Form 3160-3 FORM APPROVED OMB No. 1004-0137 (June 2015) Expires: January 31, 2018 **UNITED STATES** DEPARTMENT OF THE INTERIOR 5. Lease Serial No. NMNM27919 **BUREAU OF LAND MANAGEMENT** APPLICATION FOR PERMIT TO DRILL OR REENTER 6. If Indian, Allotee or Tribe Name 7. If Unit or CA Agreement, Name and No. **✓** DRILL REENTER 1a. Type of work: 1b. Type of Well: Oil Well ✓ Gas Well Other 8. Lease Name and Well No. 1c. Type of Completion: Hydraulic Fracturing ✓ Single Zone Multiple Zone JOURNEY 11/12 FED COM 2. Name of Operator 9. API Well No. MEWBOURNE OIL COMPANY 30-015-55780 3a. Address 3b. Phone No. (include area code) 10. Field and Pool, or Exploratory PURPLE SAGE/WOLFCAMP (GAS) P O BOX 5270, HOBBS, NM 88241 (575) 393-5905 4. Location of Well (Report location clearly and in accordance with any State requirements.*) 11. Sec., T. R. M. or Blk. and Survey or Area SEC 11/T24S/R28E/NMP At surface SWSW / 470 FSL / 265 FWL / LAT 32.2266689 / LONG -104.0660938 At proposed prod. zone NESE / 2310 FSL / 330 FEL / LAT 32.2313674 / LONG -104.0333505 14. Distance in miles and direction from nearest town or post office* 12. County or Parish 13. State **EDDY** NM 7 miles 15. Distance from proposed* 16. No of acres in lease 17. Spacing Unit dedicated to this well 265 feet location to nearest property or lease line, ft. 640.0 (Also to nearest drig. unit line, if any) 18. Distance from proposed location* 19. Proposed Depth 20. BLM/BIA Bond No. in file to nearest well, drilling, completed, 20 feet 10833 feet / 20966 feet FED: NM1693 applied for, on this lease, ft. 21. Elevations (Show whether DF, KDB, RT, GL, etc.) 22. Approximate date work will start* 23. Estimated duration 3000 feet 11/13/2024 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. 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). 2. A Drilling Plan. 3. A Surface Use Plan (if the location is on National Forest System Lands, the 5. Operator certification. SUPO must be filed with the appropriate Forest Service Office). 6. Such other site specific information and/or plans as may be requested by the Name (Printed/Typed) Date 25. Signature BRADLEY BISHOP / Ph: (575) 393-5905 09/20/2024 (Electronic Submission) Title Regulatory Approved by (Signature) Date Name (Printed/Typed) (Electronic Submission) CODY LAYTON / Ph: (575) 234-5959 11/15/2024 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.



eived by	OCD: 11	/15/2024 1:	18:04 PM							Page 2	
C-10	2				State of Nev					Revised July 9, 2024	
			En			al Resources Department					
	Electronicall	у		OIL (CONSERVAT	TON DIVISION			▼ Initial Su	nhmittal	
Via OCL) Permitting					Submittal			1		
							Type:	☐ Amende			
									☐ As Drille	ea	
			1		WELL LOCAT	TION INFORMATION					
API Nu	mber <u>30-015-</u>	-55780	Pool Code	9822	0	Pool Name PURPL	E SAGE	; WOL	FCAMP		
	^y 236484		Property Na	ame JO	URNEY 11/	12 FED COM			Well Numb	er 865H	
OGRID	No. 14	744	Operator N	_{ame} ME	WBOURNE	E OIL COMPAN	ΙΥ		Ground Lev	rel Elevation	
Surface		State ☐ Fee ☐	Tribal 🔀 Fed			Mineral Owner:		□ Tribal 🗷			
				_	Surfa	nce Location					
UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude		Longitude	County	
M	11	24S	28E		470 FSL	265 FWL	32.226	6689 -	104.0660938	EDDY	
	<u> </u>				Bottom	Hole Location		<u>L</u> _			
UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude		Longitude	County	
1	12	24S	28E		2310 FWL	330 FEL	32.231		-104.0333505		
L '	. –	2.0	202		20101111	000122	02.201	007 1	104.0000000		
D 11 /	1.4	I CII D C	. 337 11	D.C.:	W 11 A DI		II 'i (MAD)	G 11.1	C. 1		
	ed Acres	Infill or Defin	-	Defining	g Well API	Overlapping Spacing	(Y/N)	Consolida	ation Code		
	40	INFILL	•								
Order N	lumbers.					Well setbacks are under Common Ownership: □Yes □No					
					Kick O	ff Point (KOP)					
UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude		Longitude	County	
_		•		200		10 FWL			-104.0669107		
L	11	24	20				32.2317	439	104.0009107		
	Ι	1	I _	T _	1	ike Point (FTP)	T			T	
_		_		Lot	Ft. from N/S	Ft. from E/W	Latitude		Longitude	County	
L	11	24	28		2310 FSL	_ 330 FWL	32.231	7209 -	104.0658764	EDDY	
		_		_	Last Ta	ke Point (LTP)	_				
UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude		Longitude	County	
I	12	24	28		2310 FSL	330 FEL	32.231	3674	-104.0333505	EDDY	
Unitize	d Area or Ar	ea of Uniform I	nterest	Spacing	Unit Type KHoriz	ontal Vertical	Grou	nd Floor El	evation:		
				Spacing	ome Type 🗆 Horiz	ontar 🗆 Vertical			30	00	
OPERA	TOR CERT	IFICATIONS				SURVEYOR CERTIFIC	CATIONS				
						I hereby certify that the w	ell location sho	wn on this p	lat was plotted fro	m field notes of actual	
						surveys made by me or und my belief.	ler my supervisi	on, and that	the same is true ar	nd correct to the best of	
including	g the proposed	bottom hole local	tion or has a rig	ght to drill thi	is well at this	my beneg.					
entered l	by the division.										
L 11 24 28 2310 UL Section Township Range Lot Ft. from 2310 UL Section Township Range Lot Ft. from 1 24 28 2310 UL Section Township Range Lot Ft. from 2310 UL Section Township Range Lot Ft. from 2310 Unitized Area or Area of Uniform Interest Spacing Unit Type OPERATOR CERTIFICATIONS I hereby certify that the information contained herein is true and complete to the my knowledge and belief, and, if the well is a vertical or directional well, that this organization either owns a working interest or unleased mineral interest in the latincluding the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of a working interest or unleased interest, or to a voluntary pooling agreement or a compulsory pooling order here entered by the division. If this well is a horizontal well, I further certify that this organization has received consent of at least one lessee or owner of a working interest or unleased mineral in each tract (in the target pool or formation) in which any part of the well's compineral will be located or obtained a compulsory pooling order from the division											
1	yan 7	Mcdan	isl		11/15/24						
Signature	1					Signature and Seal of Profess	sional Surveyor				
		ירעאוורו									
Printed N		DAINIEL				Certificate Number	Data of Com-	av.			
						Certificate Number	Date of Surve	-у			
RY	ANMCD	ANIEL@I	MEWBO	URNE	.COM						
Email Ac	ldress						1				

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

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (375) 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

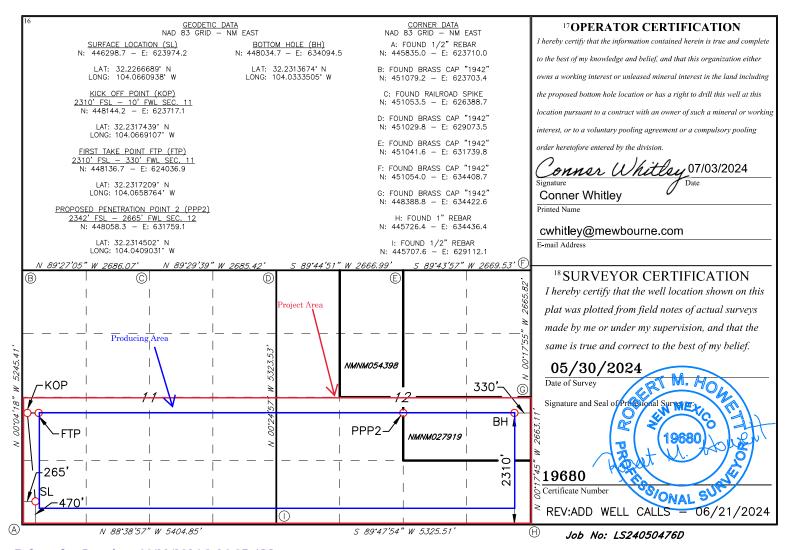
Form C-102 Revised August 1, 2011 Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1	r		² Pool Code		³ Pool Name								
				98220		$\operatorname{Purpl}\epsilon$	e Sage; Wol	fcamp	(Gas)				
⁴ Property Co			JOURNEY 11/12 FED COM					6 Well Number 865H					
70GRID 1 1474			*Operator Name 9 Elevation MEWBOURNE OIL COMPANY 3000'										
	¹⁰ Surface Location												
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet From the	East/W	est line	County			
M	11	24S	28E		470	SOUTH	265	WE	ST	EDDY			
			¹¹]	Bottom H	ole Location	If Different Fr	om Surface						
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/W	est line	County			
I 12 24S 28E					2310	SOUTH	330	EA:	ST	EDDY			
12 Dedicated Acres 13 Joint or Infill 14 Consolidation Code				Code 15 O	rder No.								

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.



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

	N	ATURAL G	AS MANA	GEMENT P	LAN	
This Natural Gas Mai	nagement Plan m	ust be submitted w	vith each Applicat	ion for Permit to I	Orill (APD) for a	new or recompleted well.
		Section <u>E</u>	1 – Plan De Effective May 25,	escription 2021		
I. Operator:M	ewbourne (Oil Co.	OGRID:	14744	Date: _	8/30/24
II. Type: 💢 Original	I □ Amendment	due to 🗆 19.15.27	7.9.D(6)(a) NMAC	C □ 19.15.27.9.D((6)(b) NMAC □ (Other.
If Other, please descr	ibe:					
III. Well(s): Provide be recompleted from					wells proposed to	be drilled or proposed to
Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
JOURNEY 11/12 FED COM 865	Н	M 11 24S 28E	470' FSL x 265' FW	1000	1000	5000
				Y1-500 Y2-300 Y3-200	Y1-5000 Y2-3000 Y3-20	00 Y1-25000 Y2-1500 Y3-1000
IV. Central Delivery	Point Name: _	JOL	JRNEY 11/12 FED	COM 865H	[See 1	9.15.27.9(D)(1) NMAC]
V. Anticipated Scheon proposed to be recom					vell or set of wells	proposed to be drilled or
Well Name	API	Spud Date	TD Reached Date	Completion Commencement		
JOURNEY 11/12 FED COM 865	Н	12/30/24	1/30/25	3/17/25	4/25/	25 4/30/25
VII. Operational Pr Subsection A through	actices: 🛭 Attac F of 19.15.27.8	ch a complete desc NMAC.	cription of the act	ions Operator wil	I take to comply	t to optimize gas capture. with the requirements of ices to minimize venting

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. \square 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	s gathering system	\square will \square will	not have capacity	to gather	100% of the	anticipated n	atural gas
production volume fi	rom the well pri-	or to the date of fir	st production.					

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

	Attach (Onerator's	nlan to	manage	production	in response	to the	increased	line press	sure
\square	Attach	Oberaior s	o Dian to	manage	DIOGUCLION	III Testionise	LO LHE	micreased	Time Diess	sure

XIV. Confidentiality: \square 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 informatio
for which confidentiality is asserted and the basis for such assertion.

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Section 3 - Certifications <u>Effective May</u> 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: power generation on lease; (a) (b) power generation for grid; compression on lease; (c) liquids removal on lease; (d) reinjection for underground storage; (e) reinjection for temporary storage; **(f)**

- reinjection for enhanced oil recovery; **(g)**
- fuel cell production; and (h)
- 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:
- 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
- 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:	8/30/2024
Phone:	575-393-5905
7	OIL CONSERVATION DIVISION
	(Only applicable when submitted as a standalone form)
Approved By:	
Title:	
Approval Date:	
Conditions of App	proval:

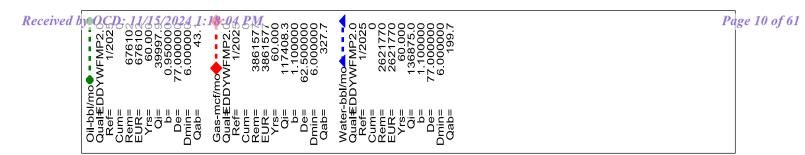
Mewbourne Oil Company

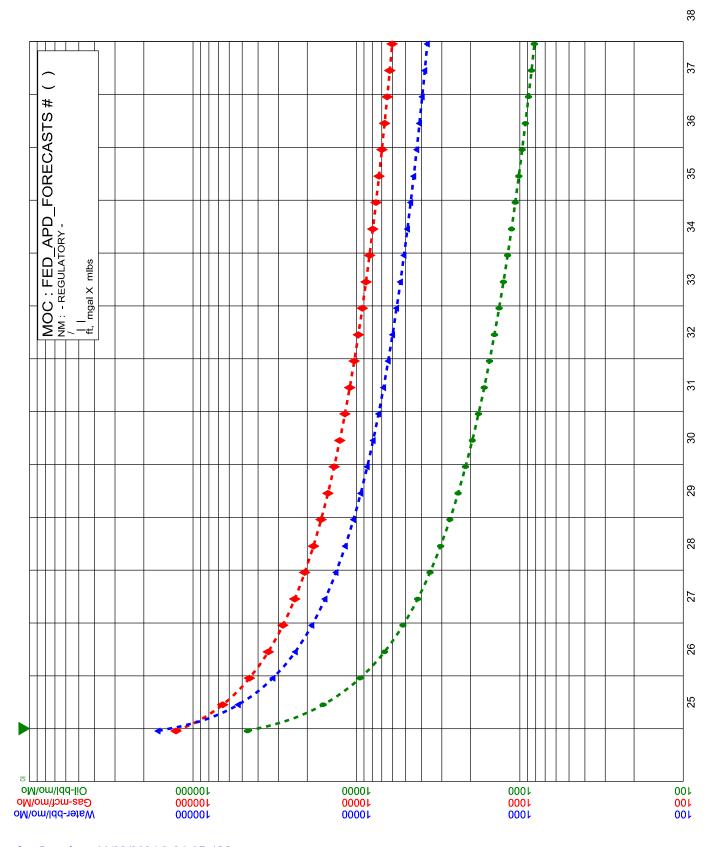
Natural Gas Management Plan – Attachment

- 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 pressure venting 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 the diversion 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.







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

Drilling Plan Data Report 11/15/2024

APD ID: 10400101019

Submission Date: 09/20/2024

Highlighted data reflects the most recent changes

Operator Name: MEWBOURNE OIL COMPANY

Well Number: 865H

Well Name: JOURNEY 11/12 FED COM

Well Type: CONVENTIONAL GAS WELL

Well Work Type: Drill

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
14504710	UNKNOWN	2999	28	28	OTHER : Topsoil	NONE	N
14504722	TOP SALT	1949	1050	1050	SALT	NONE	N
14504711	BOTTOM SALT	599	2400	2400	SALT	NONE	N
14504715	LAMAR	439	2560	2560	DOLOMITE, LIMESTONE	NATURAL GAS, OIL	N
14504716	BELL CANYON	399	2600	2600	SANDSTONE	NATURAL GAS, OIL	N
14504717	CHERRY CANYON	-501	3500	3500	SANDSTONE	NATURAL GAS, OIL	N
14504718	MANZANITA	-611	3610	3610	LIMESTONE	NATURAL GAS, OIL	N
14504709	BONE SPRING	-3311	6310	6310	LIMESTONE	NATURAL GAS, OIL	N
14504712	BONE SPRING 1ST	-4241	7240	7240	SANDSTONE	NATURAL GAS, OIL	N
14504713	BONE SPRING 2ND	-5041	8040	8040	SANDSTONE	NATURAL GAS, OIL	N
14504720	BONE SPRING 3RD	-5401	8400	8400	SANDSTONE	NATURAL GAS, OIL	N
14504721	WOLFCAMP	-6521	9520	9520	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 5M Rating Depth: 20966

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

Requesting Variance? YES

Variance request: A variance is requested for the use of a flexible choke line from the BOP to 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. If a breaktesting variance is approved & incorporated, API Standard 53 will be incorporated and

Well Name: JOURNEY 11/12 FED COM Well Number: 865H

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

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

Choke Diagram Attachment:

5M_BOPE_Choke_Diagram_20240913151142.pdf Flex Line Specs API_16C 20240913151147.pdf

BOP Diagram Attachment:

5M_BOPE_Schematic_20240913151205.pdf

Cactus_5K_WH_20240913151220.pdf

Mewbourne_Break_Testing_Variance_20240913151234.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	1000	0	1000	3000	2000	1000	J-55	54	ST&C	2.53	6.1	DRY	9.43	DRY	15.6 5
2	INTERMED IATE	12 . 2 5	9.625	NEW	API	N	0	2500	0	2500	2996	500	2500	L-80	40	LT&C	2.26	4.21	DRY	7.37	DRY	9.16
3	PRODUCTI ON	8.75	7.0	NEW	API	N	0	10258	0	10060	2996	-7060	10258	P- 110	26	LT&C	1.17	1.86	DRY	2.6	DRY	3.11
4	LINER	6.12 5	4.5	NEW	API	N	10058	20966	9860	10833	-6860	-7833	10908	P- 110	13.5	LT&C	1.58	1.84	DRY	2.3	DRY	2.87

Casing Attachments

Well Name: JOURNEY 11/12 FED COM Well Number: 865H

Ca	sing	Attac	hm	ents

Casing ID: 1

String

SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Journey_11_12_Fed_Com_865H_CsgAssumptions_20240913151401.pdf

Casing ID: 2

String

INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Journey_11_12_Fed_Com_865H_CsgAssumptions_20240913151444.pdf

Casing ID: 3

String

PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Journey_11_12_Fed_Com_865H_CsgAssumptions_20240913151520.pdf

Well Name: JOURNEY 11/12 FED COM Well Number: 865H

Casing Attachments

Casing ID: 4

String

LINER

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Journey_11_12_Fed_Com_865H_CsgAssumptions_20240913151601.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	808	530	2.12	12.5	1130	100	Class C	Salt, Gel, Extender, LCM
SURFACE	Tail	6	808	1000	200	1.34	14.8	268	100	Class C	Retarder
INTERMEDIATE	Lead		0	1808	330	2.12	12.5	700	25	Class C	Salt, Gel, Extender, LCM
INTERMEDIATE	Tail		1808	2500	200	1.34	14.8	268	25	Class C	Retarder
PRODUCTION	Lead	3585	2300	2879	50	2.12	12.5	110	25	Class C	Gel, Extender, Salt, LCM, Defoamer
PRODUCTION	Tail		2879	3585	100	1.34	14.8	134	25	Class H	Retarder, Fluid Loss, Defoamer
PRODUCTION	Lead	3585	3585	7762	370	2.12	12.5	790	25	CALSS C	SALT GEL EXTENDER LCM DEFOAMER
PRODUCTION	Tail		7762	1025 8	400	1.18	15.6	472	25	CALSS H	RETARDFER FLUID LOSS DEFOAMER
LINER	Lead		1005 8	2096 6	700	1.85	13.5	1300	25	Class H	Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti-Settling Agent

Well Name: JOURNEY 11/12 FED COM Well Number: 865H

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

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

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

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

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

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	НА	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	1000	SPUD MUD	8.4	8.6		V					
1000	2500	SALT SATURATED	9.5	10.5	1						
2500	1025 8	WATER-BASED MUD	8.6	10.5							
1025 8	2096 6	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 KOP (10258') to surface (horizontal well vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.

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

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

Coring operation description for the well:

None

Well Name: JOURNEY 11/12 FED COM Well Number: 865H

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 6760 Anticipated Surface Pressure: 4376

Anticipated Bottom Hole Temperature(F): 465

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

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations

H2S_Plan_20240913152247.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

```
Journey_11_12_Fed_Com_865H_MOC_Dir_Plan_20240913152302.pdf
Journey_11_12_Fed_Com_865H_MOC_Dir_Plot_20240913152306.pdf
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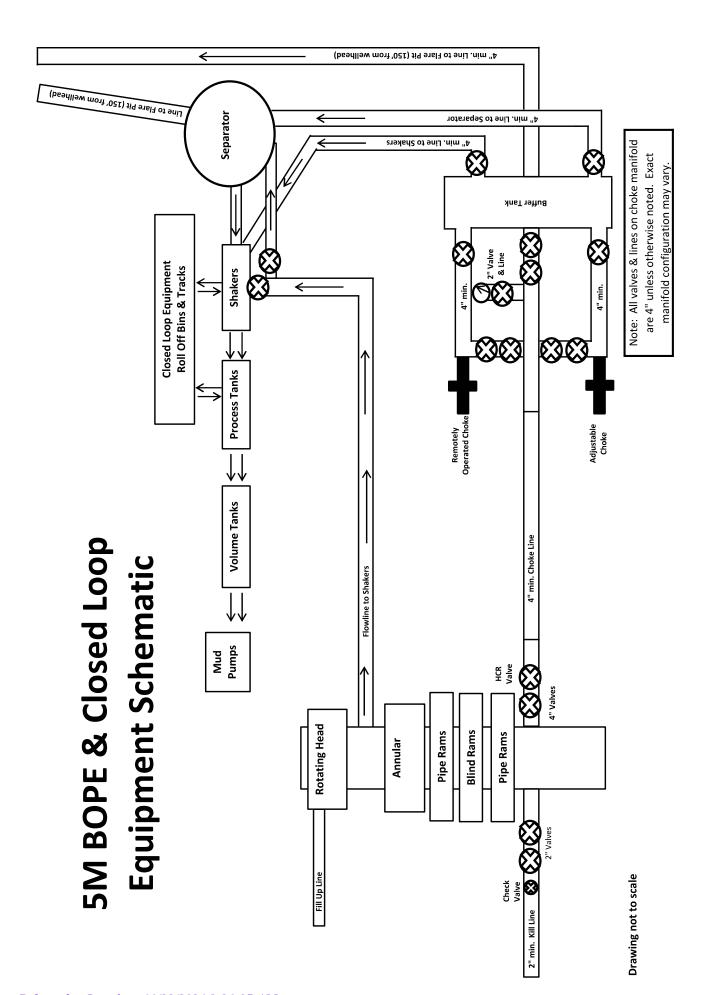
Other proposed operations facets description:

Other proposed operations facets attachment:

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Journey_11_12_Fed_Com_865H_AddInfo_20240913152319.pdf
Journey_11_12_Fed_Com_865H_Drlg_Program_20240913152323.pdf
JOURNEY_11_12_FED_COM__865H_NGMP1_20240919135559.pdf
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Other Variance attachment:

Mewbourne_Break_Testing_Variance_20240913152335.pdf
Mewbourne_Offline_Cementing_Variance_20240913152344.pdf





LUOHE LETONE HYDRAULICS TECHNOLOGY CO.,LTD

HYDROSTATIC TESTING REPORT

LTYY/QR-5.7.1-28

№: 230826015

Product Name Product Specification	1	ke And Kill Hose		Standard	I AF	PI Spec 16C 3 rd edition					
Product Specification	24 1000					•					
	3"×10000	Opsi×60ft (18.29m)	Serial Num	ber	7660144					
Inspection Equipment	MTU	-BS-1600-3200-E		Test mediu	ım	Water					
Inspection Department	Q	.C. Department		Inspection I	Date	2023.08.26					
	- 1	Rate of le	ngth chang	ge							
Standard requirements	At working pressure ,the rate of length change should not more than $\pm 2\%$										
Testing result	10000psi (69.0MPa) ,Rate of length change 0.7%										
		Hydrostatic testing									
Standard requirements		At 1.5 times working pressure, the initial pressure-holding period of not less than three minutes, the second pressure-holding period of not less than one hour, no leaks.									
Testing result	15000psi (103.	5MPa), 3 min for th	ne first tim	e, 60 min for th	ne second time	e, no leakage					
Graph of pressure testing	:										
100 95 10 10 10 10 10 10 10 10 10 10 10 10 10			100 90 70 70 60 50 10								
Conclusion	१५६६म् ११५६२१ ११५६२ ११५६	ม พละม พละม พละม พละมหล ted items meet stan	21:29:54 21:	9:SI 23:49:SB 23:59:	ant (2004/2000) (2016/2000)	7000 (1000) (1000) (1000) (1000)					
	- P		1		-						



LUOHE LETONE HYDRAULICS TECHNOLOGY CO.,LTD

CERTIFICATE OF QUALITY

LTYY/QR-5.7.1-19B

№: LT2023-126-002

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

	Inspection	on Items	3			Inspection result	ds		
	Appearance (Checkin	g		In accordance with API Spec 16C 3 rd edition				
	Size and L	engths			In accordance with API Spec 16C 3 rd edition				
Γ	Dimensions and	d Tolerar	nces		In accordance with API Spec 16C 3 rd edition				
End Connections: 4-	/16"×10000psi I	ntegral fla	ange for sour gas ser	vice	In accordance with API Spec 6A 21st edition				
End Connections: 4-	1/16″×10000psi I	ntegral fla	ange for sour gas ser	vice	In accordar	nce with API Spec	17D 3 rd edition		
	Hydrostatic	Testing			In accordar	nce with API Spec	16C 3 rd edition		
	product M	arking			In accordance with API Spec 16C 3 rd edition				
Inspection con	nclusion		The inspected ite	ms m	eet standard requirer	ments of API Spec	16C 3 rd edition		
Remark	:s								
Approver	Jian long (Chen	Auditor	nging Dong	Inspector	Zhansheng Wang			



LUOHE LETONE HYDRAULICS TECHNOLOGY CO.,LTD

CERTIFICATE OF CONFORMANCE

№:LT230826016

Product Name: Choke And Kill Hose

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

Serial Number: 7660143~7660144

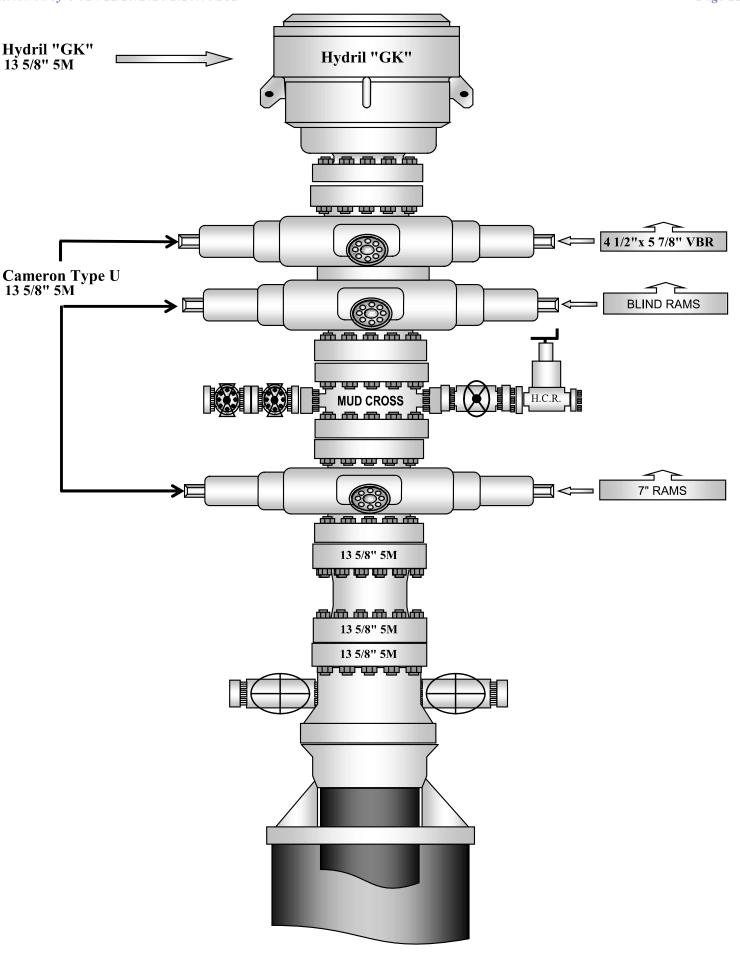
End Connections: 4-1/16"×10000psi Integral flange for sour gas service

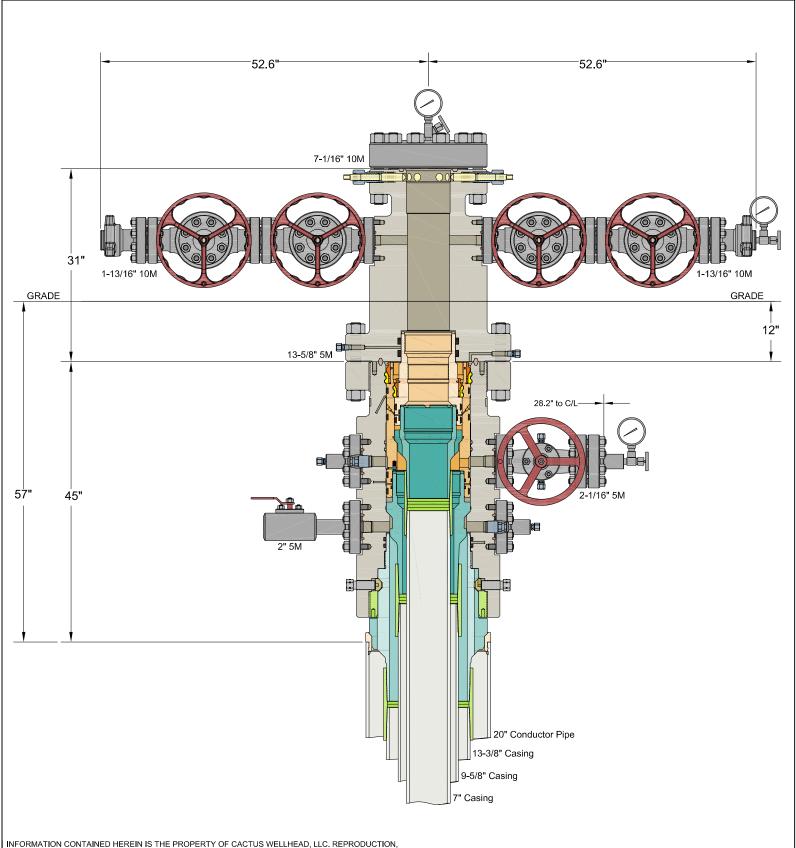
The Choke And Kill Hose assembly was produced by LUOHE LETONE HYDRAULICS TECHNOLOGY CO.,LTD. in Aug 2023, and inspected by LUOHE LETONE HYDRAULICS TECHNOLOGY CO.,LTD. according to API Spec 16C 3rd edition on Aug 26, 2023. The overall condition is good. This is to certify that the Choke And Kill Hose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

Jiaulong Chen

QC Manager:

Date: Aug 26, 2023





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CACTUS WELLHEAD LLC

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

ALL DIMENSIONS APPROXIMATE MEWBOURNE OIL COMPANY

DRAWN DLE 18APR22
APPRV

DRAWING NO. HBE0000660



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.
- 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 guick connect will be reconnected.
- 8. Install a test plug into the wellhead.
- 9. A test will then be conducted against the upper pipe rams and choke, testing both breaks (Fig. 1 & 2).
- 10. The test will be held at 250 psi low and to the high value submitted in the APD, not to exceed 5000 psi.
- 11. The annular, blind rams and lower pipe rams will then be function tested.
- 12. If a pad consists of three or more wells, steps 4 through 11 will be repeated.



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

Barriers

Before Nipple Down:

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

After Nipple Down:

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

Summary

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

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

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



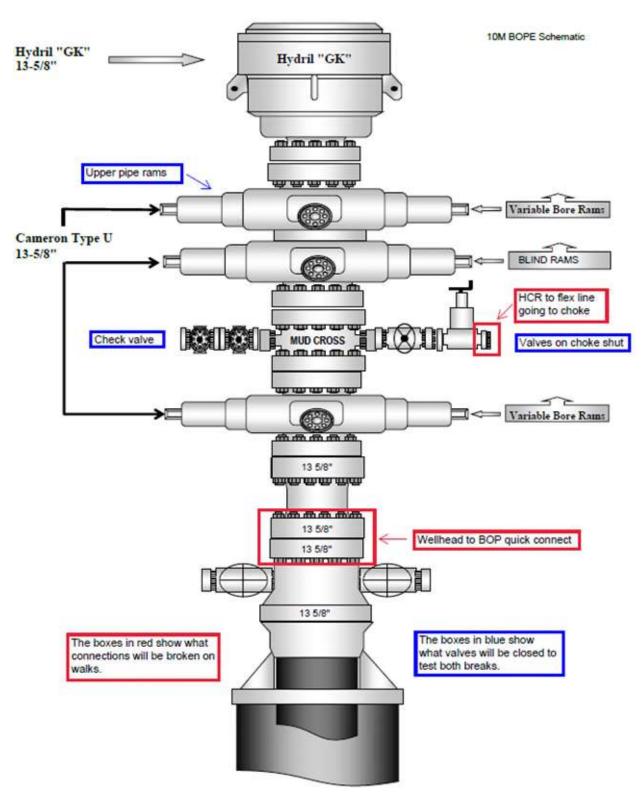


Figure 1. BOP diagram



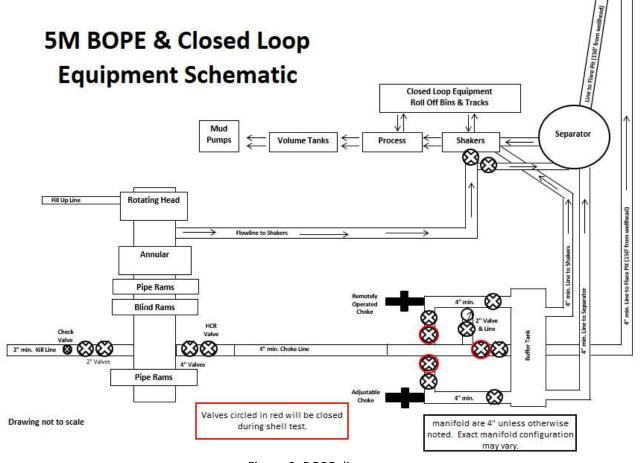


Figure 2. BOPE diagram





Figure 3. BOP handling system





Figure 4. BOP handling system



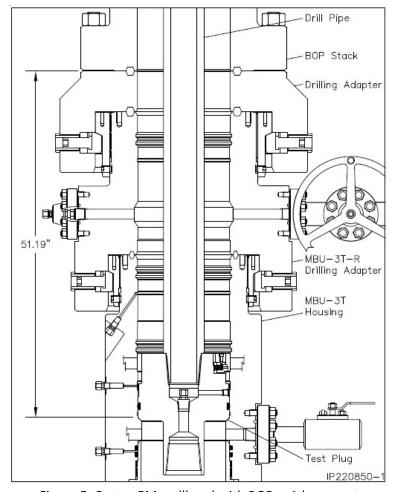


Figure 5. Cactus 5M wellhead with BOP quick connect

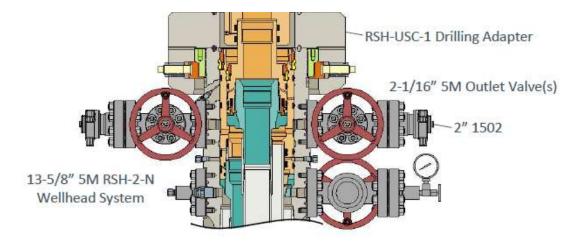


Figure 6. Vault 5M wellhead with BOP quick connect

SHL: 470' FSL 265' FWL (Sec 11) BHL: 2310' FSL 330' FEL (Sec 12)

		Casing Progr	ram Design A			BLM Minimum Safety Factors	1.125	1.0	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet
String	Hole Size	Top MD	Top TVD	Bot MD	Bot TVD	Csg. Size	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
Surface	17.5"	0'	0'	1000'	1000'	13.375" 54.5# J55 STC	2.53	6.10	9.43	15.65
Int	12.25"	0'	0'	2500'	2500'	9.625" 40# L80 LTC	2.26	4.21	7.37	9.16
Production	8.75"	0'	0'	10258'	10060'	7" 26# P110 LTC	1.17	1.86	2.60	3.11
Liner	6.125"	10058'	9860'	20966'	10833'	4.5" 13.5# P110 LTC	1.58	1.84	2.30	2.87

Cement Program

Casing		# Sacks	Wt. lb/gal	Yield ft ³ /sack	тос/вос	Volume ft ³	% Excess	Slurry Description
13,375 in	LEAD	530	12.5	2.12	0' - 808'	1130	100%	Class C: Salt, Gel, Extender, LCM
13.375 III	TAIL	200	14.8	1.34	808' - 1000'	268	100%	Class C: Retarder
9,625 in	LEAD	330	12.5	2.12	0' - 1808'	700	25%	Class C: Salt, Gel, Extender, LCM
9.025 III	TAIL	200	14.8	1.34	1808' - 2500'	268	2376	Class C: Retarder
1st Stg 7 in	LEAD	370	12.5	2.12	3585' - 7762'	790	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
1st Stg / III	TAIL	400	15.6	1.18	7762' - 10258'	472	2370	Class H: Retarder, Fluid Loss, Defoamer
					7" DV	Tool @ 3585'		
2nd Stg 7 in	LEAD	50	12.5	2.12	2300' - 2879'	110	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
2nd Stg / in	TAIL	100	14.8	1.34	2879' - 3585'	134	2370	Class C: Retarder, Fluid Loss, Defoamer
4.5 in	LEAD	700	13.5	1.85	10058' - 20966'	1300	25%	Class H: Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti- settling Agent

Design A - Mud Program

Depth	Mud Wt	Mud Type
	8.4 - 8.6	
0' - 1000'	8.4 - 8.6	Fresh Water
1000' - 2500'	9.5 - 10.5	Brine
2500' - 10258'	8.6 - 10.2	Cut-Brine
10258' - 20966'	10.0 - 12.	OBM

Geology

Formation	Est. Top (TVD)	Mineral Resources	Formation	Est. Top (TVD)	Mineral Resources
Rustler			Yeso		
Castile			Delaware (Lamar)	2560'	Oil/Natural Gas
Salt Top	1050'	None	Bell Canyon	2600'	Oil/Natural Gas
Salt Base	2400'	None	Cherry Canyon	3500'	Oil/Natural Gas
Yates			Manzanita Marker	3610'	Oil/Natural Gas
Seven Rivers			Basal Brushy Canyon		
Queen			Bone Spring	6310'	Oil/Natural Gas
Capitan			1st Bone Spring	7240'	Oil/Natural Gas
Grayburg			2nd Bone Spring	8040'	Oil/Natural Gas
San Andres			3rd Bone Spring	8400'	Oil/Natural Gas
Glorieta			Wolfcamp	9520'	Oil/Natural Gas

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

SHL: 470' FSL 265' FWL (Sec 11) BHL: 2310' FSL 330' FEL (Sec 12)

	Casing Program Design B						1.125	1.0	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet
String	Hole Size	Top MD	Top TVD	Bot MD	Bot TVD	Csg. Size	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
Surface	17.5"	0'	0'	1000'	1000'	13.375" 54.5# J55 STC	2.53	6.10	9.43	15.65
Int	12.25"	0'	0'	2500'	2500'	9.625" 40# L80 LTC	2.26	4.21	7.37	9.16
Production	8.75"	0'	0'	10950'	10596'	7" 26# HCP110 LTC	1.39	1.77	2.43	2.92
Liner	6.125"	10258'	10060'	20966'	10833'	4.5" 13.5# P110 LTC	1.58	1.84	2.34	2.92

Design B - Cement Program

Casing		# Sacks	Wt. lb/gal	Yield ft ³ /sack	тос/вос	Volume ft ³	% Excess	Slurry Description
13,375 in	LEAD	530	12.5	2.12	0' - 808'	1130	100%	Class C: Salt, Gel, Extender, LCM
13.375 III	TAIL	200	14.8	1.34	808' - 1000'	268	100%	Class C: Retarder
9.625 in	LEAD	330	12.5	2.12	0' - 1808'	700	25%	Class C: Salt, Gel, Extender, LCM
9.025 III	TAIL	200	14.8	1.34	1808' - 2500'	268	2376	Class C: Retarder
1st Stg 7 in	LEAD	440	12.5	2.12	3585' - 8488'	940	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
18t Stg / III	TAIL	400	15.6	1.18	8488' - 10950'	472	2370	Class H: Retarder, Fluid Loss, Defoamer
					7" DV	Tool @ 3585'		
2nd Stg 7 in	LEAD	50	12.5	2.12	2300' - 2879'	110	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
Ziid Stg / iii	TAIL	100	14.8	1.34	2879' - 3585'	134	2370	Class C: Retarder, Fluid Loss, Defoamer
4.5 in	LEAD	680	13.5	1.85	10258' - 20966'	1260	25%	Class H: Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti- settling Agent

Design B - Mud Program

Depth	Mud Wt	Mud Type
	8.4 - 8.6	
0' - 1000'	8.4 - 8.6	Fresh Water
1000' - 2500'	9.5 - 10.5	Brine
2500' - 10950'	8.6 - 10.2	Cut-Brine
10950' - 20966'	10.0 - 12.	OBM

Geology

Formation	Est. Top (TVD)	Mineral Resources	Formation	Est. Top (TVD)	Mineral Resources
Rustler			Yeso		
Castile			Delaware (Lamar)	2560'	Oil/Natural Gas
Salt Top	1050'	None	Bell Canyon	2600'	Oil/Natural Gas
Salt Base	2400'	None	Cherry Canyon	3500'	Oil/Natural Gas
Yates			Manzanita Marker	3610'	Oil/Natural Gas
Seven Rivers			Basal Brushy Canyon		
Queen			Bone Spring	6310'	Oil/Natural Gas
Capitan			1st Bone Spring	7240'	Oil/Natural Gas
Grayburg			2nd Bone Spring	8040'	Oil/Natural Gas
San Andres			3rd Bone Spring	8400'	Oil/Natural Gas
Glorieta			Wolfcamp	9520'	Oil/Natural Gas

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

SHL: 470' FSL 265' FWL (Sec 11) BHL: 2310' FSL 330' FEL (Sec 12)

		Casing Progr	ram Design A			BLM Minimum Safety Factors	1.125	1.0	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet
String	Hole Size	Top MD	Top TVD	Bot MD	Bot TVD	Csg. Size	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
Surface	17.5"	0'	0'	1000'	1000'	13.375" 54.5# J55 STC	2.53	6.10	9.43	15.65
Int	12.25"	0'	0'	2500'	2500'	9.625" 40# L80 LTC	2.26	4.21	7.37	9.16
Production	8.75"	0'	0'	10258'	10060'	7" 26# P110 LTC	1.17	1.86	2.60	3.11
Liner	6.125"	10058'	9860'	20966'	10833'	4.5" 13.5# P110 LTC	1.58	1.84	2.30	2.87

Cement Program

Casing		# Sacks	Wt. lb/gal	Yield ft ³ /sack	тос/вос	Volume ft ³	% Excess	Slurry Description
13,375 in	LEAD	530	12.5	2.12	0' - 808'	1130	100%	Class C: Salt, Gel, Extender, LCM
13.3/5 III	TAIL	200	14.8	1.34	808' - 1000'	268	100%	Class C: Retarder
9,625 in	LEAD	330	12.5	2.12	0' - 1808'	700	25%	Class C: Salt, Gel, Extender, LCM
9.025 III	TAIL	200	14.8	1.34	1808' - 2500'	268	2376	Class C: Retarder
1st Stg 7 in	LEAD	370	12.5	2.12	3585' - 7762'	790	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
1st Stg / III	TAIL	400	15.6	1.18	7762' - 10258'	472	2370	Class H: Retarder, Fluid Loss, Defoamer
					7" DV	Tool @ 3585'		
2nd Stg 7 in	LEAD	50	12.5	2.12	2300' - 2879'	110	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
2nd Stg / in	TAIL	100	14.8	1.34	2879' - 3585'	134	2370	Class C: Retarder, Fluid Loss, Defoamer
4.5 in	LEAD	700	13.5	1.85	10058' - 20966'	1300	25%	Class H: Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti- settling Agent

Design A - Mud Program

Depth	Mud Wt	Mud Type
	8.4 - 8.6	
0' - 1000'	8.4 - 8.6	Fresh Water
1000' - 2500'	9.5 - 10.5	Brine
2500' - 10258'	8.6 - 10.2	Cut-Brine
10258' - 20966'	10.0 - 12.	OBM

Geology

Formation	Est. Top (TVD)	Mineral Resources	Formation	Est. Top (TVD)	Mineral Resources
Rustler			Yeso		
Castile			Delaware (Lamar)	2560'	Oil/Natural Gas
Salt Top	1050'	None	Bell Canyon	2600'	Oil/Natural Gas
Salt Base	2400'	None	Cherry Canyon	3500'	Oil/Natural Gas
Yates			Manzanita Marker	3610'	Oil/Natural Gas
Seven Rivers			Basal Brushy Canyon		
Queen			Bone Spring	6310'	Oil/Natural Gas
Capitan			1st Bone Spring	7240'	Oil/Natural Gas
Grayburg			2nd Bone Spring	8040'	Oil/Natural Gas
San Andres			3rd Bone Spring	8400'	Oil/Natural Gas
Glorieta			Wolfcamp	9520'	Oil/Natural Gas

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

SHL: 470' FSL 265' FWL (Sec 11) BHL: 2310' FSL 330' FEL (Sec 12)

	Casing Program Design B						BLM Minimum Safety Factors	1.125	1.0	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet
	String	Hole Size	Top MD	Top TVD	Bot MD	Bot TVD	Csg. Size	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
	Surface	17.5"	0'	0'	1000'	1000'	13.375" 54.5# J55 STC	2.53	6.10	9.43	15.65
	Int	12.25"	0'	0'	2500'	2500'	9.625" 40# L80 LTC	2.26	4.21	7.37	9.16
Pt	oduction	8.75"	0'	0'	10950'	10596'	7" 26# HCP110 LTC	1.39	1.77	2.43	2.92
	Liner	6.125"	10258'	10060'	20966'	10833'	4.5" 13.5# P110 LTC	1.58	1.84	2.34	2.92

Design B - Cement Program

Casing		# Sacks	Wt. lb/gal	Yield ft ³ /sack	тос/вос	Volume ft ³	% Excess	Slurry Description
13,375 in	LEAD	530	12.5	2.12	0' - 808'	1130	100%	Class C: Salt, Gel, Extender, LCM
13.375 III	TAIL	200	14.8	1.34	808' - 1000'	268	100%	Class C: Retarder
9.625 in	LEAD	330	12.5	2.12	0' - 1808'	700	25%	Class C: Salt, Gel, Extender, LCM
9.025 III	TAIL	200	14.8	1.34	1808' - 2500'	268	2370	Class C: Retarder
1st Stg 7 in	LEAD	440	12.5	2.12	3585' - 8488'	940	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
18t Stg / III	TAIL	400	15.6	1.18	8488' - 10950'	472	2376	Class H: Retarder, Fluid Loss, Defoamer
					7" DV	Tool @ 3585'		
2nd Stg 7 in	LEAD	50	12.5	2.12	2300' - 2879'	110	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
Ziid Stg / iii	TAIL	100	14.8	1.34	2879' - 3585'	134	2376	Class C: Retarder, Fluid Loss, Defoamer
4.5 in	LEAD	680	13.5	1.85	10258' - 20966'	1260	25%	Class H: Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti- settling Agent

Design B - Mud Program

Depth	Mud Wt	Mud Type
	8.4 - 8.6	
0' - 1000'	8.4 - 8.6	Fresh Water
1000' - 2500'	9.5 - 10.5	Brine
2500' - 10950'	8.6 - 10.2	Cut-Brine
10950' - 20966'	10.0 - 12.	OBM

Geology

Formation	Est. Top (TVD)	Mineral Resources	Formation	Est. Top (TVD)	Mineral Resources
Rustler			Yeso		
Castile			Delaware (Lamar)	2560'	Oil/Natural Gas
Salt Top	1050'	None	Bell Canyon	2600'	Oil/Natural Gas
Salt Base	2400'	None	Cherry Canyon	3500'	Oil/Natural Gas
Yates			Manzanita Marker	3610'	Oil/Natural Gas
Seven Rivers			Basal Brushy Canyon		
Queen			Bone Spring	6310'	Oil/Natural Gas
Capitan			1st Bone Spring	7240'	Oil/Natural Gas
Grayburg			2nd Bone Spring	8040'	Oil/Natural Gas
San Andres			3rd Bone Spring	8400'	Oil/Natural Gas
Glorieta			Wolfcamp	9520'	Oil/Natural Gas

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

SHL: 470' FSL 265' FWL (Sec 11) BHL: 2310' FSL 330' FEL (Sec 12)

Casing Program Design A						BLM Minimum Safety Factors	1.125	1.0	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet
String	Hole Size	Top MD	Top TVD	Bot MD	Bot TVD	Csg. Size	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
Surface	17.5"	0'	0'	1000'	1000'	13.375" 54.5# J55 STC	2.53	6.10	9.43	15.65
Int	12.25"	0'	0'	2500'	2500'	9.625" 40# L80 LTC	2.26	4.21	7.37	9.16
Production	8.75"	0'	0'	10258'	10060'	7" 26# P110 LTC	1.17	1.86	2.60	3.11
Liner	6.125"	10058'	9860'	20966'	10833'	4.5" 13.5# P110 LTC	1.58	1.84	2.30	2.87

Cement Program

Casing		# Sacks	Wt. lb/gal	Yield ft ³ /sack	тос/вос	Volume ft ³	% Excess	Slurry Description
13,375 in	LEAD	530	12.5	2.12	0' - 808'	1130	100%	Class C: Salt, Gel, Extender, LCM
13.3/5 III	TAIL	200	14.8	1.34	808' - 1000'	268	100%	Class C: Retarder
9,625 in	LEAD	330	12.5	2.12	0' - 1808'	700	25%	Class C: Salt, Gel, Extender, LCM
9.025 III	TAIL	200	14.8	1.34	1808' - 2500'	268	45%	Class C: Retarder
1st Stg 7 in	LEAD	370	12.5	2.12	3585' - 7762'	790	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
1st Stg / III	TAIL	400	15.6	1.18	7762' - 10258'	472	2370	Class H: Retarder, Fluid Loss, Defoamer
					7" DV	Tool @ 3585'		
2nd Stg 7 in	LEAD	50	12.5	2.12	2300' - 2879'	110	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
2nd Stg / in	TAIL	100	14.8	1.34	2879' - 3585'	134	2370	Class C: Retarder, Fluid Loss, Defoamer
4.5 in	LEAD	700	13.5	1.85	10058' - 20966'	1300	25%	Class H: Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti- settling Agent

Design A - Mud Program

Depth	Mud Wt	Mud Type
	8.4 - 8.6	
0' - 1000'	8.4 - 8.6	Fresh Water
1000' - 2500'	9.5 - 10.5	Brine
2500' - 10258'	8.6 - 10.2	Cut-Brine
10258' - 20966'	10.0 - 12.	OBM

Geology

Formation	Est. Top (TVD)	Mineral Resources	Formation	Est. Top (TVD)	Mineral Resources
Rustler			Yeso		
Castile			Delaware (Lamar)	2560'	Oil/Natural Gas
Salt Top	1050'	None	Bell Canyon	2600'	Oil/Natural Gas
Salt Base	2400'	None	Cherry Canyon	3500'	Oil/Natural Gas
Yates			Manzanita Marker	3610'	Oil/Natural Gas
Seven Rivers			Basal Brushy Canyon		
Queen			Bone Spring	6310'	Oil/Natural Gas
Capitan			1st Bone Spring	7240'	Oil/Natural Gas
Grayburg			2nd Bone Spring	8040'	Oil/Natural Gas
San Andres			3rd Bone Spring	8400'	Oil/Natural Gas
Glorieta			Wolfcamp	9520'	Oil/Natural Gas

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

SHL: 470' FSL 265' FWL (Sec 11) BHL: 2310' FSL 330' FEL (Sec 12)

	Casing Program Design B						BLM Minimum Safety Factors	1.125	1.0	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet
s	tring	Hole Size	Top MD	Top TVD	Bot MD	Bot TVD	Csg. Size	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
S	urface	17.5"	0'	0'	1000'	1000'	13.375" 54.5# J55 STC	2.53	6.10	9.43	15.65
	Int	12.25"	0'	0'	2500'	2500'	9.625" 40# L80 LTC	2.26	4.21	7.37	9.16
Pro	duction	8.75"	0'	0'	10950'	10596'	7" 26# HCP110 LTC	1.39	1.77	2.43	2.92
	Liner	6.125"	10258'	10060'	20966'	10833'	4.5" 13.5# P110 LTC	1.58	1.84	2.34	2.92

Design B - Cement Program

Casing		# Sacks	Wt. lb/gal	Yield ft ³ /sack	тос/вос	Volume ft ³	% Excess	Slurry Description
13,375 in	LEAD	530	12.5	2.12	0' - 808'	1130	100%	Class C: Salt, Gel, Extender, LCM
13.375 III	TAIL	200	14.8	1.34	808' - 1000'	268	100%	Class C: Retarder
9,625 in	LEAD	330	12.5	2.12	0' - 1808'	700	25%	Class C: Salt, Gel, Extender, LCM
9.025 III	TAIL	200	14.8	1.34	1808' - 2500'	268	2370	Class C: Retarder
1st Stg 7 in	LEAD	440	12.5	2.12	3585' - 8488'	940	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
1st Stg / III	TAIL	400	15.6	1.18	8488' - 10950'	472	2370	Class H: Retarder, Fluid Loss, Defoamer
					7" DV	Tool @ 3585'		
2nd Stg 7 in	LEAD	50	12.5	2.12	2300' - 2879'	110	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
2nd Stg / m	TAIL	100	14.8	1.34	2879' - 3585'	134	2370	Class C: Retarder, Fluid Loss, Defoamer
4.5 in	LEAD	680	13.5	1.85	10258' - 20966'	1260	25%	Class H: Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti- settling Agent

Design B - Mud Program

Depth	Mud Wt	Mud Type
	8.4 - 8.6	
0' - 1000'	8.4 - 8.6	Fresh Water
1000' - 2500'	9.5 - 10.5	Brine
2500' - 10950'	8.6 - 10.2	Cut-Brine
10950' - 20966'	10.0 - 12.	OBM

Geology

Formation	Est. Top (TVD)	Mineral Resources	Formation	Est. Top (TVD)	Mineral Resources
Rustler			Yeso		
Castile			Delaware (Lamar)	2560'	Oil/Natural Gas
Salt Top	1050'	None	Bell Canyon	2600'	Oil/Natural Gas
Salt Base	2400'	None	Cherry Canyon	3500'	Oil/Natural Gas
Yates			Manzanita Marker	3610'	Oil/Natural Gas
Seven Rivers			Basal Brushy Canyon		
Queen			Bone Spring	6310'	Oil/Natural Gas
Capitan			1st Bone Spring	7240'	Oil/Natural Gas
Grayburg			2nd Bone Spring	8040'	Oil/Natural Gas
San Andres			3rd Bone Spring	8400'	Oil/Natural Gas
Glorieta			Wolfcamp	9520'	Oil/Natural Gas

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

SHL: 470' FSL 265' FWL (Sec 11) BHL: 2310' FSL 330' FEL (Sec 12)

Casing Program Design A					BLM Minimum Safety Factors	1.125	1.0	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet	
String	Hole Size	Top MD	Top TVD	Bot MD	Bot TVD	Csg. Size	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
Surface	17.5"	0'	0'	1000'	1000'	13.375" 54.5# J55 STC	2.53	6.10	9.43	15.65
Int	12.25"	0'	0'	2500'	2500'	9.625" 40# L80 LTC	2.26	4.21	7.37	9.16
Production	8.75"	0'	0'	10258'	10060'	7" 26# P110 LTC	1.17	1.86	2.60	3.11
Liner	6.125"	10058'	9860'	20966'	10833'	4.5" 13.5# P110 LTC	1.58	1.84	2.30	2.87

Cement Program

Casing		# Sacks	Wt. lb/gal	Yield ft ³ /sack	тос/вос	Volume ft ³	% Excess	Slurry Description
13,375 in	LEAD	530	12.5	2.12	0' - 808'	1130	100%	Class C: Salt, Gel, Extender, LCM
13.3/5 III	TAIL	200	14.8	1.34	808' - 1000'	268	100%	Class C: Retarder
9,625 in	LEAD	330	12.5	2.12	0' - 1808'	700	25%	Class C: Salt, Gel, Extender, LCM
9.025 III	TAIL	200	14.8	1.34	1808' - 2500'	268	2370	Class C: Retarder
1st Stg 7 in	LEAD	370	12.5	2.12	3585' - 7762'	790	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
1st Stg / III	TAIL	400	15.6	1.18	7762' - 10258'	472	2370	Class H: Retarder, Fluid Loss, Defoamer
					7" DV	Tool @ 3585'		
2nd Stg 7 in	LEAD	50	12.5	2.12	2300' - 2879'	110	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
Ziiu Stg / Iii	TAIL	100	14.8	1.34	2879' - 3585'	134	2370	Class C: Retarder, Fluid Loss, Defoamer
4.5 in	LEAD	700	13.5	1.85	10058' - 20966'	1300	25%	Class H: Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti- settling Agent

Design A - Mud Program

Depth	Mud Wt	Mud Type
	8.4 - 8.6	
0' - 1000'	8.4 - 8.6	Fresh Water
1000' - 2500'	9.5 - 10.5	Brine
2500' - 10258'	8.6 - 10.2	Cut-Brine
10258' - 20966'	10.0 - 12.	OBM

Geology

Formation	Est. Top (TVD)	Mineral Resources	Formation	Est. Top (TVD)	Mineral Resources
Rustler			Yeso		
Castile			Delaware (Lamar)	2560'	Oil/Natural Gas
Salt Top	1050'	None	Bell Canyon	2600'	Oil/Natural Gas
Salt Base	2400'	None	Cherry Canyon	3500'	Oil/Natural Gas
Yates			Manzanita Marker	3610'	Oil/Natural Gas
Seven Rivers			Basal Brushy Canyon		
Queen			Bone Spring	6310'	Oil/Natural Gas
Capitan			1st Bone Spring	7240'	Oil/Natural Gas
Grayburg			2nd Bone Spring	8040'	Oil/Natural Gas
San Andres			3rd Bone Spring	8400'	Oil/Natural Gas
Glorieta			Wolfcamp	9520'	Oil/Natural Gas

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

Mewbourne Oil Company, Journey 11/12 Fed Com 865H Sec 11, T24S, R28E

SHL: 470' FSL 265' FWL (Sec 11) BHL: 2310' FSL 330' FEL (Sec 12)

		Casing Prog	ram Design B			BLM Minimum Safety Factors	1.125	1.0	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet
String	Hole Size	Top MD	Top TVD	Bot MD	Bot TVD	Csg. Size	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
Surface	17.5"	0'	0'	1000'	1000'	13.375" 54.5# J55 STC	2.53	6.10	9.43	15.65
Int	12.25"	0'	0'	2500'	2500'	9.625" 40# L80 LTC	2.26	4.21	7.37	9.16
Production	8.75"	0'	0'	10950'	10596'	7" 26# HCP110 LTC	1.39	1.77	2.43	2.92
Liner	6.125"	10258'	10060'	20966'	10833'	4.5" 13.5# P110 LTC	1.58	1.84	2.34	2.92

Design B - Cement Program

Casing		# Sacks	Wt. lb/gal	Yield ft ³ /sack	тос/вос	Volume ft ³	% Excess	Slurry Description
13,375 in	LEAD	530	12.5	2.12	0' - 808'	1130	100%	Class C: Salt, Gel, Extender, LCM
13.375 III	TAIL	200	14.8	1.34	808' - 1000'	268	100%	Class C: Retarder
9,625 in	LEAD	330	12.5	2.12	0' - 1808'	700	25%	Class C: Salt, Gel, Extender, LCM
9.025 III	TAIL	200	14.8	1.34	1808' - 2500'	268	2370	Class C: Retarder
1st Stg 7 in	LEAD	440	12.5	2.12	3585' - 8488'	940	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
18t Stg / III	TAIL	400	15.6	1.18	8488' - 10950'	472	2370	Class H: Retarder, Fluid Loss, Defoamer
					7" DV	Tool @ 3585'		
2nd Stg 7 in	LEAD	50	12.5	2.12	2300' - 2879'	110	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
Ziid Stg / iii	TAIL	100	14.8	1.34	2879' - 3585'	134	2370	Class C: Retarder, Fluid Loss, Defoamer
4.5 in	LEAD	680	13.5	1.85	10258' - 20966'	1260	25%	Class H: Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti- settling Agent

Design B - Mud Program

De	epth	Mud Wt	Mud Type
		8.4 - 8.6	
0' -	1000'	8.4 - 8.6	Fresh Water
1000'	- 2500'	9.5 - 10.5	Brine
2500'	- 10950'	8.6 - 10.2	Cut-Brine
10950'	- 20966'	10.0 - 12.	OBM

Geology

Formation	Est. Top (TVD)	Mineral Resources	Formation	Est. Top (TVD)	Mineral Resources
Rustler			Yeso		
Castile			Delaware (Lamar)	2560'	Oil/Natural Gas
Salt Top	1050'	None	Bell Canyon	2600'	Oil/Natural Gas
Salt Base	2400'	None	Cherry Canyon	3500'	Oil/Natural Gas
Yates			Manzanita Marker	3610'	Oil/Natural Gas
Seven Rivers			Basal Brushy Canyon		
Queen			Bone Spring	6310'	Oil/Natural Gas
Capitan			1st Bone Spring	7240'	Oil/Natural Gas
Grayburg			2nd Bone Spring	8040'	Oil/Natural Gas
San Andres			3rd Bone Spring	8400'	Oil/Natural Gas
Glorieta			Wolfcamp	9520'	Oil/Natural Gas

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 easing new? If used, attach certification as required in Onshore Order #1	Y
Is casing API approved? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	N
Is well located in SOPA but not in R-111-Q?	N
If yes, are the first 2 strings cemented to surface and 3 rd string cement tied back 500' into previous casing?	
Is well located in R-111-Q and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2 ^{red} 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

Eddy County, New Mexico NAD 83 Journey 11 12 Fed Com 865H Sec 11, T24S, R28E

SHL: 470' FSL & 265' FWL (Sec 11) BHL: 2310' FSL & 330' FEL (Sec 12)

Plan: Design #1

Standard Planning Report

02 July, 2024

Database: Hobbs

Company: Mewbourne Oil Company
Project: Eddy County, New Mexico NAD 83
Site: Journey 11 12 Fed Com 865H

Well: Sec 11, T24S, R28E

Wellbore: BHL: 2310' FSL & 330' FEL (Sec 12)

Design: Design #1

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Site Journey 11 12 Fed Com 865H

WELL @ 3028.0usft (Original Well Elev) WELL @ 3028.0usft (Original Well Elev)

Grid

Minimum Curvature

Project Eddy County, New Mexico NAD 83

Map System: US State Plane 1983
Geo Datum: North American Datum 1983
Map Zone: New Mexico Eastern Zone

System Datum:

Ground Level

Site Journey 11 12 Fed Com 865H

 Site Position:
 Northing:
 446,298.70 usft
 Latitude:
 32.2266690

 From:
 Map
 Easting:
 623,974.20 usft
 Longitude:
 -104.0660939

Position Uncertainty: 0.0 usft Slot Radius: 13-3/16 "

Well Sec 11, T24S, R28E

 Well Position
 +N/-S
 0.0 usft
 Northing:
 446,298.70 usft
 Latitude:
 32.2266690

 +E/-W
 0.0 usft
 Easting:
 623,974.20 usft
 Longitude:
 -104.0660939

Position Uncertainty

0.0 usft

Wellhead Elevation: 3,028.0 usft

Ground Level: 3,000.0 usft

3,000.0 usft

Grid Convergence: 0.14 °

Wellbore BHL: 2310' FSL & 330' FEL (Sec 12)

 Magnetics
 Model Name
 Sample Date (°)
 Declination (°)
 Dip Angle (°)
 Field Strength (nT)

 IGRF2010
 12/31/2014
 7.38
 60.02
 48,188.28716303

Design #1

Audit Notes:

 Version:
 Phase:
 PROTOTYPE
 Tie On Depth:
 0.0

 Vertical Section:
 Depth From (TVD)
 +N/-S
 +E/-W
 Direction

 Vertical Section:
 Depth From (TVD) (usft)
 +N/-S (usft)
 +E/-W (usft)
 Direction (usft)

 0.0
 0.0
 0.0
 80.27

Plan Survey Tool Program Date 7/2/2024

Depth From Depth To

(usft) (usft) Survey (Wellbore) Tool Name Remarks

1 0.0 20,965.6 Design #1 (BHL: 2310' FSL & 330

Plan Section	s									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,622.9	12.46	352.07	1,618.0	66.8	-9.3	2.00	2.00	0.00	352.07	
9,635.6	12.46	352.07	9,442.0	1,778.7	-247.8	0.00	0.00	0.00	0.00	
10,258.4	0.00	0.00	10,060.0	1,845.5	-257.1	2.00	-2.00	0.00	180.00 K	OP: 2310' FSL & '
11,147.0	88.83	90.60	10,633.0	1,839.6	304.3	10.00	10.00	0.00	90.60	
20,965.6	88.83	90.60	10,833.0	1,736.0	10,120.3	0.00	0.00	0.00	0.00 B	HL: 2310' FSL & 3

Database: Company:

Hobbs

Mewbourne Oil Company

Eddy County, New Mexico NAD 83 Journey 11 12 Fed Com 865H

Well:

Project:

Site:

Sec 11, T24S, R28E

Wellbore: Design: BHL: 2310' FSL & 330' FEL (Sec 12)

n: Design #1

Local Co-ordinate Reference:

TVD Reference: MD Reference:

North Reference: Survey Calculation Method: Site Journey 11 12 Fed Com 865H

WELL @ 3028.0usft (Original Well Elev) WELL @ 3028.0usft (Original Well Elev)

Grid

ed 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 FSL & 265' FW	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
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
800.0 900.0	0.00 0.00	0.00 0.00	800.0 900.0	0.0 0.0	0.0 0.0	0.0 0.0	0.00 0.00	0.00 0.00	0.00 0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0 1,200.0	2.00 4.00	352.07 352.07	1,100.0 1,199.8	1.7 6.9	-0.2 -1.0	0.1 0.2	2.00 2.00	2.00 2.00	0.00 0.00
1,300.0	6.00	352.07	1,199.6	15.5	-1.0 -2.2	0.5	2.00	2.00	0.00
1,400.0	8.00	352.07	1,398.7	27.6	-3.8	0.9	2.00	2.00	0.00
1,500.0	10.00	352.07	1,497.5	43.1	-6.0	1.4	2.00	2.00	0.00
1,600.0	12.00	352.07	1,595.6	62.0	-8.6	2.0	2.00	2.00	0.00
1,622.9	12.46	352.07	1,618.0	66.8	-9.3	2.1	2.00	2.00	0.00
1,700.0	12.46	352.07	1,693.3	83.3	-11.6	2.6	0.00	0.00	0.00
1,800.0	12.46	352.07	1,790.9	104.6	-14.6	3.3	0.00	0.00	0.00
1,900.0	12.46	352.07	1,888.6	126.0	-17.6	4.0	0.00	0.00	0.00
2,000.0	12.46	352.07	1,986.2	147.4	-20.5	4.7	0.00	0.00	0.00
2,100.0 2,200.0	12.46 12.46	352.07 352.07	2,083.9 2,181.5	168.7 190.1	-23.5 -26.5	5.4 6.0	0.00 0.00	0.00 0.00	0.00 0.00
2,200.0	12.46	352.07	2,101.3	211.5	-20.5 -29.5	6.7	0.00	0.00	0.00
2,400.0	12.46	352.07	2,376.8	232.8	-32.4	7.4	0.00	0.00	0.00
2,500.0	12.46	352.07	2,474.5	254.2	-35.4	8.1	0.00	0.00	0.00
2,600.0	12.46	352.07	2,572.1	275.6	-38.4	8.8	0.00	0.00	0.00
2,700.0	12.46	352.07	2,669.7	296.9	-41.4	9.4	0.00	0.00	0.00
2,800.0	12.46	352.07	2,767.4	318.3	-44.3	10.1	0.00	0.00	0.00
2,900.0	12.46	352.07	2,865.0	339.7	-47.3	10.8	0.00	0.00	0.00
3,000.0	12.46	352.07	2,962.7 3,060.3	361.0 382.4	-50.3 -53.3	11.5 12.1	0.00 0.00	0.00 0.00	0.00 0.00
3,100.0 3,200.0	12.46 12.46	352.07 352.07	3,158.0	403.8	-56.2	12.1	0.00	0.00	0.00
3,300.0	12.46	352.07	3,255.6	425.1	-59.2	13.5	0.00	0.00	0.00
3,400.0	12.46	352.07	3,353.3	446.5	-62.2	14.2	0.00	0.00	0.00
3,500.0	12.46	352.07	3,450.9	467.8	-65.2	14.9	0.00	0.00	0.00
3,600.0	12.46	352.07	3,548.6	489.2	-68.2	15.5	0.00	0.00	0.00
3,700.0	12.46	352.07	3,646.2	510.6	-71.1	16.2	0.00	0.00	0.00
3,800.0	12.46	352.07	3,743.8	531.9	-74.1	16.9	0.00	0.00	0.00
3,900.0	12.46	352.07	3,841.5	553.3	-77.1	17.6	0.00	0.00	0.00
4,000.0	12.46	352.07	3,939.1 4,036.8	574.7	-80.1	18.3	0.00	0.00	0.00
4,100.0 4,200.0	12.46 12.46	352.07 352.07	4,036.8 4,134.4	596.0 617.4	-83.0 -86.0	18.9 19.6	0.00 0.00	0.00 0.00	0.00 0.00
4,300.0	12.46	352.07	4,134.4	638.8	-89.0	20.3	0.00	0.00	0.00
4,400.0	12.46	352.07	4,329.7	660.1	-92.0	21.0	0.00	0.00	0.00
4,500.0	12.46	352.07	4,427.4	681.5	-94.9	21.6	0.00	0.00	0.00
4,600.0	12.46	352.07	4,525.0	702.9	-97.9	22.3	0.00	0.00	0.00
4,700.0	12.46	352.07	4,622.7	724.2	-100.9	23.0	0.00	0.00	0.00
4,800.0	12.46	352.07	4,720.3	745.6	-103.9	23.7	0.00	0.00	0.00
4,900.0	12.46	352.07	4,818.0	767.0	-106.8	24.4	0.00	0.00	0.00
5,000.0 5,100.0	12.46 12.46	352.07 352.07	4,915.6 5,013.2	788.3 809.7	-109.8 -112.8	25.0 25.7	0.00 0.00	0.00 0.00	0.00 0.00

Database: Company: Project:

Site:

Hobbs

Mewbourne Oil Company

Eddy County, New Mexico NAD 83 Journey 11 12 Fed Com 865H

Well: Sec 11, T24S, R28E

BHL: 2310' FSL & 330' FEL (Sec 12)

Wellbore: BHL: 2310
Design: Design #1

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Site Journey 11 12 Fed Com 865H

WELL @ 3028.0usft (Original Well Elev) WELL @ 3028.0usft (Original Well Elev)

Grid

Design:	Design #1								
Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,200.0	12.46	352.07	5,110.9	831.0	-115.8	26.4	0.00	0.00	0.00
5,300.0	12.46	352.07	5,208.5	852.4	-118.8	27.1	0.00	0.00	0.00
5,400.0	12.46	352.07	5,306.2	873.8	-121.7	27.8	0.00	0.00	0.00
5,500.0	12.46	352.07	5,403.8	895.1	-124.7	28.4	0.00	0.00	0.00
5,600.0	12.46	352.07	5,501.5	916.5	-127.7	29.1	0.00	0.00	0.00
5,700.0	12.46	352.07	5,599.1	937.9	-130.7	29.8	0.00	0.00	0.00
5,800.0	12.46	352.07	5,696.8	959.2	-133.6	30.5	0.00	0.00	0.00
5,900.0	12.46	352.07	5,794.4	980.6	-136.6	31.1	0.00	0.00	0.00
6,000.0	12.46	352.07	5,892.1	1,002.0	-139.6	31.8	0.00	0.00	0.00
6,100.0	12.46	352.07	5,989.7	1,023.3	-142.6	32.5	0.00	0.00	0.00
6,200.0	12.46	352.07	6,087.3	1,044.7	-145.5	33.2	0.00	0.00	0.00
6,300.0	12.46	352.07	6,185.0	1,066.1	-148.5	33.9	0.00	0.00	0.00
6,400.0	12.46	352.07	6,282.6	1,087.4	-151.5	34.5	0.00	0.00	0.00
6,500.0	12.46	352.07	6,380.3	1,108.8	-154.5	35.2	0.00	0.00	0.00
6,600.0	12.46	352.07	6,477.9	1,130.2	-157.4	35.9	0.00	0.00	0.00
6,700.0	12.46	352.07	6,575.6	1,151.5	-160.4	36.6	0.00	0.00	0.00
6,800.0	12.46	352.07	6,673.2	1,172.9	-163.4	37.3	0.00	0.00	0.00
6,900.0	12.46	352.07	6,770.9	1,194.3	-166.4	37.9	0.00	0.00	0.00
7,000.0	12.46	352.07	6,868.5	1,215.6	-169.3	38.6	0.00	0.00	0.00
7,100.0	12.46	352.07	6,966.2	1,237.0	-172.3	39.3	0.00	0.00	0.00
7,200.0	12.46	352.07	7,063.8	1,258.3	-175.3	40.0	0.00	0.00	0.00
7,300.0	12.46	352.07	7,161.4	1,279.7	-178.3	40.6	0.00	0.00	0.00
7,400.0	12.46	352.07	7,259.1	1,301.1	-181.3	41.3	0.00	0.00	0.00
7,500.0	12.46	352.07	7,356.7	1,322.4	-184.2	42.0	0.00	0.00	0.00
7,600.0	12.46	352.07	7,454.4	1,343.8	-187.2	42.7	0.00	0.00	0.00
7,700.0	12.46	352.07	7,552.0	1,365.2	-190.2	43.4	0.00	0.00	0.00
7,800.0	12.46	352.07	7,649.7	1,386.5	-193.2	44.0	0.00	0.00	0.00
7,900.0	12.46	352.07	7,747.3	1,407.9	-196.1	44.7	0.00	0.00	0.00
8,000.0	12.46	352.07	7,845.0	1,429.3	-199.1	45.4	0.00	0.00	0.00
8,100.0	12.46	352.07	7,942.6	1,450.6	-202.1	46.1	0.00	0.00	0.00
8,200.0	12.46	352.07	8,040.3	1,472.0	-205.1	46.8	0.00	0.00	0.00
8,300.0	12.46	352.07	8,137.9	1,493.4	-208.0	47.4	0.00	0.00	0.00
8,400.0	12.46	352.07	8,235.6	1,514.7	-211.0	48.1	0.00	0.00	0.00
8,500.0	12.46	352.07	8,333.2	1,536.1	-214.0	48.8	0.00	0.00	0.00
8,600.0	12.46	352.07	8,430.8	1,557.5	-217.0	49.5	0.00	0.00	0.00
8,700.0	12.46	352.07	8,528.5	1,578.8	-219.9	50.1	0.00	0.00	0.00
8,800.0	12.46	352.07	8,626.1	1,600.2	-222.9	50.8	0.00	0.00	0.00
8,900.0	12.46	352.07	8,723.8	1,621.5	-225.9	51.5	0.00	0.00	0.00
9,000.0	12.46	352.07	8,821.4	1,642.9	-228.9	52.2	0.00	0.00	0.00
9,100.0	12.46	352.07	8,919.1	1,664.3	-231.9	52.9	0.00	0.00	0.00
9,200.0	12.46	352.07	9,016.7	1,685.6	-234.8	53.5	0.00	0.00	0.00
9,300.0	12.46	352.07	9,114.4	1,707.0	-237.8	54.2	0.00	0.00	0.00
9,400.0	12.46	352.07	9,212.0	1,728.4	-240.8	54.9	0.00	0.00	0.00
9,500.0	12.46	352.07	9,309.7	1,749.7	-243.8	55.6	0.00	0.00	0.00
9,600.0	12.46	352.07	9,407.3	1,771.1	-246.7	56.3	0.00	0.00	0.00
9,635.6	12.46	352.07	9,442.0	1,778.7	-247.8	56.5	0.00	0.00	0.00
9,700.0	11.17	352.07	9,505.1	1,791.8	-249.6	56.9	2.00	-2.00	0.00
9,800.0	9.17	352.07	9,603.5	1,809.2	-252.0	57.5	2.00	-2.00	0.00
9,900.0	7.17	352.07	9,702.5	1,823.3	-254.0	57.9	2.00	-2.00	0.00
10,000.0	5.17	352.07	9,801.9	1,834.0	-255.5	58.2	2.00	-2.00	0.00
10,100.0	3.17	352.07	9,901.6	1,841.2	-256.5	58.5	2.00	-2.00	0.00
10,200.0	1.17	352.07	10,001.6	1,844.9	-257.0	58.6	2.00	-2.00	0.00
10,258.4	0.00	0.00	10,060.0	1,845.5	-257.1	58.6	2.00	-2.00	0.00

Hobbs Database:

Company:

Mewbourne Oil Company Project: Eddy County, New Mexico NAD 83

Site: Journey 11 12 Fed Com 865H

Sec 11, T24S, R28E Well:

Wellbore: BHL: 2310' FSL & 330' FEL (Sec 12)

Design: Design #1 Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Site Journey 11 12 Fed Com 865H

WELL @ 3028.0usft (Original Well Elev) WELL @ 3028.0usft (Original Well Elev)

· -									
Planned Surve	ey .								
Measur Depth (usft)	Inclinati	on Azimutl (°)	Vertical n Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
KOP:	2310' FSL & 10	0' FWL (Sec 1	1)						
10,30 10,35 10,40 10,45	0.0 4 0.0 9 0.0 14	16 90. 0.15 90. 0.15 90. 0.15 90.	60 10,101.5 60 10,151.2 60 10,200.1	1,845.4 1,845.3	-255.6 -249.8 -239.7 -225.4	60.1 65.8 75.7 89.8	10.00 10.00 10.00 10.00	10.00 10.00 10.00 10.00	0.00 0.00 0.00 0.00
10,50 10,55 10,60 10,65 10,70	0.0 29 0.0 34 0.0 39	15 90. 15 90. 15 90. 15 90. 14 90.	60 10,339.2 60 10,381.7 60 10,421.8	1,844.7 1,844.5 1,844.1	-206.9 -184.5 -158.3 -128.5 -95.3	108.0 130.0 155.8 185.2 217.8	10.00 10.00 10.00 10.00 10.00	10.00 10.00 10.00 10.00 10.00	0.00 0.00 0.00 0.00 0.00
10,75 10,80 10,85 10,89	0.0 54 0.0 59	90. 14 90. 14 90. 177 90.	60 10,524.5 60 10,552.0 60 10,574.1	1,843.0 1,842.6	-58.9 -19.7 22.0 62.7	253.6 292.2 333.2 373.2	10.00 10.00 10.00 10.00	10.00 10.00 10.00 10.00	0.00 0.00 0.00 0.00
10.90		.14 (Sec 1	•	1,842.1	66.0	376.5	10.00	10.00	0.00
10,95 11,00 11,05 11,10 11,14	0.0 69 0.0 74 0.0 79 0.0 84	.14 90. .14 90. .13 90. .13 90.	60 10,595.5 60 10,611.3 60 10,622.8 60 10,630.1	1,841.6 1,841.1 1,840.6 1,840.1	111.9 159.3 208.0 257.4 304.3	421.6 468.3 516.1 564.8 610.9	10.00 10.00 10.00 10.00 10.00	10.00 10.00 10.00 10.00 10.00	0.00 0.00 0.00 0.00 0.00
·	10' FSL & 583			.,					
11,20 11,30 11,40 11,50 11,60	0.0 88 0.0 88 0.0 88	.83 90. .83 90. .83 90. .83 90.	60 10,636.1 60 10,638.2 60 10,640.2	1,838.0 1,836.9 1,835.9	357.3 457.3 557.2 657.2 757.2	663.1 761.4 859.8 958.1 1,056.5	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
11,70 11,80 11,90 12,00 12,10	0.0 88 0.0 88 0.0 88	.83 90. .83 90. .83 90. .83 90.	60 10,646.3 60 10,648.3 60 10,650.4	1,832.7 1,831.6 1,830.6	857.2 957.1 1,057.1 1,157.1 1,257.1	1,154.8 1,253.2 1,351.6 1,449.9 1,548.3	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
12,20 12,30 12,40 12,50 12,60	0.0 88 0.0 88 0.0 88	.83 90. .83 90. .83 90. .83 90.	60 10,656.5 60 10,658.5 60 10,660.6	1,827.4 1,826.4 1,825.3	1,357.0 1,457.0 1,557.0 1,656.9 1,756.9	1,646.6 1,745.0 1,843.3 1,941.7 2,040.0	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
12,70 12,80 12,90 13,00 13,10	0.0 88 0.0 88 0.0 88	.83 90. .83 90. .83 90. .83 90.	60 10,666.7 60 10,668.7 60 10,670.7	1,822.1 1,821.1 1,820.0	1,856.9 1,956.9 2,056.8 2,156.8 2,256.8	2,138.4 2,236.8 2,335.1 2,433.5 2,531.8	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
13,20 13,30 13,40 13,50 13,60	0.0 88 0.0 88 0.0 88	.83 90. .83 90. .83 90. .83 90.	60 10,676.9 60 10,678.9 60 10,680.9	1,816.9 1,815.8 1,814.8	2,356.8 2,456.7 2,556.7 2,656.7 2,756.7	2,630.2 2,728.5 2,826.9 2,925.3 3,023.6	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
13,70 13,80 13,90 14,00 14,10	0.0 88 0.0 88 0.0 88	.83 90. .83 90. .83 90. .83 90. .83 90.	60 10,687.0 60 10,689.1 60 10,691.1	1,811.6 1,810.5 1,809.5	2,856.6 2,956.6 3,056.6 3,156.6 3,256.5	3,122.0 3,220.3 3,318.7 3,417.0 3,515.4	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
14,20	0.0 88	.83 90.	60 10,695.2	1,807.4	3,356.5	3,613.7	0.00	0.00	0.00

Database: Company: Project:

Site:

Hobbs

Mewbourne Oil Company

Eddy County, New Mexico NAD 83 Journey 11 12 Fed Com 865H

Well: Sec 11, T24S, R28E

Wellbore: BHL: 2310' FSL & 330' FEL (Sec 12)

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Site Journey 11 12 Fed Com 865H

WELL @ 3028.0usft (Original Well Elev) WELL @ 3028.0usft (Original Well Elev)

Grid

Design:	Design #1		,						
Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
14,300.0 14,400.0 14,500.0 14,600.0	88.83 88.83 88.83 88.83	90.60 90.60 90.60 90.60	10,697.2 10,699.3 10,701.3 10,703.3	1,806.3 1,805.3 1,804.2 1,803.2	3,456.5 3,556.4 3,656.4 3,756.4	3,712.1 3,810.5 3,908.8 4,007.2	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
14,700.0 14,800.0 14,900.0 15,000.0 15,100.0	88.83 88.83 88.83 88.83	90.60 90.60 90.60 90.60 90.60	10,705.4 10,707.4 10,709.4 10,711.5 10,713.5	1,802.1 1,801.0 1,800.0 1,798.9 1,797.9	3,856.4 3,956.3 4,056.3 4,156.3 4,256.3	4,105.5 4,203.9 4,302.2 4,400.6 4,499.0	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
15,200.0 15,300.0 15,400.0 15,500.0 15,600.0	88.83 88.83 88.83 88.83	90.60 90.60 90.60 90.60 90.60	10,715.6 10,717.6 10,719.6 10,721.7 10,723.7	1,796.8 1,795.8 1,794.7 1,793.7 1,792.6	4,356.2 4,456.2 4,556.2 4,656.2 4,756.1	4,597.3 4,695.7 4,794.0 4,892.4 4,990.7	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
15,700.0 15,800.0 15,900.0 16,000.0 16,100.0	88.83 88.83 88.83 88.83	90.60 90.60 90.60 90.60 90.60	10,725.7 10,727.8 10,729.8 10,731.9 10,733.9	1,791.5 1,790.5 1,789.4 1,788.4 1,787.3	4,856.1 4,956.1 5,056.1 5,156.0 5,256.0	5,089.1 5,187.4 5,285.8 5,384.2 5,482.5	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
16,200.0 16,300.0 16,400.0 16,500.0 16,600.0	88.83 88.83 88.83 88.83	90.60 90.60 90.60 90.60 90.60	10,735.9 10,738.0 10,740.0 10,742.0 10,744.1	1,786.3 1,785.2 1,784.2 1,783.1 1,782.1	5,356.0 5,455.9 5,555.9 5,655.9 5,755.9	5,580.9 5,679.2 5,777.6 5,875.9 5,974.3	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
16,700.0 16,800.0 16,900.0 17,000.0 17,100.0	88.83 88.83 88.83 88.83	90.60 90.60 90.60 90.60 90.60	10,746.1 10,748.1 10,750.2 10,752.2 10,754.3	1,781.0 1,779.9 1,778.9 1,777.8 1,776.8	5,855.8 5,955.8 6,055.8 6,155.8 6,255.7	6,072.7 6,171.0 6,269.4 6,367.7 6,466.1	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
17,200.0 17,300.0 17,400.0 17,500.0 17,600.0	88.83 88.83 88.83 88.83	90.60 90.60 90.60 90.60 90.60	10,756.3 10,758.3 10,760.4 10,762.4 10,764.4	1,775.7 1,774.7 1,773.6 1,772.6 1,771.5	6,355.7 6,455.7 6,555.7 6,655.6 6,755.6	6,564.4 6,662.8 6,761.1 6,859.5 6,957.9	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
17,700.0 17,800.0 17,900.0 18,000.0 18,100.0	88.83 88.83 88.83 88.83	90.60 90.60 90.60 90.60 90.60	10,766.5 10,768.5 10,770.6 10,772.6 10,774.6	1,770.4 1,769.4 1,768.3 1,767.3 1,766.2	6,855.6 6,955.6 7,055.5 7,155.5 7,255.5	7,056.2 7,154.6 7,252.9 7,351.3 7,449.6	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
18,200.0 18,300.0 18,400.0 18,500.0 18,600.0	88.83 88.83 88.83 88.83	90.60 90.60 90.60 90.60 90.60	10,776.7 10,778.7 10,780.7 10,782.8 10,784.8	1,765.2 1,764.1 1,763.1 1,762.0 1,761.0	7,355.4 7,455.4 7,555.4 7,655.4 7,755.3	7,548.0 7,646.4 7,744.7 7,843.1 7,941.4	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
18,629.9 PPP2: 234	88.83 2' FSL & 2665'	90.60 FWL (Sec 12)	10,785.4	1,760.6	7,785.2	7,970.8	0.00	0.00	0.00
18,700.0 18,800.0 18,900.0 19,000.0	88.83 88.83 88.83 88.83	90.60 90.60 90.60 90.60	10,786.9 10,788.9 10,790.9 10,793.0	1,759.9 1,758.8 1,757.8 1,756.7	7,855.3 7,955.3 8,055.3 8,155.2	8,039.8 8,138.1 8,236.5 8,334.8	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
19,100.0 19,200.0 19,300.0 19,400.0	88.83 88.83 88.83 88.83	90.60 90.60 90.60 90.60	10,795.0 10,797.0 10,799.1 10,801.1	1,755.7 1,754.6 1,753.6 1,752.5	8,255.2 8,355.2 8,455.2 8,555.1	8,433.2 8,531.6 8,629.9 8,728.3	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00

Database: Company: Hobbs

Mewbourne Oil Company

Eddy County, New Mexico NAD 83 Journey 11 12 Fed Com 865H

Well:

Sec 11, T24S, R28E

Wellbore:

Project:

Site:

BHL: 2310' FSL & 330' FEL (Sec 12)

Design: Design #1

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

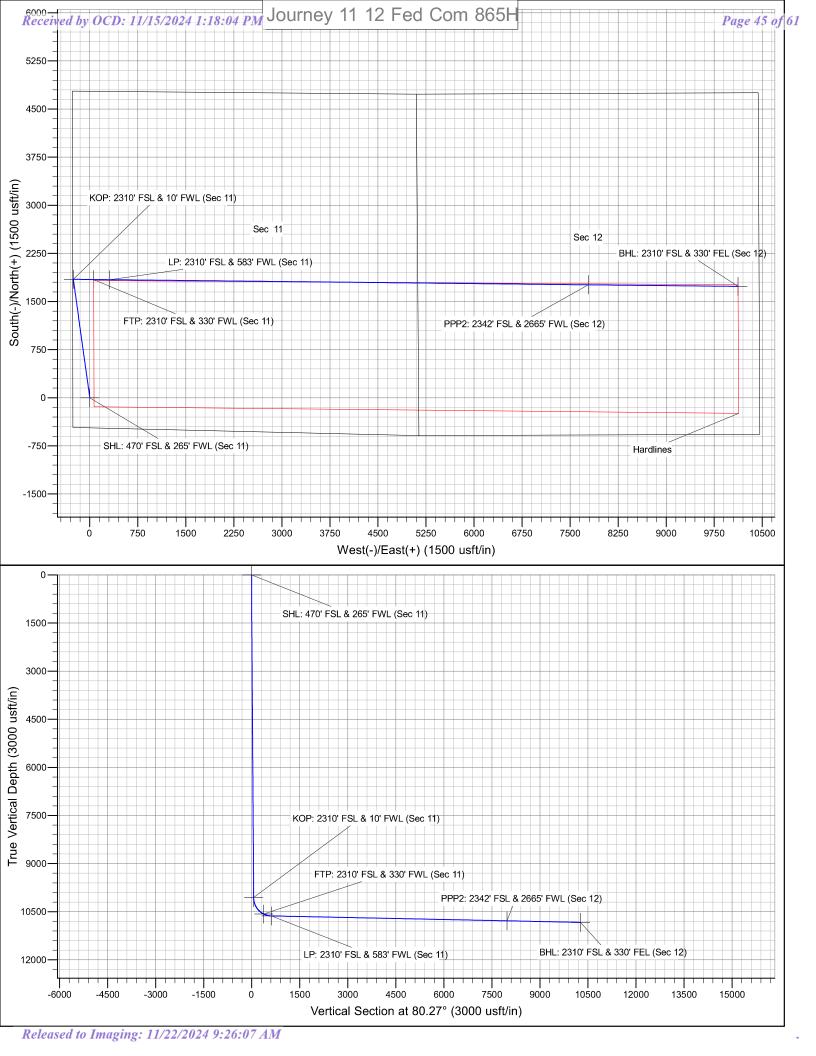
Site Journey 11 12 Fed Com 865H

WELL @ 3028.0usft (Original Well Elev) WELL @ 3028.0usft (Original Well Elev)

Grid

	90.60 90.60 90.60 90.60 90.60 90.60 90.60	Vertical Depth (usft) 10,803.1 10,805.2 10,807.2 10,809.3 10,811.3 10,813.3	+N/-S (usft) 1,751.5 1,750.4 1,749.4 1,748.3 1,747.2 1,746.2	+E/-W (usft) 8,655.1 8,755.1 8,855.1 8,955.0 9,055.0	Vertical Section (usft) 8,826.6 8,925.0 9,023.3 9,121.7 9,220.0	Dogleg Rate (°/100usft) 0.00 0.00 0.00 0.00	Build Rate (°/100usft) 0.00 0.00 0.00 0.00	Turn Rate (°/100usft) 0.00 0.00 0.00 0.00
88.83 88.83 88.83 88.83	90.60 90.60 90.60 90.60	10,805.2 10,807.2 10,809.3 10,811.3	1,750.4 1,749.4 1,748.3 1,747.2	8,755.1 8,855.1 8,955.0 9,055.0	8,925.0 9,023.3 9,121.7	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
88.83 88.83 88.83	90.60 90.60 90.60	10,807.2 10,809.3 10,811.3	1,749.4 1,748.3 1,747.2	8,855.1 8,955.0 9,055.0	9,023.3 9,121.7	0.00 0.00	0.00 0.00	0.00 0.00
		10,010.0	1,740.2	9,155.0	9,318.4	0.00 0.00	0.00 0.00	0.00 0.00
88.83 88.83 88.83 88.83 88.83	90.60 90.60 90.60 90.60 90.60	10,815.4 10,817.4 10,819.4 10,821.5 10,823.5	1,745.1 1,744.1 1,743.0 1,742.0 1,740.9	9,254.9 9,354.9 9,454.9 9,554.9 9,654.8	9,416.8 9,515.1 9,613.5 9,711.8 9,810.2	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
88.83 88.83 88.83 88.83 88.83	90.60 90.60 90.60 90.60 90.60	10,825.6 10,827.6 10,829.6 10,831.7 10,833.0	1,739.9 1,738.8 1,737.7 1,736.7 1,736.0	9,754.8 9,854.8 9,954.8 10,054.7 10,120.3	9,908.5 10,006.9 10,105.3 10,203.6 10,268.1	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
	88.83 88.83 88.83 88.83 88.83 88.83	88.83 90.60 88.83 90.60 88.83 90.60 88.83 90.60 88.83 90.60 88.83 90.60	88.83 90.60 10,823.5 88.83 90.60 10,825.6 88.83 90.60 10,827.6 88.83 90.60 10,829.6 88.83 90.60 10,831.7 88.83 90.60 10,833.0	88.83 90.60 10,823.5 1,740.9 88.83 90.60 10,825.6 1,739.9 88.83 90.60 10,827.6 1,738.8 88.83 90.60 10,829.6 1,737.7 88.83 90.60 10,831.7 1,736.7 88.83 90.60 10,833.0 1,736.0	88.83 90.60 10,823.5 1,740.9 9,654.8 88.83 90.60 10,825.6 1,739.9 9,754.8 88.83 90.60 10,827.6 1,738.8 9,854.8 88.83 90.60 10,829.6 1,737.7 9,954.8 88.83 90.60 10,831.7 1,736.7 10,054.7	88.83 90.60 10,823.5 1,740.9 9,654.8 9,810.2 88.83 90.60 10,825.6 1,739.9 9,754.8 9,908.5 88.83 90.60 10,827.6 1,738.8 9,854.8 10,006.9 88.83 90.60 10,829.6 1,737.7 9,954.8 10,105.3 88.83 90.60 10,831.7 1,736.7 10,054.7 10,203.6 88.83 90.60 10,833.0 1,736.0 10,120.3 10,268.1	88.83 90.60 10,823.5 1,740.9 9,654.8 9,810.2 0.00 88.83 90.60 10,825.6 1,739.9 9,754.8 9,908.5 0.00 88.83 90.60 10,827.6 1,738.8 9,854.8 10,006.9 0.00 88.83 90.60 10,829.6 1,737.7 9,954.8 10,105.3 0.00 88.83 90.60 10,831.7 1,736.7 10,054.7 10,203.6 0.00 88.83 90.60 10,833.0 1,736.0 10,120.3 10,268.1 0.00	88.83 90.60 10,823.5 1,740.9 9,654.8 9,810.2 0.00 0.00 88.83 90.60 10,825.6 1,739.9 9,754.8 9,908.5 0.00 0.00 88.83 90.60 10,827.6 1,738.8 9,854.8 10,006.9 0.00 0.00 88.83 90.60 10,829.6 1,737.7 9,954.8 10,105.3 0.00 0.00 88.83 90.60 10,831.7 1,736.7 10,054.7 10,203.6 0.00 0.00 88.83 90.60 10,833.0 1,736.0 10,120.3 10,268.1 0.00 0.00

Design Targets									
Target Name - hit/miss target Di - Shape	ip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL: 470' FSL & 265' - plan hits target cent - Point	0.00 ter	0.00	0.0	0.0	0.0	446,298.70	623,974.20	32.2266690	-104.0660939
KOP: 2310' FSL & 10' - plan hits target cent - Point	0.00 ter	0.00	10,060.0	1,845 . 5	-257.1	448,144.20	623,717.10	32.2317438	-104.0669106
FTP: 2310' FSL & 330 - plan hits target cent - Point	0.00 ter	0.00	10,574.1	1,842.1	62.7	448,140.83	624,036.90	32.2317323	-104.0658763
LP: 2310' FSL & 583' - plan hits target cent - Point	0.00 ter	0.00	10,633.0	1,839.6	304.3	448,138.28	624,278.50	32.2317236	-104.0650950
PPP2: 2342' FSL & 26 - plan hits target cent - Point	0.00 ter	0.00	10,785.4	1,760.6	7,785.2	448,059.34	631,759.40	32.2314530	-104.0409021
BHL: 2310' FSL & 33(- plan hits target cent - Point	0.00 ter	0.00	10,833.0	1,736.0	10,120.3	448,034.70	634,094.50	32.2313676	-104.0333505



Mewbourne Oil Company, Journey 11/12 Fed Com 865H Sec 11, T24S, R28E

SHL: 470' FSL 265' FWL (Sec 11) BHL: 2310' FSL 330' FEL (Sec 12)

Operator Name:	Property Name:	Well Number
Mewbourne Oil Company	Journey 11/12 Fed Com	865H

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
L	11	24	28	-	2310'	FSL	10'	FWL	Eddy
Latitude				Long	itude	•	NAD		
32.2317439			-104.06691	107			83		

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
L	11	24	28	-	2310'	FSL	330'	FWL	Eddy
Latitude			Longitude				NAD		
32.2317209				-104.06587	764			83	

Last Take Point (LTP)

Last Take I	ast rake rollit (Err)								
UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
I	12	24	28	-	2310'	FSL	330'	FEL	Eddy
Latitude				NAD					
				-104.03335	505			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#
30-015-49163

Operator Name:	Property Name:	Well Number
Mewbourne Oil Company	Journey 11 12 W0LI Federal Com	002H

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME: MEWBOURNE OIL COMPANY **WELL NAME & NO.:** JOURNEY 11/12 FED COM 865H

APD ID: 10400101019

LOCATION: Section 11, T.24 S., R.28 E. NMP.

COUNTY: Eddy County, New Mexico

COA

H ₂ S	0	No	•	Yes
Potash /	None	O Secretary	O R-111-Q	☐ Open Annulus
WIPP				□ WIPP
Cave / Karst	O Low	Medium	O High	Critical
Wellhead	Conventional	Multibowl	O Both	O Diverter
Cementing	☐ Primary Squeeze	☐ Cont. Squeeze	☐ EchoMeter	DV Tool
Special Req	☐ Capitan Reef	☐ Water Disposal	✓ COM	☐ Unit
Waste Prev.	○ Self-Certification	• Waste Min. Plan	○ APD Submitted ₁	prior to 06/10/2024
Additional	✓ Flex Hose	☐ Casing Clearance	☐ Pilot Hole	Break Testing
Language	☐ Four-String	Offline Cementing	☐ Fluid-Filled	

A. HYDROGEN SULFIDE

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

B. CASING DESIGN

Primary Casing Program

Note: Surface casing set depth was adjusted per BLM geologist's recommendation.

- 1. The 13-3/8 inch surface casing shall be set at approximately 475 ft. (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite and above the salt) and cemented to the surface. If salt is encountered, set casing at least 25 ft. above the salt.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic-type temperature survey with surface log readout will be used or a cement bond log shall be run

- to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
- b. Wait on cement (WOC) time for a primary cement job will be a minimum of $\underline{8}$ hours or 500 psi compressive strength, whichever is greater. (This is to include the lead cement)
- c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 psi compressive strength, whichever is
- 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 2,500 ft. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is:
 - Cement to surface. If cement does not circulate see B.1.a, c-d above. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst.

Note: Excess cement is below CFO's recommendation of %25. More cement might be needed.

- ❖ 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. Operator has proposed to set 7 inch production casing at approximately 10,258 ft. (10,060 ft. TVD). The minimum required fill of cement behind the 7 inch production casing is:
 - Option 1 (Single Stage): Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to Cave/Karst.
 - Option 2 (Two-stage): Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.
 - a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.
 - b. Second stage above DV tool: Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification. If cement does not circulate, contact the appropriate BLM office. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to Cave/Karst.
- 4. The minimum required fill of cement behind the 4-1/2 in. production liner is:

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

Alternate Casing Program

Note: Surface casing set depth was adjusted per BLM geologist's recommendation.

- 1. The 13-3/8 inch surface casing shall be set at approximately 475 ft. (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite and above the salt) and cemented to the surface. If salt is encountered, set casing at least 25 ft. above the salt.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic-type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum of <u>8</u> hours or 500 psi compressive strength, whichever is greater. (This is to include the lead cement)
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 psi compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
- 2. The 9-5/8 inch intermediate casing shall be set at approximately 2,500 ft. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is:
 - **Cement to surface.** If cement does not circulate see B.1.a, c-d above. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst.

Note: Excess cement is below CFO's recommendation of %25. More cement might be needed.

- ❖ 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.** Operator has proposed to set **7 inch** production casing at approximately **10,950 ft.** (10,596 ft. TVD). The minimum required fill of cement behind the **7 inch** production casing is:
 - <u>Option 1 (Single Stage):</u> Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to Cave/Karst.

Option 2 (Two-stage): Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

- a. **First stage to DV tool:** Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.
- b. Second stage above DV tool: Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification. If cement does not circulate, contact the appropriate BLM office. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to Cave/Karst.
- 4. The minimum required fill of cement behind the 4-1/2 in. production liner is:
 - Cement should tie-back at least 100 feet into previous casing string. Operator shall provide method of verification.

Offline Cementing

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

C. PRESSURE CONTROL

- 1. Variance approved to use **flex line** from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).
- 2. Operator has proposed a multi-bowl wellhead assembly. 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. The BOP/BOPE and annular preventer shall be pressure-tested in accordance with title 43 CFR 3172 and API Standard 53.
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. If the cement does not circulate and one-inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
 - e. Whenever any seal subject to test pressure is broken, all the tests in the title 43 CFR 3172.6(b)(9) must be followed.

BOPE Break Testing Variance (Approved)

(Note: For a minimum 5M BOPE or less (Utilizing a 10M BOPE system)

- BOPE Break Testing is ONLY permitted for 5M BOPE or less. (Annular preventer must be tested to a minimum of 70% of BOPE working pressure and shall be higher than the MASP)
- BOPE Break Testing is NOT permitted to drilling the production hole section.
- Variance only pertains to the intermediate hole-sections and no deeper than the Bone Springs formation.
- While in transfer between wells, the BOPE shall be secured by the hydraulic carrier or cradle.
- Any well control event while drilling require notification to the BLM Petroleum Engineer (575-706-2779) prior to the commencement of any BOPE Break Testing operations.
- A full BOPE test is required prior to drilling the first deep intermediate hole section. If any subsequent hole interval is deeper than the first, a full BOPE test will be required. (200' TVD tolerance between intermediate shoes is allowable).
- The BLM is to be contacted (575-361-2822 Eddy County) 4 hours prior to BOPE tests.
- As a minimum, a full BOPE test shall be performed at 21-day intervals.
- In the event any repairs or replacement of the BOPE is required, the BOPE shall test as per 43 CFR part 3170 Subpart 3172.
- If in the event break testing is not utilized, then a full BOPE test would be conducted.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

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

Contact Eddy County Petroleum Engineering Inspection Staff:

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

- 1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
 - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
 - b. When the operator proposes to set surface casing with Spudder Rig
 - i. Notify the BLM when moving in and removing the Spudder Rig.
 - ii. Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
 - iii. BOP/BOPE test to be conducted per 43 CFR 3172 as soon as 2nd Rig is rigged up on well.
- 2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the doghouse or stairway area.
- 3. For intervals in which cement to surface is required, cement to surface should be verified with a visual check and density or pH check to differentiate cement from spacer and drilling mud. The results should be documented in the driller's log and daily reports.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the

- approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
- 2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends of both lead and tail cement, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
- 3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
- 4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
- 5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
- **6.** On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
- 7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
- **8.** Whenever a casing string is cemented in the R-111-Q potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in 43 CFR 3172.

- 2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
- **3.** 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
- **4.** If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
 - i. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - ii. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - iii. Manufacturer representative shall install the test plug for the initial BOP test.
 - iv. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.
 - v. If the cement does not circulate and one-inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
- **5.** The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - i. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead cement), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

- ii. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve open. (Only applies to single stage cement jobs, prior to the cement setting up.)
- iii. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to **43 CFR 3172** with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for 8 hours or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
- iv. The test shall be run on a 5000-psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one-hour chart. A circular chart shall have a maximum 2-hour clock. If a twelve hour or twenty-four-hour chart is used, tester shall make a notation that it is run with a two hour clock.
- v. The results of the test shall be reported to the appropriate BLM office.
- vi. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- vii. The BOP/BOPE test shall include a low-pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- viii. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per 43 CFR 3172.

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

SA 11/12/2024

Hydrogen Sulfide Drilling Operations Plan Mewbourne Oil Company

1. General Requirements

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

2. Hydrogen Sulfide Training

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

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

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

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

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

3. Hydrogen Sulfide Safety Equipment and Systems

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

1. Well Control Equipment

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

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

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

3. <u>Hydrogen Sulfide Protection and Monitoring Equipment</u>

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

4. <u>Visual Warning Systems</u>

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

4. Mud Program

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

5. Metallurgy

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

6. Communications

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

7. Well Testing

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

8. Emergency Phone Numbers

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

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

Operator Name: MEWBOURNE OIL COMPANY

Well Name: JOURNEY 11/12 FED COM Well Number: 865H

Section 7 - Methods for Handling

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 containment attachment:

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

FACILITY

Disposal type description:

Disposal location description: NMOCD approved waste disposal locations are CRI or Lea Land, both facilities are located

on HWY 62/180, Sec. 27 T20S R32E.

Waste type: SEWAGE

Waste content description: Human waste & grey water

Amount of waste: 1500 gallons

Waste disposal frequency: Weekly

Safe containment description: 2,000 gallon plastic container

Safe containment attachment:

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

FACILITY

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 containment attachment:

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

FACILITY

Disposal type description:

Disposal location description: Waste Management facility in Carlsbad.

Reserve Pit

Reserve Pit being used? NO

Operator Name: MEWBOURNE OIL COMPANY

Well Name: JOURNEY 11/12 FED COM Well Number: 865H

Temporary disposal of produced water into reserve pit? NO

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

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

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

Reserve pit liner

Reserve pit liner specifications and installation description

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? N

Description of cuttings location

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

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

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

WCuttings area liner

Cuttings area liner specifications and installation description

Section 8 - Ancillary

Are you requesting any Ancillary Facilities?: N

Ancillary Facilities

Comments:

Section 9 - Well Site

Well Site Layout Diagram:

JOURNEY_11_12_FED_COM__865H_WellSiteLayout_20240913153207.pdf

Comments: none

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

General Information Phone: (505) 629-6116

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

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

CONDITIONS

Action 403782

CONDITIONS

Operator:	OGRID:
MEWBOURNE OIL CO	14744
P.O. Box 5270	Action Number:
Hobbs, NM 88241	403782
	Action Type:
	[C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
mleal	Cement is required to circulate on both surface and intermediate1 strings of casing.	11/15/2024
mleal	If cement does not circulate on any string, a Cement Bond Log (CBL) is required for that string of casing.	11/15/2024
ward.rikala	Notify the OCD 24 hours prior to casing & cement.	11/22/2024
ward.rikala	File As Drilled C-102 and a directional Survey with C-104 completion packet.	11/22/2024
ward.rikala	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string.	11/22/2024
ward.rikala	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.	11/22/2024