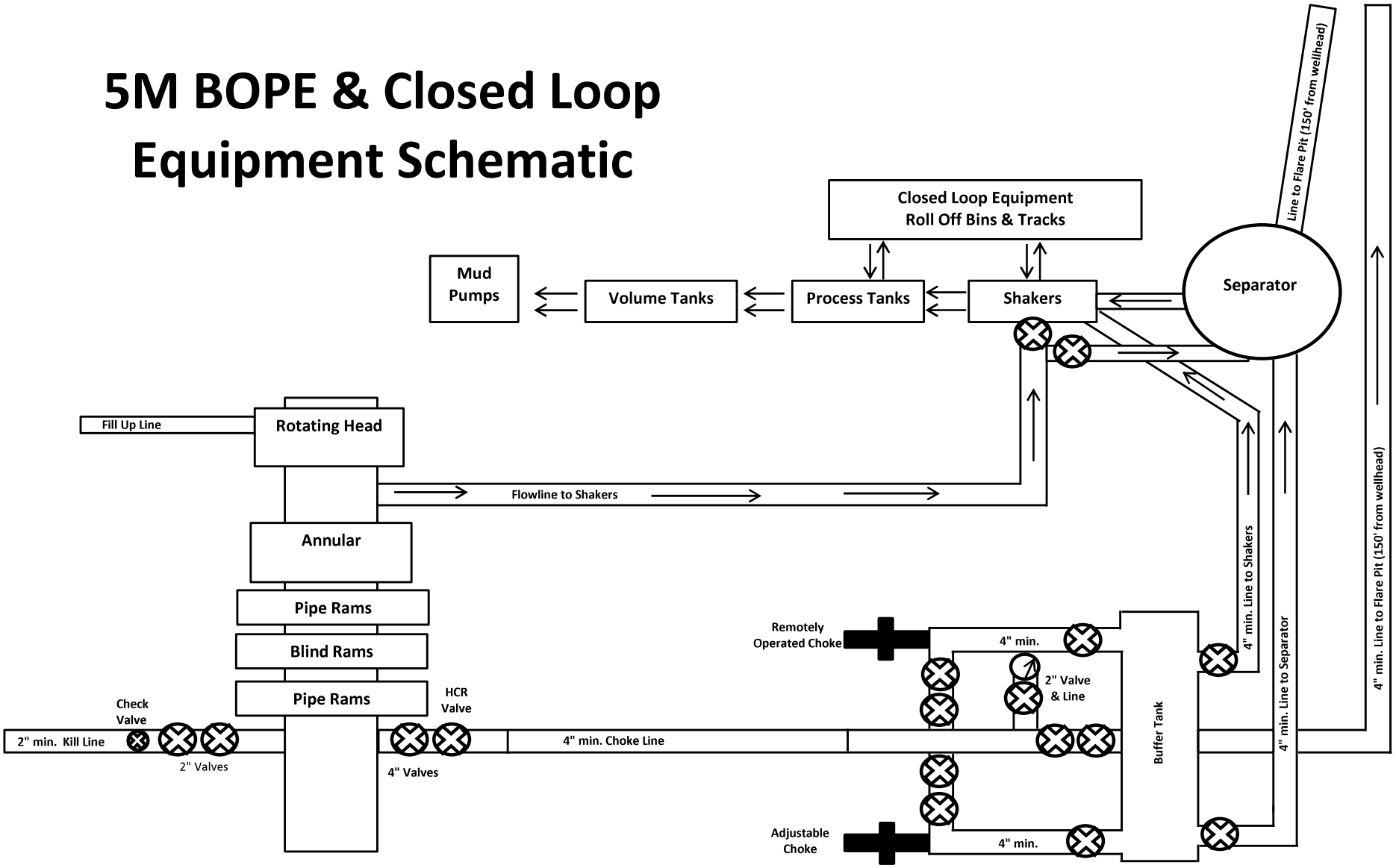
Prince_31_W1EH_Fed_Com_4H_Multi_Bowl_WH_20190401140934.pdf

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	420	0	420			420	H-40	48	ST&C	4.01	9	DRY	15.97	DRY	26.84
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	2670	0	2670			2670	J-55	36	LT&C	1.45	2.54	DRY	4.71	DRY	5.87
3	PRODUCTION	8.75	7.0	NEW	API	N	0	10314	0	9970			10314	P-110	26	LT&C	1.26	2.02	DRY	2.58	DRY	3.1
4	LINER	6.125	4.5	NEW	API	N	9423	14419	9397	10035			4996	P-110	13.5	LT&C	1.71	1.98	DRY	5.01	DRY	6.26

Casing Attachments

5M BOPE & Closed Loop Equipment Schematic



Drawing not to scale

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

ENGINEERING & SERVICES

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

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

10K CEMENTING ASSEMBLY PRESSURE TEST CERTIFICATE

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

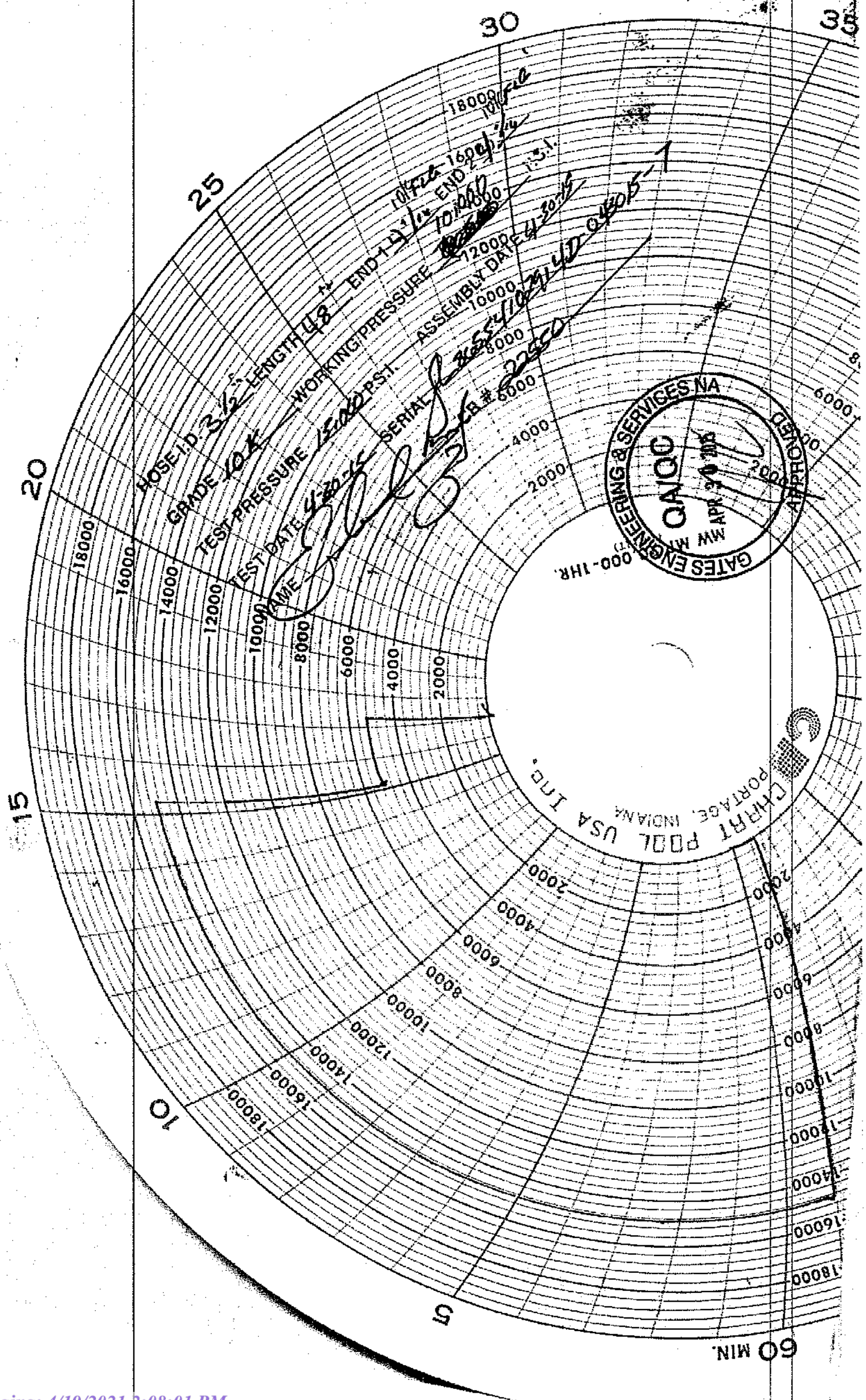
Product Description:	10K3.548.0CK4.1/1610KFLGE/E LE

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

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

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

Form-PTC - 01 Rev.0 2


HOSE I.D.
LENGTH
END 1
END 2
GRADE
WORKING PRESSURE
P.S.I.
TEST PRESSURE
ASSEMBLY DATE
TEST DATE
SERIAL
NAME
GATES ENGINEERING & SERVICES NA
QA/QC
APPROVED
60 MIN.

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

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

10K CHOKE & KILL ASSEMBLY PRESSURE TEST CERTIFICATE

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

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

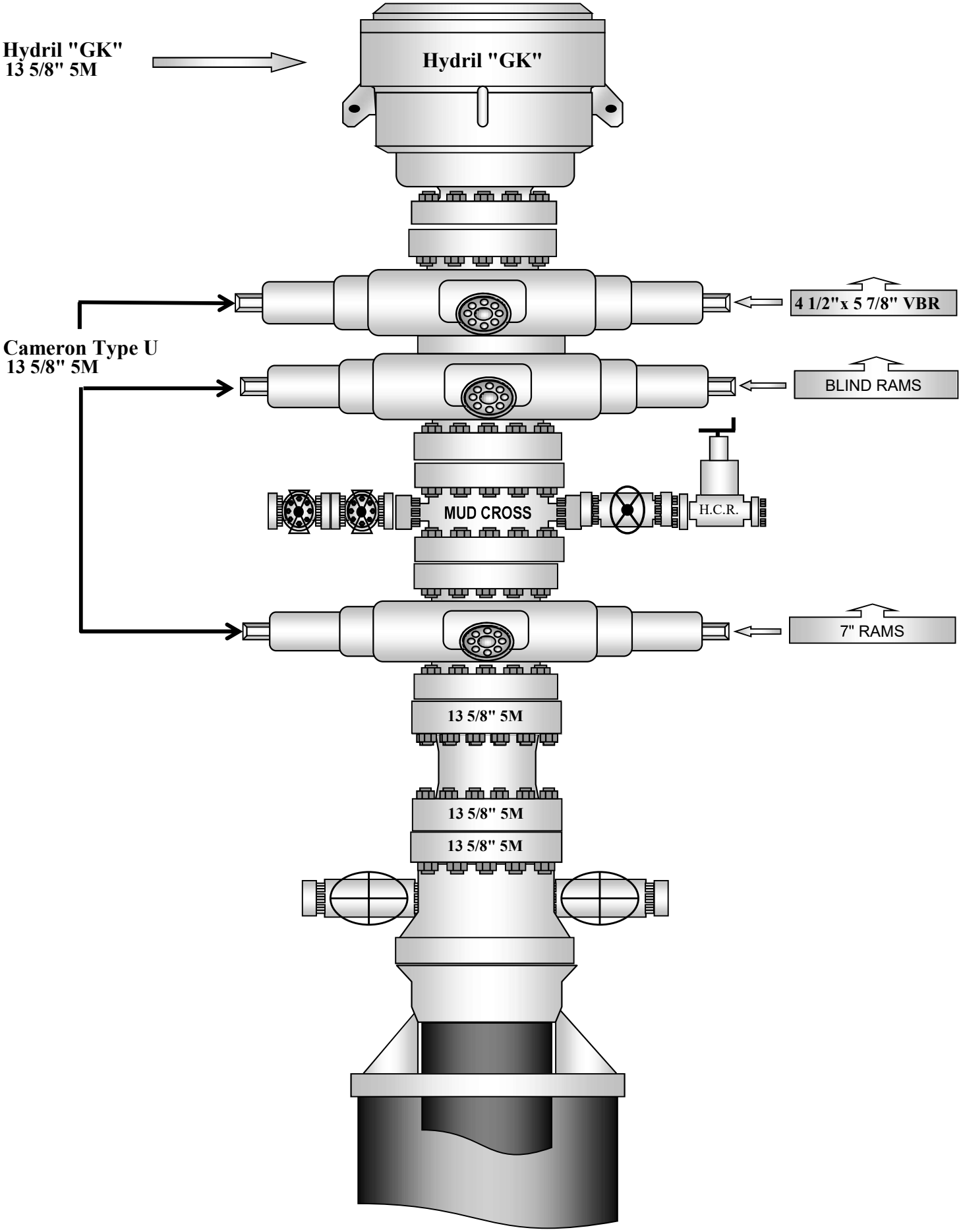
End Fitting 1:	4 1/16 in. Fixed Flange	End Fitting 2:	4 1/16 in. Float Flange
Gates Part No.:	68503010-9721632	Assembly Code:	L40695052218H-082018-10
Working Pressure:	10,000 psi.	Test Pressure:	15,000 psi.

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

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

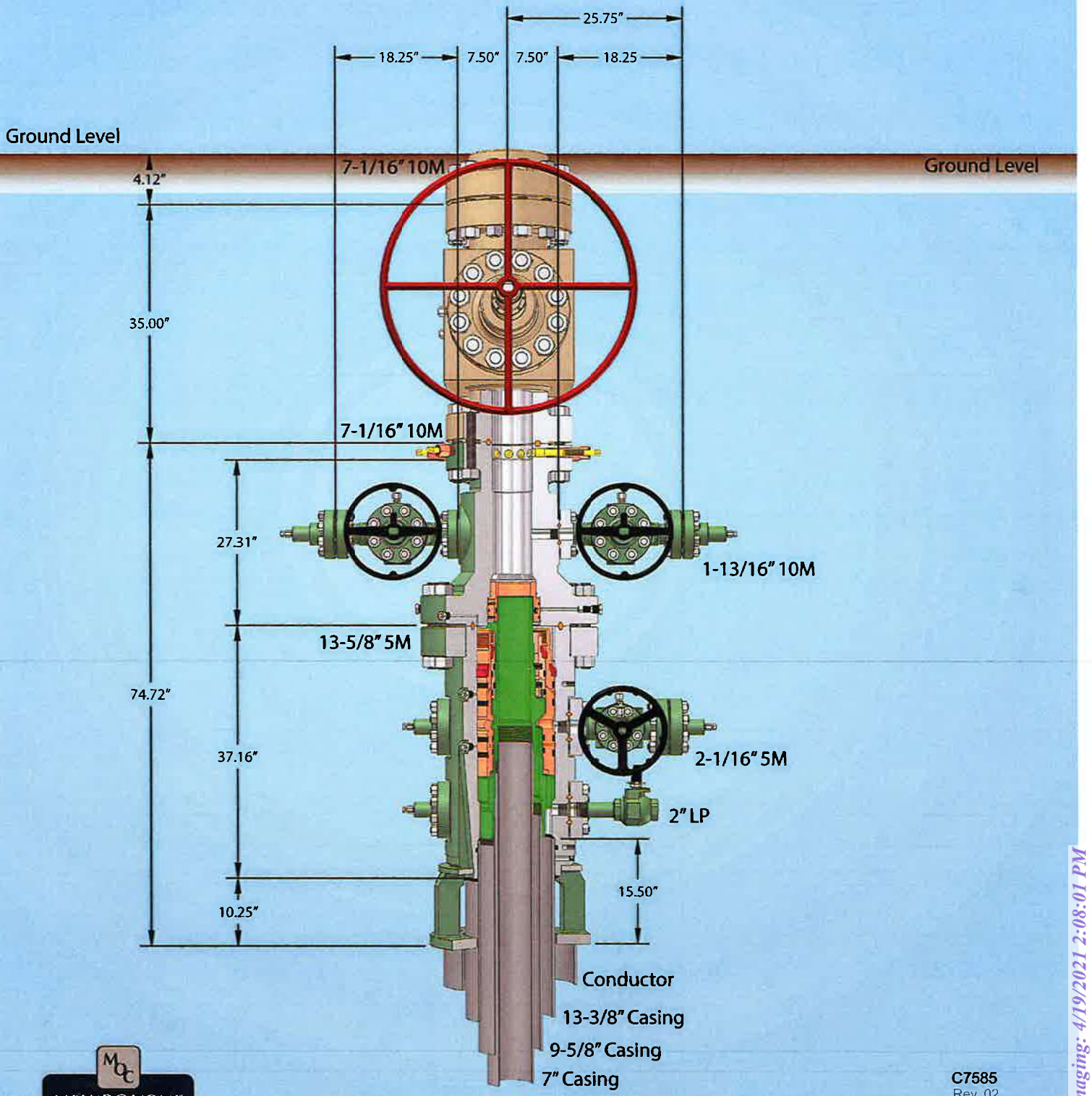
Form PTC - 01 Rev.0 2

5M BOPE Schematic



CAMERON
A Schlumberger Company

13-5/8" MN-DS Wellhead System



MEWBOURNE OIL COMPANY

C7585
Rev. 02

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

Capping flange 57" conductor cut-off

79

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

COMMENTS

Action 23916

COMMENTS

Operator:	OGRID:	Action Number:	Action Type:
MEWBOURNE OIL CO P.O. Box 5270 Hobbs, NM88241	14744	23916	FORM 3160-3

Created By	Comment	Comment Date
kpickford	KP GEO Review 4/18/2021	04/18/2021

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
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811 S. First St., Artesia, NM 88210
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Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 23916

CONDITIONS OF APPROVAL

Operator:	OGRID:	Action Number:	Action Type:
MEWBOURNE OIL CO P.O. Box 5270 Hobbs, NM88241	14744	23916	FORM 3160-3

OCD Reviewer	Condition
kpickford	Surface casing must be set 25' below top of Rustler Anhydrite or salt in order to seal off protectable water
kpickford	Notify OCD 24 hours prior to casing & cement
kpickford	Will require a File As Drilled C-102 and a Directional Survey with the C-104
kpickford	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
kpickford	Cement is required to circulate on both surface and intermediate1 strings of casing
kpickford	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