

Well Name: BUFFALO TRACE 1/36 FED COM	Well Location: T26S / R29E / SEC 1 / SWSE / 32.065946 / -103.9344655	County or Parish/State: EDDY / NM
Well Number: 827H	Type of Well: CONVENTIONAL GAS WELL	Allottee or Tribe Name:
Lease Number: NMNM23765	Unit or CA Name:	Unit or CA Number: NMNM105785261
US Well Number: 3001554816	Operator: MEWBOURNE OIL COMPANY	

Notice of Intent

Sundry ID: 2808866

Type of Submission: Notice of Intent

Type of Action: APD Change

Date Sundry Submitted: 08/28/2024

Time Sundry Submitted: 09:18

Date proposed operation will begin: 08/30/2024

Procedure Description: Mewbourne Oil Company request that the following change be made to the Buffalo Trace 1/36 Fed Com #827H (API# 30-015-54816) 1. Change name from Buffalo Trace 1/36 Fed Com #827H to Buffalo Trace 1/36 Fed Com #523H 2. Move BHL f/ 100' FNL & 1210' FEL (Sec. 36) to 100' FNL & 1470' FWL (Sec. 36) 3. Change producing formation target from Purple Sage; Wolfcamp (98220) to Corral Canyon South; Bone Spring (13354) 4. Attached are dir. plan & plot, drlg program, cmt & csg design in correlation to the producing formation target change. 5. Reference Sundry ID: 2808091 in regards to name change of Buffalo Trace 1/36 Fed Com #523H (API# 30-015-53336) to Buffalo Trace 1/36 Fed Com #873H See attached files: Updated C102, dir. plan & plot, drlg program, cmt & csg design, Addinfo.

NOI Attachments

Procedure Description

Buffalo_Trace_1_36_Fed_Com_523H_AddInfo_20240828091800.pdf

Buffalo_Trace_1_36_Fed_Com_523H_CsgAssumptions_20240828091748.pdf

BUFFALO_TRACE_1_36_FED_COM_523H_C102_20240828091719.pdf

Buffalo_Trace_1_36_Fed_Com_523H_Drlg_Program_20240828091624.pdf

Buffalo_Trace_1_36_Fed_Com_827H__Dir_plan__plot_20240828091537.pdf

Buffalo_Trace_1_36_Fed_Com_827H_Re_entry_Sundry_20240828091329.pdf

Well Name: BUFFALO TRACE 1/36
FED COM

Well Location: T26S / R29E / SEC 1 /
SWSE / 32.065946 / -103.9344655

County or Parish/State: EDDY /
NM

Well Number: 827H

Type of Well: CONVENTIONAL GAS
WELL

Allottee or Tribe Name:

Lease Number: NMNM23765

Unit or CA Name:

Unit or CA Number:
NMNM105785261

US Well Number: 3001554816

Operator: MEWBOURNE OIL
COMPANY

Conditions of Approval

Additional

BUFFALO_TRACE_1_36_FED_COM_523H_C102_20240906094250.pdf

Buffalo_Trace_1_36_Fed_Com_523H_Drlg_Program_20240906094250.pdf

BUFFALO_TRACE_1_36_FED_COM_523H_ENG_COA_20240906094250.pdf

Buffalo_Trace_1_36_Fed_Com_523H_CsgAssumptions_20240906094250.pdf

Operator

I certify that the foregoing is true and correct. 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. Electronic submission of Sundry Notices through this system satisfies regulations requiring a

Operator Electronic Signature: CONNER WHITLEY

Signed on: AUG 28, 2024 09:18 AM

Name: MEWBOURNE OIL COMPANY

Title: ENGINEER

Street Address: 901 W TAOS ST

City: HOBBS State: NM

Phone: (806) 202-5974

Email address: CWHITELEY@MEWBOURNE.COM

Field

Representative Name:

Street Address:

City: State:

Zip:

Phone:

Email address:

BLM Point of Contact

BLM POC Name: CHRISTOPHER WALLS

BLM POC Title: Petroleum Engineer

BLM POC Phone: 5752342234

BLM POC Email Address: cwalls@blm.gov

Disposition: Approved

Disposition Date: 09/06/2024

Signature: Chris Walls

C-102	State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION			Revised July 9, 2024
Submit Electronically Via OCD Permitting				Submittal Type: <input type="checkbox"/> Initial Submittal <input checked="" type="checkbox"/> Amended Report <input type="checkbox"/> As Drilled

WELL LOCATION INFORMATION

API Number 30-015-54816	Pool Code 13354	Pool Name CORRAL CANYON SOUTH; BONE SPRING
Property Code 335389	Property Name BUFFALO TRACE 1/36 FED COM	Well Number 523H
OGRID No. 14744	Operator Name MEWBOURNE OIL COMPANY	Ground Level Elevation 3019'
Surface Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input checked="" type="checkbox"/> Federal		Mineral Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input type="checkbox"/> Federal

Surface Location

UL 0	Section 1	Township 26S	Range 29E	Lot	Ft. from N/S 600 FSL	Ft. from E/W 1620 FEL	Latitude 32.0659460°N	Longitude 103.9344655°W	County EDDY
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Bottom Hole Location

UL C	Section 36	Township 25S	Range 29E	Lot	Ft. from N/S 100 FNL	Ft. from E/W 1470 FWL	Latitude 32.0932937°N	Longitude 103.9417175°W	County EDDY
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Dedicated Acres 320	Infill or Defining Well	Defining Well API	Overlapping Spacing Unit (Y/N)	Consolidation Code
Order Numbers.		Well setbacks are under Common Ownership: <input type="checkbox"/> Yes <input type="checkbox"/> No		

Kick Off Point (KOP)

UL P	Section 1	Township 26S	Range 29E	Lot	Ft. from N/S 19 FSL	Ft. from E/W 1218 FEL	Latitude 32.0643683°N	Longitude 103.9331669°W	County EDDY
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First Take Point (FTP)

UL N	Section 1	Township 26S	Range 29E	Lot	Ft. from N/S 100 FSL	Ft. from E/W 1470 FWL	Latitude 32.0644729°N	Longitude 103.9407476°W	County EDDY
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Last Take Point (LTP)

UL C	Section 36	Township 25S	Range 29E	Lot	Ft. from N/S 100 FNL	Ft. from E/W 1470 FWL	Latitude 32.0932937°N	Longitude 103.9417175°W	County EDDY
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Unitized Area or Area of Uniform Interest	Spacing Unit Type <input checked="" type="checkbox"/> Horizontal <input type="checkbox"/> Vertical	Ground Floor Elevation:
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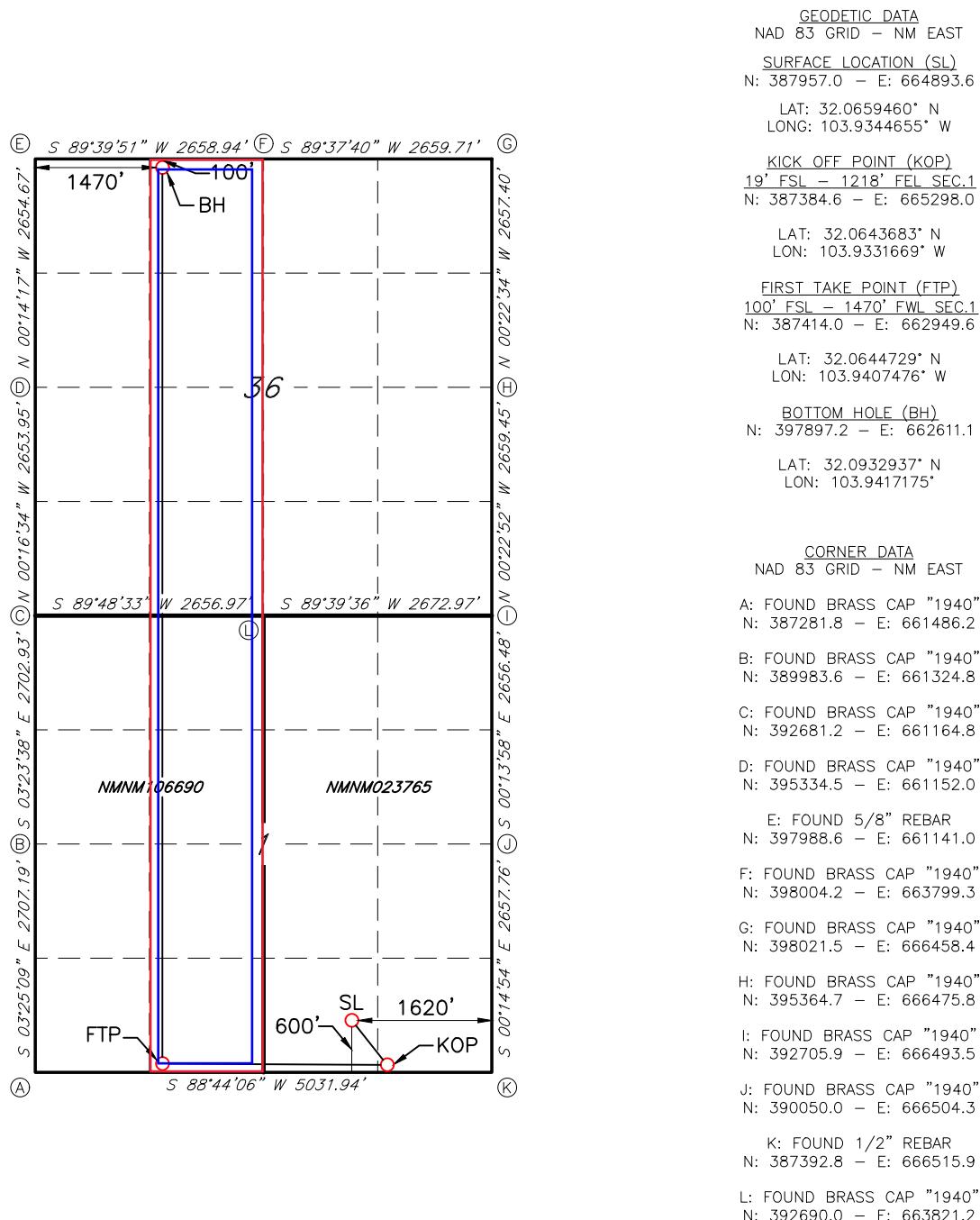
OPERATOR CERTIFICATIONS		SURVEYOR CERTIFICATIONS	
<p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <p>If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.</p> <p><i>Conner Whitley</i> 08/28/2024</p>		<p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me under my supervision and that the same is true and correct to the best of my belief.</p> <p> ROBERT M HOWELL NEW MEXICO PROFESSIONAL SURVEYOR 19680</p>	
Signature <i>Conner Whitley</i>		Signature and Seal of Professional Surveyor <i>Robert M. Howell</i>	
Date 08/28/2024		Certificate Number 19680	
Printed Name cwhitley@mewbourne.com		Date of Survey 08/07/2023	
Email Address cwhitley@mewbourne.com			

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

ACREAGE DEDICATION PLATS

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

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



Mewbourne Oil Company, Buffalo Trace 1/36 Fed Com 523H

Sec 1, T26S, R39E

SHL: 600' FSL 1620' FEL (Sec 1)

BHL: 100' FNL 1470' FWL (Sec 36)

Well Location GL: '												
Point	Calls	Leases	Aliquot	Section	Township	Range	County	Lat	Long	TVD	MD	
SHL	SHL: 600' FSL & 1620' FEL (Sec 1)	NMNM023765	SWSE	1	26S	29E	Eddy	32.0659460	103.9344655	0'	0'	
KOP	KOP: 19' FSL & 1218' FEL (Sec 1)	NMNM023765	SESE	1	26S	29E	Eddy	32.0643683	103.9331669	8,295'	8,350'	
FTP	FTP: 100' FSL & 1470' FWL (Sec 1)	NMNM106690	SESE	1	26S	29E	Eddy	32.0644729	103.9407476	0'	0'	
BHL	BHL: 100' FNL & 1470' FWL (Sec 36)	FEE	NENE	36	25S	29E	Eddy	32.0932937	103.9417175	9,027'	20,947'	

GEOLOGY

Formation	Est. Top (TVD)	Lithology	Mineral Resources	Formation	Est. Top (TVD)	Lithology	Mineral Resources
Rustler	854'	Dolomite/Anhydrite	Usable Water	Yoso			
Castile	1075'	Anhydrite	None	Delaware (Lamar)	2582'	Limestone/Dolomite	Oil/Natural Gas
Salt Top	2045'	Salt	None	Bell Canyon	2607'	Sandstone	Oil/Natural Gas
Salt Base	2389'	Salt	None	Cherry Canyon	3432'	Sandstone	Oil/Natural Gas
Yates				Manzanita Marker	3590'	Limestone	Oil/Natural Gas
Seven Rivers				Basal Brushy Canyon	5977'	Sandstone	Oil/Natural Gas
Queen				Bone Spring	6274'	Limestone	Oil/Natural Gas
Capitan				1st Bone Spring	7210'	Sandstone	Oil/Natural Gas
Grayburg				2nd Bone Spring	7985'	Sandstone	Oil/Natural Gas
San Andres				3rd Bone Spring			
Glorietta				Wolfcamp			

Casing Program Design A						BLM Minimum Safety Factors	1.125	1.0	1.6 Dry	1.6 Dry
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'	963'	963'	13,375" 48# H40 STC	1.79	4.02	6.97	11.70
Int	12.25"	0'	0'	3265'	3265'	9,625" 40# HCL80 LTC	2.37	3.23	6.41	7.01
Production	8.75"	0'	0'	11535'	11282'	7" 26# HCP110 LTC	1.33	1.70	2.31	2.77
Liner	6.125"	8068'	8013'	20947'	9027'	4.5" 13.5# P110 LTC	2.07	2.40	1.94	2.43

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

Is casing new? If used, attach certification as required in Onshore Order #1	Y or N
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, Buffalo Trace 1/36 Fed Com 523H

Sec 1, T26S, R39E

SHL: 600' FSL 1620' FEL (Sec 1)

BHL: 100' FNL 1470' FWL (Sec 36)

Design A - Cement Program

Csg. Size		# Sacks	Wt., lb/gal	Yield, ft ³ /sack	TOC/BOC	Volume, ft ³	% Excess	Slurry Description
13.375 in	LEAD	510	12.5	2.12	0' - 773'	1090	100%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	773' - 963'	268		Class C: Retarder
9.625 in	LEAD	470	12.5	2.12	0' - 2575'	1000	25%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	2575' - 3265'	268		Class C: Retarder
1st Stg 7 in	LEAD	350	12.5	2.12	4376' - 8278'	750	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
	TAIL	400	15.6	1.18	8278' - 10734'	472		Class H: Retarder, Fluid Loss, Defoamer
7" DV Tool @ 4376'								
2nd Stg 7 in	LEAD	60	12.5	2.12	3065' - 3711'	130	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
	TAIL	100	14.8	1.34	3711' - 4376'	134		Class C: Retarder, Fluid Loss, Defoamer
4.5 in	LEAD	800	13.5	1.85	8068' - 20947'	1480	25%	Class H: Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti-settling Agent

Pressure Control Equipment

BOP installed and tested before drilling hole, in:	Size, in	System Rated WP	Type		Tested to:	Rating Depth
12.25	13.375	5M	Annular	X	2500#	20,947'
			Blind Ram	X		
			Pipe Ram	X		
			Double Ram		5000#	
			Other*			

*Specify if additional ram is utilized.

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

Variance Request: A variance is requested for the use of a 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 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.

Y	Formation integrity test will be performed per 43 CFR Part 3172. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with 43 CFR Part 3172.
N	Mewbourne Oil Company request a variance to use a 5000 psi annular BOP with a 10,000 psi BOP stack.

Mud Program

Depth (MD)	Mud Wt., lb/gal	Mud Type
0' - 963'	8.4 - 8.6	Fresh Water
963' - 3265'	9.5 - 10.5	Brine
3265' - 11535'	8.6 - 10.	Cut-Brine
11535' - 20947'	10.0 - 11.	OBM

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

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

Mewbourne Oil Company, Buffalo Trace 1/36 Fed Com 523H
Sec 1, T26S, R39E
SHL: 600' FSL 1620' FEL (Sec 1)
BHL: 100' FNL 1470' FWL (Sec 36)

Logging and Testing Procedures**Logging, Coring and Testing.**

N	Will run GR/CNL from KOP (8350') to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
Y	No logs are planned based on well control or offset log information. Offset Well: Buffalo Trace 1/36 Fed Com #878H
N	Coring? If yes, explain:

Open & Cased Hole Logs Run In the Well

<input type="checkbox"/> Caliper	<input type="checkbox"/> Cement Bond Log	<input type="checkbox"/> CNL/FDC
<input type="checkbox"/> Compensated Densilog	<input type="checkbox"/> Compensated Neutron Log	<input type="checkbox"/> Computer Generated Log
<input type="checkbox"/> Dip Meter Log	<input checked="" type="checkbox"/> Directional Survey	<input type="checkbox"/> Dual Induction/Microresistivity
<input type="checkbox"/> Dual Lateral Log/Microspherically Focused	<input type="checkbox"/> Electric Log	<input type="checkbox"/> Formation Density Compensated Log
<input type="checkbox"/> Gamma Ray Log	<input checked="" type="checkbox"/> Measurement While Drilling	<input type="checkbox"/> Mud Log/Geological Lithology Log
<input type="checkbox"/> Other	<input type="checkbox"/> Porosity-Resistivity Log	<input type="checkbox"/> Sidewall Neutron Log
<input type="checkbox"/> Sonic Log	<input type="checkbox"/> Spontaneous Potential Log	<input type="checkbox"/> Temperature Log

Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	5163 psi
BH Temperature	140
Abnormal Temp, Pressure, or Geologic Hazards	No

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

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

	H2S is present
X	H2S Plan attached

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	MEWBURNE OIL COMPANY
WELL NAME & NO.:	BUFFALO TRACE 1/36 FED COM 523H
APD ID:	10400095411
US WELL NUMBER:	3001554816
LOCATION:	Section 1, T.26 S., R.29 E. NMP.
COUNTY:	Eddy County, New Mexico ▼

Previously known as BUFFALO TRACE 1/36 FED COM 827H. Changes approved through engineering via Sundry 2808866 on 9/6/2024. Any previous COAs not addressed within the updated COAs still apply.

COA

H₂S	<input type="radio"/> No	<input checked="" type="radio"/> Yes
Potash / WIPP	<input checked="" type="radio"/> None	<input type="radio"/> Secretary <input type="radio"/> R-111-Q <input checked="" type="checkbox"/> Open Annulus <input type="checkbox"/> WIPP
Cave / Karst	<input type="radio"/> Low	<input checked="" type="radio"/> Medium
Wellhead	<input type="radio"/> Conventional	<input checked="" type="radio"/> Multibowl
Cementing	<input type="checkbox"/> Primary Squeeze	<input type="checkbox"/> Cont. Squeeze
Special Req	<input type="checkbox"/> Capitan Reef	<input type="checkbox"/> Water Disposal <input checked="" type="checkbox"/> COM <input type="checkbox"/> Unit
Waste Prev.	<input type="radio"/> Self-Certification	<input type="radio"/> Waste Min. Plan <input checked="" type="radio"/> APD Submitted prior to 06/10/2024
Additional Language	<input checked="" type="checkbox"/> Flex Hose	<input type="checkbox"/> Casing Clearance
	<input type="checkbox"/> Four-String	<input checked="" type="checkbox"/> Offline Cementing
		<input type="checkbox"/> Pilot Hole <input checked="" type="checkbox"/> Break Testing
		<input type="checkbox"/> Fluid-Filled

Note: This is a re-entry sundry. Surface casing was set at approximately 963 ft. Intermediate casing was set at approximately 3,265 ft. Production casing was set at approximately 11,535 ft. (11,282 ft. TVD). Due to complications with the liner during completion, the operator submitted a plug-back sundry (Sundry ID# 2807337), which was approved on 8/16/2024. The new KOP depth is approximately 8,268 ft.

A. CASING DESIGN

1. Operator has proposed to set the **4-1/2 in.** production liner from TD to **8,068 ft.** (top of liner). 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.

GENERAL REQUIREMENTS

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

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

Contact Eddy County Petroleum Engineering Inspection Staff:

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

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

A. CASING

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

approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

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

B. PRESSURE CONTROL

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

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

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

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

SA 09/06/2024

Mewbourne Oil Company, Buffalo Trace 1/36 Fed Com 523H

Sec 1, T26S, R39E

SHL: 600' FSL 1620' FEL (Sec 1)

BHL: 100' FNL 1470' FWL (Sec 36)

Casing Program Design A						BLM Minimum Safety Factors	1.125	1.0	1.6 Dry	1.6 Dry
String	Hole Size	Top MD	Top TVD	Bot MD	Bot TVD				1.8 Wet	1.8 Wet
Surface	17.5"	0'	0'	963'	963'	13.375" 48# H40 STC	1.79	4.02	6.97	11.70
Int	12.25"	0'	0'	3265'	3265'	9.625" 40# HCL80 LTC	2.37	3.23	6.41	7.01
Production	8.75"	0'	0'	11535'	11282'	7" 26# HCP110 LTC	1.33	1.70	2.31	2.77
Liner	6.125"	8068'	8013'	20947'	9027'	4.5" 13.5# P110 LTC	2.07	2.40	1.94	2.43

Cement Program

Casing		# Sacks	Wt. lb/gal	Yield ft ³ /sack	TOC/BOC	Volume ft ³	% Excess	Slurry Description
13.375 in	LEAD	510	12.5	2.12	0' - 773'	1090	100%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	773' - 963'	268		Class C: Retarder
9.625 in	LEAD	470	12.5	2.12	0' - 2575'	1000	25%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	2575' - 3265'	268		Class C: Retarder
1st Stg 7 in	LEAD	350	12.5	2.12	4376' - 8278'	750	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
	TAIL	400	15.6	1.18	8278' - 10734'	472		Class H: Retarder, Fluid Loss, Defoamer
7" DV Tool @ 4376'								
2nd Stg 7 in	LEAD	60	12.5	2.12	3065' - 3711'	130	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
	TAIL	100	14.8	1.34	3711' - 4376'	134		Class C: Retarder, Fluid Loss, Defoamer
4.5 in	LEAD	800	13.5	1.85	8068' - 20947'	1480	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' - 963'	8.4 - 8.6	Fresh Water
963' - 3265'	9.5 - 10.5	Brine
3265' - 11535'	8.6 - 10.	Cut-Brine
11535' - 20947'	10.0 - 11.	OBM

Geology

Formation	Est. Top (TVD)	Mineral Resources	Formation	Est. Top (TVD)	Mineral Resources
Rustler	854'	Usable Water	Yoso	2582'	
Castile	1075'	None	Delaware (Lamar)	2607'	Oil/Natural Gas
Salt Top	2045'	None	Bell Canyon	3432'	Oil/Natural Gas
Salt Base	2389'	None	Cherry Canyon	3590'	Oil/Natural Gas
Yates			Manzanita Marker	5977'	Oil/Natural Gas
Seven Rivers			Basal Brushy Canyon	6274'	Oil/Natural Gas
Queen			Bone Spring	7210'	Oil/Natural Gas
Capitan			1st Bone Spring	7985'	Oil/Natural Gas
Grayburg			2nd Bone Spring		
San Andres			3rd Bone Spring		
Glorieta			Wolfcamp		

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

Is casing new? If used, attach certification as required in Onshore Order #1	Y or N
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, Buffalo Trace 1/36 Fed Com 523H**Sec 1, T26S, R39E****SHL: 600' FSL 1620' FEL (Sec 1)****BHL: 100' FNL 1470' FWL (Sec 36)**

Operator Name:	Property Name:	Well Number
Mewbourne Oil Company	Buffalo Trace 1/36 Fed Com	523H

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
P	1	26	29	-	19'	FSL	1218'	FEL	Eddy
Latitude					Longitude				NAD
32.0643683					-103.9331669				83

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
P	1	26	29	-	100'	FSL	1470'	FWL	Eddy
Latitude					Longitude				NAD
32.0644729					-103.9407476				83

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
A	36	25	29	-	100'	FNL	1470'	FWL	Eddy
Latitude					Longitude				NAD
32.0932937					-103.9417175				83

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

 Y

Is this well an infill well?

 N

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

API #

Operator Name:	Property Name:	Well Number

Mewbourne Oil Company, Buffalo Trace 1/36 Fed Com 523H

Sec 1, T26S, R39E

SHL: 600' FSL 1620' FEL (Sec 1)

BHL: 100' FNL 1470' FWL (Sec 36)

Casing Program Design A						BLM Minimum Safety Factors	1.125	1.0	1.6 Dry	1.6 Dry
String	Hole Size	Top MD	Top TVD	Bot MD	Bot TVD				1.8 Wet	1.8 Wet
Surface	17.5"	0'	0'	950'	950'	13.375" 48# H40 STC	1.81	4.07	7.06	11.86
Int	12.25"	0'	0'	3250'	3250'	9.625" 36# J55 LTC	1.14	1.98	3.87	4.82
Production	8.75"	0'	0'	10650'	10615'	7" 26# P110 LTC	1.13	1.80	2.50	3.00
Liner	6.125"	8250'	8195'	20947'	9027'	4.5" 13.5# P110 LTC	2.07	2.40	1.97	2.46

Cement Program

Casing		# Sacks	Wt. lb/gal	Yield ft ³ /sack	TOC/BOC	Volume ft ³	% Excess	Slurry Description	
13.375 in	LEAD	500	12.5	2.12	0' - 758'	1060	100%	Class C: Salt, Gel, Extender, LCM	
	TAIL	200	14.8	1.34	758' - 950'	268		Class C: Retarder	
9.625 in	LEAD	470	12.5	2.12	0' - 2563'	1000	25%	Class C: Salt, Gel, Extender, LCM	
	TAIL	200	14.8	1.34	2563' - 3250'	268		Class C: Retarder	
1st Stg 7 in	LEAD	350	12.5	2.12	4376' - 8278'	750	25%	Class C: Salt, Gel, Extender, LCM, Defoamer	
	TAIL	400	15.6	1.18	8278' - 10734'	472		Class H: Retarder, Fluid Loss, Defoamer	
7" DV Tool @ 4376'									
2nd Stg 7 in	LEAD	60	12.5	2.12	3050' - 3703'	130	25%	Class C: Salt, Gel, Extender, LCM, Defoamer	
	TAIL	100	14.8	1.34	3703' - 4376'	134		Class C: Retarder, Fluid Loss, Defoamer	
4.5 in	LEAD	800	13.5	1.85	8250' - 20947'	1480	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' - 950'	8.4 - 8.6	Fresh Water
950' - 3250'	9.5 - 10.5	Brine
3250' - 10650'	8.6 - 10.	Cut-Brine
10650' - 20947'	10.0 - 11.	OBM

Geology

Formation	Est. Top (TVD)	Mineral Resources	Formation	Est. Top (TVD)	Mineral Resources
Rustler	854'	Usable Water	Yoso	2582'	
Castile	1075'	None	Delaware (Lamar)	2607'	Oil/Natural Gas
Salt Top	2045'	None	Bell Canyon	3432'	Oil/Natural Gas
Salt Base	2389'	None	Cherry Canyon	3590'	Oil/Natural Gas
Yates			Manzanita Marker	5977'	Oil/Natural Gas
Seven Rivers			Basal Brushy Canyon	6274'	Oil/Natural Gas
Queen			Bone Spring	7210'	Oil/Natural Gas
Capitan			1st Bone Spring	7985'	Oil/Natural Gas
Grayburg			2nd Bone Spring		
San Andres			3rd Bone Spring		
Glorieta			Wolfcamp		

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

Is casing new? If used, attach certification as required in Onshore Order #1	Y or N
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, Buffalo Trace 1/36 Fed Com 523H
Sec 1, T26S, R39E
SHL: 600' FSL 1620' FEL (Sec 1)
BHL: 100' FNL 1470' FWL (Sec 36)

Casing Program Design B						BLM Minimum Safety Factors	1.125	1.0	1.6 Dry	1.6 Dry
String	Hole Size	Top MD	Top TVD	Bot MD	Bot TVD				1.8 Wet	1.8 Wet
Surface	17.5'	0'	0'	500'	500'	13.375" 48# H40 STC	3.53	7.92	13.42	22.54
Int	12.25'	0'	0'	2300'	2300'	9.625" 36# J55 LTC	1.88	3.27	5.47	6.81
Production	8.75'	0'	0'	11388'	11009'	7" 26# HCP110 LTC	1.32	1.68	2.34	2.80
Liner	6.125'	8943'	8837'	16908'	9431'	4.5" 13.5# P110 LTC	2.24	2.61	3.14	3.92

Design B - Cement Program

Casing		# Sacks	Wt. lb/gal	Yield ft ³ /sack	TOC/BOC	Volume ft ³	% Excess	Slurry Description
13.375 in	LEAD	210	12.5	2.12	0' - 313'	450	100%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	313' - 500'	268		Class C: Retarder
9.625 in	LEAD	300	12.5	2.12	0' - 1621'	640	25%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	1621' - 2300'	268		Class C: Retarder
1st Stg 7 in	LEAD	50	12.5	2.12	0' - 1703'	110	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
	TAIL	400	15.6	1.18	1703' - 0'	472		Class H: Retarder, Fluid Loss, Defoamer
4.5 in	LEAD	-290	13.5	1.85	5000' - 0'	-540	25%	Class H: Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti-

Design B - Mud Program

Depth	Mud Wt	Mud Type
8.4 - 8.6		
0' - 950'	8.4 - 8.6	Fresh Water
950' - 3250'	9.5 - 10.5	Brine
3250' - 0'	8.6 - 10.	Cut-Brine
0' - 20947'	10.0 - 11.	OBM

Geology

Formation	Est. Top (TVD)	Mineral Resources	Formation	Est. Top (TVD)	Mineral Resources
Rustler	854'	Usable Water	Yoso	2582'	Oil/Natural Gas
Castile	1075'	None	Delaware (Lamar)	2607'	Oil/Natural Gas
Salt Top	2045'	None	Bell Canyon	3432'	Oil/Natural Gas
Salt Base	2389'	None	Manzanita Marker	3590'	Oil/Natural Gas
Yates			Basal Brushy Canyon	5977'	Oil/Natural Gas
Seven Rivers			Bone Spring	6274'	Oil/Natural Gas
Queen			1st Bone Spring	7210'	Oil/Natural Gas
Capitan			2nd Bone Spring	7985'	Oil/Natural Gas
Grayburg			3rd Bone Spring		
San Andres			Wolfcamp		
Glorieta					

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

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

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

WELL LOCATION INFORMATION

API Number 30-015-54816	Pool Code 98220	Pool Name PURPLE SAGE; WOLFCAMP
Property Code 335389	Property Name BUFFALO TRACE 1/36 FED COM	Well Number 523H
OGRID No. 14744	Operator Name MEWBOURNE OIL COMPANY	Ground Level Elevation 3019'
Surface Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input checked="" type="checkbox"/> Federal		Mineral Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input type="checkbox"/> Federal

Surface Location

UL 0	Section 1	Township 26S	Range 29E	Lot	Ft. from N/S 600 FSL	Ft. from E/W 1620 FEL	Latitude 32.0659460°N	Longitude 103.9344655°W	County EDDY
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Bottom Hole Location

UL C	Section 36	Township 25S	Range 29E	Lot	Ft. from N/S 100 FNL	Ft. from E/W 1470 FWL	Latitude 32.0932937°N	Longitude 103.9417175°W	County EDDY
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Dedicated Acres 320	Infill or Defining Well	Defining Well API	Overlapping Spacing Unit (Y/N)	Consolidation Code
Order Numbers.		Well setbacks are under Common Ownership: <input type="checkbox"/> Yes <input type="checkbox"/> No		

Kick Off Point (KOP)

UL P	Section 1	Township 26S	Range 29E	Lot	Ft. from N/S 19 FSL	Ft. from E/W 1218 FEL	Latitude 32.0643683°N	Longitude 103.9331669°W	County EDDY
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First Take Point (FTP)

UL N	Section 1	Township 26S	Range 29E	Lot	Ft. from N/S 100 FSL	Ft. from E/W 1470 FWL	Latitude 32.0644729°N	Longitude 103.9407476°W	County EDDY
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Last Take Point (LTP)

UL C	Section 36	Township 25S	Range 29E	Lot	Ft. from N/S 100 FNL	Ft. from E/W 1470 FWL	Latitude 32.0932937°N	Longitude 103.9417175°W	County EDDY
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Unitized Area or Area of Uniform Interest	Spacing Unit Type <input checked="" type="checkbox"/> Horizontal <input type="checkbox"/> Vertical	Ground Floor Elevation:
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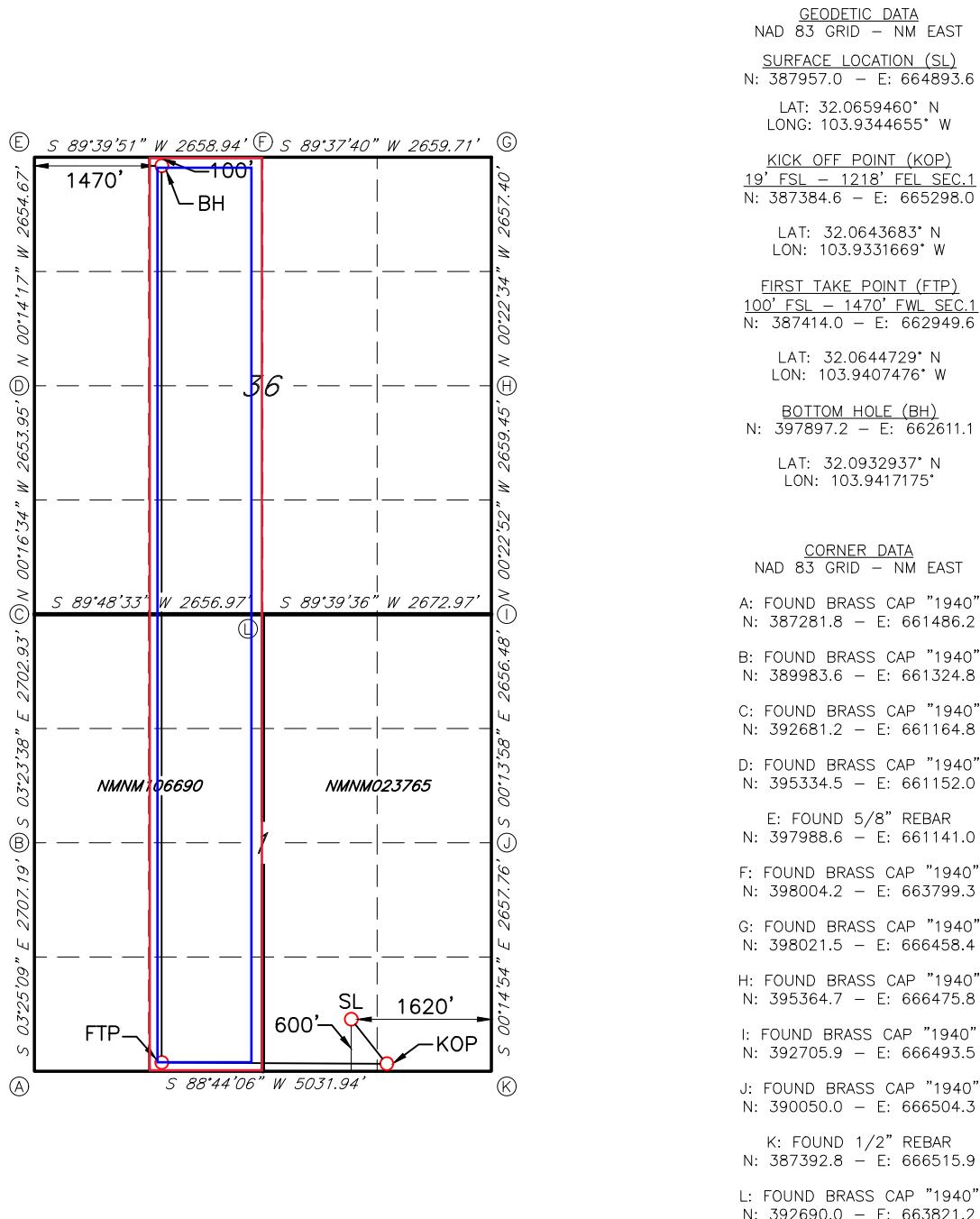
OPERATOR CERTIFICATIONS		SURVEYOR CERTIFICATIONS	
<p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</p> <p>If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.</p> <p><i>Conner Whitley</i> 08/28/2024</p>		<p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me under my supervision and that the same is true and correct to the best of my belief.</p> <p></p>	
Signature <i>Conner Whitley</i>		Signature and Seal of Professional Surveyor <i>Robert M. Howett</i>	
Date 08/28/2024		Certificate Number 19680	
Printed Name cwhitley@mewbourne.com		Date of Survey 08/07/2023	
Email Address cwhitley@mewbourne.com			

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

ACREAGE DEDICATION PLATS

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

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



Mewbourne Oil Company, Buffalo Trace 1/36 Fed Com 523H

Sec 1, T26S, R39E

SHL: 600' FSL 1620' FEL (Sec 1)

BHL: 100' FNL 1470' FWL (Sec 36)

Well Location GL: '												
Point	Calls	Leases	Aliquot	Section	Township	Range	County	Lat	Long	TVD	MD	
SHL	SHL: 600' FSL & 1620' FEL (Sec 1)	NMNM023765	SWSE	1	26S	29E	Eddy	32.0659460	103.9344655	0'	0'	
KOP	KOP: 19' FSL & 1218' FEL (Sec 1)	NMNM023765	SESE	1	26S	29E	Eddy	32.0643683	103.9331669	8,295'	8,350'	
FTP	FTP: 100' FSL & 1470' FWL (Sec 1)	NMNM106690	SESE	1	26S	29E	Eddy	32.0644729	103.9407476	0'	0'	
BHL	BHL: 100' FNL & 1470' FWL (Sec 36)	FEE	NENE	36	25S	29E	Eddy	32.0932937	103.9417175	9,027'	20,947'	

GEOLOGY

Formation	Est. Top (TVD)	Lithology	Mineral Resources	Formation	Est. Top (TVD)	Lithology	Mineral Resources
Rustler	854'	Dolomite/Anhydrite	Usable Water	Yoso			
Castile	1075'	Anhydrite	None	Delaware (Lamar)	2582'	Limestone/Dolomite	Oil/Natural Gas
Salt Top	2045'	Salt	None	Bell Canyon	2607'	Sandstone	Oil/Natural Gas
Salt Base	2389'	Salt	None	Cherry Canyon	3432'	Sandstone	Oil/Natural Gas
Yates				Manzanita Marker	3590'	Limestone	Oil/Natural Gas
Seven Rivers				Basal Brushy Canyon	5977'	Sandstone	Oil/Natural Gas
Queen				Bone Spring	6274'	Limestone	Oil/Natural Gas
Capitan				1st Bone Spring	7210'	Sandstone	Oil/Natural Gas
Grayburg				2nd Bone Spring	7985'	Sandstone	Oil/Natural Gas
San Andres				3rd Bone Spring			
Glorietta				Wolfcamp			

Casing Program Design A						BLM Minimum Safety Factors	1.125	1.0	1.6 Dry	1.6 Dry
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'	950'	950'	13.375" 48# H40 STC	1.81	4.07	7.06	11.86
Int	12.25"	0'	0'	3250'	3250'	9.625" 36# J55 LTC	1.14	1.98	3.87	4.82
Production	8.75"	0'	0'	10650'	10615'	7" 26# P110 LTC	1.13	1.80	2.50	3.00
Liner	6.125"	8250'	8195'	20947'	9027'	4.5" 13.5# P110 LTC	2.07	2.40	1.97	2.46

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

Is casing new? If used, attach certification as required in Onshore Order #1	Y or N
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, Buffalo Trace 1/36 Fed Com 523H

Sec 1, T26S, R39E

SHL: 600' FSL 1620' FEL (Sec 1)

BHL: 100' FNL 1470' FWL (Sec 36)

Design A - Cement Program

Csg. Size		# Sacks	Wt., lb/gal	Yield, ft ³ /sack	TOC/BOC	Volume, ft ³	% Excess	Slurry Description
13.375 in	LEAD	500	12.5	2.12	0' - 758'	1060	100%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	758' - 950'	268		Class C: Retarder
9.625 in	LEAD	470	12.5	2.12	0' - 2563'	1000	25%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	2563' - 3250'	268		Class C: Retarder
1st Stg 7 in	LEAD	350	12.5	2.12	4376' - 8278'	750	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
	TAIL	400	15.6	1.18	8278' - 10734'	472		Class H: Retarder, Fluid Loss, Defoamer
7" DV Tool @ 4376'								
2nd Stg 7 in	LEAD	60	12.5	2.12	3050' - 3703'	130	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
	TAIL	100	14.8	1.34	3703' - 4376'	134		Class C: Retarder, Fluid Loss, Defoamer
4.5 in	LEAD	800	13.5	1.85	8250' - 20947'	1480	25%	Class H: Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti-settling Agent

Pressure Control Equipment

BOP installed and tested before drilling hole, in:	Size, in	System Rated WP	Type		Tested to:	Rating Depth
12.25	13.375	5M	Annular	X	2500#	20,947'
			Blind Ram	X		
			Pipe Ram	X		
			Double Ram		5000#	
			Other*			

*Specify if additional ram is utilized.

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

Variance Request: A variance is requested for the use of a 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 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.

Y	Formation integrity test will be performed per 43 CFR Part 3172. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with 43 CFR Part 3172.
N	Mewbourne Oil Company request a variance to use a 5000 psi annular BOP with a 10,000 psi BOP stack.

Mud Program

Depth (MD)	Mud Wt., lb/gal	Mud Type
0' - 950'	8.4 - 8.6	Fresh Water
950' - 3250'	9.5 - 10.5	Brine
3250' - 10650'	8.6 - 10.	Cut-Brine
10650' - 20947'	10.0 - 11.	OBM

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

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

Mewbourne Oil Company, Buffalo Trace 1/36 Fed Com 523H
Sec 1, T26S, R39E
SHL: 600' FSL 1620' FEL (Sec 1)
BHL: 100' FNL 1470' FWL (Sec 36)

Logging and Testing Procedures**Logging, Coring and Testing.**

N	Will run GR/CNL from KOP (8350') to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
Y	No logs are planned based on well control or offset log information. Offset Well: Buffalo Trace 1/36 Fed Com #878H
N	Coring? If yes, explain:

Open & Cased Hole Logs Run In the Well

<input type="checkbox"/> Caliper	<input type="checkbox"/> Cement Bond Log	<input type="checkbox"/> CNL/FDC
<input type="checkbox"/> Compensated Densilog	<input type="checkbox"/> Compensated Neutron Log	<input type="checkbox"/> Computer Generated Log
<input type="checkbox"/> Dip Meter Log	<input checked="" type="checkbox"/> Directional Survey	<input type="checkbox"/> Dual Induction/Microresistivity
<input type="checkbox"/> Dual Lateral Log/Microspherically Focused	<input type="checkbox"/> Electric Log	<input type="checkbox"/> Formation Density Compensated Log
<input type="checkbox"/> Gamma Ray Log	<input checked="" type="checkbox"/> Measurement While Drilling	<input type="checkbox"/> Mud Log/Geological Lithology Log
<input type="checkbox"/> Other	<input type="checkbox"/> Porosity-Resistivity Log	<input type="checkbox"/> Sidewall Neutron Log
<input type="checkbox"/> Sonic Log	<input type="checkbox"/> Spontaneous Potential Log	<input type="checkbox"/> Temperature Log

Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	5163 psi
BH Temperature	140
Abnormal Temp, Pressure, or Geologic Hazards	No

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

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

	H2S is present
X	H2S Plan attached

Mewbourne Oil Company, Buffalo Trace 1/36 Fed Com 523H

Sec 1, T26S, R39E

SHL: 600' FSL 1620' FEL (Sec 1)

BHL: 100' FNL 1470' FWL (Sec 36)

Other facets of operation

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

Offline Cementing Variance: Variance is requested to perform offline cementing according to the attached procedure. R-111Q: Mewbourne proposes performing Open Hole Cementing per R-111Q Guidelines if well is in Potash.

Casing Program Design B						BLM Minimum Safety Factors	1.125	1.0	1.6 Dry	1.6 Dry
String	Hole Size	Top MD	Top TVD	Bot MD	Bot TVD		SF Collapse	SF Burst	SF Jt	SF Body
Surface	17.5'	0'	0'	500'	500'	13.375" 48# H40 STC	3.53	7.92	13.42	22.54
Int	12.25'	0'	0'	2300'	2300'	9.625" 36# J55 LTC	1.88	3.27	5.47	6.81
Production	8.75'	0'	0'	8893'	8837'	7" 26# N-80 LTC	1.17	1.57	2.24	2.61
Liner	6.125'	8743'	8687'	16908'	9431'	4.5" 13.5# P110 LTC	2.19	2.54	3.07	3.83

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

Is casing new? If used, attach certification as required in Onshore Order #1	Y or N
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?	

Design B - Cement Program

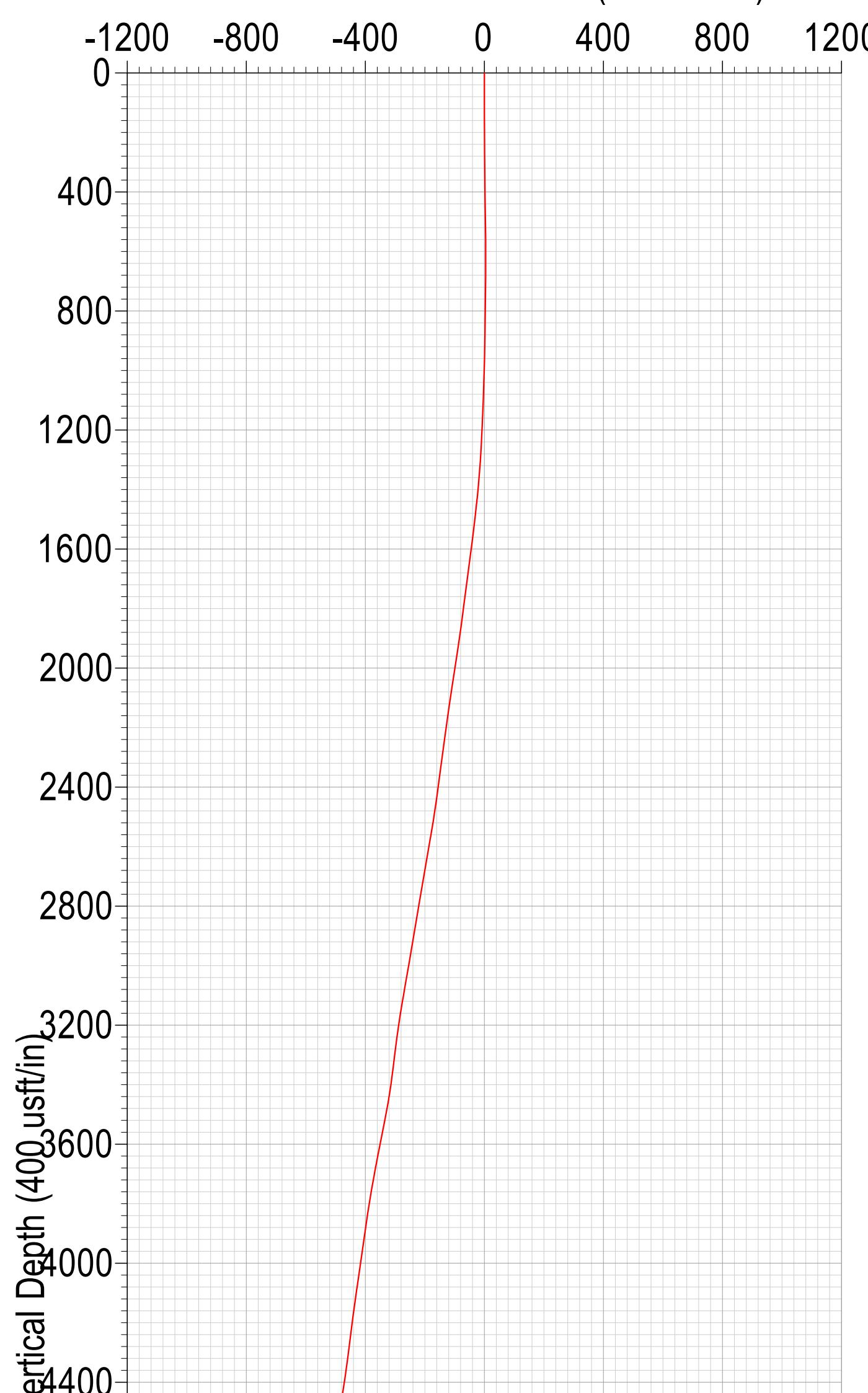
Csg. Size		# Sacks	Wt., lb/gal	Yield, ft ³ /sack	TOC/BOC	Volume, ft ³	% Excess	Slurry Description	
								100%	25%
13.375 in	LEAD	210	12.5	2.12	0' - 313'	450	100%	Class C: Salt, Gel, Extender, LCM	
	TAIL	200	14.8	1.34	313' - 500'	268		Class C: Retarder	
9.625 in	LEAD	300	12.5	2.12	0' - 1621'	640	25%	Class C: Salt, Gel, Extender, LCM	
	TAIL	200	14.8	1.34	1621' - 2300'	268		Class C: Retarder	
1st Stg 7 in	LEAD	50	12.5	2.12	0' - 1703'	110	25%	Class C: Salt, Gel, Extender, LCM, Defoamer	
	TAIL	400	15.6	1.18	1703' - 0'	472		Class H: Retarder, Fluid Loss, Defoamer	
4.5 in	LEAD	-290	13.5	1.85	5000' - 0'	-540	25%	Class H: Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti-settling Agent	



Company: Mewbourne Oil Company
 Well: Buffalo Trace 1-36 Fed Com 827H
 County: Eddy County, New Mexico (NAD 83)
 Rig: Patterson 557
 Wellbore: Wellbore #2
 Design: Design #1
 Date: 15:17, August 22 2024



Vertical Section at 347.07° (400 usft/in)



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Mewbourne Oil Company

Eddy County, New Mexico (NAD 83)

Buffalo Trace 1-36 Fed Com

Buffalo Trace 1-36 Fed Com 827H

Wellbore #2

Plan: Design #1

Standard Planning Report

22 August, 2024





MS Directional

Planning Report



Database: Company: Project: Site: Well: Wellbore: Design:	EDM 5000.15 Conroe DB Mewbourne Oil Company Eddy County, New Mexico (NAD 83) Buffalo Trace 1-36 Fed Com Buffalo Trace 1-36 Fed Com 827H Wellbore #2 Design #1	Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method:	Well Buffalo Trace 1-36 Fed Com 827H Well @ 3047.00usft (Patterson 557) Well @ 3047.00usft (Patterson 557) Grid Minimum Curvature
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Project	Eddy County, New Mexico (NAD 83)		
Map System: Geo Datum: Map Zone:	US State Plane 1983 North American Datum 1983 New Mexico Eastern Zone	System Datum:	Mean Sea Level

Site	Buffalo Trace 1-36 Fed Com				
Site Position: From: Map Position Uncertainty:	0.00 usft	Northing: Easting: Slot Radius:	387,957.00 usft 664,893.60 usft 13-3/16 "	Latitude: Longitude:	32.065946 -103.934466

Well	Buffalo Trace 1-36 Fed Com 827H				
Well Position	+N/S +E/W	0.00 usft 0.00 usft	Northing: Easting:	387,957.00 usft 664,893.60 usft	Latitude: Longitude:
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:
Grid Convergence:		0.212 °			3,019.00 usft

Wellbore	Wellbore #2				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM2024	8/20/2024	6.333	59.517	47,207.400

Design	Design #1				
Audit Notes:					
Version:		Phase:	PLAN	Tie On Depth:	8,268.00
Vertical Section:		Depth From (TVD) (usft)	+N/S (usft)	+E/W (usft)	Direction (°)
		0.00	0.00	0.00	347.07

Plan Survey Tool Program	Date	8/22/2024	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	8,268.00	20,947.23	Design #1 (Wellbore #2)			MWD+HRGM OWSG MWD + HRGM	



Database: Company: Project: Site: Well: Wellbore: Design:	EDM 5000.15 Conroe DB Mewbourne Oil Company Eddy County, New Mexico (NAD 83) Buffalo Trace 1-36 Fed Com Buffalo Trace 1-36 Fed Com 827H Wellbore #2 Design #1	Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method:	Well Buffalo Trace 1-36 Fed Com 827H Well @ 3047.00usft (Patterson 557) Well @ 3047.00usft (Patterson 557) Grid Minimum Curvature
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Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
8,268.00	2.43	103.87	8,213.20	-572.40	404.41	0.00	0.00	0.00	0.000	
8,350.00	2.01	104.26	8,295.14	-573.17	407.49	0.51	-0.51	0.48	178.118	
8,409.38	4.00	265.00	8,354.48	-573.61	406.44	10.00	3.35	270.70	167.149	
8,559.24	4.00	265.00	8,503.97	-574.52	396.03	0.00	0.00	0.00	0.000	
9,419.27	90.00	267.50	9,037.00	-601.08	-174.92	10.00	10.00	0.29	2.506	
9,544.27	90.00	270.00	9,037.00	-603.80	-299.89	2.00	0.00	2.00	90.000	
9,959.30	90.00	270.00	9,037.00	-603.80	-714.92	0.00	0.00	0.00	0.000	
10,790.79	90.00	353.15	9,037.00	-99.20	-1,283.78	10.00	0.00	10.00	90.000	
14,885.03	90.00	353.15	9,037.00	3,965.80	-1,772.24	0.00	0.00	0.00	0.000	T1 v1-Buffalo Trace
15,649.83	91.29	330.24	9,028.25	4,687.01	-2,010.83	3.00	0.17	-3.00	-86.680	
16,634.40	89.88	359.74	9,017.94	5,627.45	-2,262.94	3.00	-0.14	3.00	92.528	
20,947.23	89.88	359.74	9,027.00	9,940.23	-2,282.21	0.00	0.00	0.00	0.000	PBHL v1-Buffalo Tr



Database: Company: Project: Site: Well: Wellbore: Design:	EDM 5000.15 Conroe DB Mewbourne Oil Company Eddy County, New Mexico (NAD 83) Buffalo Trace 1-36 Fed Com Buffalo Trace 1-36 Fed Com 827H Wellbore #2 Design #1	Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method:	Well Buffalo Trace 1-36 Fed Com 827H Well @ 3047.00usft (Patterson 557) Well @ 3047.00usft (Patterson 557) Grid Minimum Curvature
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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)	
8,268.00	2.43	103.87	8,213.20	-572.40	404.41	-648.38	1.09	1.02	-20.05	
Tie-In to OH - 8268.00' MD										
8,300.00	2.27	104.01	8,245.18	-572.71	405.68	-648.97	0.51	-0.51	0.42	
8,350.00	2.01	104.26	8,295.14	-573.17	407.49	-649.82	0.51	-0.51	0.51	
SDTRK, 10.00°/100' Build & Turn										
8,400.00	3.07	263.04	8,345.12	-573.55	407.01	-650.08	10.00	2.11	317.56	
8,409.38	4.00	265.00	8,354.48	-573.61	406.44	-650.01	10.00	9.92	20.92	
Hold 4.00° Inc; 265.00° Azm										
8,500.00	4.00	265.00	8,444.88	-574.16	400.14	-649.14	0.00	0.00	0.00	
8,559.24	4.00	265.00	8,503.97	-574.52	396.03	-648.57	0.00	0.00	0.00	
Begin 10.00°/100' Build & Turn										
8,600.00	8.07	266.27	8,544.50	-574.83	391.75	-647.92	10.00	10.00	3.11	
8,650.00	13.07	266.75	8,593.64	-575.38	382.59	-646.40	10.00	10.00	0.96	
8,700.00	18.07	266.96	8,641.79	-576.11	369.19	-644.12	10.00	10.00	0.43	
8,750.00	23.07	267.09	8,688.58	-577.02	351.65	-641.08	10.00	10.00	0.25	
8,800.00	28.07	267.17	8,733.67	-578.10	330.10	-637.31	10.00	10.00	0.17	
8,850.00	33.07	267.23	8,776.71	-579.34	304.71	-632.83	10.00	10.00	0.12	
8,900.00	38.07	267.28	8,817.36	-580.73	275.67	-627.69	10.00	10.00	0.09	
8,950.00	43.07	267.31	8,855.33	-582.27	243.19	-621.92	10.00	10.00	0.07	
9,000.00	48.07	267.34	8,890.32	-583.93	207.54	-615.56	10.00	10.00	0.06	
9,050.00	53.07	267.37	8,922.06	-585.71	168.97	-608.67	10.00	10.00	0.05	
9,100.00	58.07	267.39	8,950.32	-587.59	127.78	-601.29	10.00	10.00	0.04	
9,150.00	63.07	267.41	8,974.88	-589.57	84.29	-593.48	10.00	10.00	0.04	
9,200.00	68.07	267.43	8,995.55	-591.62	38.83	-585.30	10.00	10.00	0.04	
9,250.00	73.07	267.45	9,012.18	-593.72	-8.26	-576.82	10.00	10.00	0.03	
9,300.00	78.07	267.46	9,024.63	-595.87	-56.62	-568.09	10.00	10.00	0.03	
9,350.00	83.07	267.48	9,032.82	-598.05	-105.89	-559.19	10.00	10.00	0.03	
9,400.00	88.07	267.49	9,036.68	-600.23	-155.67	-550.18	10.00	10.00	0.03	
9,419.27	90.00	267.50	9,037.00	-601.08	-174.92	-546.69	10.00	10.00	0.03	
Begin 90.00° Lateral; 2.00°/100' Turn										
9,500.00	90.00	269.11	9,037.00	-603.46	-255.61	-530.96	2.00	0.00	2.00	
9,544.27	90.00	270.00	9,037.00	-603.80	-299.89	-521.38	2.00	0.00	2.00	
Hold 270.00° Azm										
9,600.00	90.00	270.00	9,037.00	-603.80	-355.61	-508.92	0.00	0.00	0.00	
9,700.00	90.00	270.00	9,037.00	-603.80	-455.61	-486.54	0.00	0.00	0.00	
9,800.00	90.00	270.00	9,037.00	-603.80	-555.61	-464.16	0.00	0.00	0.00	
9,900.00	90.00	270.00	9,037.00	-603.80	-655.61	-441.78	0.00	0.00	0.00	
9,959.30	90.00	270.00	9,037.00	-603.80	-714.92	-428.51	0.00	0.00	0.00	
Begin 10.00°/100' Right Turn										
10,000.00	90.00	274.07	9,037.00	-602.36	-755.58	-418.01	10.00	0.00	10.00	
10,050.00	90.00	279.07	9,037.00	-596.64	-805.23	-401.32	10.00	0.00	10.00	
10,100.00	90.00	284.07	9,037.00	-586.61	-854.20	-380.59	10.00	0.00	10.00	
10,150.00	90.00	289.07	9,037.00	-572.36	-902.11	-355.98	10.00	0.00	10.00	
10,200.00	90.00	294.07	9,037.00	-553.98	-948.59	-327.67	10.00	0.00	10.00	
10,250.00	90.00	299.07	9,037.00	-531.63	-993.30	-295.87	10.00	0.00	10.00	
10,300.00	90.00	304.07	9,037.00	-505.46	-1,035.89	-260.84	10.00	0.00	10.00	
10,350.00	90.00	309.07	9,037.00	-475.68	-1,076.03	-222.83	10.00	0.00	10.00	
10,400.00	90.00	314.07	9,037.00	-442.51	-1,113.43	-182.14	10.00	0.00	10.00	
10,450.00	90.00	319.07	9,037.00	-406.21	-1,147.79	-139.07	10.00	0.00	10.00	
10,500.00	90.00	324.07	9,037.00	-367.06	-1,178.86	-93.96	10.00	0.00	10.00	
10,550.00	90.00	329.07	9,037.00	-325.34	-1,206.39	-47.14	10.00	0.00	10.00	
10,600.00	90.00	334.07	9,037.00	-281.39	-1,230.19	1.03	10.00	0.00	10.00	
10,650.00	90.00	339.07	9,037.00	-235.52	-1,250.07	50.18	10.00	0.00	10.00	



MS Directional

Planning Report



Database: Company: Project: Site: Well: Wellbore: Design:	EDM 5000.15 Conroe DB Mewbourne Oil Company Eddy County, New Mexico (NAD 83) Buffalo Trace 1-36 Fed Com Buffalo Trace 1-36 Fed Com 827H Wellbore #2 Design #1	Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method:	Well Buffalo Trace 1-36 Fed Com 827H Well @ 3047.00usft (Patterson 557) Well @ 3047.00usft (Patterson 557) Grid Minimum Curvature
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Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,700.00	90.00	344.07	9,037.00	-188.10	-1,265.87	99.93	10.00	0.00	10.00
10,750.00	90.00	349.07	9,037.00	-139.49	-1,277.48	149.91	10.00	0.00	10.00
10,790.79	90.00	353.15	9,037.00	-99.20	-1,283.78	190.59	10.00	0.00	10.00
Hold 353.15° Azm									
10,800.00	90.00	353.15	9,037.00	-90.05	-1,284.88	199.75	0.00	0.00	0.00
10,900.00	90.00	353.15	9,037.00	9.23	-1,296.81	299.19	0.00	0.00	0.00
11,000.00	90.00	353.15	9,037.00	108.52	-1,308.74	398.63	0.00	0.00	0.00
11,100.00	90.00	353.15	9,037.00	207.81	-1,320.67	498.06	0.00	0.00	0.00
11,200.00	90.00	353.15	9,037.00	307.09	-1,332.60	597.50	0.00	0.00	0.00
11,300.00	90.00	353.15	9,037.00	406.38	-1,344.53	696.94	0.00	0.00	0.00
11,400.00	90.00	353.15	9,037.00	505.66	-1,356.46	796.38	0.00	0.00	0.00
11,500.00	90.00	353.15	9,037.00	604.95	-1,368.39	895.82	0.00	0.00	0.00
11,600.00	90.00	353.15	9,037.00	704.24	-1,380.32	995.25	0.00	0.00	0.00
11,700.00	90.00	353.15	9,037.00	803.52	-1,392.25	1,094.69	0.00	0.00	0.00
11,800.00	90.00	353.15	9,037.00	902.81	-1,404.18	1,194.13	0.00	0.00	0.00
11,900.00	90.00	353.15	9,037.00	1,002.09	-1,416.11	1,293.57	0.00	0.00	0.00
12,000.00	90.00	353.15	9,037.00	1,101.38	-1,428.04	1,393.00	0.00	0.00	0.00
12,100.00	90.00	353.15	9,037.00	1,200.66	-1,439.97	1,492.44	0.00	0.00	0.00
12,200.00	90.00	353.15	9,037.00	1,299.95	-1,451.90	1,591.88	0.00	0.00	0.00
12,300.00	90.00	353.15	9,037.00	1,399.24	-1,463.84	1,691.32	0.00	0.00	0.00
12,400.00	90.00	353.15	9,037.00	1,498.52	-1,475.77	1,790.76	0.00	0.00	0.00
12,500.00	90.00	353.15	9,037.00	1,597.81	-1,487.70	1,890.19	0.00	0.00	0.00
12,600.00	90.00	353.15	9,037.00	1,697.09	-1,499.63	1,989.63	0.00	0.00	0.00
12,700.00	90.00	353.15	9,037.00	1,796.38	-1,511.56	2,089.07	0.00	0.00	0.00
12,800.00	90.00	353.15	9,037.00	1,895.66	-1,523.49	2,188.51	0.00	0.00	0.00
12,900.00	90.00	353.15	9,037.00	1,994.95	-1,535.42	2,287.94	0.00	0.00	0.00
13,000.00	90.00	353.15	9,037.00	2,094.24	-1,547.35	2,387.38	0.00	0.00	0.00
13,100.00	90.00	353.15	9,037.00	2,193.52	-1,559.28	2,486.82	0.00	0.00	0.00
13,200.00	90.00	353.15	9,037.00	2,292.81	-1,571.21	2,586.26	0.00	0.00	0.00
13,300.00	90.00	353.15	9,037.00	2,392.09	-1,583.14	2,685.69	0.00	0.00	0.00
13,400.00	90.00	353.15	9,037.00	2,491.38	-1,595.07	2,785.13	0.00	0.00	0.00
13,500.00	90.00	353.15	9,037.00	2,590.67	-1,607.00	2,884.57	0.00	0.00	0.00
13,600.00	90.00	353.15	9,037.00	2,689.95	-1,618.93	2,984.01	0.00	0.00	0.00
13,700.00	90.00	353.15	9,037.00	2,789.24	-1,630.86	3,083.45	0.00	0.00	0.00
13,800.00	90.00	353.15	9,037.00	2,888.52	-1,642.79	3,182.88	0.00	0.00	0.00
13,900.00	90.00	353.15	9,037.00	2,987.81	-1,654.72	3,282.32	0.00	0.00	0.00
14,000.00	90.00	353.15	9,037.00	3,087.09	-1,666.65	3,381.76	0.00	0.00	0.00
14,100.00	90.00	353.15	9,037.00	3,186.38	-1,678.58	3,481.20	0.00	0.00	0.00
14,200.00	90.00	353.15	9,037.00	3,285.67	-1,690.51	3,580.63	0.00	0.00	0.00
14,300.00	90.00	353.15	9,037.00	3,384.95	-1,702.44	3,680.07	0.00	0.00	0.00
14,400.00	90.00	353.15	9,037.00	3,484.24	-1,714.37	3,779.51	0.00	0.00	0.00
14,500.00	90.00	353.15	9,037.00	3,583.52	-1,726.30	3,878.95	0.00	0.00	0.00
14,600.00	90.00	353.15	9,037.00	3,682.81	-1,738.23	3,978.39	0.00	0.00	0.00
14,700.00	90.00	353.15	9,037.00	3,782.09	-1,750.16	4,077.82	0.00	0.00	0.00
14,800.00	90.00	353.15	9,037.00	3,881.38	-1,762.09	4,177.26	0.00	0.00	0.00
14,885.03	90.00	353.15	9,037.00	3,965.80	-1,772.24	4,261.81	0.00	0.00	0.00
Begin 3.00°/100' Build & Turn									
14,900.00	90.03	352.70	9,037.00	3,980.66	-1,774.08	4,276.70	3.00	0.17	-2.99
15,000.00	90.20	349.70	9,036.80	4,079.47	-1,789.37	4,376.43	3.00	0.17	-2.99
15,100.00	90.37	346.71	9,036.30	4,177.35	-1,809.81	4,476.40	3.00	0.17	-3.00
15,200.00	90.54	343.71	9,035.50	4,274.02	-1,835.33	4,576.33	3.00	0.17	-3.00
15,300.00	90.72	340.72	9,034.40	4,369.23	-1,865.87	4,675.96	3.00	0.17	-3.00
15,400.00	90.88	337.72	9,033.00	4,462.70	-1,901.33	4,775.00	3.00	0.17	-3.00
15,500.00	91.05	334.73	9,031.32	4,554.19	-1,941.64	4,873.19	3.00	0.17	-3.00



MS Directional

Planning Report



Database: Company: Project: Site: Well: Wellbore: Design:	EDM 5000.15 Conroe DB Mewbourne Oil Company Eddy County, New Mexico (NAD 83) Buffalo Trace 1-36 Fed Com Buffalo Trace 1-36 Fed Com 827H Wellbore #2 Design #1	Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method:	Well Buffalo Trace 1-36 Fed Com 827H Well @ 3047.00usft (Patterson 557) Well @ 3047.00usft (Patterson 557) Grid Minimum Curvature
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Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
15,600.00	91.21	331.73	9,029.34	4,643.45	-1,986.67	4,970.26	3.00	0.16	-3.00
15,649.83	91.29	330.24	9,028.25	4,687.01	-2,010.83	5,018.12	3.00	0.16	-3.00
Begin 3.00°/100' Drop & Turn									
15,700.00	91.23	331.74	9,027.15	4,730.88	-2,035.15	5,066.32	3.00	-0.13	3.00
15,800.00	91.09	334.74	9,025.12	4,820.14	-2,080.16	5,163.39	3.00	-0.14	3.00
15,900.00	90.95	337.74	9,023.34	4,911.64	-2,120.44	5,261.58	3.00	-0.14	3.00
16,000.00	90.81	340.73	9,021.80	5,005.12	-2,155.89	5,360.62	3.00	-0.14	3.00
16,100.00	90.67	343.73	9,020.51	5,100.33	-2,186.40	5,460.25	3.00	-0.14	3.00
16,200.00	90.52	346.73	9,019.47	5,197.01	-2,211.89	5,560.18	3.00	-0.15	3.00
16,300.00	90.38	349.72	9,018.69	5,294.89	-2,232.29	5,660.14	3.00	-0.15	3.00
16,400.00	90.23	352.72	9,018.16	5,393.71	-2,247.55	5,759.87	3.00	-0.15	3.00
16,500.00	90.08	355.72	9,017.89	5,493.19	-2,257.62	5,859.08	3.00	-0.15	3.00
16,600.00	89.93	358.71	9,017.89	5,593.06	-2,262.48	5,957.50	3.00	-0.15	3.00
16,634.40	89.88	359.74	9,017.94	5,627.45	-2,262.94	5,991.13	3.00	-0.15	3.00
Hold 89.88° Inc; 359.74° Azm									
16,700.00	89.88	359.74	9,018.08	5,693.05	-2,263.23	6,055.13	0.00	0.00	0.00
16,800.00	89.88	359.74	9,018.29	5,793.05	-2,263.68	6,152.70	0.00	0.00	0.00
16,900.00	89.88	359.74	9,018.50	5,893.05	-2,264.13	6,250.26	0.00	0.00	0.00
17,000.00	89.88	359.74	9,018.71	5,993.05	-2,264.57	6,347.82	0.00	0.00	0.00
17,100.00	89.88	359.74	9,018.92	6,093.05	-2,265.02	6,445.39	0.00	0.00	0.00
17,200.00	89.88	359.74	9,019.13	6,193.05	-2,265.47	6,542.95	0.00	0.00	0.00
17,300.00	89.88	359.74	9,019.34	6,293.05	-2,265.91	6,640.51	0.00	0.00	0.00
17,400.00	89.88	359.74	9,019.55	6,393.05	-2,266.36	6,738.07	0.00	0.00	0.00
17,500.00	89.88	359.74	9,019.76	6,493.04	-2,266.81	6,835.64	0.00	0.00	0.00
17,600.00	89.88	359.74	9,019.97	6,593.04	-2,267.25	6,933.20	0.00	0.00	0.00
17,700.00	89.88	359.74	9,020.18	6,693.04	-2,267.70	7,030.76	0.00	0.00	0.00
17,800.00	89.88	359.74	9,020.39	6,793.04	-2,268.15	7,128.33	0.00	0.00	0.00
17,900.00	89.88	359.74	9,020.60	6,893.04	-2,268.59	7,225.89	0.00	0.00	0.00
18,000.00	89.88	359.74	9,020.81	6,993.04	-2,269.04	7,323.45	0.00	0.00	0.00
18,100.00	89.88	359.74	9,021.02	7,093.04	-2,269.49	7,421.02	0.00	0.00	0.00
18,200.00	89.88	359.74	9,021.23	7,193.04	-2,269.93	7,518.58	0.00	0.00	0.00
18,300.00	89.88	359.74	9,021.44	7,293.03	-2,270.38	7,616.14	0.00	0.00	0.00
18,400.00	89.88	359.74	9,021.65	7,393.03	-2,270.83	7,713.70	0.00	0.00	0.00
18,500.00	89.88	359.74	9,021.86	7,493.03	-2,271.27	7,811.27	0.00	0.00	0.00
18,600.00	89.88	359.74	9,022.07	7,593.03	-2,271.72	7,908.83	0.00	0.00	0.00
18,700.00	89.88	359.74	9,022.28	7,693.03	-2,272.17	8,006.39	0.00	0.00	0.00
18,800.00	89.88	359.74	9,022.49	7,793.03	-2,272.62	8,103.96	0.00	0.00	0.00
18,900.00	89.88	359.74	9,022.70	7,893.03	-2,273.06	8,201.52	0.00	0.00	0.00
19,000.00	89.88	359.74	9,022.91	7,993.03	-2,273.51	8,299.08	0.00	0.00	0.00
19,100.00	89.88	359.74	9,023.12	8,093.03	-2,273.96	8,396.65	0.00	0.00	0.00
19,200.00	89.88	359.74	9,023.33	8,193.02	-2,274.40	8,494.21	0.00	0.00	0.00
19,300.00	89.88	359.74	9,023.54	8,293.02	-2,274.85	8,591.77	0.00	0.00	0.00
19,400.00	89.88	359.74	9,023.75	8,393.02	-2,275.30	8,689.33	0.00	0.00	0.00
19,500.00	89.88	359.74	9,023.96	8,493.02	-2,275.74	8,786.90	0.00	0.00	0.00
19,600.00	89.88	359.74	9,024.17	8,593.02	-2,276.19	8,884.46	0.00	0.00	0.00
19,700.00	89.88	359.74	9,024.38	8,693.02	-2,276.64	8,982.02	0.00	0.00	0.00
19,800.00	89.88	359.74	9,024.59	8,793.02	-2,277.08	9,079.59	0.00	0.00	0.00
19,900.00	89.88	359.74	9,024.80	8,893.02	-2,277.53	9,177.15	0.00	0.00	0.00
20,000.00	89.88	359.74	9,025.01	8,993.01	-2,277.98	9,274.71	0.00	0.00	0.00
20,100.00	89.88	359.74	9,025.22	9,093.01	-2,278.42	9,372.28	0.00	0.00	0.00
20,200.00	89.88	359.74	9,025.43	9,193.01	-2,278.87	9,469.84	0.00	0.00	0.00
20,300.00	89.88	359.74	9,025.64	9,293.01	-2,279.32	9,567.40	0.00	0.00	0.00
20,400.00	89.88	359.74	9,025.85	9,393.01	-2,279.76	9,664.96	0.00	0.00	0.00



Database: Company: Project: Site: Well: Wellbore: Design:	EDM 5000.15 Conroe DB Mewbourne Oil Company Eddy County, New Mexico (NAD 83) Buffalo Trace 1-36 Fed Com Buffalo Trace 1-36 Fed Com 827H Wellbore #2 Design #1	Local Co-ordinate Reference: TVD Reference: MD Reference: North Reference: Survey Calculation Method:	Well Buffalo Trace 1-36 Fed Com 827H Well @ 3047.00usft (Patterson 557) Well @ 3047.00usft (Patterson 557) Grid Minimum Curvature
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Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/S (usft)	+E/W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
20,500.00	89.88	359.74	9,026.06	9,493.01	-2,280.21	9,762.53	0.00	0.00	0.00
20,600.00	89.88	359.74	9,026.27	9,593.01	-2,280.66	9,860.09	0.00	0.00	0.00
20,700.00	89.88	359.74	9,026.48	9,693.01	-2,281.10	9,957.65	0.00	0.00	0.00
20,800.00	89.88	359.74	9,026.69	9,793.00	-2,281.55	10,055.22	0.00	0.00	0.00
20,900.00	89.88	359.74	9,026.90	9,893.00	-2,282.00	10,152.78	0.00	0.00	0.00
20,947.23	89.88	359.74	9,027.00	9,940.23	-2,282.21	10,198.85	0.00	0.00	0.00

PBHL - 20947.22' MD

Design Targets

Target Name

- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/S (usft)	+E/W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- Shape									
IP2-Buffalo Trace 1-36	0.00	0.00	9,017.00	5,059.07	-2,260.40	393,016.07	662,633.21	32.079876	-103.941704
- plan misses target center by 82.79usft at 16083.33usft MD (9020.71 TVD, 5084.35 N, -2181.66 E)									
- Point									
PBHL v1-Buffalo Trac	0.00	0.00	9,027.00	9,940.23	-2,282.21	397,897.23	662,611.40	32.093294	-103.941717
- plan hits target center									
- Point									
IP1-Buffalo Trace 1-36	0.00	0.00	9,027.00	4,430.50	-1,828.08	392,387.49	663,065.53	32.078143	-103.940315
- plan misses target center by 56.83usft at 15343.98usft MD (9033.82 TVD, 4410.57 N, -1880.86 E)									
- Point									
T1 v1-Buffalo Trace 1-	0.00	0.00	9,037.00	3,965.80	-1,772.24	391,922.80	663,121.37	32.076865	-103.940140
- plan hits target center									
- Point									

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/S (usft)	+E/W (usft)	
8,268.00	8,213.20	-572.40	404.41	Tie-In to OH - 8268.00' MD
8,350.00	8,295.14	-573.17	407.49	SDTRK, 10.00°/100' Build & Turn
8,409.38	8,354.48	-573.61	406.44	Hold 4.00° Inc; 265.00° Azm
8,559.24	8,503.97	-574.52	396.03	Begin 10.00°/100' Build & Turn
9,419.27	9,037.00	-601.08	-174.92	Begin 90.00° Lateral; 2.00°/100' Turn
9,544.27	9,037.00	-603.80	-299.89	Hold 270.00° Azm
9,959.30	9,037.00	-603.80	-714.92	Begin 10.00°/100' Right Turn
10,790.79	9,037.00	-99.20	-1,283.78	Hold 353.15° Azm
14,885.03	9,037.00	3,965.80	-1,772.24	Begin 3.00°/100' Build & Turn
15,649.83	9,028.25	4,687.01	-2,010.83	Begin 3.00°/100' Drop & Turn
16,634.40	9,017.94	5,627.45	-2,262.94	Hold 89.88° Inc; 359.74° Azm
20,947.23	9,027.00	9,940.23	-2,282.21	PBHL - 20947.22' MD



Mewbourne Oil Company

Sundry Request:

Mewbourne Oil Company request that the following change be made to the Buffalo Trace 1/36 Fed Com #827H (API# 30-015-54816)

1. **Change name from Buffalo Trace 1/36 Fed Com #827H to Buffalo Trace 1/36 Fed Com #523H**
2. **Move BHL f/ 100' FNL & 1210' FEL (Sec. 36) to 100' FNL & 1470' FWL (Sec. 36)**
3. **Change producing formation target from Purple Sage; Wolfcamp (98220) to Corral Canyon South; Bone Spring (13354)**
4. **Attached are dir. plan & plot, drlg program, cmt & csg design in correlation to the producing formation target change.**
5. **Reference Sundry ID: 2808091 in regards to name change of Buffalo Trace 1/36 Fed Com #523H (API# 30-015-53336) to Buffalo Trace 1/36 Fed Com #873H**

See attached files: Updated C102, dir. plan & plot, drlg program, cmt & csg design, Addinfo.

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

CONDITIONS

Action 381507

CONDITIONS

Operator: MEWBOURNE OIL CO P.O. Box 5270 Hobbs, NM 88241	OGRID: 14744
	Action Number: 381507
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
ward.rikala	Work was performed without OCD approval.	1/23/2026