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.: NMNM011039

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.: BUFFALO TRACE 1/36 W1MD FEDCOM 1H

2. Name of Operator: MEWBOURNE OIL COMPANY

9. API Well No.:

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 GA

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

At surface: NWNW / 460 FNL / 1215 FWL / LAT 32.0629213 / LONG -103.9415571

At proposed prod. zone: NWNW / 330 FNL / 330 FWL / LAT 32.0926545 / LONG -103.9453975

11. Sec., T. R. M. or Blk. and Survey or Area: SEC 12/T26S/R29E/NMP

14. Distance in miles and direction from nearest town or post office*: 25 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): 330 feet

16. No of acres in lease: 360

17. Spacing Unit dedicated to this well: 480.0

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

19. Proposed Depth: 10430 feet / 20779 feet

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

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 2996 feet

22. Approximate date work will start*: 03/07/2020

23. Estimated duration: 60 days

24. Attachments

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

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

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	BRADLEY BISHOP / Ph: (575) 393-5905	04/29/2020

Title: Regulatory

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575) 234-5959	12/04/2020

Title	Office
Assistant Field Manager Lands & Minerals	Carlsbad Field Office

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

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

APPROVED WITH CONDITIONS

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 12/04/2020

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
	98220	PURPLE SAGE; WOLFCAMP GAS POOL

4 Property Code	5 Property Name	6 Well Number
	BUFFALO TRACE 1/36 W1MD FED COM	1H

7 OGRID NO.	8 Operator Name	9 Elevation
14744	MEWBOURNE OIL COMPANY	2996'

10 Surface Location

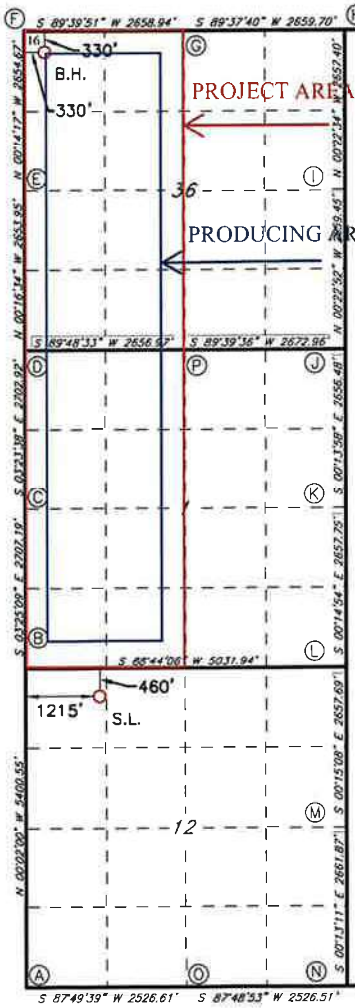
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet From the	East/West line	County
D	12	26S	29E		460	NORTH	1215	WEST	EDDY

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
D	36	25S	29E		330	NORTH	330	WEST	EDDY

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.
640			

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



GEODETIC DATA
NAD 83 GRID – NM EAST

SURFACE LOCATION
N: 386848.7 – E: 662700.9
LAT: 32.0629213° N
LONG: 103.9415571° W

GEODETIC DATA
NAD 83 GRID – NM EAST

BOTTOM HOLE
N: 397660.6 – E: 661472.3
LAT: 32.0926545° N
LONG: 103.9453975° W

CORNER DATA
NAD 83 GRID – NM EAST

A: FOUND BRASS CAP "1940"
N: 381882.4 – E: 661489.4

B: FOUND BRASS CAP "1940"
N: 387281.8 – E: 661486.2

C: FOUND BRASS CAP "1940"
N: 389983.6 – E: 661324.8

D: FOUND BRASS CAP "1940"
N: 392681.2 – E: 661164.8

E: FOUND BRASS CAP "1940"
N: 395334.5 – E: 661152.0

F: FOUND 5/8" REBAR
N: 397988.6 – E: 661141.0

G: FOUND BRASS CAP "1940"
N: 398004.2 – E: 663799.3

H: FOUND BRASS CAP "1940"
N: 398021.5 – E: 666458.4

I: FOUND BRASS CAP "1940"
N: 395364.7 – E: 666475.8

J: FOUND BRASS CAP "1940"
N: 392705.9 – E: 666493.5

K: FOUND BRASS CAP "1940"
N: 390050.0 – E: 666504.3

L: FOUND 1/2" REBAR
N: 387392.8 – E: 666515.9

M: FOUND BRASS CAP "1940"
N: 384735.7 – E: 666527.5

N: FOUND BRASS CAP "1940"
N: 382074.4 – E: 666537.7

O: FOUND BRASS CAP "1940"
N: 381978.1 – E: 664013.6

P: FOUND BRASS CAP "1940"
N: 392690.0 – E: 663821.2

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 1-6-20 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.

11-25-2019
Date of Survey

Signature and Seal of Professional Surveyor

ROBERT M. HOWETT
NEW MEXICO
19680
PROFESSIONAL SURVEYOR

19680
Certificate Number

Job No: LS19050562

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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: 1-6-20

☒ 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
Buffalo Trace 1/36 W1MD Fed Com 1H		D- 12-26S-29E	460' FNL & 1215' 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

12/07/2020

APD ID: 10400052982 **Submission Date:** 04/29/2020

Operator Name: MEWBOURNE OIL COMPANY

Well Name: BUFFALO TRACE 1/36 W1MD FEDCOM **Well Number:** 1H

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
628168	UNKNOWN	2996	28	28	OTHER : Top Soil	NONE	N
628183	RUSTLER	2286	710	710	ANHYDRITE	NONE	N
628170	TOP SALT	1964	1032	1032	SALT	NONE	N
724857	BASE OF SALT	-64	3060	3060	SALT	NONE	N
628175	LAMAR	-264	3260	3260	LIMESTONE	NATURAL GAS, OIL	N
628172	BELL CANYON	-304	3300	3300	SANDSTONE	NATURAL GAS, OIL	N
724858	CHERRY CANYON	-1128	4124	4124	SANDSTONE	NATURAL GAS, OIL	N
724859	MANZANITA	-1338	4334	4334	LIMESTONE	NATURAL GAS, OIL	N
724860	BRUSHY CANYON	-3748	6744	6744	SANDSTONE	NATURAL GAS, OIL	N
628177	BONE SPRING	-3974	6970	6970	LIMESTONE, SHALE	NATURAL GAS, OIL	N
724861	BONE SPRING 1ST	-4913	7909	7909	SANDSTONE	NATURAL GAS, OIL	N
724862	BONE SPRING 2ND	-5488	8484	8484	SANDSTONE	NATURAL GAS, OIL	N
724863	BONE SPRING 3RD	-6843	9839	9839	SANDSTONE	NATURAL GAS, OIL	N
628182	WOLFCAMP	-7214	10210	10210	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Operator Name: MEWBOURNE OIL COMPANY

Well Name: BUFFALO TRACE 1/36 W1MD FEDCOM **Well Number:** 1H

Pressure Rating (PSI): 5M **Rating Depth:** 20779

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 are not required by manufacturer. A multibowl 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. See attached schematics.
Choke Diagram Attachment:

Buffalo_Trace_1_36_W1MD_Fed_Com_1H_Flex_Line_Specs_20200427093455.pdf

Buffalo_Trace_1_36_W1MD_Fed_Com_1H_5M_BOPE_Choke_Diagram_20200427093455.pdf

Buffalo_Trace_1_36_W1MD_Fed_Com_1H_Flex_Line_Specs_API_16C_20200427093456.pdf

BOP Diagram Attachment:

Buffalo_Trace_1_36_W1MD_Fed_Com_1H_Multi_Bowl_WH_20200427093505.pdf

Buffalo_Trace_1_36_W1MD_Fed_Com_1H_5M_BOPE_Schematic_20200427093505.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	975	0	975	2996	2021	975	H-40	48	ST&C	1.73	3.88	DRY	6.88	DRY	11.56
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	3200	0	3200	3065	-204	3200	J-55	36	LT&C	1.21	2.12	DRY	3.93	DRY	4.9
3	PRODUCTION	8.75	7.625	NEW	API	N	0	11020	0	10682	3065	-7686	11020	P-110	39	FJ	2.17	1.91	DRY	2.9	DRY	2.32
4	LINER	6.125	4.5	NEW	API	N	9983	20779	9933	10430	-6937	-7434	10796	P-110	13.5	LT&C	1.64	1.91	DRY	2.32	DRY	2.9

Casing Attachments

Operator Name: MEWBOURNE OIL COMPANY

Well Name: BUFFALO TRACE 1/36 W1MD FEDCOM **Well Number:** 1H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Buffalo_Trace_1_36_W1MD_Fed_Com_1H_Csg_assumptions_20200427093603.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Buffalo_Trace_1_36_W1MD_Fed_Com_1H_Csg_assumptions_20200427093729.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Buffalo_Trace_1_36_W1MD_Fed_Com_1H_Csg_assumptions_20200427093818.pdf

Buffalo_Trace_1_36_W1MD_Fed_Com_1H_Technical_Data_Sheet_VAM_HDL_7.625_x_39_P110_20200427093819.pdf

Operator Name: MEWBOURNE OIL COMPANY

Well Name: BUFFALO TRACE 1/36 W1MD FEDCOM **Well Number:** 1H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Buffalo_Trace_1_36_W1MD_Fed_Com_1H_Csg_assumptions_20200427093914.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	784	520	2.12	12.5	1102	100	Class C	Salt, Gel, Extender, LCM
SURFACE	Tail		784	975	200	1.34	14.8	268	100	Class C	Retarder
INTERMEDIATE	Lead		0	2510	460	2.12	12.5	975	25	Class C	Salt, Gel, Extender, LCM
INTERMEDIATE	Tail		2510	3200	200	1.34	14.8	268	25	Class C	Retarder
PRODUCTION	Lead	4334	3000	3321	20	2.12	12.5	42	25	Class C	Gel, Retarder, Defoamer, Extender
PRODUCTION	Tail		3321	4334	100	1.34	14.8	134	25	Class C	Retarder
PRODUCTION	Lead	4334	4334	6742	150	2.12	12.5	318	25	Class C	Gel, Retarder, Defoamer, Extender
PRODUCTION	Tail		6742	10500	400	1.18	15.6	472	25	Class H	Retarder, Fluid Loss, Defoamer
LINER	Lead		9983	20779	430	2.97	11.2	1277	25	Class C	Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti-Settling Agent

Operator Name: MEWBOURNE OIL COMPANY

Well Name: BUFFALO TRACE 1/36 W1MD FEDCOM **Well Number:** 1H

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, and 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	975	SPUD MUD	8.6	8.8							
975	3200	SALT SATURATED	10	10							
3200	10355	WATER-BASED MUD	8.6	9.7							
10355	10430	OIL-BASED MUD	10	12							

Section 6 - Test, Logging, Coring

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

Will run GR/CNL from in deeper offset Buffalo Trace 1/36 W1NC Fed Com #1H

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

COMPENSATED NEUTRON LOG,DIRECTIONAL SURVEY,GAMMA RAY LOG,MEASUREMENT WHILE DRILLING,MUD LOG/GEOLOGIC LITHOLOGY LOG,MUD LOG/GEOLOGICAL LITHOLOGY LOG,

Coring operation description for the well:

None

Operator Name: MEWBOURNE OIL COMPANY

Well Name: BUFFALO TRACE 1/36 W1MD FEDCOM **Well Number:** 1H

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 6496 **Anticipated Surface Pressure:** 4201

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:

Buffalo_Trace_1_36_W1MD_Fed_Com_1H_H2S_Plan_20200427094905.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Buffalo_Trace_1_36_W1MD_Fed_Com_1H_Dir_plot_20200427094931.pdf
Buffalo_Trace_1_36_W1MD_Fed_Com_1H_Dir_plan_20200427094931.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

Buffalo_Trace_1_36_W1MD_Fed_Com_1H_Add_Info_20200427094939.pdf

Other Variance attachment:

Mewbourne Oil Company
Buffalo Trace 1/36 W1MD Fed Com #1H
Sec 12, T26S, R29E
SL: 460' FNL & 1215' FWL (Sec 12, T26S, R29E)
BHL: 330' FNL & 330' FWL (Sec 36, T25S, R29E)

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'	950'	13.375"	48	H40	STC	1.73	3.88	6.88	11.56
12.25"	0'	3200'	9.625"	36	J55	LTC	1.21	2.12	3.93	4.90
8.75"	0'	10500'	7.625"	39	P110	FJ	2.17	2.47	1.86	3.01
6.125"	9983'	20779'	4.5"	13.5	P110	LTC	1.64	1.91	2.32	2.90
			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?	Y
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
Buffalo Trace 1/36 W1MD Fed Com #1H
Sec 12, T26S, R29E
SL: 460' FNL & 1215' FWL (Sec 12, T26S, R29E)
BHL: 330' FNL & 330' FWL (Sec 36, T25S, R29E)

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'	950'	13.375"	48	H40	STC	1.73	3.88	6.88	11.56
12.25"	0'	3200'	9.625"	36	J55	LTC	1.21	2.12	3.93	4.90
8.75"	0'	10500'	7.625"	39	P110	FJ	2.17	2.47	1.86	3.01
6.125"	9983'	20779'	4.5"	13.5	P110	LTC	1.64	1.91	2.32	2.90
			BLM Minimum Safety Factor				1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet

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If yes, are there three strings cemented to surface?	

Mewbourne Oil Company
Buffalo Trace 1/36 W1MD Fed Com #1H
Sec 12, T26S, R29E
SL: 460' FNL & 1215' FWL (Sec 12, T26S, R29E)
BHL: 330' FNL & 330' FWL (Sec 36, T25S, R29E)

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'	950'	13.375"	48	H40	STC	1.73	3.88	6.88	11.56
12.25"	0'	3200'	9.625"	36	J55	LTC	1.21	2.12	3.93	4.90
8.75"	0'	10500'	7.625"	39	P110	FJ	2.17	2.47	1.86	3.01
6.125"	9983'	20779'	4.5"	13.5	P110	LTC	1.64	1.91	2.32	2.90
			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

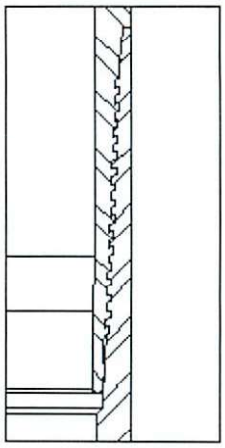
	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Is casing API approved? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? 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?	Y
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?	

Technical Specifications

Connection Type:	Size(O.D.):	Weight (Wall):	Grade:
HD-L Casing STANDARD	7-5/8 in	39.00 lb/ft (0.5 in)	P-110

	Material
P-110	Grade
110,000	Minimum Yield Strength (psi.)
125,000	Minimum Ultimate Strength (psi.)
	Pipe Dimensions
7.625	Nominal Pipe Body O.D. (in.)
6.625	Nominal Pipe Body I.D. (in.)
0.500	Nominal Wall Thickness (in.)
39.00	Nominal Weight (lbs./ft.)
38.08	Plain End Weight (lbs./ft.)
11.192	Nominal Pipe Body Area (sq. in.)
	Pipe Body Performance Properties
1,231,000	Minimum Pipe Body Yield Strength (lbs.)
11,080	Minimum Collapse Pressure (psi.)
12,620	Minimum Internal Yield Pressure (psi.)
11,500	Hydrostatic Test Pressure (psi.)
	Connection Dimensions
7.625	Connection O.D. (in.)
6.551	Connection I.D. (in.)
6.500	Connection Drift Diameter (in.)
4.51	Make-up Loss (in.)
6.939	Critical Area (sq. in.)
62.0	Joint Efficiency (%)
	Connection Performance Properties
763,000 (1)	Joint Strength (lbs.)
867,000 (2)	Reference Minimum Parting Load (lbs.)
14,310	Reference String Length (ft) 1.4 Design Factor
763,000	Compression Rating (lbs.)
11,080	Collapse Pressure Rating (psi.)
12,620	Internal Pressure Rating (psi.)
41.0	Maximum Uniaxial Bend Rating [degrees/100 ft]
	Recommended Torque Values
8,500 (3)	Minimum Final Torque (ft.-lbs.)
9,800 (3)	Maximum Final Torque (ft.-lbs.)

VAM USA
4424 W. Sam Houston Pkwy. Suite 150
Houston, TX 77041
Phone: 713-479-3200
Fax: 713-479-3234
E-mail: VAMUSAsales@vam-usa.com



(1) Joint strength is the elastic limit or yield strength of the connection.
(2) Reference minimum parting load is the ultimate strength or parting load of the connection.
(3) Torque values are recommended and can be affected by field conditions.

11/28/2018 3:33 PM

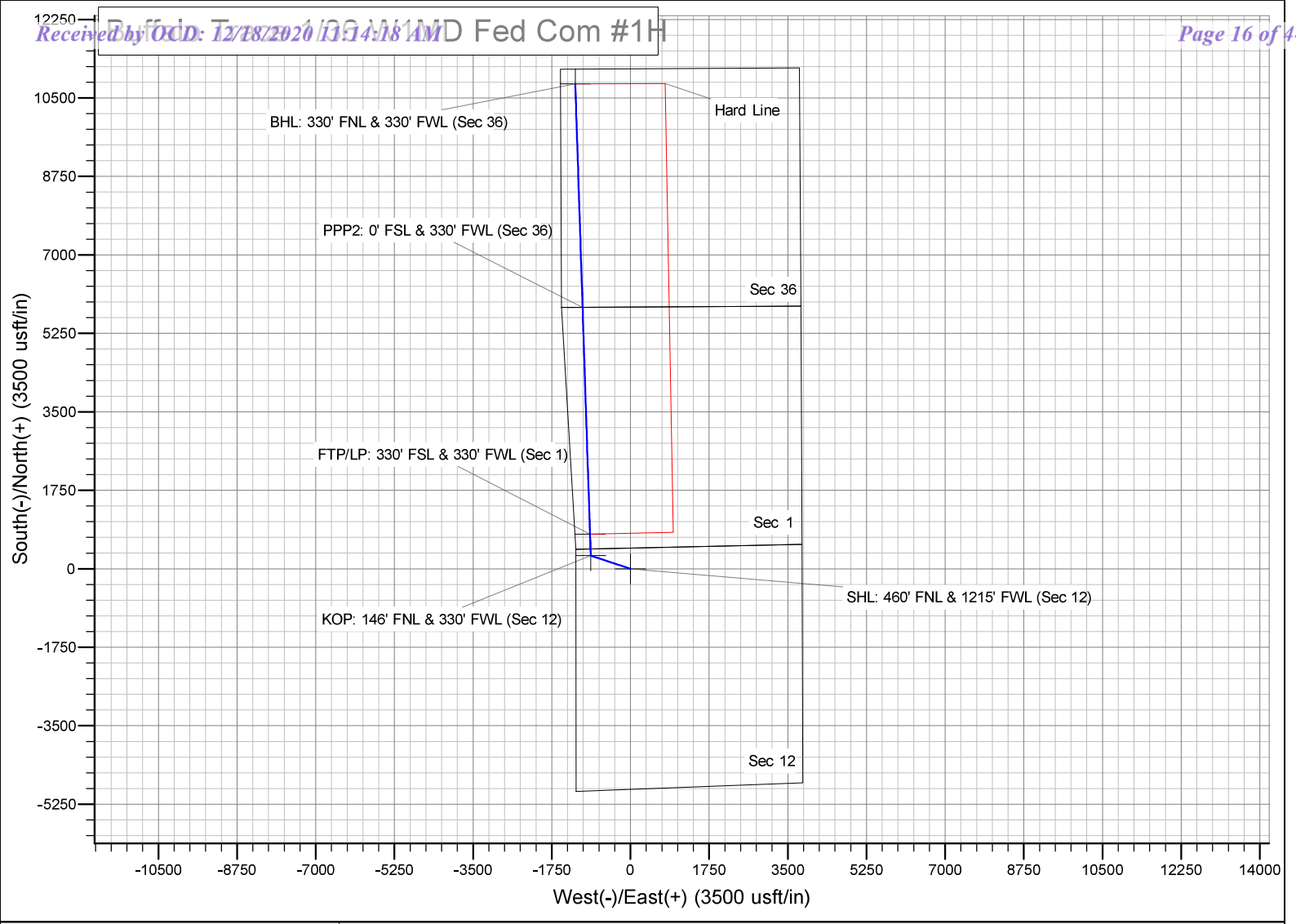
Mewbourne Oil Company
Buffalo Trace 1/36 W1MD Fed Com #1H
Sec 12, T26S, R29E
SL: 460' FNL & 1215' FWL (Sec 12, T26S, R29E)
BHL: 330' FNL & 330' FWL (Sec 36, T25S, R29E)

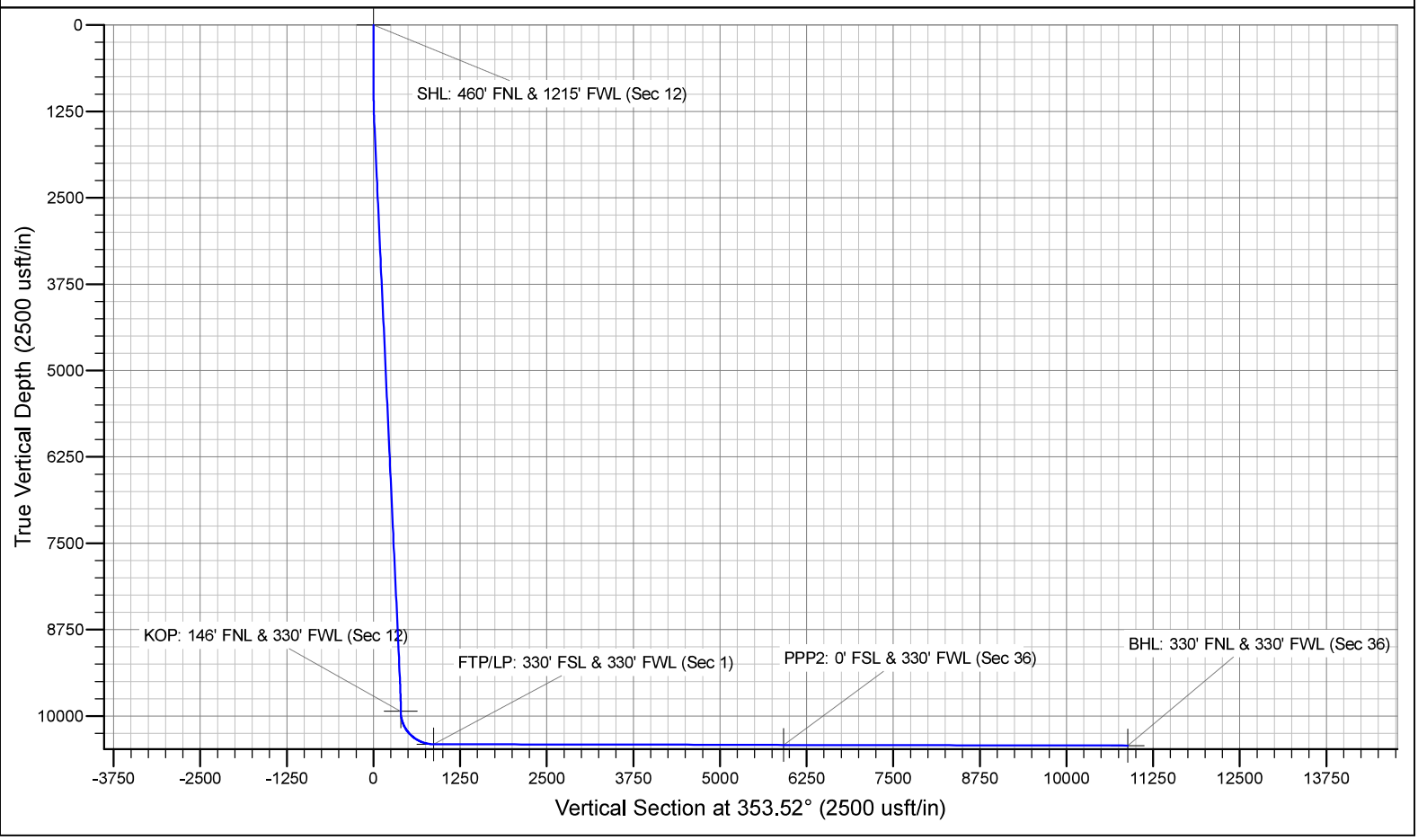
Hole Size	Casing Interval From	Casing Interval To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
17.5"	0'	950'	13.375"	48	H40	STC	1.73	3.88	6.88	11.56
12.25"	0'	3200'	9.625"	36	J55	LTC	1.21	2.12	3.93	4.90
8.75"	0'	10500'	7.625"	39	P110	FJ	2.17	2.47	1.86	3.01
6.125"	9983'	20779'	4.5"	13.5	P110	LTC	1.64	1.91	2.32	2.90
			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?	Y
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?	


Buffalo Tavern 1/36 W1MD Fed Com #1H
BHL: 330' FNL & 330' FWL (Sec 36)
Hard Line
PPP2: 0' FSL & 330' FWL (Sec 36)
Sec 36
FTP/LP: 330' FSL & 330' FWL (Sec 1)
Sec 1
SHL: 460' FNL & 1215' FWL (Sec 12)
KOP: 146' FNL & 330' FWL (Sec 12)
Sec 12
South(-)/North(+) (3500 usft/in)
West(-)/East(+) (3500 usft/in)
12250
10500
8750
7000
5250
3500
1750
0
-1750
-3500
-5250
-10500
-8750
-7000
-5250
-3500
-1750
0
1750
3500
5250
7000
8750
10500
12250
14000


SHL: 460' FNL & 1215' FWL (Sec 12)
KOP: 146' FNL & 330' FWL (Sec 12)
FTP/LP: 330' FSL & 330' FWL (Sec 1)
PPP2: 0' FSL & 330' FWL (Sec 36)
BHL: 330' FNL & 330' FWL (Sec 36)
True Vertical Depth (2500 usft/in)
Vertical Section at 353.52° (2500 usft/in)
0
1250
2500
3750
5000
6250
7500
8750
10000
-3750
-2500
-1250
0
1250
2500
3750
5000
6250
7500
8750
10000
11250
12500
13750

Mewbourne Oil Company

Eddy County, New Mexico NAD 83
Buffalo Trace 1/36 W1MD Fed Com #1H
Sec 12, T26S, R29E
SHL: 460' FNL & 1215' FWL, Sec 12
BHL: 330' FNL & 330' FWL, Sec 36

Plan: Design #1

Standard Planning Report

24 April, 2020

Planning Report

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Buffalo Trace 1/36 W1MD Fed Com #1H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3024.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3024.0usft (Original Well Elev)
Site:	Buffalo Trace 1/36 W1MD Fed Com #1H	**North Reference:**	Grid
Well:	Sec 12, T26S, R29E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 330' FNL & 330' FWL, Sec 36		
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 Buffalo Trace 1/36 W1MD Fed Com #1H

Site Position:		**Northing:**	386,849.00 usft	**Latitude:**	32.0629222
From:	Map	**Easting:**	662,701.00 usft	**Longitude:**	-103.9415566
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.21 °

Well Sec 12, T26S, R29E

Well Position	**+N/-S**	0.0 usft	**Northing:**	386,849.00 usft	**Latitude:**	32.0629222
	+E/-W	0.0 usft	**Easting:**	662,701.00 usft	**Longitude:**	-103.9415566
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	3,024.0 usft	**Ground Level:**	2,996.0 usft

Wellbore BHL: 330' FNL & 330' FWL, Sec 36

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/31/2014	7.31	59.89	48,103

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	353.52

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	
975.0	0.00	0.00	975.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,390.4	6.23	288.38	1,389.5	7.1	-21.4	1.50	1.50	0.00	288.38	
9,567.6	6.23	288.38	9,518.5	286.9	-863.6	0.00	0.00	0.00	0.00	
9,982.9	0.00	0.00	9,933.0	294.0	-885.0	1.50	-1.50	0.00	180.00	KOP: 146' FNL & 330'
10,731.3	89.89	358.13	10,410.0	769.8	-900.6	12.01	12.01	0.00	-1.87	
20,778.8	89.89	358.13	10,430.0	10,812.0	-1,229.0	0.00	0.00	0.00	0.00	BHL: 330' FNL & 330'

Planning Report

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Buffalo Trace 1/36 W1MD Fed Com #1H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3024.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3024.0usft (Original Well Elev)
Site:	Buffalo Trace 1/36 W1MD Fed Com #1H	**North Reference:**	Grid
Well:	Sec 12, T26S, R29E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 330' FNL & 330' FWL, Sec 36		
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: 460' FNL & 1215' FWL (Sec 12)									
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
975.0	0.00	0.00	975.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.38	288.38	1,000.0	0.0	-0.1	0.0	1.50	1.50	0.00
1,100.0	1.88	288.38	1,100.0	0.6	-1.9	0.9	1.50	1.50	0.00
1,200.0	3.38	288.38	1,199.9	2.1	-6.3	2.8	1.50	1.50	0.00
1,300.0	4.88	288.38	1,299.6	4.4	-13.1	5.8	1.50	1.50	0.00
1,390.4	6.23	288.38	1,389.5	7.1	-21.4	9.5	1.50	1.50	0.00
1,400.0	6.23	288.38	1,399.1	7.4	-22.4	9.9	0.00	0.00	0.00
1,500.0	6.23	288.38	1,498.5	10.9	-32.7	14.5	0.00	0.00	0.00
1,600.0	6.23	288.38	1,597.9	14.3	-43.0	19.1	0.00	0.00	0.00
1,700.0	6.23	288.38	1,697.4	17.7	-53.3	23.6	0.00	0.00	0.00
1,800.0	6.23	288.38	1,796.8	21.1	-63.6	28.2	0.00	0.00	0.00
1,900.0	6.23	288.38	1,896.2	24.5	-73.9	32.7	0.00	0.00	0.00
2,000.0	6.23	288.38	1,995.6	28.0	-84.2	37.3	0.00	0.00	0.00
2,100.0	6.23	288.38	2,095.0	31.4	-94.5	41.9	0.00	0.00	0.00
2,200.0	6.23	288.38	2,194.4	34.8	-104.8	46.4	0.00	0.00	0.00
2,300.0	6.23	288.38	2,293.8	38.2	-115.1	51.0	0.00	0.00	0.00
2,400.0	6.23	288.38	2,393.2	41.7	-125.4	55.6	0.00	0.00	0.00
2,500.0	6.23	288.38	2,492.6	45.1	-135.7	60.1	0.00	0.00	0.00
2,600.0	6.23	288.38	2,592.0	48.5	-146.0	64.7	0.00	0.00	0.00
2,700.0	6.23	288.38	2,691.4	51.9	-156.3	69.2	0.00	0.00	0.00
2,800.0	6.23	288.38	2,790.9	55.3	-166.6	73.8	0.00	0.00	0.00
2,900.0	6.23	288.38	2,890.3	58.8	-176.9	78.4	0.00	0.00	0.00
3,000.0	6.23	288.38	2,989.7	62.2	-187.2	82.9	0.00	0.00	0.00
3,100.0	6.23	288.38	3,089.1	65.6	-197.5	87.5	0.00	0.00	0.00
3,200.0	6.23	288.38	3,188.5	69.0	-207.8	92.1	0.00	0.00	0.00
3,300.0	6.23	288.38	3,287.9	72.4	-218.1	96.6	0.00	0.00	0.00
3,400.0	6.23	288.38	3,387.3	75.9	-228.4	101.2	0.00	0.00	0.00
3,500.0	6.23	288.38	3,486.7	79.3	-238.7	105.7	0.00	0.00	0.00
3,600.0	6.23	288.38	3,586.1	82.7	-249.0	110.3	0.00	0.00	0.00
3,700.0	6.23	288.38	3,685.5	86.1	-259.3	114.9	0.00	0.00	0.00
3,800.0	6.23	288.38	3,784.9	89.6	-269.6	119.4	0.00	0.00	0.00
3,900.0	6.23	288.38	3,884.4	93.0	-279.9	124.0	0.00	0.00	0.00
4,000.0	6.23	288.38	3,983.8	96.4	-290.2	128.6	0.00	0.00	0.00
4,100.0	6.23	288.38	4,083.2	99.8	-300.5	133.1	0.00	0.00	0.00
4,200.0	6.23	288.38	4,182.6	103.2	-310.8	137.7	0.00	0.00	0.00
4,300.0	6.23	288.38	4,282.0	106.7	-321.1	142.2	0.00	0.00	0.00
4,400.0	6.23	288.38	4,381.4	110.1	-331.4	146.8	0.00	0.00	0.00
4,500.0	6.23	288.38	4,480.8	113.5	-341.7	151.4	0.00	0.00	0.00
4,600.0	6.23	288.38	4,580.2	116.9	-352.0	155.9	0.00	0.00	0.00
4,700.0	6.23	288.38	4,679.6	120.3	-362.3	160.5	0.00	0.00	0.00
4,800.0	6.23	288.38	4,779.0	123.8	-372.6	165.1	0.00	0.00	0.00
4,900.0	6.23	288.38	4,878.5	127.2	-382.9	169.6	0.00	0.00	0.00
5,000.0	6.23	288.38	4,977.9	130.6	-393.2	174.2	0.00	0.00	0.00

Planning Report

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Buffalo Trace 1/36 W1MD Fed Com #1H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3024.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3024.0usft (Original Well Elev)
Site:	Buffalo Trace 1/36 W1MD Fed Com #1H	**North Reference:**	Grid
Well:	Sec 12, T26S, R29E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 330' FNL & 330' FWL, Sec 36		
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	6.23	288.38	5,077.3	134.0	-403.5	178.7	0.00	0.00	0.00
5,200.0	6.23	288.38	5,176.7	137.5	-413.8	183.3	0.00	0.00	0.00
5,300.0	6.23	288.38	5,276.1	140.9	-424.1	187.9	0.00	0.00	0.00
5,400.0	6.23	288.38	5,375.5	144.3	-434.4	192.4	0.00	0.00	0.00
5,500.0	6.23	288.38	5,474.9	147.7	-444.7	197.0	0.00	0.00	0.00
5,600.0	6.23	288.38	5,574.3	151.1	-455.0	201.6	0.00	0.00	0.00
5,700.0	6.23	288.38	5,673.7	154.6	-465.3	206.1	0.00	0.00	0.00
5,800.0	6.23	288.38	5,773.1	158.0	-475.6	210.7	0.00	0.00	0.00
5,900.0	6.23	288.38	5,872.5	161.4	-485.9	215.2	0.00	0.00	0.00
6,000.0	6.23	288.38	5,972.0	164.8	-496.2	219.8	0.00	0.00	0.00
6,100.0	6.23	288.38	6,071.4	168.2	-506.5	224.4	0.00	0.00	0.00
6,200.0	6.23	288.38	6,170.8	171.7	-516.8	228.9	0.00	0.00	0.00
6,300.0	6.23	288.38	6,270.2	175.1	-527.1	233.5	0.00	0.00	0.00
6,400.0	6.23	288.38	6,369.6	178.5	-537.4	238.1	0.00	0.00	0.00
6,500.0	6.23	288.38	6,469.0	181.9	-547.7	242.6	0.00	0.00	0.00
6,600.0	6.23	288.38	6,568.4	185.4	-558.0	247.2	0.00	0.00	0.00
6,700.0	6.23	288.38	6,667.8	188.8	-568.3	251.7	0.00	0.00	0.00
6,800.0	6.23	288.38	6,767.2	192.2	-578.6	256.3	0.00	0.00	0.00
6,900.0	6.23	288.38	6,866.6	195.6	-588.9	260.9	0.00	0.00	0.00
7,000.0	6.23	288.38	6,966.0	199.0	-599.2	265.4	0.00	0.00	0.00
7,100.0	6.23	288.38	7,065.5	202.5	-609.5	270.0	0.00	0.00	0.00
7,200.0	6.23	288.38	7,164.9	205.9	-619.8	274.6	0.00	0.00	0.00
7,300.0	6.23	288.38	7,264.3	209.3	-630.0	279.1	0.00	0.00	0.00
7,400.0	6.23	288.38	7,363.7	212.7	-640.3	283.7	0.00	0.00	0.00
7,500.0	6.23	288.38	7,463.1	216.1	-650.6	288.3	0.00	0.00	0.00
7,600.0	6.23	288.38	7,562.5	219.6	-660.9	292.8	0.00	0.00	0.00
7,700.0	6.23	288.38	7,661.9	223.0	-671.2	297.4	0.00	0.00	0.00
7,800.0	6.23	288.38	7,761.3	226.4	-681.5	301.9	0.00	0.00	0.00
7,900.0	6.23	288.38	7,860.7	229.8	-691.8	306.5	0.00	0.00	0.00
8,000.0	6.23	288.38	7,960.1	233.3	-702.1	311.1	0.00	0.00	0.00
8,100.0	6.23	288.38	8,059.6	236.7	-712.4	315.6	0.00	0.00	0.00
8,200.0	6.23	288.38	8,159.0	240.1	-722.7	320.2	0.00	0.00	0.00
8,300.0	6.23	288.38	8,258.4	243.5	-733.0	324.8	0.00	0.00	0.00
8,400.0	6.23	288.38	8,357.8	246.9	-743.3	329.3	0.00	0.00	0.00
8,500.0	6.23	288.38	8,457.2	250.4	-753.6	333.9	0.00	0.00	0.00
8,600.0	6.23	288.38	8,556.6	253.8	-763.9	338.4	0.00	0.00	0.00
8,700.0	6.23	288.38	8,656.0	257.2	-774.2	343.0	0.00	0.00	0.00
8,800.0	6.23	288.38	8,755.4	260.6	-784.5	347.6	0.00	0.00	0.00
8,900.0	6.23	288.38	8,854.8	264.0	-794.8	352.1	0.00	0.00	0.00
9,000.0	6.23	288.38	8,954.2	267.5	-805.1	356.7	0.00	0.00	0.00
9,100.0	6.23	288.38	9,053.6	270.9	-815.4	361.3	0.00	0.00	0.00
9,200.0	6.23	288.38	9,153.1	274.3	-825.7	365.8	0.00	0.00	0.00
9,300.0	6.23	288.38	9,252.5	277.7	-836.0	370.4	0.00	0.00	0.00
9,400.0	6.23	288.38	9,351.9	281.2	-846.3	374.9	0.00	0.00	0.00
9,500.0	6.23	288.38	9,451.3	284.6	-856.6	379.5	0.00	0.00	0.00
9,567.6	6.23	288.38	9,518.5	286.9	-863.6	382.6	0.00	0.00	0.00
9,600.0	5.74	288.38	9,550.7	288.0	-866.8	384.0	1.50	-1.50	0.00
9,700.0	4.24	288.38	9,650.3	290.7	-875.1	387.7	1.50	-1.50	0.00
9,800.0	2.74	288.38	9,750.1	292.6	-880.8	390.2	1.50	-1.50	0.00
9,900.0	1.24	288.38	9,850.1	293.7	-884.1	391.7	1.50	-1.50	0.00
9,982.9	0.00	0.00	9,933.0	294.0	-885.0	392.1	1.50	-1.50	0.00
KOP: 146' FNL & 330' FWL (Sec 12)									
10,000.0	2.05	358.13	9,950.1	294.3	-885.0	392.4	12.01	12.01	0.00

Planning Report

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Buffalo Trace 1/36 W1MD Fed Com #1H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3024.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3024.0usft (Original Well Elev)
Site:	Buffalo Trace 1/36 W1MD Fed Com #1H	**North Reference:**	Grid
Well:	Sec 12, T26S, R29E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 330' FNL & 330' FWL, Sec 36		
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)
10,100.0	14.06	358.13	10,048.9	308.3	-885.5	406.3	12.01	12.01	0.00
10,200.0	26.07	358.13	10,142.7	342.5	-886.6	440.5	12.01	12.01	0.00
10,300.0	38.08	358.13	10,227.2	395.5	-888.3	493.3	12.01	12.01	0.00
10,400.0	50.10	358.13	10,298.9	464.9	-890.6	562.5	12.01	12.01	0.00
10,500.0	62.11	358.13	10,354.6	547.7	-893.3	645.1	12.01	12.01	0.00
10,600.0	74.12	358.13	10,391.8	640.3	-896.3	737.4	12.01	12.01	0.00
10,700.0	86.13	358.13	10,408.9	738.6	-899.5	835.5	12.01	12.01	0.00
10,731.3	89.89	358.13	10,410.0	769.8	-900.6	866.6	12.01	12.01	0.00
FTP/LP: 330' FSL & 330' FWL (Sec 1)									
10,800.0	89.89	358.13	10,410.1	838.5	-902.8	935.1	0.00	0.00	0.00
10,900.0	89.89	358.13	10,410.3	938.5	-906.1	1,034.8	0.00	0.00	0.00
11,000.0	89.89	358.13	10,410.5	1,038.4	-909.3	1,134.5	0.00	0.00	0.00
11,100.0	89.89	358.13	10,410.7	1,138.3	-912.6	1,234.1	0.00	0.00	0.00
11,200.0	89.89	358.13	10,410.9	1,238.3	-915.9	1,333.8	0.00	0.00	0.00
11,300.0	89.89	358.13	10,411.1	1,338.2	-919.2	1,433.5	0.00	0.00	0.00
11,400.0	89.89	358.13	10,411.3	1,438.2	-922.4	1,533.2	0.00	0.00	0.00
11,500.0	89.89	358.13	10,411.5	1,538.1	-925.7	1,632.8	0.00	0.00	0.00
11,600.0	89.89	358.13	10,411.7	1,638.1	-929.0	1,732.5	0.00	0.00	0.00
11,700.0	89.89	358.13	10,411.9	1,738.0	-932.2	1,832.2	0.00	0.00	0.00
11,800.0	89.89	358.13	10,412.1	1,838.0	-935.5	1,931.9	0.00	0.00	0.00
11,900.0	89.89	358.13	10,412.3	1,937.9	-938.8	2,031.5	0.00	0.00	0.00
12,000.0	89.89	358.13	10,412.5	2,037.9	-942.0	2,131.2	0.00	0.00	0.00
12,100.0	89.89	358.13	10,412.7	2,137.8	-945.3	2,230.9	0.00	0.00	0.00
12,200.0	89.89	358.13	10,412.9	2,237.8	-948.6	2,330.6	0.00	0.00	0.00
12,300.0	89.89	358.13	10,413.1	2,337.7	-951.8	2,430.2	0.00	0.00	0.00
12,400.0	89.89	358.13	10,413.3	2,437.6	-955.1	2,529.9	0.00	0.00	0.00
12,500.0	89.89	358.13	10,413.5	2,537.6	-958.4	2,629.6	0.00	0.00	0.00
12,600.0	89.89	358.13	10,413.7	2,637.5	-961.6	2,729.3	0.00	0.00	0.00
12,700.0	89.89	358.13	10,413.9	2,737.5	-964.9	2,829.0	0.00	0.00	0.00
12,800.0	89.89	358.13	10,414.1	2,837.4	-968.2	2,928.6	0.00	0.00	0.00
12,900.0	89.89	358.13	10,414.3	2,937.4	-971.5	3,028.3	0.00	0.00	0.00
13,000.0	89.89	358.13	10,414.5	3,037.3	-974.7	3,128.0	0.00	0.00	0.00
13,100.0	89.89	358.13	10,414.7	3,137.3	-978.0	3,227.7	0.00	0.00	0.00
13,200.0	89.89	358.13	10,414.9	3,237.2	-981.3	3,327.3	0.00	0.00	0.00
13,300.0	89.89	358.13	10,415.1	3,337.2	-984.5	3,427.0	0.00	0.00	0.00
13,400.0	89.89	358.13	10,415.3	3,437.1	-987.8	3,526.7	0.00	0.00	0.00
13,500.0	89.89	358.13	10,415.5	3,537.1	-991.1	3,626.4	0.00	0.00	0.00
13,600.0	89.89	358.13	10,415.7	3,637.0	-994.3	3,726.0	0.00	0.00	0.00
13,700.0	89.89	358.13	10,415.9	3,736.9	-997.6	3,825.7	0.00	0.00	0.00
13,800.0	89.89	358.13	10,416.1	3,836.9	-1,000.9	3,925.4	0.00	0.00	0.00
13,900.0	89.89	358.13	10,416.3	3,936.8	-1,004.1	4,025.1	0.00	0.00	0.00
14,000.0	89.89	358.13	10,416.5	4,036.8	-1,007.4	4,124.7	0.00	0.00	0.00
14,100.0	89.89	358.13	10,416.7	4,136.7	-1,010.7	4,224.4	0.00	0.00	0.00
14,200.0	89.89	358.13	10,416.9	4,236.7	-1,013.9	4,324.1	0.00	0.00	0.00
14,300.0	89.89	358.13	10,417.1	4,336.6	-1,017.2	4,423.8	0.00	0.00	0.00
14,400.0	89.89	358.13	10,417.3	4,436.6	-1,020.5	4,523.4	0.00	0.00	0.00
14,500.0	89.89	358.13	10,417.5	4,536.5	-1,023.8	4,623.1	0.00	0.00	0.00
14,600.0	89.89	358.13	10,417.7	4,636.5	-1,027.0	4,722.8	0.00	0.00	0.00
14,700.0	89.89	358.13	10,417.9	4,736.4	-1,030.3	4,822.5	0.00	0.00	0.00
14,800.0	89.89	358.13	10,418.1	4,836.4	-1,033.6	4,922.1	0.00	0.00	0.00
14,900.0	89.89	358.13	10,418.3	4,936.3	-1,036.8	5,021.8	0.00	0.00	0.00
15,000.0	89.89	358.13	10,418.5	5,036.3	-1,040.1	5,121.5	0.00	0.00	0.00
15,100.0	89.89	358.13	10,418.7	5,136.2	-1,043.4	5,221.2	0.00	0.00	0.00
15,200.0	89.89	358.13	10,418.9	5,236.1	-1,046.6	5,320.9	0.00	0.00	0.00

Planning Report

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Buffalo Trace 1/36 W1MD Fed Com #1H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3024.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3024.0usft (Original Well Elev)
Site:	Buffalo Trace 1/36 W1MD Fed Com #1H	**North Reference:**	Grid
Well:	Sec 12, T26S, R29E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 330' FNL & 330' FWL, Sec 36		
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)
15,300.0	89.89	358.13	10,419.1	5,336.1	-1,049.9	5,420.5	0.00	0.00	0.00
15,400.0	89.89	358.13	10,419.3	5,436.0	-1,053.2	5,520.2	0.00	0.00	0.00
15,500.0	89.89	358.13	10,419.5	5,536.0	-1,056.4	5,619.9	0.00	0.00	0.00
15,600.0	89.89	358.13	10,419.7	5,635.9	-1,059.7	5,719.6	0.00	0.00	0.00
15,700.0	89.89	358.13	10,419.9	5,735.9	-1,063.0	5,819.2	0.00	0.00	0.00
15,797.2	89.89	358.13	10,420.1	5,833.0	-1,066.2	5,916.1	0.00	0.00	0.00
PPP2: 0' FSL & 330' FWL (Sec 36)									
15,800.0	89.89	358.13	10,420.1	5,835.8	-1,066.2	5,918.9	0.00	0.00	0.00
15,900.0	89.89	358.13	10,420.3	5,935.8	-1,069.5	6,018.6	0.00	0.00	0.00
16,000.0	89.89	358.13	10,420.5	6,035.7	-1,072.8	6,118.3	0.00	0.00	0.00
16,100.0	89.89	358.13	10,420.7	6,135.7	-1,076.1	6,217.9	0.00	0.00	0.00
16,200.0	89.89	358.13	10,420.9	6,235.6	-1,079.3	6,317.6	0.00	0.00	0.00
16,300.0	89.89	358.13	10,421.1	6,335.6	-1,082.6	6,417.3	0.00	0.00	0.00
16,400.0	89.89	358.13	10,421.3	6,435.5	-1,085.9	6,517.0	0.00	0.00	0.00
16,500.0	89.89	358.13	10,421.5	6,535.4	-1,089.1	6,616.6	0.00	0.00	0.00
16,600.0	89.89	358.13	10,421.7	6,635.4	-1,092.4	6,716.3	0.00	0.00	0.00
16,700.0	89.89	358.13	10,421.9	6,735.3	-1,095.7	6,816.0	0.00	0.00	0.00
16,800.0	89.89	358.13	10,422.1	6,835.3	-1,098.9	6,915.7	0.00	0.00	0.00
16,900.0	89.89	358.13	10,422.3	6,935.2	-1,102.2	7,015.3	0.00	0.00	0.00
17,000.0	89.89	358.13	10,422.5	7,035.2	-1,105.5	7,115.0	0.00	0.00	0.00
17,100.0	89.89	358.13	10,422.7	7,135.1	-1,108.7	7,214.7	0.00	0.00	0.00
17,200.0	89.89	358.13	10,422.9	7,235.1	-1,112.0	7,314.4	0.00	0.00	0.00
17,300.0	89.89	358.13	10,423.1	7,335.0	-1,115.3	7,414.0	0.00	0.00	0.00
17,400.0	89.89	358.13	10,423.3	7,435.0	-1,118.6	7,513.7	0.00	0.00	0.00
17,500.0	89.89	358.13	10,423.5	7,534.9	-1,121.8	7,613.4	0.00	0.00	0.00
17,600.0	89.89	358.13	10,423.7	7,634.9	-1,125.1	7,713.1	0.00	0.00	0.00
17,700.0	89.89	358.13	10,423.9	7,734.8	-1,128.4	7,812.8	0.00	0.00	0.00
17,800.0	89.89	358.13	10,424.1	7,834.8	-1,131.6	7,912.4	0.00	0.00	0.00
17,900.0	89.89	358.13	10,424.3	7,934.7	-1,134.9	8,012.1	0.00	0.00	0.00
18,000.0	89.89	358.13	10,424.5	8,034.6	-1,138.2	8,111.8	0.00	0.00	0.00
18,100.0	89.89	358.13	10,424.7	8,134.6	-1,141.4	8,211.5	0.00	0.00	0.00
18,200.0	89.89	358.13	10,424.9	8,234.5	-1,144.7	8,311.1	0.00	0.00	0.00
18,300.0	89.89	358.13	10,425.1	8,334.5	-1,148.0	8,410.8	0.00	0.00	0.00
18,400.0	89.89	358.13	10,425.3	8,434.4	-1,151.2	8,510.5	0.00	0.00	0.00
18,500.0	89.89	358.13	10,425.5	8,534.4	-1,154.5	8,610.2	0.00	0.00	0.00
18,600.0	89.89	358.13	10,425.7	8,634.3	-1,157.8	8,709.8	0.00	0.00	0.00
18,700.0	89.89	358.13	10,425.9	8,734.3	-1,161.0	8,809.5	0.00	0.00	0.00
18,800.0	89.89	358.13	10,426.1	8,834.2	-1,164.3	8,909.2	0.00	0.00	0.00
18,900.0	89.89	358.13	10,426.3	8,934.2	-1,167.6	9,008.9	0.00	0.00	0.00
19,000.0	89.89	358.13	10,426.5	9,034.1	-1,170.9	9,108.5	0.00	0.00	0.00
19,100.0	89.89	358.13	10,426.7	9,134.1	-1,174.1	9,208.2	0.00	0.00	0.00
19,200.0	89.89	358.13	10,426.9	9,234.0	-1,177.4	9,307.9	0.00	0.00	0.00
19,300.0	89.89	358.13	10,427.1	9,333.9	-1,180.7	9,407.6	0.00	0.00	0.00
19,400.0	89.89	358.13	10,427.3	9,433.9	-1,183.9	9,507.2	0.00	0.00	0.00
19,500.0	89.89	358.13	10,427.5	9,533.8	-1,187.2	9,606.9	0.00	0.00	0.00
19,600.0	89.89	358.13	10,427.7	9,633.8	-1,190.5	9,706.6	0.00	0.00	0.00
19,700.0	89.89	358.13	10,427.9	9,733.7	-1,193.7	9,806.3	0.00	0.00	0.00
19,800.0	89.89	358.13	10,428.1	9,833.7	-1,197.0	9,905.9	0.00	0.00	0.00
19,900.0	89.89	358.13	10,428.3	9,933.6	-1,200.3	10,005.6	0.00	0.00	0.00
20,000.0	89.89	358.13	10,428.4	10,033.6	-1,203.5	10,105.3	0.00	0.00	0.00
20,100.0	89.89	358.13	10,428.6	10,133.5	-1,206.8	10,205.0	0.00	0.00	0.00
20,200.0	89.89	358.13	10,428.8	10,233.5	-1,210.1	10,304.7	0.00	0.00	0.00
20,300.0	89.89	358.13	10,429.0	10,333.4	-1,213.3	10,404.3	0.00	0.00	0.00

Planning Report

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Buffalo Trace 1/36 W1MD Fed Com #1H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3024.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3024.0usft (Original Well Elev)
Site:	Buffalo Trace 1/36 W1MD Fed Com #1H	**North Reference:**	Grid
Well:	Sec 12, T26S, R29E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 330' FNL & 330' FWL, Sec 36		
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)
20,400.0	89.89	358.13	10,429.2	10,433.4	-1,216.6	10,504.0	0.00	0.00	0.00
20,500.0	89.89	358.13	10,429.4	10,533.3	-1,219.9	10,603.7	0.00	0.00	0.00
20,600.0	89.89	358.13	10,429.6	10,633.2	-1,223.2	10,703.4	0.00	0.00	0.00
20,700.0	89.89	358.13	10,429.8	10,733.2	-1,226.4	10,803.0	0.00	0.00	0.00
20,778.8	89.89	358.13	10,430.0	10,812.0	-1,229.0	10,881.6	0.00	0.00	0.00
BHL: 330' FNL & 330' FWL (Sec 36)									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL: 460' FNL & 1215' F - plan hits target center - Point	0.00	0.00	0.0	0.0	0.0	386,849.00	662,701.00	32.0629222	-103.9415566
KOP: 146' FNL & 330' F\ - plan hits target center - Point	0.00	0.00	9,933.0	294.0	-885.0	387,143.00	661,816.00	32.0637392	-103.9444101
FTP/LP: 330' FSL & 330 - plan hits target center - Point	0.00	0.00	10,410.0	769.8	-900.6	387,618.80	661,800.40	32.0650473	-103.9444549
PPP2: 0' FSL & 330' FW - plan hits target center - Point	0.00	0.00	10,420.1	5,833.0	-1,066.2	392,682.00	661,634.85	32.0789672	-103.9449305
BHL: 330' FNL & 330' F\ - plan hits target center - Point	0.00	0.00	10,430.0	10,812.0	-1,229.0	397,661.00	661,472.00	32.0926556	-103.9453984

Intent [X] As Drilled [ ]

API #

Operator Name:	Property Name:	Well Number
Mewbourne Oil Co.	Buffalo Trace 1/36 W1MD Fed Com	1H

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
D	12	26S	29E		146	N	330	W	Eddy

Latitude	Longitude	NAD
32.0637392	-103.9444101	83

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
M	1	26S	29E		330	S	330	W	Eddy

Latitude	Longitude	NAD
32.0650473	-103.9444549	83

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
D	36	25S	29E		330	N	330	W	Eddy

Latitude	Longitude	NAD
32.0926556	-103.9453984	83

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

Is this well an infill well? [N]

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

API #

Operator Name:	Property Name:	Well Number

KZ 06/29/2018

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**Mewbourne Oil Company**
LEASE NO.:	**NMNM011039**
WELL NAME & NO.:	BUFFALO TRACE 1-36 W1MD Fed Com 1H
SURFACE HOLE FOOTAGE:	460'/N & 1215'/W
BOTTOM HOLE FOOTAGE	330'/N & 330'/W
LOCATION:	Section 12, T.26 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 **652** 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.

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 **9-5/8** inch intermediate casing shall be set at approximately **3200** feet. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:

- Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.**
  Excess cement calculates to 19%, additional cement might be required.

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

3. The minimum required fill of cement behind the **7-5/8** inch production casing is:

Option 1 (Single Stage):

- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.
  Excess cement calculates to -2%, additional cement might be required.

Option 2:

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

a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.
   Excess cement calculates to 18%, additional cement might be required.

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 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.

OTA10012020

Operator Name: MEWBOURNE OIL COMPANY

Well Name: BUFFALO TRACE 1/36 W1MD FEDCOM **Well Number:** 1H

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.

Waste type: DRILLING

Waste content description: Drill cuttings

Amount of waste: 940 barrels

Waste disposal frequency : One Time Only

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

Safe containmant attachment:

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

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

Reserve Pit

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit? 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

Operator Name: MEWBOURNE OIL COMPANY

Well Name: BUFFALO TRACE 1/36 W1MD FEDCOM **Well Number:** 1H

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? N

Description of cuttings location

Cuttings area length (ft.)

Cuttings area width (ft.)

Cuttings area depth (ft.)

Cuttings area volume (cu. yd.)

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

WCuttings area liner

Cuttings area liner specifications and installation description

Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: N

Ancillary Facilities attachment:

Comments:

Section 9 - Well Site Layout

Well Site Layout Diagram:

BuffaloTrace1_36W1MDFedCom1H_wellsitelayout_20200107135636.pdf

Comments:

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance

Multiple Well Pad Name: Buffalo Trace 1/36 MD & NC Fed Com wells

Multiple Well Pad Number: 4

Recontouring attachment:

Drainage/Erosion control construction: None

Drainage/Erosion control reclamation: None

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

Drilling Plan Data Report
12/07/2020

APD ID: 10400052982
Submission Date: 04/29/2020
Operator Name: MEWBOURNE OIL COMPANY
Well Name: BUFFALO TRACE 1/36 W1MD FEDCOM
Well Number: 1H
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
628168	UNKNOWN	2996	28	28	OTHER : Top Soil	NONE	N
628183	RUSTLER	2286	710	710	ANHYDRITE	NONE	N
628170	TOP SALT	1964	1032	1032	SALT	NONE	N
724857	BASE OF SALT	-64	3060	3060	SALT	NONE	N
628175	LAMAR	-264	3260	3260	LIMESTONE	NATURAL GAS, OIL	N
628172	BELL CANYON	-304	3300	3300	SANDSTONE	NATURAL GAS, OIL	N
724858	CHERRY CANYON	-1128	4124	4124	SANDSTONE	NATURAL GAS, OIL	N
724859	MANZANITA	-1338	4334	4334	LIMESTONE	NATURAL GAS, OIL	N
724860	BRUSHY CANYON	-3748	6744	6744	SANDSTONE	NATURAL GAS, OIL	N
628177	BONE SPRING	-3974	6970	6970	LIMESTONE, SHALE	NATURAL GAS, OIL	N
724861	BONE SPRING 1ST	-4913	7909	7909	SANDSTONE	NATURAL GAS, OIL	N
724862	BONE SPRING 2ND	-5488	8484	8484	SANDSTONE	NATURAL GAS, OIL	N
724863	BONE SPRING 3RD	-6843	9839	9839	SANDSTONE	NATURAL GAS, OIL	N
628182	WOLFCAMP	-7214	10210	10210	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Operator Name: MEWBOURNE OIL COMPANY

Well Name: BUFFALO TRACE 1/36 W1MD FEDCOM **Well Number:** 1H

Pressure Rating (PSI): 5M **Rating Depth:** 20779

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 are not required by manufacturer. A multibowl 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. See attached schematics.
Choke Diagram Attachment:

Buffalo_Trace_1_36_W1MD_Fed_Com_1H_Flex_Line_Specs_20200427093455.pdf

Buffalo_Trace_1_36_W1MD_Fed_Com_1H_5M_BOPE_Choke_Diagram_20200427093455.pdf

Buffalo_Trace_1_36_W1MD_Fed_Com_1H_Flex_Line_Specs_API_16C_20200427093456.pdf

BOP Diagram Attachment:

Buffalo_Trace_1_36_W1MD_Fed_Com_1H_Multi_Bowl_WH_20200427093505.pdf

Buffalo_Trace_1_36_W1MD_Fed_Com_1H_5M_BOPE_Schematic_20200427093505.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	975	0	975	2996	2021	975	H-40	48	ST&C	1.73	3.88	DRY	6.88	DRY	11.56
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	3200	0	3200	3065	-204	3200	J-55	36	LT&C	1.21	2.12	DRY	3.93	DRY	4.9
3	PRODUCTION	8.75	7.625	NEW	API	N	0	11020	0	10682	3065	-7686	11020	P-110	39	FJ	2.17	1.91	DRY	2.9	DRY	2.32
4	LINER	6.125	4.5	NEW	API	N	9983	20779	9933	10430	-6937	-7434	10796	P-110	13.5	LT&C	1.64	1.91	DRY	2.32	DRY	2.9

Casing Attachments

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

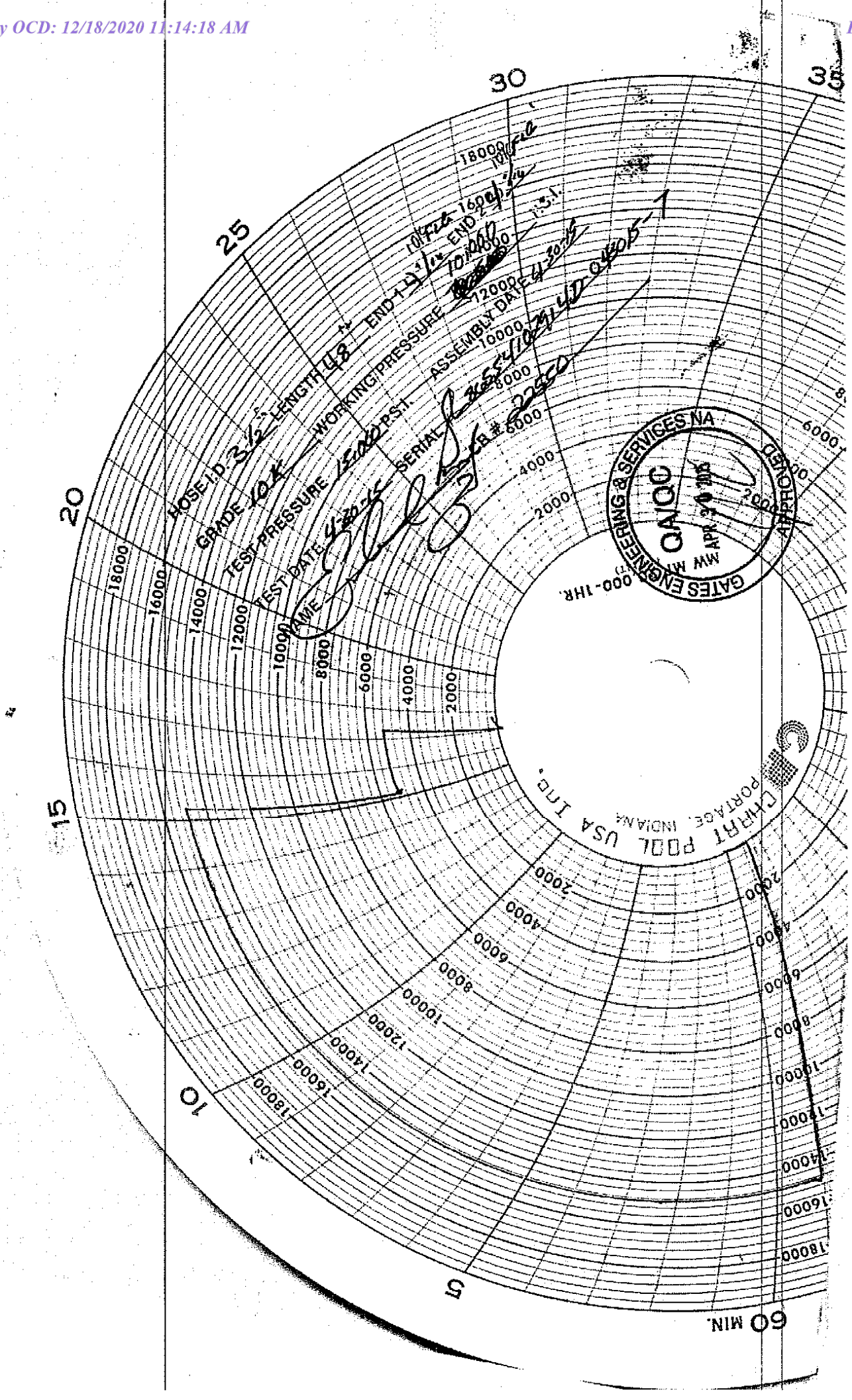
End Fitting 1 :	4 1/16 10K FLG	End Fitting 2 :	4 1/16 10K FLG
Gates Part No. :	4773-6290	Assembly Code :	L36554102914D-043015-7
Working Pressure :	10,000 PSI	Test Pressure :	15,000 PSI

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.

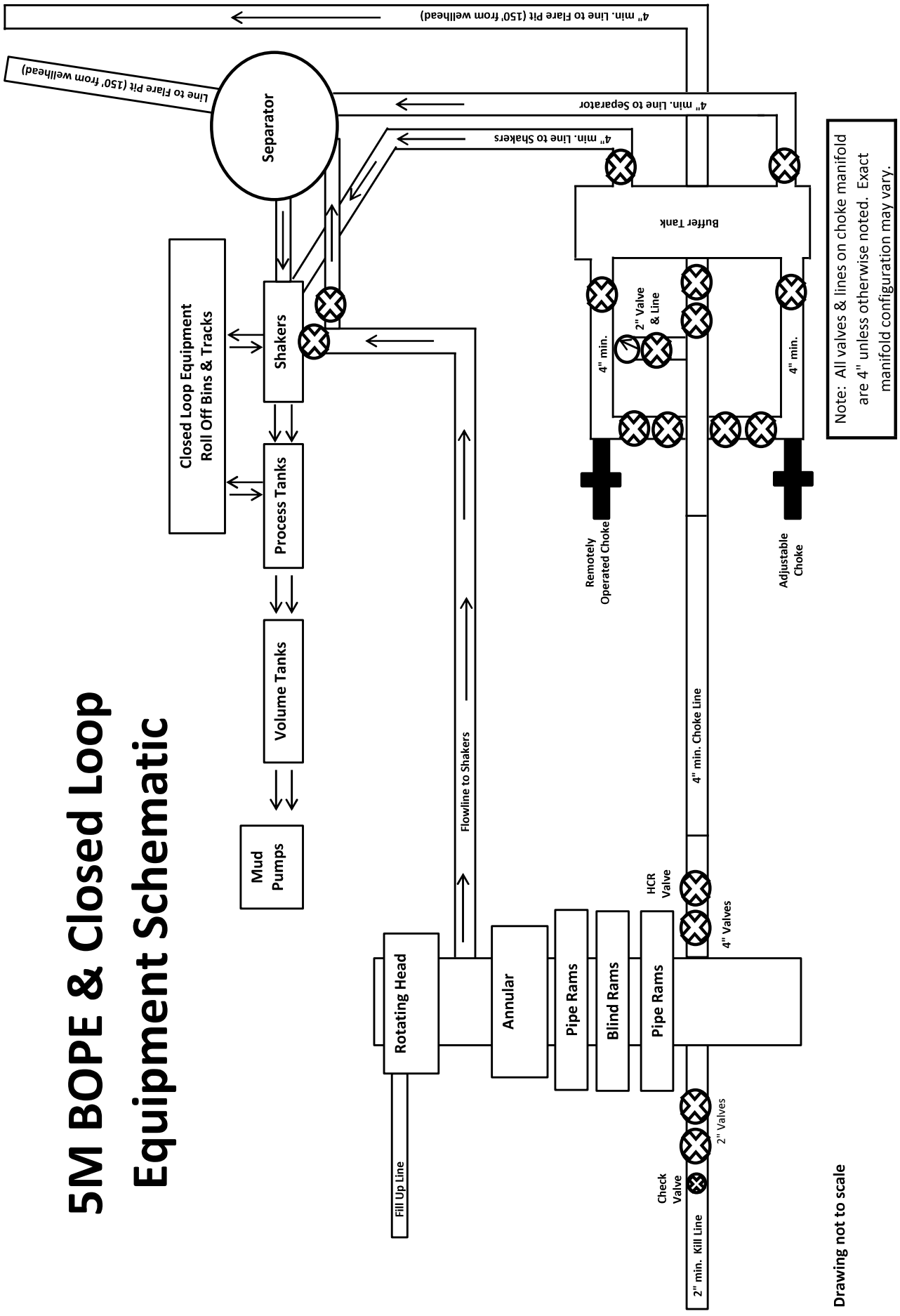
Quality Manager :	QUALITY	Produciton:	PRODUCTION
Date :	4/30/2015	Date :	4/30/2015
Signature :	Justin Cropper	Signature :	

Form-PTC - 01 Rev.0 2

Gates BLACK GOLD


HOSE I.D. 3 1/2"
LENGTH 48'
END 1 4 1/16" 10K
END 2 4 1/16" 10K
GRADE 10K
WORKING PRESSURE 10,000 P.S.I.
TEST PRESSURE 15,000 P.S.I.
ASSEMBLY DATE 4-30-15
TEST DATE 4-30-15
SERIAL 365541049405-1
NAME
C.R. # 22560
GATES ENGINEERING & SERVICES NA
QAQC
APPROVED
MW APR 30 2015
CHIKRI POOL USA IND.
PORTAGE, INDIANA
60 MIN.
30
25
20
15
10
5
35
2000
4000
6000
8000
10000
12000
14000
16000
18000

5M BOPE & Closed Loop Equipment Schematic



Drawing not to scale

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

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

10K CHOKE & KILL ASSEMBLY PRESSURE TEST CERTIFICATE

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

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

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

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

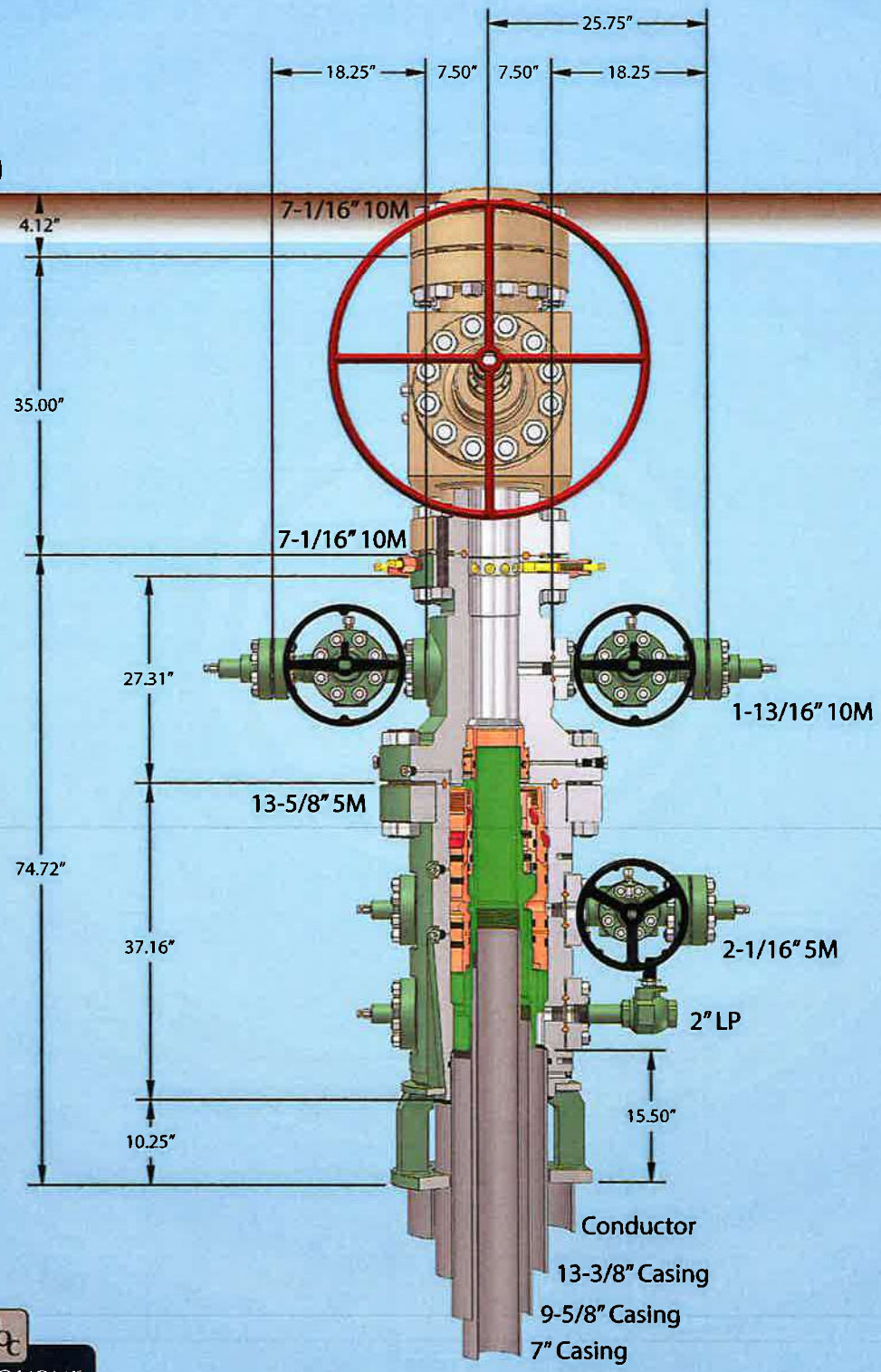
Quality:	QUALITY	Production:	PRODUCTION
Date :	8/20/2018	Date :	8/20/2018
Signature :	Moosa Naqvi	Signature :	

Form PTC - 01 Rev.0 2

BLACK GOLD

CAMERON
A Schlumberger Company

13-5/8" MN-DS Wellhead System



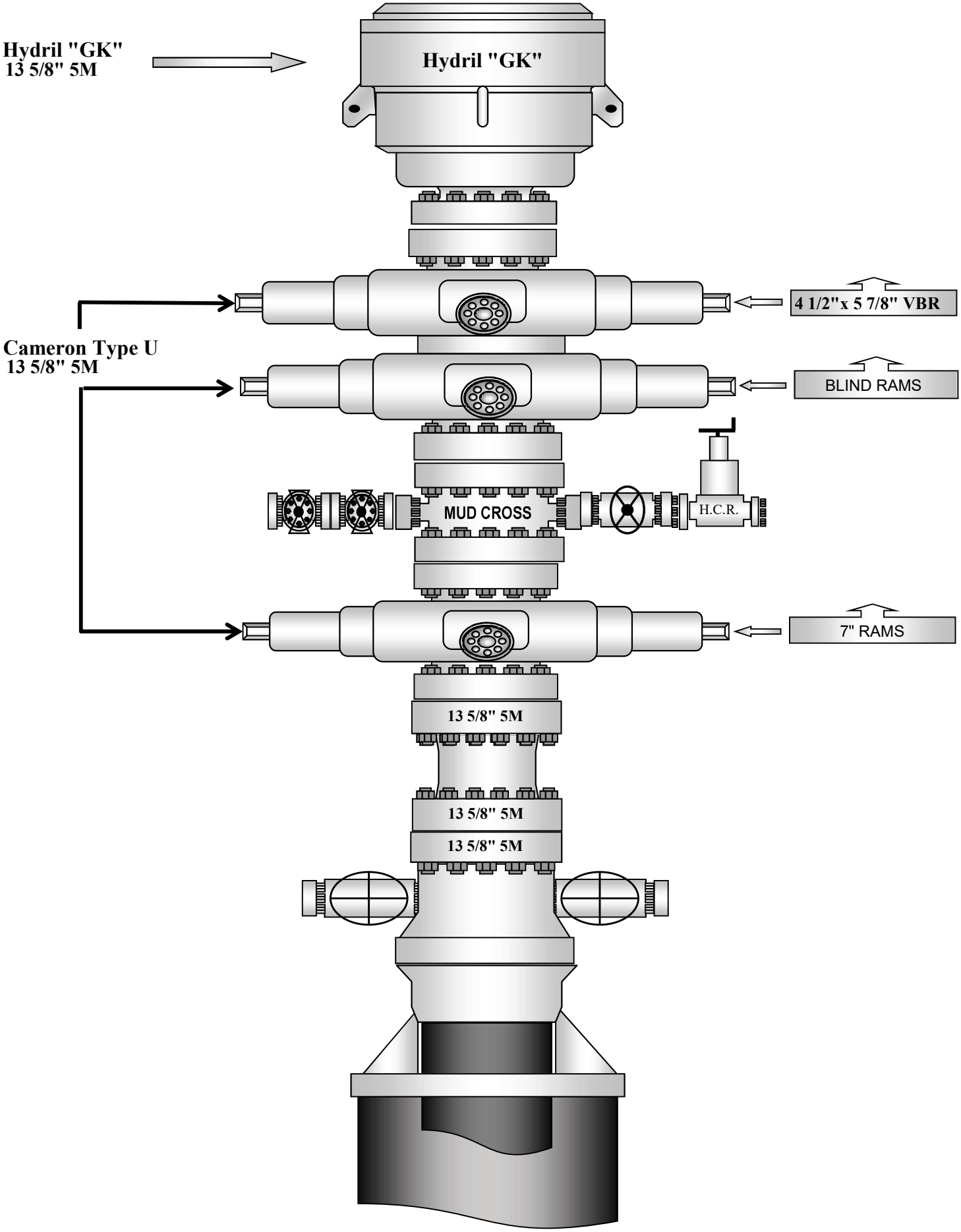
MEWBOURNE OIL COMPANY

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

5M BOPE Schematic



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 12521

COMMENTS

Operator:	OGRID:	Action Number:	Action Type:
MEWBOURNE OIL CO P.O. Box 5270 Hobbs, NM88241	14744	12521	FORM 3160-3

Created By	Comment	Comment Date
kpickford	KP GEO Review 12/18/2020	12/18/2020

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

CONDITIONS

Action 12521

CONDITIONS OF APPROVAL

Operator:	OGRID:	Action Number:	Action Type:
MEWBOURNE OIL CO P.O. Box 5270 Hobbs, NM88241	14744	12521	FORM 3160-3

OCD Reviewer	Condition
kpickford	Will require 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	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