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

Form C-101
August 1, 2011

Permit 356149

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

1. Operator Name and Address	2. OGRID Number
MEWBOURNE OIL CO P.O. Box 5270 Hobbs, NM 88241	14744
	3. API Number 30-015-54506

4. Property Code	5. Property Name	6. Well No.
335059	THOR 28 FEE	522H

7. Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
O	28	24S	28E	O	216	S	2660	E	Eddy

8. Proposed Bottom Hole Location

UL - Lot	Section	Township	Range	Lot Idn	Feet From	N/S Line	Feet From	E/W Line	County
D	28	23S	28E	D	100	N	660	W	Eddy

9. Pool Information

CULEBRA BLUFF;BONE SPRING, SOUTH	15011

Additional Well Information

11. Work Type	12. Well Type	13. Cable/Rotary	14. Lease Type	15. Ground Level Elevation
New Well	OIL		Private	3074
16. Multiple	**17. Proposed Depth**	**18. Formation**	**19. Contractor**	**20. Spud Date**
N	13885	1st Bone Spring Sand		1/18/2024
Depth to Ground water		Distance from nearest fresh water well		Distance to nearest surface water

☒ **We will be using a closed-loop system in lieu of lined pits**

21. Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surf	17.5	13.375	48	370	320	0
Int1	12.25	9.625	36	2530	540	0
Prod	8.75	7	26	7839	670	2330
Liner1	6.125	4.5	13.5	13885	400	7690

Casing/Cement Program: Additional Comments

MOC proposed to drill & test the Bone Springs formation. H2S rule 118 does not apply because MOC has researched the area & no high concentrations were found. Will have on location & working all H2S safety equiptment before Yates formation for safety & insurance purposes. Will stimulate as needed for production.

22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Annular	5000	2500	Schaffer
Double Ram	5000	5000	Schaffer
Annular	5000	2500	Schaffer

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief. **I further certify I have complied with 19.15.14.9 (A) NMAC ☒ and/or 19.15.14.9 (B) NMAC ☒, if applicable.** Signature:		**OIL CONSERVATION DIVISION**	
Printed Name:	Electronically filed by Monty Whetstone	Approved By:	Ward Rikala
Title:	Vice President Operations	Title:	
Email Address:	fking@mewbourne.com	Approved Date:	12/19/2023 Expiration Date: 12/19/2025
Date:	12/18/2023 Phone: 903-561-2900	Conditions of Approval Attached	

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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
30-015-54506	15011	CULEBRA BLUFF; BONE SPRING, SOUTH

4 Property Code	5 Property Name	6 Well Number
335059	THOR 28 FEE	522H

7 OGRID NO.	8 Operator Name	9 Elevation
14744	MEWBOURNE OIL COMPANY	3074'

10 Surface Location

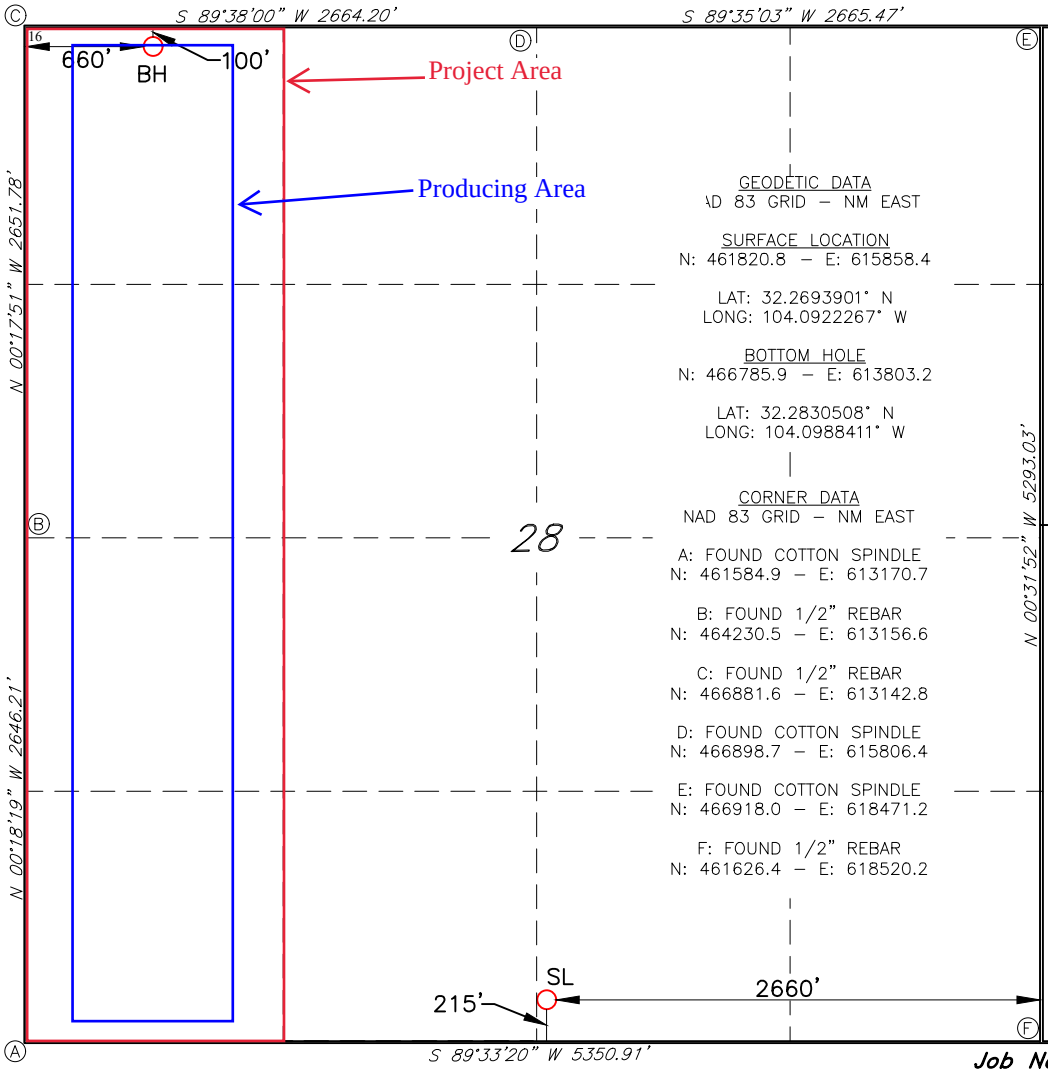
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet From the	East/West line	County
O	28	23S	28E		215	SOUTH	2660	EAST	EDDY

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	28	23S	28E		100	NORTH	660	WEST	EDDY

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

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



17 OPERATOR CERTIFICATION

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

Benjamin Davis — Signature
12/15/2023 — Date
Ben Davis — Printed Name
bdavis@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.

12/07/2023 — Date of Survey

Signature and Seal of Professional Surveyor:

ROBERT M. HOWETT — NEW MEXICO — 19680 — PROFESSIONAL SURVEYOR

19680 — Certificate Number

Job No.: LS23121066

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State of New Mexico
Energy, Minerals and Natural Resources
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1220 S. St Francis Dr.
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GAS CAPTURE PLAN

Date: 12/19/2023

☒ Original

☐ Amended - Reason for Amendment:

Operator & OGRID No.: [14744] MEWBOURNE OIL CO

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
THOR 28 FEE #522H	30-015-54506	O-28-24S-28E	0216S 2660E	10	Flared	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 LUCID ENERGY DELAWARE, LLC and will be connected to LUCID ENERGY DELAWARE, LLC High Pressure gathering system located in Eddy County, New Mexico. It will require 3400' of pipeline to connect the facility to High Pressure gathering system. MEWBOURNE OIL CO provides (periodically) to LUCID ENERGY DELAWARE, LLC a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, MEWBOURNE OIL CO and LUCID ENERGY DELAWARE, LLC have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at LUCID ENERGY DELAWARE, LLC Processing Plant located in Sec. 25, Twn. 18S, Rng. 25E, Eddy County, New Mexico. 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 LUCID ENERGY DELAWARE, LLC system at that time. Based on current information, it is MEWBOURNE OIL CO'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

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1220 S. St Francis Dr.
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Form APD Conditions

Permit 356149

PERMIT CONDITIONS OF APPROVAL

Operator Name and Address:	API Number:
MEWBOURNE OIL CO [14744] P.O. Box 5270 Hobbs, NM 88241	30-015-54506
	Well: THOR 28 FEE #522H

OCD Reviewer	Condition
ward.rikala	Notify OCD 24 hours prior to casing & cement
ward.rikala	Will require a File As Drilled C-102 and a Directional Survey with the C-104
ward.rikala	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string
ward.rikala	Cement is required to circulate on both surface and intermediate1 strings of casing
ward.rikala	If cement does not circulate on any string, a CBL is required for that string of casing
ward.rikala	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system
ward.rikala	The Operator is to notify NMOCD by sundry (Form C-103) within ten (10) days of the well being spud

MEWBOURNE OIL COMPANY

Mewbourne Oil Co.

BOP Break Testing Variance

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

Procedures

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

MEWBOURNE OIL COMPANY

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

Barriers

Before Nipple Down:

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

After Nipple Down:

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

Summary

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

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

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

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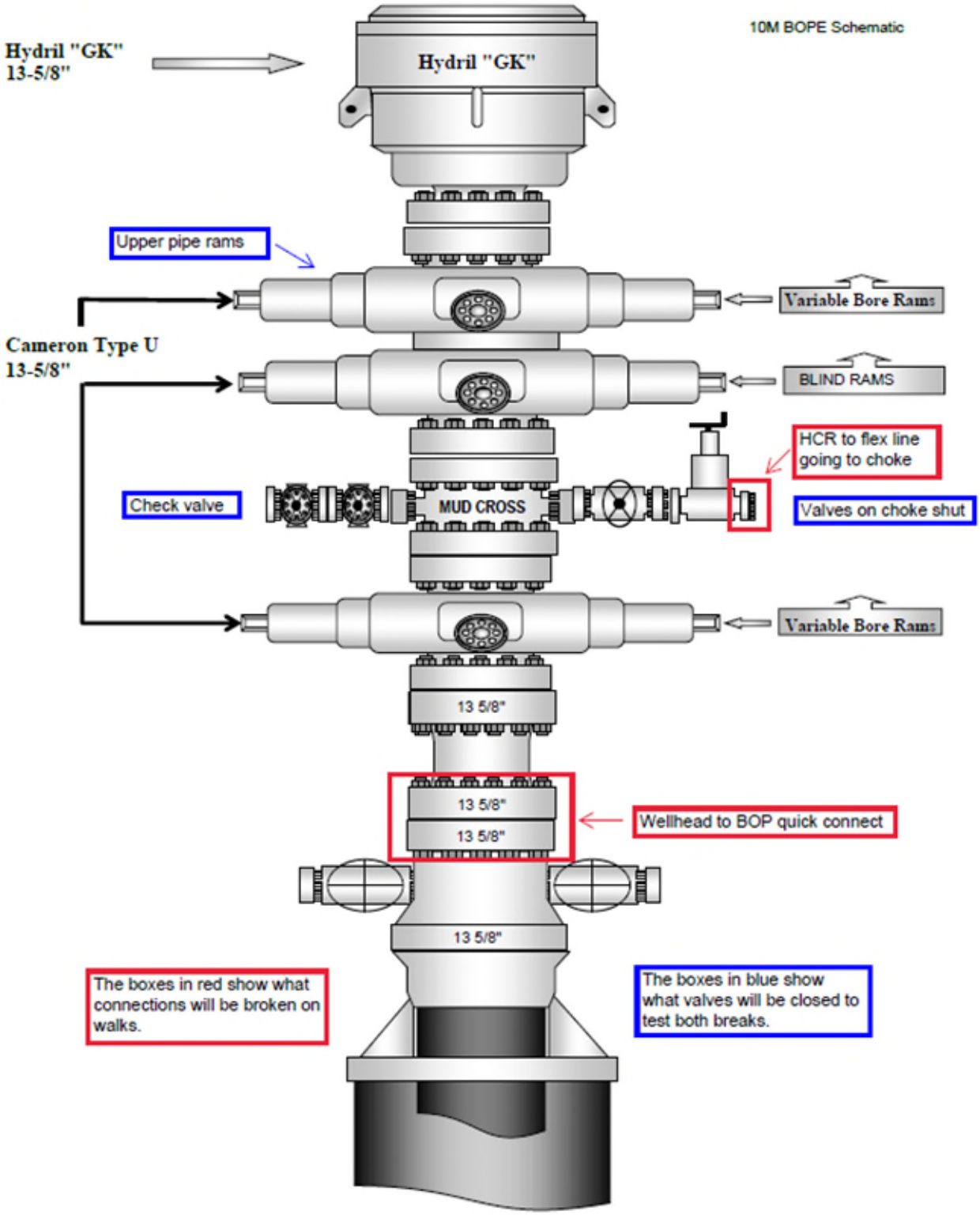

Figure 1. BOP diagram

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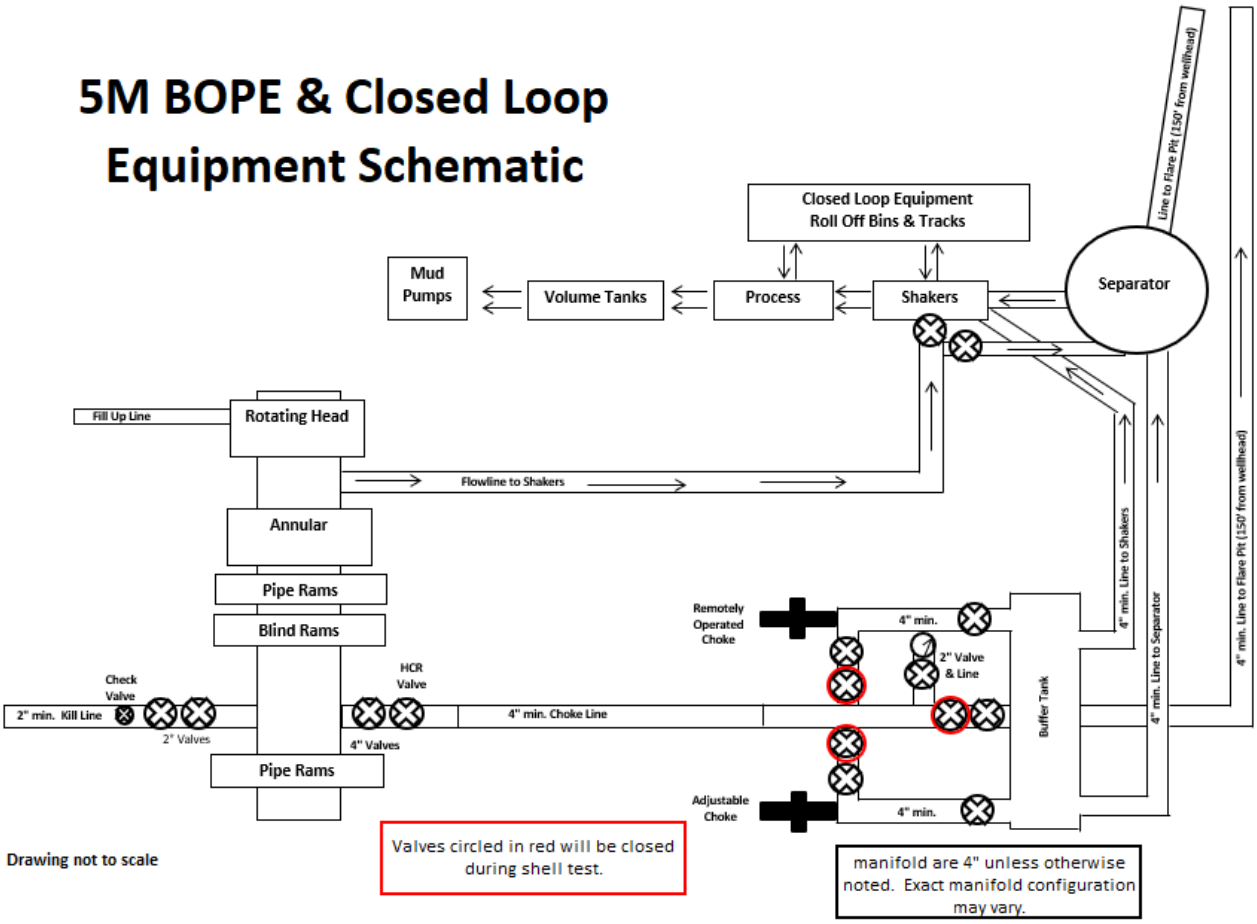

Figure 2. BOPE diagram

MEWBOURNE
OIL COMPANY

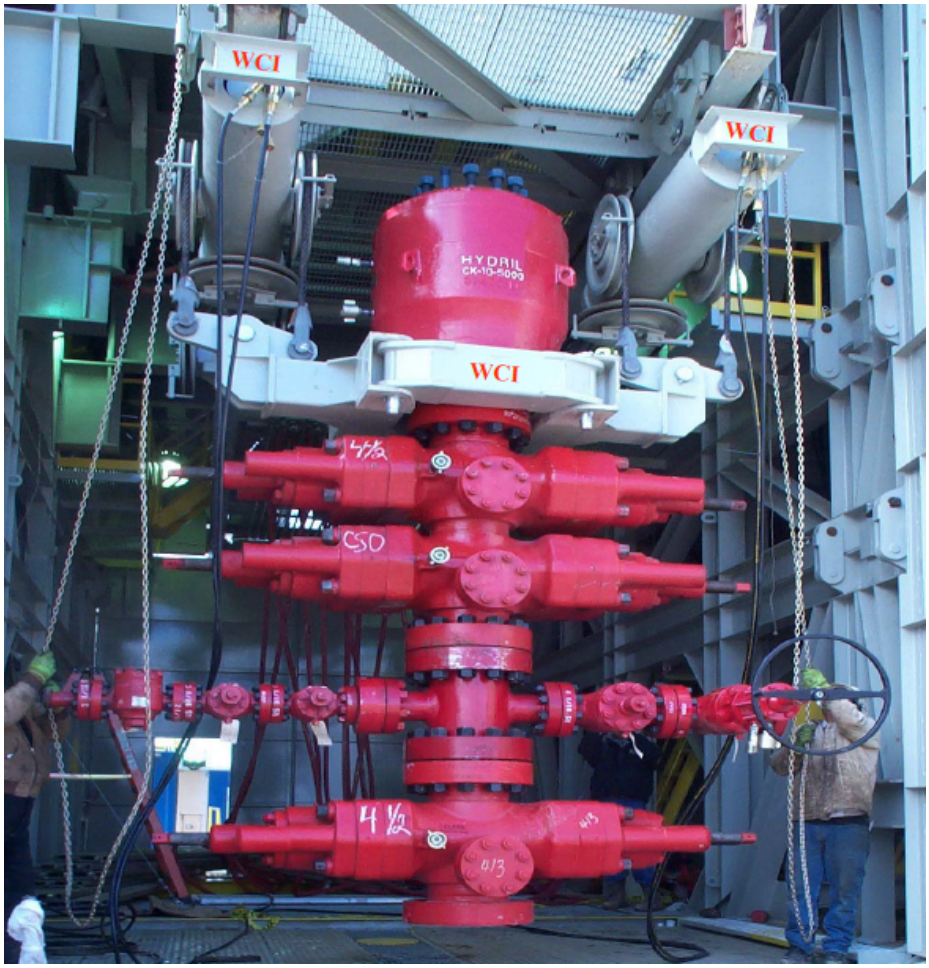

Figure 3. BOP handling system

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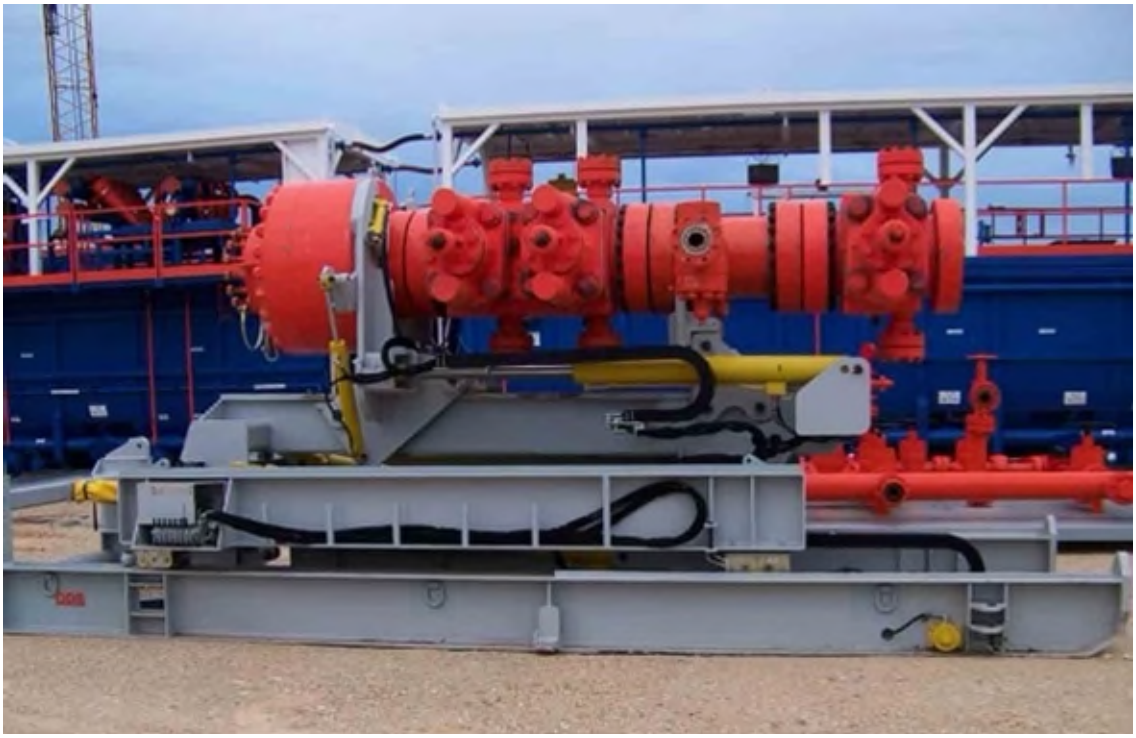

Figure 4. BOP handling system

MEWBOURNE
OIL COMPANY

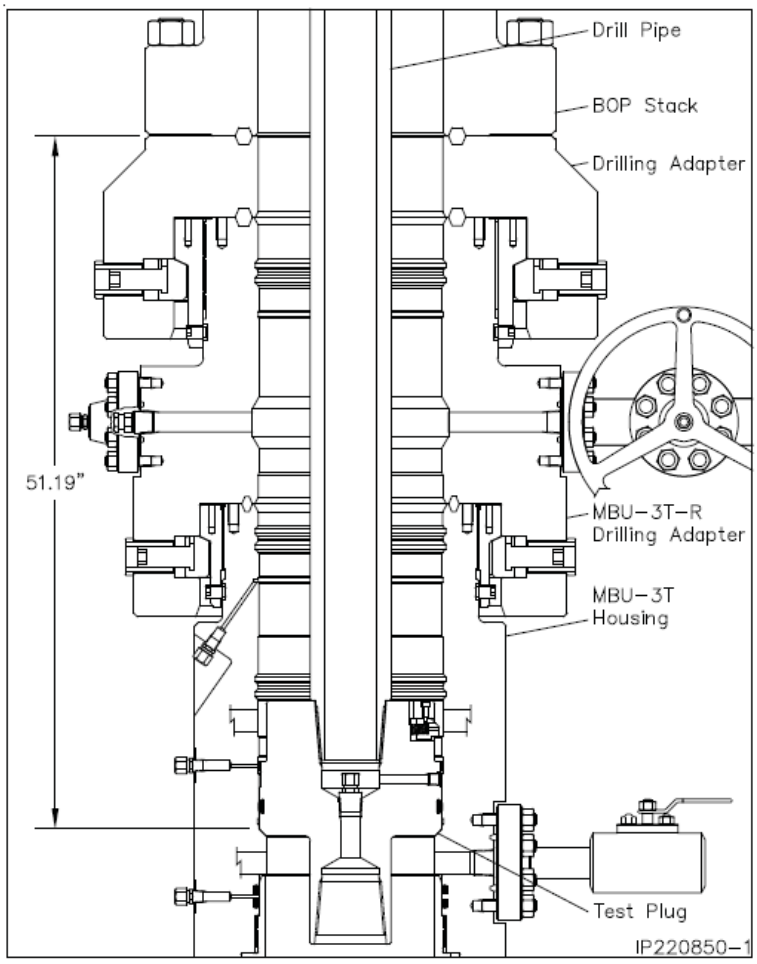

Figure 5. Cactus 5M wellhead with BOP quick connect

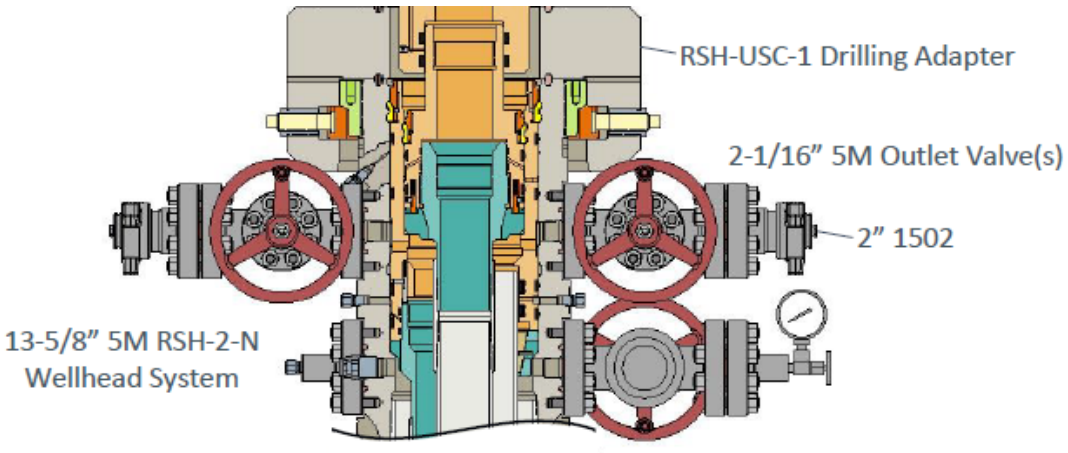

Figure 6. Vault 5M wellhead with BOP quick connect

MEWBOURNE OIL COMPANY

Mewbourne Oil Co.

Surface & Intermediate Offline Cementing Variance

Mewbourne Oil Company requests a variance to perform offline cementing for surface and intermediate casing strings with the following conditions:

- Offline cementing will not be performed on production casing.
- Offline cementing will not be performed on a hole section with MASP > 5000 psi.
- Offline cementing will not be performed concurrently with offset drilling.

Surface Casing Order of Operations:

1. Run 13 3/8" surface casing as per normal operations (TPGS and float collar).
2. Perform negative pressure test to confirm integrity of float equipment while running casing.
3. Confirm well is static.
4. Make up 13 ⅝" wellhead or wellhead landing ring assembly and land on 20" conductor.
5. Fill pipe, circulate casing capacity and confirm float(s) are still holding.
6. Confirm well is static.
7. Back out landing joint and pull to rig floor. Lay down landing joint.
8. Walk rig to next well on pad with cement crew standing by to rig up.
9. Make up offline cement tool with forklift per wellhead manufacturer (Fig. 1 & 2).
10. Make up cement head on top of offline cement tool with forklift.
11. Commence cement operations.
12. If cement circulates, confirm well is static and proceed to step 16.
13. If cement does not circulate, notify the appropriate BLM office, wait a minimum of six hours, and run a temperature survey to determine the top of cement.
14. Use 1" pipe for remedial cement job until the surface casing is cemented to surface.
15. Confirm well is static.
16. Once cement job is complete, the cement head and offline cementing tool are removed. The wellhead technician returns to cellar to install wellhead/valves.
17. Install wellhead capping flange.

Barriers

Before Walk:

- Float(s) in casing
- Kill weight fluid in casing
- Kill weight fluid in annulus

MEWBOURNE
OIL COMPANY

After Walk:

- Float(s) in casing
- Kill weight fluid in casing
- Kill weight fluid in annulus
- Offline cementing tool tested to 5000 psi and cement head
- Capping flange after cementing

20” Surface Casing Order of Operations (4 string area):

1. Run 20" surface casing as per normal operations (TPGS and float collar).
2. Perform negative pressure test to confirm integrity of float equipment while running casing.
3. Fill pipe, circulate casing capacity and confirm float(s) are still holding.
4. Confirm well is static.
5. Back out landing joint and pull to rig floor. Lay down landing joint.
6. Make up cement head.
7. Walk rig to next well on pad with cement crew standing by to rig up.
8. Commence cement operations.
9. If cement circulates, confirm well is static and proceed to step 13.
10. If cement does not circulate, notify the appropriate BLM office, wait a minimum of six hours, and run a temperature survey to determine the top of cement.
11. Use 1" pipe for remedial cement job until the surface casing is cemented to surface.
12. Confirm well is static.
13. Once cement job is complete, remove cement head and install cap.

Barriers

Before Walk:

- Float(s) in casing
- Kill weight fluid in casing
- Kill weight fluid in annulus
- Cement Head

After Walk:

- Float(s) in casing
- Kill weight fluid in casing
- Kill weight fluid in annulus
- Cement head
- Capping flange after cementing

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Intermediate Casing Order of Operations:

1. Run casing as per normal operations (float shoe and float collar).
2. Perform negative pressure test to confirm integrity of float equipment while running casing.
3. Confirm well is static (if running SBM).
4. Land casing.
5. Fill pipe, circulate casing capacity and confirm floats are still holding.
6. Confirm well is static.
7. Back out landing joint and pull to rig floor. Lay down landing joint. Install packoff & test.
8. Nipple down BOP.
9. Walk rig to next well on pad with cement crew standing by to rig up.
10. Make up offline cement tool using forklift per wellhead manufacturer (Fig. 3 - 8).
11. Make up cement head on top of offline cement tool.
12. Commence cement operations.
13. If cement circulates, confirm well is static and proceed to step 16.
14. If cement does not circulate (when required), notify the appropriate BLM office, wait a minimum of six hours, and run a temperature survey to determine the top of cement.
15. Pump remedial cement job if required.
16. Confirm well is static.
17. Remove cement head and offline cementing tool.
18. Install wellhead capping flange and test.

Barriers

Before Nipple Down:

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

After Nipple Down:

- Floats in casing
- Kill weight fluid in casing
- Kill weight fluid in annulus
- Solid body mandrel and/or packoff
- Offline cementing tool tested to 5000 psi and cement head
- Capping flange after cementing

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OIL COMPANY

Risks:

- Pressure build up in annulus before cementing
  - Contact BLM if a well control event occurs.
  - Rig up 3rd party pump or rig pumps to pump down casing and kill well.
  - Returns will be taken through the wellhead valves to a choke manifold (Fig 9 & 10).
  - Well could also be killed through the wellhead valves down the annulus.

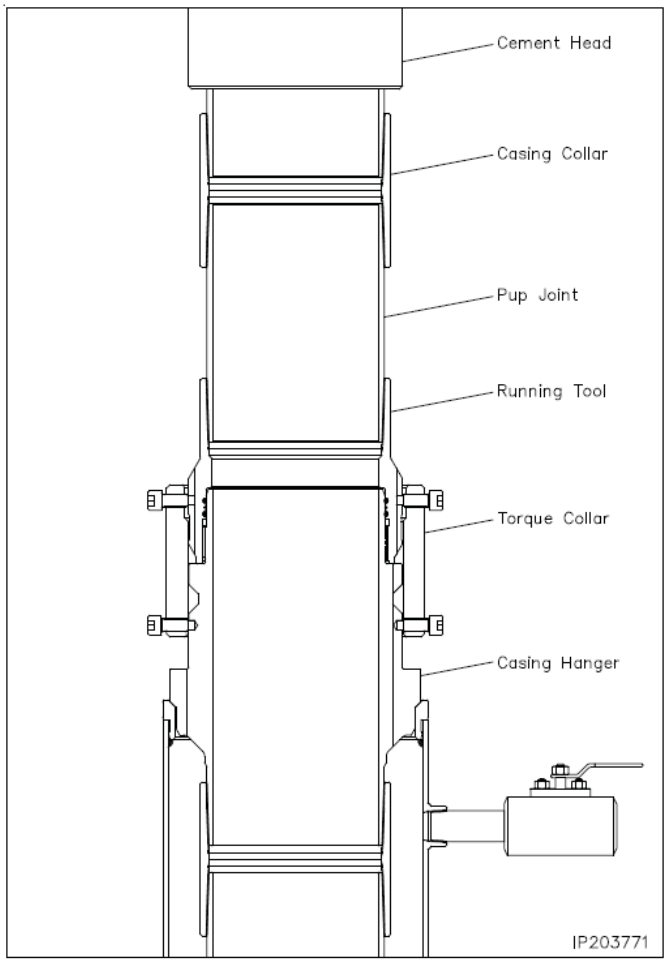

Figure 1. Cactus 13 3/8" 5M offline cementing tool. Pressure rating limited by the lesser of 5M tool rating or the 13 3/8" pup joint and casing.

MEWBOURNE
OIL COMPANY

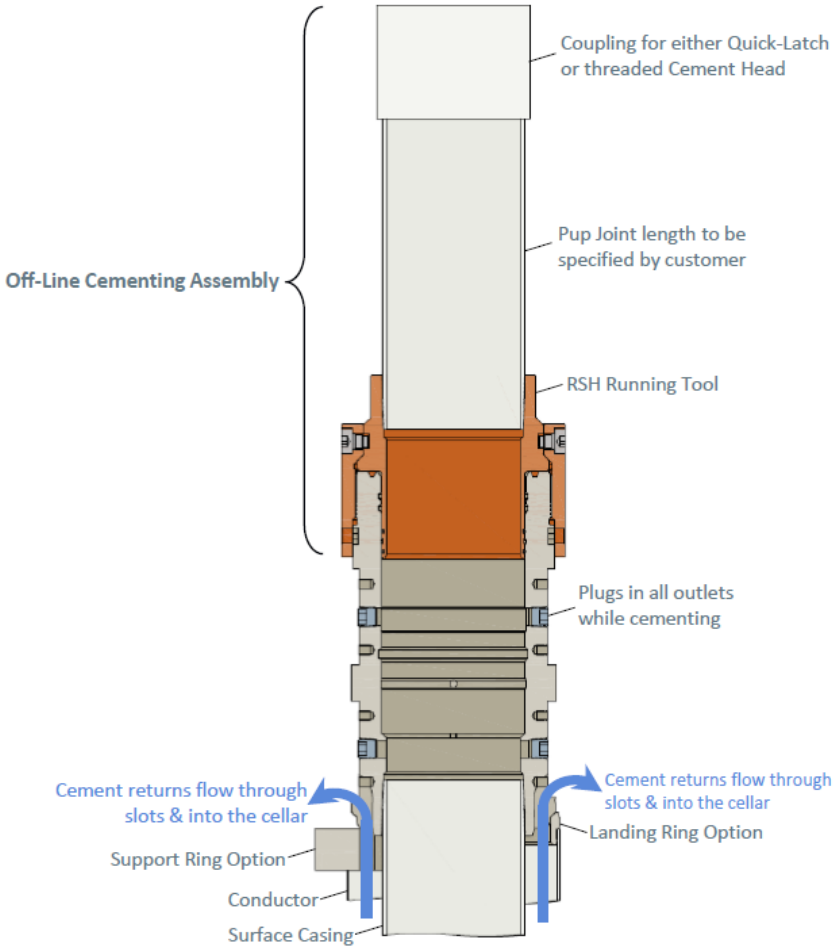

Figure 2. Vault 13 3/8” 5M offline cementing tool. Pressure rating limited by the lesser of 5M tool rating or the 13 3/8” pup joint and casing.

MEWBOURNE
OIL COMPANY

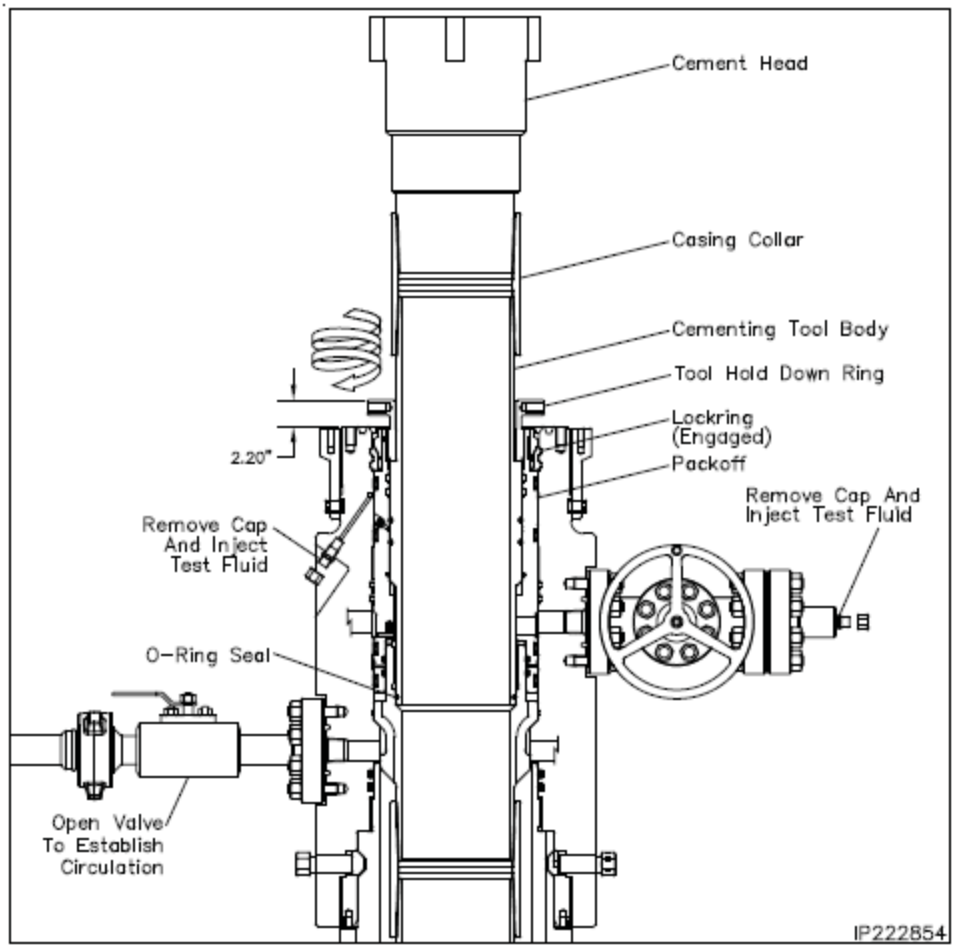

Figure 3. Cactus 9 5/8" 5M offline cementing tool. Pressure rating limited by the lesser of 5M tool rating or the 9 5/8" pup joint and casing.

MEWBOURNE
OIL COMPANY

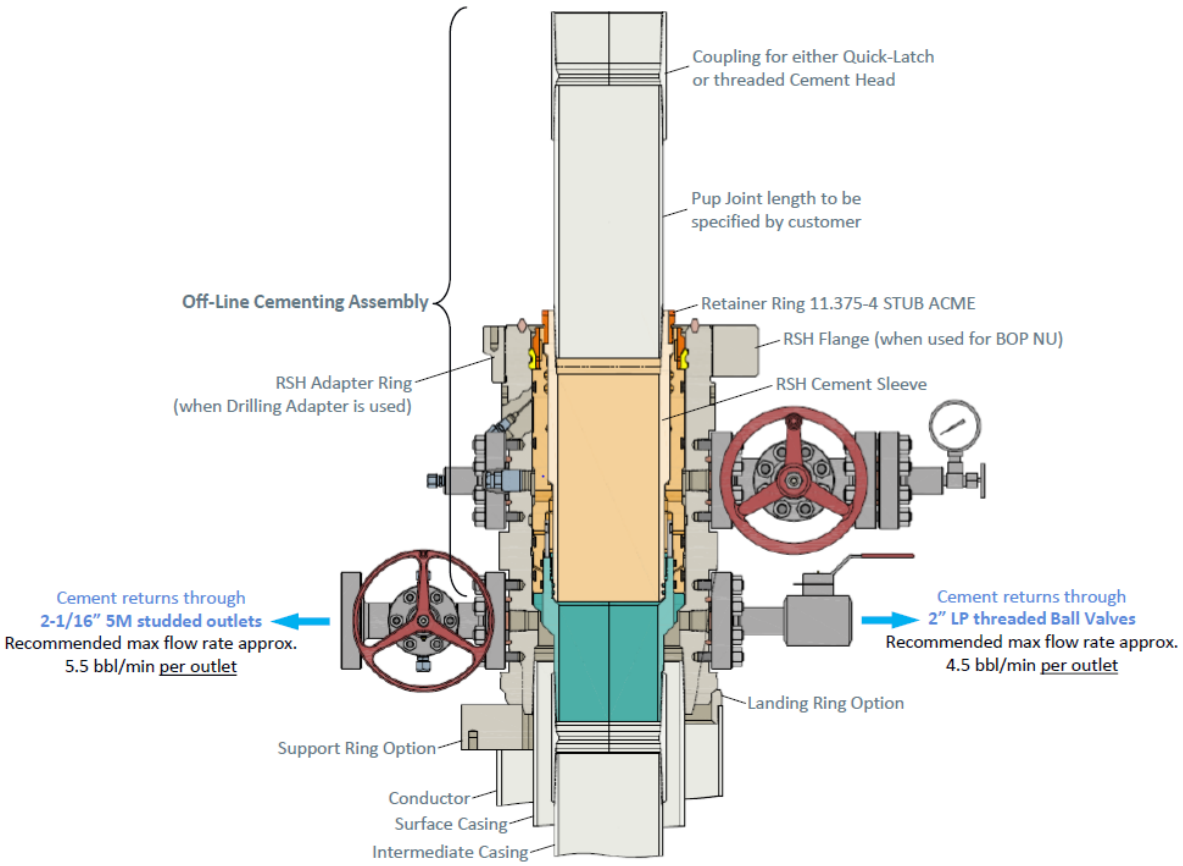

Figure 4. Vault 9 5/8" 5M offline cementing tool. Pressure rating limited by the lesser of 5M tool rating or the 9 5/8" pup joint and casing.

MEWBOURNE
OIL COMPANY

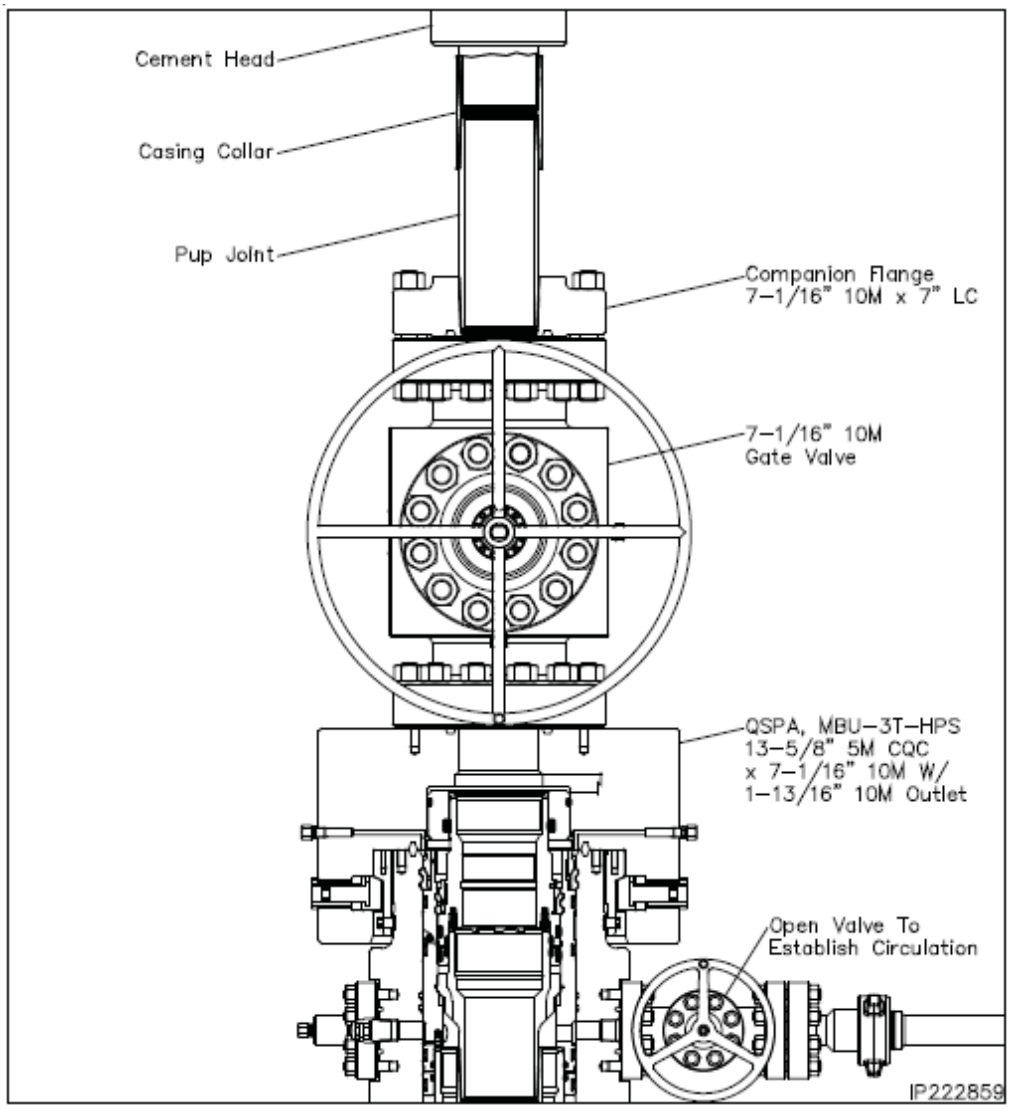

Figure 5. Cactus 7” 5M offline cementing tool. Pressure rating limited by the lesser of 5M tool rating or the 7” pup joint and casing.

MEWBOURNE
OIL COMPANY

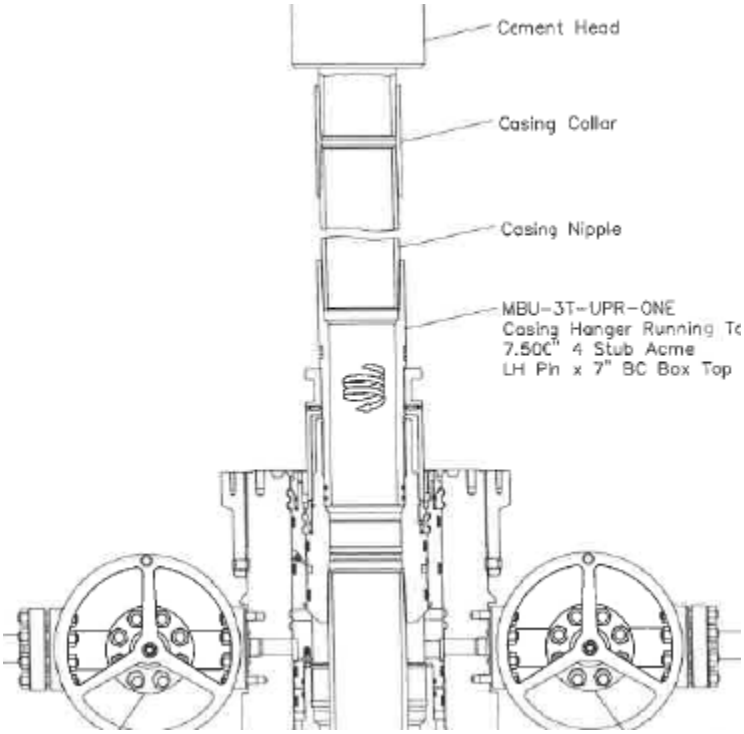

Figure 6. Cactus 7” 5M offline cementing tool. Pressure rating limited by the lesser of 5M tool rating or the 7” pup joint and casing.

MEWBOURNE
OIL COMPANY

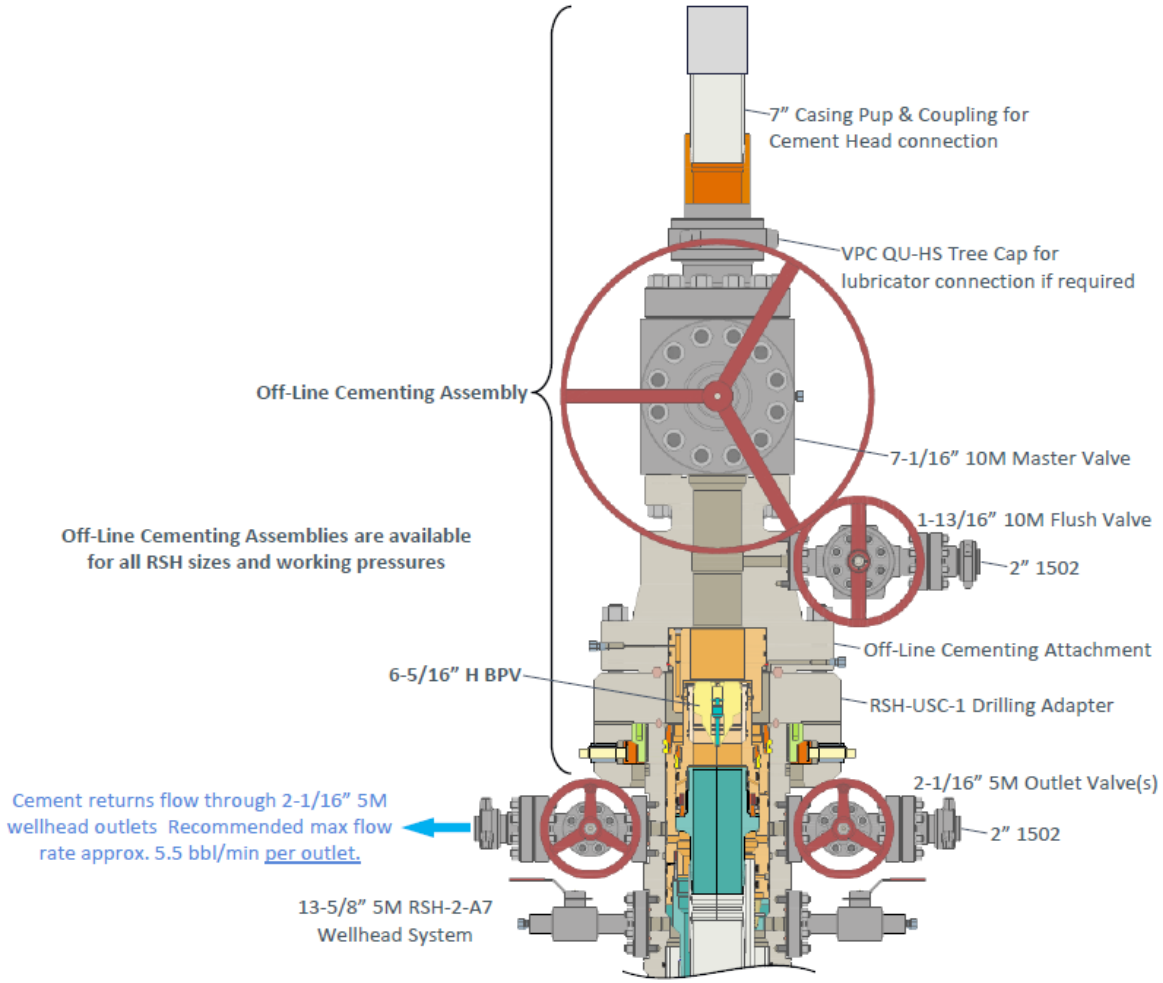

Figure 7. Vault 7" 5M offline cementing tool. Pressure rating limited by the lesser of 5M tool rating or the 7" pup joint and casing.

MEWBOURNE
OIL COMPANY

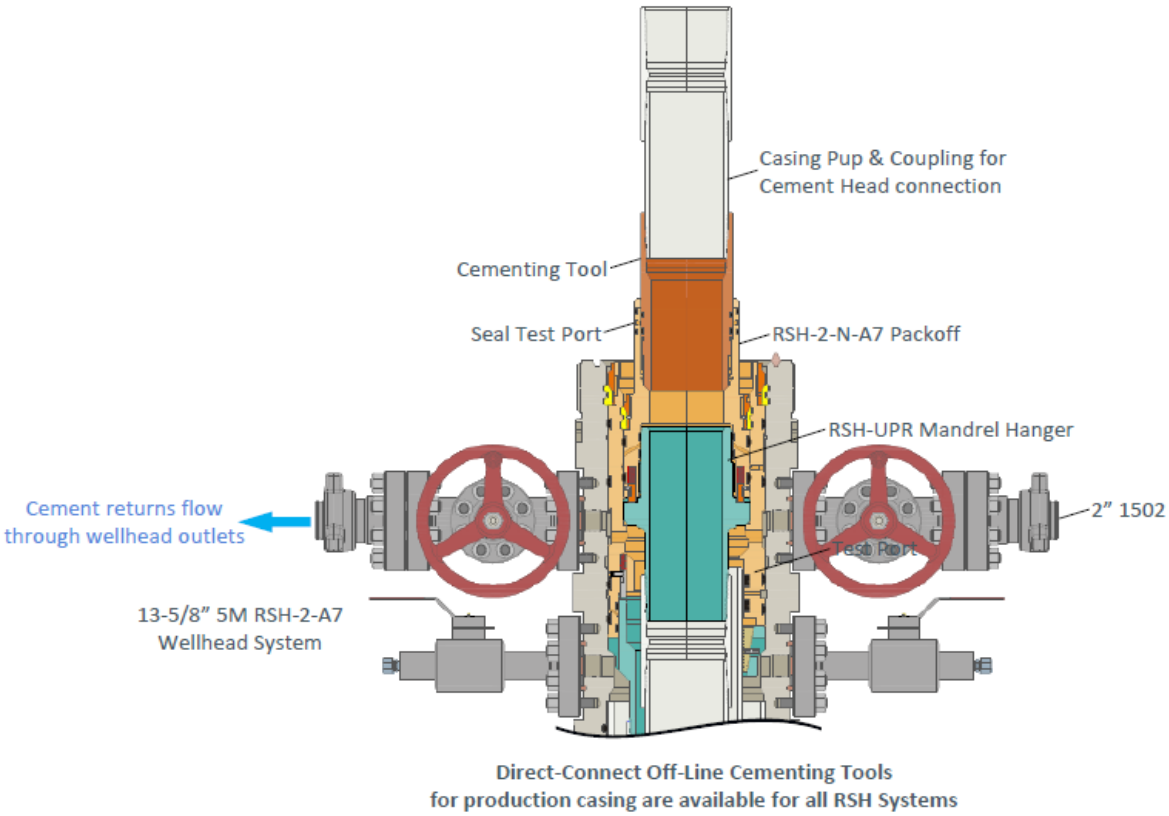

Figure 8. Vault 7" 5M offline cementing tool. Pressure rating limited by the lesser of 5M tool rating or the 7" pup joint and casing.

MEWBOURNE
OIL COMPANY

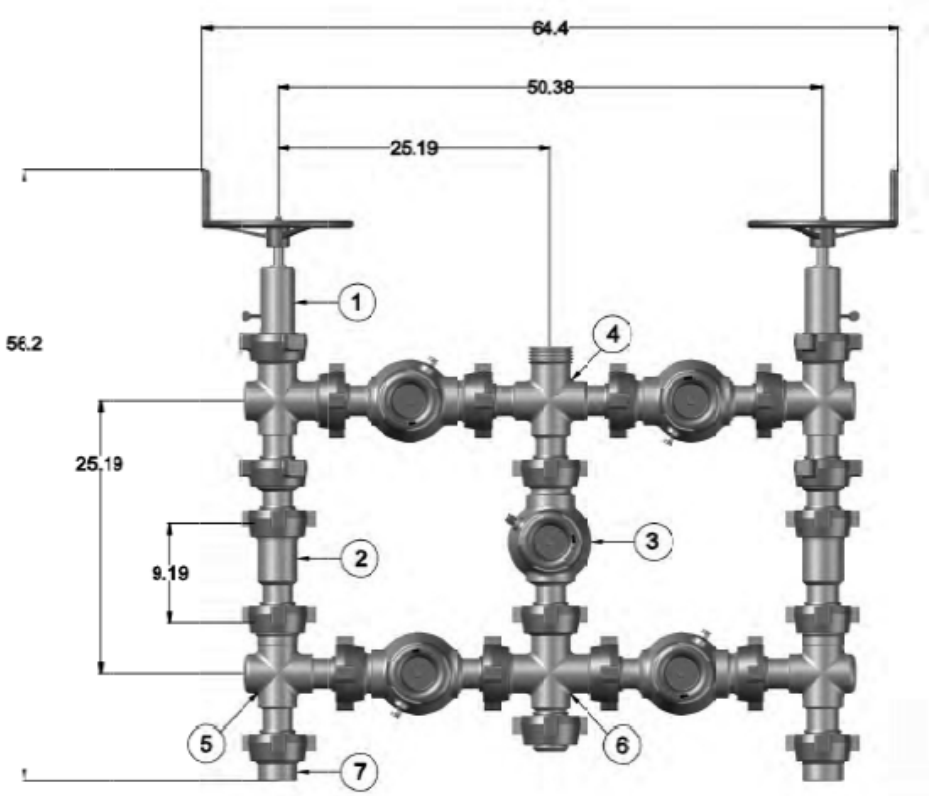

Figure 9. Five valve 15k choke manifold.

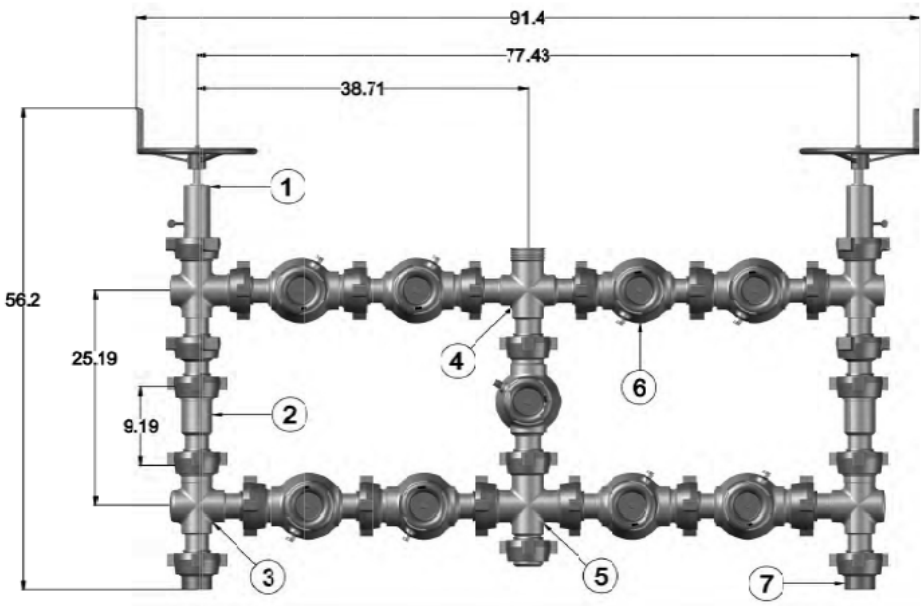

Figure 10. Nine valve 15k choke manifold.

Survey Point	Northing	Easting	AutoCAD Points
A	461584.9	613171	Point 613170.7,461584.9
B	464230.5	613157	Point 613156.6,464230.5
C	466881.6	613143	Point 613142.8,466881.6
D	466898.7	615806	Point 615806.4,466898.7
E	466918	618471	Point 618471.2,466918
F	461626.4	618520	Point 618520.2,461626.4
G			Point ,
H			Point ,
I			Point ,
J			Point ,
K			Point ,
L			Point ,
M			Point ,
N			Point ,
O			Point ,
P			Point ,
Q			Point ,
R			Point ,
S			Point ,
T			Point ,
U			Point ,
V			Point ,
W			Point ,
X			Point ,
Y			Point ,
Z			Point ,
Workspace			
SHL	461820.8	615858	Point 615858.291527,461820.755613
BHL	466785.9	613817	Point 613816.59876,466785.857231
KOP	461117	613833	Point 613833.201745,461117.026377
FTP	461690	613830	Point 613830.147945,461690.
LP	461690	613830	Point 613830.147945,461690.018998
PPP2			Point ,
PPP3			Point ,
PPP4			Point ,
PPP5			Point ,
PPP6			Point ,
PPP7			Point ,

Well Name		THOR 28 FEE	522H
Sec #, T#S, R#E	1.00 Mile	Sec 28, T23S, R28E	
Csg Assumptions	Y/N	Casing Design	
Capitan	N		
Captian/4String	N		
Critical Karst	N		
High Karst	N		
SOPA Only	N		
3String/KPLA/SOPA	N		
4String/KPLA/SOPA	N	13.375-9.625-7	

☑ If LTP = FTP Then Check ☑ Reformat to Original

THOR 28 FEE 522H
Mewbourne Oil Company, THOR 28 FEE 522H
Sec 28, T23S, R28E
SHL: 215' FSL & 2660' FEL (Sec 28)
BHL: 100' FNL & 660' FWL (Sec 28)

		Actual		N/S															GL	KB
																			3083	3111
	Point	Northing	Easting	N/S Offset	E/W offset	Calls	Leases	UL	Section	Township	Range	Feet	N/S	Feet	E/W	County	Lat	Long	TVD	MD
1	SHL	461820.8	615858.3	0.00		SHL: 215' FSL & 2660' FEL (Sec 28)	FEE	N	Sec 28	23S	28E	215'	FSL	2660'	FEL	Eddy	32.26939	-104.0922271	0	0
2	KOP	461117.0	613833.2	-703.73		KOP: 473' FNL & 660' FWL (Sec 33)	FEE	D	Sec 33	23S	28E	473'	FNL	660'	FWL	Eddy	32.2674677	-104.0987841	7547	7889
3	FTP	461690.0	613830.1	-130.74		FTP: 100' FSL & 660' FWL (Sec 28)	FEE	M	Sec 28	23S	28E	100'	FSL	660'	FWL	Eddy	32.269043	-104.0987854	8120	8789
3	LP	461690.0	613830.1	-130.74		LP: 100' FSL & 660' FWL (Sec 28)	FEE	M	Sec 28	23S	28E	100'	FSL	660'	FWL	Eddy	32.269043	-104.0987854	8120	8789
4	PPP2					PPP2: ' & ' (Sec)														
5	PPP3					PPP3: ' & ' (Sec)														
6	PPP4					PPP4: ' & ' (Sec)														
	PPP5					PPP5: ' & ' (Sec)														
	PPP6					PPP6: ' & ' (Sec)														
	PPP7					PPP7: ' & ' (Sec)														
	PPP8					PPP8: ' & ' (Sec)														
	PPP9					PPP9: ' & ' (Sec)														
	PPP10					PPP10: ' & ' (Sec)														
	PPP11					PPP11: ' & ' (Sec)														
	PPP12					PPP12: ' & ' (Sec)														
7	BHL	466785.9	613816.6	4965.10		BHL: 100' FNL & 660' FWL (Sec 28)	FEE	D	Sec 28	23S	28E	100'	FNL	660'	FWL	Eddy	32.2830508	-104.0987977	8120	13885

HardLines		Paste Hardlines into Gray Square. Make sure you format cells as "Text to Column" - "Delimtted" - "Space" - "other ="
N	E	
466783.7	613486.6	
466788.0	614152.0	
461692.7	614177.6	
461687.5	613500.2	
1 466783.7	613486.6	

Sec 28	N	E		N	E
A	461584.9	613171			
B	464230.5	613157			
C	466881.6	613143			
D	466898.7	615806			
E	466918	618471			
F	461626.4	618520			
A	461584.9	613171			

	N	E		N	E

Formation	Est. Top (TVD)	Mineral Resources
Rustler		
Castile		
Salt Top		
Salt Base		
Yates		
Seven Rivers		
Queen		
Capitan		
Grayburg		
San Andres		
Glorietta		
Yeso		
Delaware (Lamar)		
Bell Canyon		
Cherry Canyon		
Manzanita Marker		
Basal Brushy Canyon		
Bone Spring		
1st Bone Spring		
2nd Bone Spring		
3rd Bone Spring		
Wolfcamp		

Target
Y

SHL, KOP, FTP, LP, PPP's, BHL

Handle

N/S
E/W

String	Hole Size	Casing	Depth	Mud Wt	Mud Type	KOP	7889	5M BOP	Safety Factor	
Surface	26.00 in	20.0 in			Fresh Water	TOL MD	7639	5067 psi/BHL	Collapse	1.125
Surface	17.50 in	13.375 in	370	10	Fresh Water	TOL TVD	7298	164 F	Burst	1.0
Int	12.25 in	9.625 in	2530	10.2	Brine	7" MD	7839	3281 psi/SHL	Tension	1.80
Production	8.750 in	7.000 in	-	9	Cut-Brine	7" TVD	7497			
Liner	6.125 in	4.50 in	-	12	OBM	EOL MD	13885	N	Use Corrosion Res. 7" Csg	
						EOL TVD	8120			
						Deepest	8120			

	Interpolator					
	MD		TVD		Actual MD	Interpolated TVD
TOL	MD1	7600	TVD1	7258.9	7639	7297.9
	MD2	7700	TVD2	7358.9		
7"	MD1	7800	TVD1	7458.4	7839	7497.4
	MD2	7888.6	TVD2	7547		

17.50	0'	0'	370'	370'	13.375	48	H40	STC	4.00	8.99	18.13	30.46	770	1730	322000	541000	370'	370'	17760'
12.25	0'	0'	2530'	2530'	9.625	36	J55	LTC	1.51	2.62	4.97	6.19	2020	3520	453000	564000	2530'	2530'	91080'
8.750	0'	0'	7839'	7497'	7	26	P110	LTC	1.78	2.84	3.40	4.07	6230	9950	693000	830000	7839'	7839'	203814'
6.125	7639'	7298'	13885'	8120'	4.5	13.5	P110	LTC	2.11	2.45	4.01	5.00	10670	12410	338000	422000	6246'	6246'	84321'

Casing Program Design A

String	Hole Size	Top MD	Top TVD	Bot MD	Bot TVD	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension	
Surface	17.500 in	0'	0'	370'	370'	13.375	48.00	H40	STC	4.00	8.99	18.13	30.46	1
Int	12.250 in	0'	0'	2530'	2530'	9.625	36.00	J55	LTC	1.51	2.62	4.97	6.19	1
Production	8.750 in	0'	0'	7839'	7497'	7.000	26.00	P110	LTC	1.78	2.84	3.40	4.07	1
Liner	6.125 in	7639'	7298'	13885'	8120'	4.500	13.50	P110	LTC	2.11	2.45	4.01	5.00	1
							BLM Minimum Safety Factors			**1.125**	**1.0**	**1.6 Dry**	**1.6 Dry**	
												1.8 Wet	**1.8 Wet**	

1316'	0	4.00	8.99	18.13
3385'	0	1.51	2.62	4.97
11833'	0	1.78	2.84	3.40
15199'	0	2.11	2.45	4.01

30.46
6.19
4.07
5.00

SURFACE - 20"			SURFACE OR INTER	
CSG SET @	0	FT	CSG SET @	370
Mud	0	0 psi	Mud	10

HOLE SIZE	DESCRIPTION	INTERVAL	
		FROM	TO
26	20" 94# H40 STC	0	0
17.5	13.375" 48# H40 STC	0	370
12.25	9.625" 36# J55 LTC	0	2530
8.75	7" 26# P110 LTC	0	7839
6.125	4.5" 13.5# P110 LTC	7639	13885

CEMENT	OH FACTOR (FT^3/FT)	CSG FACTOR (FT^3/FT)	OH VOLUME (FT^3)	CSG VOLUME (FT^3)
20.0 in	1.5053	-	0	-
13.375 in	0.695	1.019	257	0
9.625 in	0.3132	0.3765	676	139
7 in	0.1503	0.1668	798	33
4.5 in	0.0942	0.1044	569	21

Cement Program

Casing		# Sacks	Wt. lb/gal	Yield $ft^3/sack$
13.375 in	LEAD	120	12.5	2.12
	TAIL	200	14.8	1.34
9.625 in	LEAD	340	12.5	2.12

9.625 in	TAIL	200	14.8	1.34
7 in	LEAD	270	12.5	2.12
	TAIL	400	15.6	1.18
4.5 in	LEAD	400	13.5	1.85

MEDIATE - 13 3/8"	INTERMEDIATE - 9 5/8"			PRODUCTIO	
FT	CSG SET @	2530	FT	CSG SET @	7839
192 psi	Mud	10.2	1342 psi	CSG SET @	7497
	DV TOOL @		MD	DV TOOL @	
				Mud	9

CSG WEIGHT (#/FT)	OD	ID
94	20.000	19.124
48	13.375	12.715
36	9.625	8.921
26	7.000	6.276
13.5	4.500	3.920

Cement Design					
EXCESS	VOLUME REQ. (FT^3)	CMT	# OF SKS REQ.	ROUND UP	YEILD (FT^3/SK)
100%	0	LEAD	0	0	2.12
		TAIL	200	200	1.34
100%	514	LEAD	116	120	2.12
		TAIL	200	200	1.34
25%	985	LEAD	338	340	2.12
		TAIL	200	200	1.34
9 5/8" DV Tool					
25%	1031	LEAD	264	270	2.12
		TAIL	400	400	1.18
7" DV tool					
25%	733	-	396	400	1.85

TOC/BOC	Volume ft^3	% Excess	Slurry Description
0' - 182'	260	100%	Class C: Salt, Gel, Extender,
182' - 370'	268		Class C: Retarder
0' - 1851'	730	25%	Class C: Salt, Gel, Extender,

1851' - 2530'	268	25%	Class C: Retarder
2330' - 5367'	580	25%	Class C: Salt, Gel, Extender, Defoamer
5367' - 7839'	472		Class H: Retarder, Fluid Loss, D
7639' - 13885'	740	25%	Class H: Salt, Gel, Fluid Loss, D Dispersant, Defoamer, Anti-settl

N	LATERAL			Prod Csg Cmnt Depth Into Int	
MD	TOL @	7639	MD	7"-9.625" Annular Depth	200
TVD	EOL @	13885	MD	7" Cmt Depth	2330
MD	EOL @	8120	TVD		
3509 psi	Mud Wt	12	5067 psi/BHL		
			164 F		
			3281 psi/SHL	5M BOP	

WEIGHT (PPG)	VOLUME REQ (FT^3)	ROUND UP VOLUME	BOL/TOT
12.5	0	0	0'
14.8	268	268	
12.5	246	260	182'
14.8	268	268	
12.5	717	730	1851'
14.8	268	268	
			0'
12.5	559	580	5367'
15.6	472	472	
			0'
13.5	733	740	

	Class
LCM	C
	C
LCM	C

	C
LCM,	C
Defoamer	H
Retarder, ing Agent	H

*********Press Hide if 3 String Potash Design**

Mewbourne Oil Company

THOR 28 FEE 522H

SHL: 215' FSL & 2660' FEL (Sec 28)

BHL: 100' FNL & 660' FWL (Sec 28)

Casing Type	Fluid Type	Hole Size	Casing Descripion	Casing Weight	Top MD	Setting Depth	Sacks Cement	Top of Cement
Surface	Fresh Water	17.5	13.375" 48# H40 STC	48#	0'	370'	320	0'
Intermediate	Brine	12.25	9.625" 36# J55 LTC	36#	0'	2530'	540	0'
Production	Cut-Brine	8.75	7" 26# P110 LTC	26#	0'	7839'	670	2330'
Liner	OBM	6.125	4.5" 13.5# P110 LTC	13.5#	7639'	13885'	400	7690'

Mewbourne Oil Company, THOR 28 FEE 522H
Sec 28, T23S, R28E
SHL: 215' FSL 2660' FEL (Sec 28)
BHL: 100' FNL 660' FWL (Sec 28)

Operator Name:	Property Name:	Well Number
Mewbourne Oil Company	THOR 28 FEE	522

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
A	33	23	28	-	473'	FNL	660'	FWL	Eddy
Latitude					Longitude				NAD
32.2674677					-104.0987841				83

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
D	28	23	28	-	100'	FSL	660'	FWL	Eddy
Latitude					Longitude				NAD
32.269043					-104.0987854				83

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
C	28	23	28	-	100'	FNL	660'	FWL	Eddy
Latitude					Longitude				NAD
32.2830508					-104.0987977				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 #
30-015-46272

Operator Name:	Property Name:	Well Number
Mewbourne Oil Company	Thor 28 W0MD Fee	1H

Mewbourne Oil Company, Motley 6/7 Fed Com 854H
Sec 6, T24S, R28E
SHL: 300' FNL 1445' FWL (Sec 6)
BHL: 2328' FNL 1980' FWL (Sec 7)

Casing Program Design A

String	Hole Size	Top MD	Top TVD	Bot MD	Bot TVD	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
Surface	17.500 in	0'	0'	370'	370'	13.375	48.00	H40	STC	4.00	8.99	18.13	30.46
Int	12.250 in	0'	0'	2530'	2530'	9.625	36.00	J55	LTC	1.51	2.62	4.97	6.19
Production	8.750 in	0'	0'	7839'	7497'	7.000	26.00	P110	LTC	1.78	2.84	3.40	4.07
Liner	6.125 in	7639'	7298'	13885'	8120'	4.500	13.50	P110	LTC	2.11	2.45	4.01	5.00
							BLM Minimum Safety Factors			**1.125**	**1.0**	**1.6 Dry**	**1.6 Dry**
												1.8 Wet	**1.8 Wet**

Cement Program

Casing		# Sacks	Wt. lb/gal	Yield ft^3/sack	TOC/BOC	Volume ft^3	% Excess	Slurry Description
13.375 in	LEAD	120	12.5	2.12	0' - 182'	260	100%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	182' - 370'	268		Class C: Retarder
9.625 in	LEAD	340	12.5	2.12	0' - 1851'	730	25%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	1851' - 2530'	268		Class C: Retarder
7 in	LEAD	270	12.5	2.12	2330' - 5367'	580	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
	TAIL	400	15.6	1.18	5367' - 7839'	472		Class H: Retarder, Fluid Loss, Defoamer
4.5 in	LEAD	400	13.5	1.85	7639' - 13885'	740	25%	Class H: Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti-settling Agent

Design A - Mud Program

Depth	Mud Wt	Mud Type
0' - 370'	10	Fresh Water
370' - 2530'	10.2	Brine
2530' - 7839'	9	Cut-Brine
7839' - 13885'	12	OBM

Geology

Formation	Est. Top (TVD)	Mineral Resources	Formation	Est. Top (TVD)	Mineral Resources
Rustler			Yeso		
Castile			Delaware (Lamar)		
Salt Top			Bell Canyon		
Salt Base			Cherry Canyon		
Yates			Manzanita Marker		
Seven Rivers			Basal Brushy Canyon		
Queen			Bone Spring		
Capitan			1st Bone Spring		
Grayburg			2nd Bone Spring		
San Andres			3rd Bone Spring		
Glorieta			Wolfcamp		

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

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

Mewbourne Oil Company, Motley 6/7 Fed Com 854H
Sec 6, T24S, R28E
SHL: 300' FNL 1445' FWL (Sec 6)
BHL: 2328' FNL 1980' FWL (Sec 7)

Design B - Casing Program

Hole Size	From	To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension

Design B - Cement Program

Casing		# Sacks	Wt. lb/gal	Yield ft^3/sack	TOC/BOC	Volume ft^3	% Excess	Slurry Description
13.375 in	LEAD	210	12.5	2.12	0' - 313'	450	100%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	313' - 500'	268		Class C: Retarder
9.625 in	LEAD	300	12.5	2.12	0' - 1621'	640	25%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	1621' - 2300'	268		Class C: Retarder
1st Stg 7 in	LEAD	380	12.5	2.12	3685' - 7928'	810	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
	TAIL	400	15.6	1.18	7928' - 10400'	472		Class H: Retarder, Fluid Loss, Defoamer
7" DV Tool @ 3685'								
2nd Stg 7 in	LEAD	80	12.5	2.12	2100' - 2986'	170	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
	TAIL	100	14.8	1.34	2986' - 3685'	134		Class C: Retarder, Fluid Loss, Defoamer
4.5 in	LEAD	510	13.5	1.85	9682' - 17635'	950	25%	Class H: Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti-settling Agent

Design B - Mud Program

Depth	Mud Wt	Mud Type
0' - 370'	10	Fresh Water
370' - 2530'	10.2	Brine
2530' - 0'	9	Cut-Brine
0' - 13885'	12	OBM

Geology

Formation	Est. Top (TVD)	Mineral Resources	Formation	Est. Top (TVD)	Mineral Resources
Rustler			Yeso		
Castile			Delaware (Lamar)		
Salt Top			Bell Canyon		
Salt Base			Cherry Canyon		
Yates			Manzanita Marker		
Seven Rivers			Basal Brushy Canyon		
Queen			Bone Spring		
Capitan			1st Bone Spring		
Grayburg			2nd Bone Spring		
San Andres			3rd Bone Spring		
Glorieta			Wolfcamp		

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

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

Mewbourne Oil Company, Samsonite 4/3 Fed Com 521H
Sec 5, T18S, R29E
SHL: 1310' FNL 275' FEL (Sec 5)
BHL: 660' FNL 2543' FWL (Sec 3)

Well Location **GL: 3083'**

Point	Calls	Leases	UL	Section	Township	Range	County	Lat	Long	TVD	MD
SHL	SHL: 215' FSL & 2660' FEL (Sec 28)	FEE	N	28	23S	28E	Eddy	32.2693900	104.0922271	0'	0'
KOP	KOP: 473' FNL & 660' FWL (Sec 33)	FEE	D	33	23S	28E	Eddy	32.2674677	104.0987841	7,547'	7,889'
FTP	FTP: 100' FSL & 660' FWL (Sec 28)	FEE	M	28	23S	28E	Eddy	32.2690430	104.0987854	8,120'	8,789'
PPP2	PPP2: ' & ' (Sec)	0	0	0	0S	0E	0		0.0000000	0'	0'
PPP3	PPP3: ' & ' (Sec)	0	0	0	0S	0E	0		0.0000000	0'	0'
PPP4	PPP4: ' & ' (Sec)	0	0	0	0S	0E	0		0.0000000	0'	0'
BHL	BHL: 100' FNL & 660' FWL (Sec 28)	FEE	D	28	23S	28E	Eddy	32.2830508	104.0987977	8,120'	13,885'

GEOLOGY

Formation	Est. Top (TVD)	Lithology	Mineral Resources	Formation	Est. Top (TVD)	Lithology	Mineral Resources
Rustler				Yeso			
Castile				Delaware (Lamar)			
Salt Top				Bell Canyon			
Salt Base				Cherry Canyon			
Yates				Manzanita Marker			
Seven Rivers				Basal Brushy Canyon			
Queen				Bone Spring			
Capitan				1st Bone Spring			
Grayburg				**2nd Bone Spring**			
San Andres				3rd Bone Spring			
Glorietta				Wolfcamp			

Casing Program Design A

String	Hole Size, in	Top MD	Top TVD	Bot MD	Bot TVD	Csg. Size, in	Weight, lbs	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
Surface	17.500 in	0'	0'	370'	370'	13.375	48.00	H40	STC	4.00	8.99	18.13	30.46
Int	12.250 in	0'	0'	2530'	2530'	9.625	36.00	J55	LTC	1.51	2.62	4.97	6.19
Production	8.750 in	0'	0'	7839'	7497'	7.000	26.00	P110	LTC	1.78	2.84	3.40	4.07
Liner	6.125 in	7639'	7298'	13885'	8120'	4.500	13.50	P110	LTC	2.11	2.45	4.01	5.00
							BLM Minimum Safety Factors			**1.125**	**1.0**	**1.8 Wet**	**1.8 Wet**

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

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

Mewbourne Oil Company, Samsonite 4/3 Fed Com 521H
Sec 5, T18S, R29E
SHL: 1310' FNL 275' FEL (Sec 5)
BHL: 660' FNL 2543' FWL (Sec 3)

Design A - Cement Program

Csg. Size		# Sacks	Wt., lb/gal	Yield, ft^3/sack	TOC/BOC	Volume, ft^3	% Excess	Slurry Description
13.375 in	LEAD	120	12.5	2.12	0' - 182'	260	100%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	182' - 370'	268		Class C: Retarder
9.625 in	LEAD	340	12.5	2.12	0' - 1851'	730	25%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	1851' - 2530'	268		Class C: Retarder
7 in	LEAD	270	12.5	2.12	2330' - 5367'	580	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
	TAIL	400	15.6	1.18	5367' - 7839'	472		Class H: Retarder, Fluid Loss, Defoamer
4.5 in	LEAD	400	13.5	1.85	7639' - 13885'	740	25%	Class H: Salt, Gel, Fluid Loss, Retarder, Dispersant,

Pressure Control Equipment

BOP installed and tested before drilling hole, in:	Size, in	System Rated WP	Type		Tested to:	Rating Depth
12.25	13.375	3M	Annular	X	1500#	13,885'
		3M	Blind Ram	X	3000#	
			Pipe Ram	X		
			Double Ram			
			Other*			

*Specify if additional ram is utilized.

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

Variance Request: A variance is requested for the use of a variable choke line from the BOP to the choke manifold. See attached for hydrostatic test chart. Anchors are not required by manufacturer. Variance is requested to use a multi bowl wellhead. Variance is requested to perform break testing according to attached procedure.

Testing Procedure: BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per 43 CFR Part 3172 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.

Y	Formation integrity test will be performed per 43 CFR Part 3172. On Exploratory wells or 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. Will be tested in accordance with 43 CFR Part 3172.
N	Mewbourne Oil Company request a variance to use a 5000 psi annular BOP with a 10,000 psi BOP stack.

Mud Program

Depth (MD)	Mud Wt., lb/ga	Mud Type
0' - 370'	10	Fresh Water
370' - 2530'	10.2	Brine
2530' - 7839'	9	Cut-Brine
7839' - 13885'	12	OBM

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

What will be used to monitor the loss or gain of fluid?	Pason/PVT/Visual Monitoring

Mewbourne Oil Company, Samsonite 4/3 Fed Com 521H
Sec 5, T18S, R29E
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Logging and Testing Procedures

Logging, Coring and Testing.	
Y	Will run GR/CNL from KOP (7889') to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
N	No logs are planned based on well control or offset log information. Offset Well:
N	Coring? If yes, explain:

Open & Cased Hole Logs Run In the Well

☐	Capliper	☐	Cement Bond Log	☐	CNL/FDC
☐	Compensated Densilog	☑	**Compensated Neutron Log**	☐	Computer Generated Log
☐	Dip Meter Log	☐	Directional Survey	☐	Dual Induction/Microresistivity
☐	Dual Lateral Log/Microspherically Focused	☐	Electric Log	☐	Formation Density Compensated Log
☑	**Gamma Ray Log**	☑	**Measurement While Drilling**	☐	Mud Log/Geological Lithology Log
☐	Other	☐	Porosity-Resistivity Log	☐	Sidewall Neutron Log
☐	Sonic Log	☐	Spontaneous Potential Log	☐	Temperature Log

Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	5067 psi
BH Temperature	140
Abnormal Temp, Pressure, or Geologic Hazards	No

Mitigation measure for abnormal conditions. Describe. Lost circulation material/sweeps/mud scavengers in surface hole. Weighted mud for possible over-pressure in Wolfcamp formation.

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.

	H2S is present
X	H2S Plan attached

Mewbourne Oil Company, Samsonite 4/3 Fed Com 521H
Sec 5, T18S, R29E
SHL: 1310' FNL 275' FEL (Sec 5)
BHL: 660' FNL 2543' FWL (Sec 3)

Other facets of operation

Mewbourne Oil Company also requests approval to implement Design B as described below. BLM will be notified of elected design.

Offline Cementing Variance: Variance is request to perform offline cementing according to the attached procedure.

Design B - Casing Program

Hole Size	From	To	Csg. Size	Weight, lbs	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
17.5 in	0'	500'	13.375 in	48.0	H40	STC	3.53	7.92	13.42	22.54
12.25 in	0'	2300'	9.625 in	36.0	J55	LTC	1.88	3.27	5.47	6.81
8.75 in	0'	10400'	7.000 in	26.0	P110	LTC	1.17	1.88	2.56	3.07
6.125 in	9682'	17635'	4.500 in	13.5	P110	LTC	1.54	1.79	3.15	3.93
				BLM Minimum Safety Factors			**1.125**	**1.0**	**1.6 Dry**	**1.6 Dry**
									1.8 Wet	**1.8 Wet**

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

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

Design B - Cement Program

Csg. Size		# Sacks	Wt., lb/gal	Yield, ft^3/sack	TOC/BOC	Volume, ft^3	% Excess	Slurry Description
13.375 in	LEAD	210	12.5	2.12	0' - 313'	450	100%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	313' - 500'	268		Class C: Retarder
9.625 in	LEAD	300	12.5	2.12	0' - 1621'	640	25%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	1621' - 2300'	268		Class C: Retarder
1st Stg 7 in	LEAD	380	12.5	2.12	3685' - 7928'	810	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
	TAIL	400	15.6	1.18	7928' - 10400'	472		Class H: Retarder, Fluid Loss, Defoamer
7'' DV Tool @ 3685'								
2nd Stg 7 in	LEAD	80	12.5	2.12	2100' - 2986'	170	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
	TAIL	100	14.8	1.34	2986' - 3685'	134		Class C: Retarder, Fluid Loss, Defoamer
4.5 in	LEAD	510	13.5	1.85	9682' - 17635'	950	25%	Class H: Salt, Gel, Fluid Loss, Retarder, Dispersant,

Mewbourne Oil Company

Eddy County, New Mexico NAD 83
Thor 28 Fee #522H
Sec 28, T23S, R28E
SHL: 215' FSL & 2660' FEL (Sec 28)
BHL: 100' FNL & 660' FWL (Sec 28)

Plan: Design #1

Standard Planning Report

11 December, 2023

Planning Report

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Thor 28 Fee #522H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3111.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3111.0usft (Original Well Elev)
Site:	Thor 28 Fee #522H	**North Reference:**	Grid
Well:	Sec 28, T23S, R28E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 100' FNL & 660' FWL (Sec 28)		
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 Thor 28 Fee #522H

Site Position:		**Northing:**	461,820.80 usft	**Latitude:**	32.2693900
From:	Map	**Easting:**	615,858.30 usft	**Longitude:**	-104.0922271
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "		

Well Sec 28, T23S, R28E

Well Position	**+N/-S**	0.0 usft	**Northing:**	461,820.80 usft	**Latitude:**	32.2693900
	+E/-W	0.0 usft	**Easting:**	615,858.30 usft	**Longitude:**	-104.0922271
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	3,111.0 usft	**Ground Level:**	3,083.0 usft
Grid Convergence:		0.13 °				

Wellbore BHL: 100' FNL & 660' FWL (Sec 28)

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/31/2014	7.39	60.05	48,210.48056118

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	337.65

Plan Survey Tool Program **Date** 12/11/2023

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	0.0	Design #1 (BHL: 100' FNL & 660'		

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	

Planning Report

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Thor 28 Fee #522H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3111.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3111.0usft (Original Well Elev)
Site:	Thor 28 Fee #522H	**North Reference:**	Grid
Well:	Sec 28, T23S, R28E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 100' FNL & 660' FWL (Sec 28)		
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: 215' FSL & 2660' FEL (Sec 28)									
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
370.0	0.00	0.00	370.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.60	250.84	400.0	-0.1	-0.1	0.0	2.00	2.00	0.00
500.0	2.60	250.84	500.0	-1.0	-2.8	0.2	2.00	2.00	0.00
600.0	4.60	250.84	599.8	-3.0	-8.7	0.5	2.00	2.00	0.00
700.0	6.60	250.84	699.3	-6.2	-17.9	1.1	2.00	2.00	0.00
800.0	8.60	250.84	798.4	-10.6	-30.4	1.8	2.00	2.00	0.00
900.0	10.60	250.84	897.0	-16.0	-46.2	2.7	2.00	2.00	0.00
1,000.0	12.60	250.84	994.9	-22.6	-65.2	3.8	2.00	2.00	0.00
1,100.0	14.60	250.84	1,092.1	-30.4	-87.4	5.1	2.00	2.00	0.00
1,200.0	16.60	250.84	1,188.4	-39.2	-112.8	6.6	2.00	2.00	0.00
1,300.0	18.60	250.84	1,283.8	-49.1	-141.3	8.3	2.00	2.00	0.00
1,321.4	19.03	250.84	1,304.0	-51.4	-147.8	8.7	2.00	2.00	0.00
1,400.0	19.03	250.84	1,378.3	-59.8	-172.1	10.1	0.00	0.00	0.00
1,500.0	19.03	250.84	1,472.8	-70.5	-202.9	11.9	0.00	0.00	0.00
1,600.0	19.03	250.84	1,567.4	-81.2	-233.7	13.8	0.00	0.00	0.00
1,700.0	19.03	250.84	1,661.9	-91.9	-264.4	15.6	0.00	0.00	0.00
1,800.0	19.03	250.84	1,756.5	-102.6	-295.2	17.4	0.00	0.00	0.00
1,900.0	19.03	250.84	1,851.0	-113.3	-326.0	19.2	0.00	0.00	0.00
2,000.0	19.03	250.84	1,945.5	-124.0	-356.8	21.0	0.00	0.00	0.00
2,100.0	19.03	250.84	2,040.1	-134.7	-387.6	22.8	0.00	0.00	0.00
2,200.0	19.03	250.84	2,134.6	-145.4	-418.4	24.6	0.00	0.00	0.00
2,300.0	19.03	250.84	2,229.1	-156.1	-449.2	26.5	0.00	0.00	0.00
2,400.0	19.03	250.84	2,323.7	-166.8	-480.0	28.3	0.00	0.00	0.00
2,500.0	19.03	250.84	2,418.2	-177.5	-510.8	30.1	0.00	0.00	0.00
2,600.0	19.03	250.84	2,512.8	-188.2	-541.6	31.9	0.00	0.00	0.00
2,700.0	19.03	250.84	2,607.3	-198.9	-572.4	33.7	0.00	0.00	0.00
2,800.0	19.03	250.84	2,701.8	-209.6	-603.2	35.5	0.00	0.00	0.00
2,900.0	19.03	250.84	2,796.4	-220.3	-634.0	37.3	0.00	0.00	0.00
3,000.0	19.03	250.84	2,890.9	-231.0	-664.8	39.1	0.00	0.00	0.00
3,100.0	19.03	250.84	2,985.4	-241.7	-695.6	41.0	0.00	0.00	0.00
3,200.0	19.03	250.84	3,080.0	-252.4	-726.4	42.8	0.00	0.00	0.00
3,300.0	19.03	250.84	3,174.5	-263.1	-757.2	44.6	0.00	0.00	0.00
3,400.0	19.03	250.84	3,269.0	-273.8	-788.0	46.4	0.00	0.00	0.00
3,500.0	19.03	250.84	3,363.6	-284.5	-818.8	48.2	0.00	0.00	0.00
3,600.0	19.03	250.84	3,458.1	-295.3	-849.6	50.0	0.00	0.00	0.00
3,700.0	19.03	250.84	3,552.7	-306.0	-880.3	51.8	0.00	0.00	0.00
3,800.0	19.03	250.84	3,647.2	-316.7	-911.1	53.7	0.00	0.00	0.00
3,900.0	19.03	250.84	3,741.7	-327.4	-941.9	55.5	0.00	0.00	0.00
4,000.0	19.03	250.84	3,836.3	-338.1	-972.7	57.3	0.00	0.00	0.00
4,100.0	19.03	250.84	3,930.8	-348.8	-1,003.5	59.1	0.00	0.00	0.00
4,200.0	19.03	250.84	4,025.3	-359.5	-1,034.3	60.9	0.00	0.00	0.00
4,300.0	19.03	250.84	4,119.9	-370.2	-1,065.1	62.7	0.00	0.00	0.00
4,400.0	19.03	250.84	4,214.4	-380.9	-1,095.9	64.5	0.00	0.00	0.00
4,500.0	19.03	250.84	4,308.9	-391.6	-1,126.7	66.3	0.00	0.00	0.00
4,600.0	19.03	250.84	4,403.5	-402.3	-1,157.5	68.2	0.00	0.00	0.00
4,700.0	19.03	250.84	4,498.0	-413.0	-1,188.3	70.0	0.00	0.00	0.00
4,800.0	19.03	250.84	4,592.6	-423.7	-1,219.1	71.8	0.00	0.00	0.00
4,900.0	19.03	250.84	4,687.1	-434.4	-1,249.9	73.6	0.00	0.00	0.00
5,000.0	19.03	250.84	4,781.6	-445.1	-1,280.7	75.4	0.00	0.00	0.00

Planning Report

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Thor 28 Fee #522H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3111.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3111.0usft (Original Well Elev)
Site:	Thor 28 Fee #522H	**North Reference:**	Grid
Well:	Sec 28, T23S, R28E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 100' FNL & 660' FWL (Sec 28)		
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	19.03	250.84	4,876.2	-455.8	-1,311.5	77.2	0.00	0.00	0.00
5,200.0	19.03	250.84	4,970.7	-466.5	-1,342.3	79.0	0.00	0.00	0.00
5,300.0	19.03	250.84	5,065.2	-477.2	-1,373.1	80.9	0.00	0.00	0.00
5,400.0	19.03	250.84	5,159.8	-487.9	-1,403.9	82.7	0.00	0.00	0.00
5,500.0	19.03	250.84	5,254.3	-498.6	-1,434.7	84.5	0.00	0.00	0.00
5,600.0	19.03	250.84	5,348.8	-509.3	-1,465.4	86.3	0.00	0.00	0.00
5,700.0	19.03	250.84	5,443.4	-520.0	-1,496.2	88.1	0.00	0.00	0.00
5,800.0	19.03	250.84	5,537.9	-530.7	-1,527.0	89.9	0.00	0.00	0.00
5,900.0	19.03	250.84	5,632.5	-541.4	-1,557.8	91.7	0.00	0.00	0.00
6,000.0	19.03	250.84	5,727.0	-552.1	-1,588.6	93.6	0.00	0.00	0.00
6,100.0	19.03	250.84	5,821.5	-562.8	-1,619.4	95.4	0.00	0.00	0.00
6,200.0	19.03	250.84	5,916.1	-573.5	-1,650.2	97.2	0.00	0.00	0.00
6,300.0	19.03	250.84	6,010.6	-584.2	-1,681.0	99.0	0.00	0.00	0.00
6,400.0	19.03	250.84	6,105.1	-594.9	-1,711.8	100.8	0.00	0.00	0.00
6,500.0	19.03	250.84	6,199.7	-605.6	-1,742.6	102.6	0.00	0.00	0.00
6,600.0	19.03	250.84	6,294.2	-616.3	-1,773.4	104.4	0.00	0.00	0.00
6,700.0	19.03	250.84	6,388.7	-627.0	-1,804.2	106.2	0.00	0.00	0.00
6,800.0	19.03	250.84	6,483.3	-637.7	-1,835.0	108.1	0.00	0.00	0.00
6,900.0	19.03	250.84	6,577.8	-648.4	-1,865.8	109.9	0.00	0.00	0.00
6,937.3	19.03	250.84	6,613.0	-652.4	-1,877.3	110.5	0.00	0.00	0.00
7,000.0	17.77	250.84	6,672.6	-658.9	-1,896.0	111.6	2.00	-2.00	0.00
7,100.0	15.77	250.84	6,768.3	-668.4	-1,923.2	113.3	2.00	-2.00	0.00
7,200.0	13.77	250.84	6,865.0	-676.8	-1,947.3	114.7	2.00	-2.00	0.00
7,300.0	11.77	250.84	6,962.5	-684.0	-1,968.2	115.9	2.00	-2.00	0.00
7,400.0	9.77	250.84	7,060.8	-690.2	-1,985.8	116.9	2.00	-2.00	0.00
7,500.0	7.77	250.84	7,159.6	-695.2	-2,000.2	117.8	2.00	-2.00	0.00
7,600.0	5.77	250.84	7,258.9	-699.0	-2,011.4	118.4	2.00	-2.00	0.00
7,700.0	3.77	250.84	7,358.5	-701.8	-2,019.2	118.9	2.00	-2.00	0.00
7,800.0	1.77	250.84	7,458.4	-703.4	-2,023.8	119.2	2.00	-2.00	0.00
7,888.6	0.00	0.00	7,547.0	-703.8	-2,025.1	119.3	2.00	-2.00	0.00
KOP: 473' FNL & 660' FWL (Sec 33)									
7,900.0	1.14	359.83	7,558.4	-703.7	-2,025.1	119.4	10.00	10.00	0.00
7,950.0	6.14	359.83	7,608.3	-700.5	-2,025.1	122.3	10.00	10.00	0.00
8,000.0	11.14	359.83	7,657.7	-693.0	-2,025.1	129.2	10.00	10.00	0.00
8,050.0	16.14	359.83	7,706.3	-681.2	-2,025.2	140.2	10.00	10.00	0.00
8,100.0	21.14	359.83	7,753.6	-665.2	-2,025.2	155.0	10.00	10.00	0.00
8,150.0	26.14	359.83	7,799.4	-645.2	-2,025.3	173.5	10.00	10.00	0.00
8,200.0	31.14	359.83	7,843.3	-621.3	-2,025.3	195.7	10.00	10.00	0.00
8,250.0	36.14	359.83	7,884.9	-593.6	-2,025.4	221.3	10.00	10.00	0.00
8,300.0	41.14	359.83	7,923.9	-562.4	-2,025.5	250.2	10.00	10.00	0.00
8,350.0	46.14	359.83	7,960.1	-527.9	-2,025.6	282.2	10.00	10.00	0.00
8,400.0	51.14	359.83	7,993.2	-490.3	-2,025.7	316.9	10.00	10.00	0.00
8,450.0	56.13	359.83	8,022.8	-450.1	-2,025.8	354.2	10.00	10.00	0.00
8,500.0	61.13	359.83	8,048.8	-407.4	-2,026.0	393.7	10.00	10.00	0.00
8,550.0	66.13	359.83	8,071.0	-362.6	-2,026.1	435.2	10.00	10.00	0.00
8,600.0	71.13	359.83	8,089.2	-316.1	-2,026.2	478.3	10.00	10.00	0.00
8,650.0	76.13	359.83	8,103.3	-268.1	-2,026.4	522.7	10.00	10.00	0.00
8,700.0	81.13	359.83	8,113.2	-219.1	-2,026.5	568.0	10.00	10.00	0.00
8,750.0	86.13	359.83	8,118.7	-169.4	-2,026.7	614.0	10.00	10.00	0.00
8,788.7	90.00	359.83	8,120.0	-130.8	-2,026.8	649.8	10.00	10.00	0.00
8,788.7	90.00	359.83	8,120.0	-130.7	-2,026.8	649.9	0.00	0.00	0.00
FTP/LP: 100' FSL & 660' FWL (Sec 28)									
8,800.0	90.00	359.83	8,120.0	-119.5	-2,026.8	660.3	0.00	0.00	0.00
8,900.0	90.00	359.83	8,120.0	-19.5	-2,027.1	752.9	0.00	0.00	0.00

Planning Report

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Thor 28 Fee #522H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3111.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3111.0usft (Original Well Elev)
Site:	Thor 28 Fee #522H	**North Reference:**	Grid
Well:	Sec 28, T23S, R28E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 100' FNL & 660' FWL (Sec 28)		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,000.0	90.00	359.83	8,120.0	80.5	-2,027.4	845.5	0.00	0.00	0.00
9,100.0	90.00	359.83	8,120.0	180.5	-2,027.7	938.1	0.00	0.00	0.00
9,200.0	90.00	359.83	8,120.0	280.5	-2,028.0	1,030.7	0.00	0.00	0.00
9,300.0	90.00	359.83	8,120.0	380.5	-2,028.3	1,123.3	0.00	0.00	0.00
9,400.0	90.00	359.83	8,120.0	480.5	-2,028.6	1,215.9	0.00	0.00	0.00
9,500.0	90.00	359.83	8,120.0	580.5	-2,028.9	1,308.5	0.00	0.00	0.00
9,600.0	90.00	359.83	8,120.0	680.5	-2,029.2	1,401.1	0.00	0.00	0.00
9,700.0	90.00	359.83	8,120.0	780.5	-2,029.4	1,493.7	0.00	0.00	0.00
9,800.0	90.00	359.83	8,120.0	880.5	-2,029.7	1,586.3	0.00	0.00	0.00
9,900.0	90.00	359.83	8,120.0	980.5	-2,030.0	1,678.9	0.00	0.00	0.00
10,000.0	90.00	359.83	8,120.0	1,080.5	-2,030.3	1,771.5	0.00	0.00	0.00
10,100.0	90.00	359.83	8,120.0	1,180.5	-2,030.6	1,864.1	0.00	0.00	0.00
10,200.0	90.00	359.83	8,120.0	1,280.5	-2,030.9	1,956.7	0.00	0.00	0.00
10,300.0	90.00	359.83	8,120.0	1,380.5	-2,031.2	2,049.3	0.00	0.00	0.00
10,400.0	90.00	359.83	8,120.0	1,480.5	-2,031.5	2,141.9	0.00	0.00	0.00
10,500.0	90.00	359.83	8,120.0	1,580.5	-2,031.8	2,234.5	0.00	0.00	0.00
10,600.0	90.00	359.83	8,120.0	1,680.5	-2,032.1	2,327.1	0.00	0.00	0.00
10,700.0	90.00	359.83	8,120.0	1,780.5	-2,032.4	2,419.7	0.00	0.00	0.00
10,800.0	90.00	359.83	8,120.0	1,880.5	-2,032.7	2,512.3	0.00	0.00	0.00
10,900.0	90.00	359.83	8,120.0	1,980.5	-2,033.0	2,604.9	0.00	0.00	0.00
11,000.0	90.00	359.83	8,120.0	2,080.5	-2,033.3	2,697.4	0.00	0.00	0.00
11,100.0	90.00	359.83	8,120.0	2,180.5	-2,033.5	2,790.0	0.00	0.00	0.00
11,200.0	90.00	359.83	8,120.0	2,280.5	-2,033.8	2,882.6	0.00	0.00	0.00
11,300.0	90.00	359.83	8,120.0	2,380.5	-2,034.1	2,975.2	0.00	0.00	0.00
11,400.0	90.00	359.83	8,120.0	2,480.5	-2,034.4	3,067.8	0.00	0.00	0.00
11,500.0	90.00	359.83	8,120.0	2,580.5	-2,034.7	3,160.4	0.00	0.00	0.00
11,600.0	90.00	359.83	8,120.0	2,680.5	-2,035.0	3,253.0	0.00	0.00	0.00
11,700.0	90.00	359.83	8,120.0	2,780.5	-2,035.3	3,345.6	0.00	0.00	0.00
11,800.0	90.00	359.83	8,120.0	2,880.5	-2,035.6	3,438.2	0.00	0.00	0.00
11,900.0	90.00	359.83	8,120.0	2,980.5	-2,035.9	3,530.8	0.00	0.00	0.00
12,000.0	90.00	359.83	8,120.0	3,080.5	-2,036.2	3,623.4	0.00	0.00	0.00
12,100.0	90.00	359.83	8,120.0	3,180.5	-2,036.5	3,716.0	0.00	0.00	0.00
12,200.0	90.00	359.83	8,120.0	3,280.5	-2,036.8	3,808.6	0.00	0.00	0.00
12,300.0	90.00	359.83	8,120.0	3,380.5	-2,037.1	3,901.2	0.00	0.00	0.00
12,400.0	90.00	359.83	8,120.0	3,480.5	-2,037.4	3,993.8	0.00	0.00	0.00
12,500.0	90.00	359.83	8,120.0	3,580.5	-2,037.6	4,086.4	0.00	0.00	0.00
12,600.0	90.00	359.83	8,120.0	3,680.5	-2,037.9	4,179.0	0.00	0.00	0.00
12,700.0	90.00	359.83	8,120.0	3,780.5	-2,038.2	4,271.6	0.00	0.00	0.00
12,800.0	90.00	359.83	8,120.0	3,880.5	-2,038.5	4,364.2	0.00	0.00	0.00
12,900.0	90.00	359.83	8,120.0	3,980.5	-2,038.8	4,456.8	0.00	0.00	0.00
13,000.0	90.00	359.83	8,120.0	4,080.5	-2,039.1	4,549.4	0.00	0.00	0.00
13,100.0	90.00	359.83	8,120.0	4,180.5	-2,039.4	4,642.0	0.00	0.00	0.00
13,200.0	90.00	359.83	8,120.0	4,280.5	-2,039.7	4,734.6	0.00	0.00	0.00
13,300.0	90.00	359.83	8,120.0	4,380.5	-2,040.0	4,827.2	0.00	0.00	0.00
13,400.0	90.00	359.83	8,120.0	4,480.5	-2,040.3	4,919.8	0.00	0.00	0.00
13,500.0	90.00	359.83	8,120.0	4,580.5	-2,040.6	5,012.4	0.00	0.00	0.00
13,600.0	90.00	359.83	8,120.0	4,680.5	-2,040.9	5,105.0	0.00	0.00	0.00
13,700.0	90.00	359.83	8,120.0	4,780.5	-2,041.2	5,197.6	0.00	0.00	0.00
13,800.0	90.00	359.83	8,120.0	4,880.5	-2,041.5	5,290.2	0.00	0.00	0.00
13,884.6	90.00	359.83	8,120.0	4,965.1	-2,041.7	5,368.5	0.00	0.00	0.00

BHL: 100' FNL & 660' FWL (Sec 28)

Planning Report

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Thor 28 Fee #522H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3111.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3111.0usft (Original Well Elev)
Site:	Thor 28 Fee #522H	**North Reference:**	Grid
Well:	Sec 28, T23S, R28E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 100' FNL & 660' FWL (Sec 28)		
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
SHL: 215' FSL & 2660' F - plan hits target center - Point	0.00	0.00	0.0	0.0	0.0	461,820.80	615,858.30	32.2693900	-104.0922271
KOP: 473' FNL & 660' F\ - plan hits target center - Point	0.00	0.00	7,547.0	-703.8	-2,025.1	461,117.00	613,833.20	32.2674677	-104.0987841
FTP/LP: 100' FSL & 660 - plan hits target center - Point	0.00	0.00	8,120.0	-130.7	-2,026.8	461,690.06	613,831.53	32.2690430	-104.0987854
BHL: 100' FNL & 660' F\ - plan hits target center - Point	0.00	0.00	8,120.0	4,965.1	-2,041.7	466,785.90	613,816.60	32.2830508	-104.0987977

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

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

NATURAL GAS MANAGEMENT PLAN

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

Section 1 – Plan Description

Effective May 25, 2021

I. Operator: Mewbourne Oil Co. **OGRID:** 14744 **Date:** 12/18/23

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

If Other, please describe: _____

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

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
THOR 28 FEE 522H		O 28 23S 28E	215' FSL x 2660' FWL	2000	3500	3500

IV. Central Delivery Point Name: THOR 28 FEE 522H [See 19.15.27.9(D)(1) NMAC]

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

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
THOR 28 FEE 522H		2/18/24	3/18/24	4/18/24	4/23/24	4/23/24

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

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

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

Section 2 – Enhanced Plan

EFFECTIVE APRIL 1, 2022

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

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

IX. Anticipated Natural Gas Production:

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

X. Natural Gas Gathering System (NGGS):

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

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

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

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

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

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

Section 3 - Certifications

Effective May 25, 2021

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

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

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

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

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

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

Section 4 - Notices

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

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

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

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

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

Signature:	Bradley Bishop
Printed Name:	BRADLEY BISHOP
Title:	REGULATORY MANAGER
E-mail Address:	BBISHOP@MEWBOURNE.COM
Date:	12/18/23
Phone:	575-393-5905

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

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

Mewbourne Oil Company

Natural Gas Management Plan – Attachment

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

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

A. MOC will maximize the recovery of natural gas by minimizing the waste, as defined by 19.15.2 NMAC, of natural gas through venting and flaring. MOC will ensure that well(s) will be connected to a natural gas gathering system with sufficient capacity to transport natural gas. If there is no adequate takeaway for the gas, well(s) will be shut in until the natural gas gathering system is available.
B. All drilling operations will be equipped with a rig flare located at least 100 ft from the nearest surface hole. Rig flare will be utilized to combust any natural gas that is brought to surface during normal drilling operations. In the case of emergency venting or flaring the volumes will be estimated and reported appropriately.
C. During completion operations any natural gas brought to surface will be flared. Immediately following the finish of completion operations, all well flow will be directed to permanent separation equipment. Produced natural gas from separation equipment will be sent to sales. It is not anticipated that gas will not meet pipeline standards. However, if natural gas does not meet gathering pipeline quality specifications, MOC will flare the natural gas for 60 days or until the natural gas meets the pipeline quality specifications, whichever is sooner. MOC will ensure that the flare is sized properly and is equipped with automatic igniter or continuous pilot. The gas sample will analyzed twice per week and the gas will be routed into a gathering system as soon as pipeline specifications are met.
D. Natural gas will not be flared with the exceptions and provisions listed in the 19.15.27.8 D.(1) through (4). If there is no adequate takeaway for the separator gas, well(s) will be shut in until the natural gas gathering system is available with exception of emergency or malfunction situations. Venting and/or flaring volumes will be estimated and reported appropriately.
E. MOC will comply with the performance standards requirements and provisions listed in 19.15.27.8 E.(1) through (8). All equipment will be designed and sized to handle maximum anticipated pressures and throughputs in order to minimize the waste. Production storage tanks constructed after May 25, 2021 will be equipped with automatic gauging system. Flares constructed after May 25, 2021 will be equipped with automatic igniter or continuous pilot. Flares will be located at least 100' from the well and storage tanks unless otherwise approved by the division. MOC will conduct AVO inspections as described in 19.15.27.8 E (5) (a) with frequencies specified in 19.15.27.8 E (5) (b) and (c). All emergencies will be resolved as quickly and safely as feasible to minimize waste.
F. The volume of natural gas that is vented or flared as the result of malfunction or emergency during drilling and completions operations will be estimated. The volume of natural gas that is vented, flared or beneficially used during production operations, will be measured or estimated. MOC will install equipment to measure

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

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