Form 3160-3
(June 2015)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMNM0001165

6. If Indian, Allotee or Tribe Name
327153

1a. Type of work: ☑ DRILL ☐ REENTER

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

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

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

8. Lease Name and Well No.
GLOCK 17/16 W0MP FED COM
1H

2. Name of Operator
MEWBOURNE OIL COMPANY

9. API Well No.
30015467333

3a. Address	3b. Phone No. *(include area code)*	10. Field and Pool, or Exploratory
PO Box 5270 Hobbs NM 88240	(575)393-5905	WILDCAT; WOLFCAMP / WOLFCAMP G

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

At surface SWSW / 1270 FSL / 230 FWL / LAT 32.5697312 / LONG -104.1050399

At proposed prod. zone SESE / 440 FSL / 100 FEL / LAT 32.5674271 / LONG -104.0717844

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 17 / T20S / R29E / NMP

14. Distance in miles and direction from nearest town or post office*	12. County or Parish	13. State
8.5 miles	EDDY	NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
330 feet	2494.41	640

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
50 feet	9428 feet / 19610 feet	FED: NM1693

21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
3277 feet	11/19/2019	56 days

24. Attachments

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

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

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	Bradley Bishop / Ph: (575)393-5905	09/23/2019

Title
Regulatory

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575)234-5959	02/07/2020

Title	Office
Assistant Field Manager Lands & Minerals	CARLSBAD

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

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

APPROVED WITH CONDITIONS

Approval Date: 02/07/2020 KS 2-12-20

(Continued on page 2)

*(Instructions on page 2)

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**MEWBOURNE OIL COMPANY**
LEASE NO.:	**NMNM0001165**
WELL NAME & NO.:	GLOCK 17-16 W0MP FED COM 1H
SURFACE HOLE FOOTAGE:	1270'/S & 230'/W
BOTTOM HOLE FOOTAGE	440'/S & 100'/E
LOCATION:	Section 17, T.20 S., R.29 E., NMP
COUNTY:	Eddy County, New Mexico

COA

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

A. HYDROGEN SULFIDE

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

B. CASING

Casing Design:

1. The **20** inch surface casing shall be set at approximately **375** feet (a minimum of **70 feet (Eddy County)** into the Rustler Anhydrite and above the salt) and cemented to the surface.

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

completing the cement job.

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

2. The **13-3/8** inch first intermediate casing shall be set at approximately **1316** feet. The minimum required fill of cement behind the **13-3/8** inch first intermediate casing is:

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

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

❖ In Capitan Reef 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.

❖ **Special Capitan Reef requirements.** If lost circulation (50% or greater) occurs below the Base of the Salt, the operator shall do the following:
(Use this for 3 string wells in the Capitan Reef, if 4 string well ensure FW based mud used across the capitan interval)

- Switch to fresh water mud to protect the Capitan Reef and use fresh water mud until setting the intermediate casing. The appropriate BLM office is to be notified for a PET to witness the switch to fresh water.

- Daily drilling reports from the Base of the Salt to the setting of the intermediate casing are to be submitted to the BLM CFO engineering staff via e-mail by 0800 hours each morning. Any lost circulation encountered is to be recorded on these drilling reports. The daily drilling report should show mud volume per shift/tour. Failure to submit these reports will result in an Incidence of Non-Compliance being issued for failure to comply with the Conditions of Approval. If not already planned, the operator shall run a caliper survey for the intermediate well bore and submit to the appropriate BLM office.

3. The **9-5/8** inch second intermediate casing shall be set at approximately **3075** feet. The minimum required fill of cement behind the **9-5/8** inch second intermediate casing is:

Option 1 (Single Stage):

- Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.**
  Excess cement calculates to -37%, additional cement might be required.

Option 2:

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

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

b. Second stage above DV tool:

- Cement to surface. 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 or potash.

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

- Cement should tie-back at least **50 feet** on top of Capitan Reef top. If cement does not circulate see B.1.a, c-d above.
  Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.
  Excess cement calculates to 24%, additional cement might be required.

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

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

C. PRESSURE CONTROL

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

2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.
    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.
    d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
    e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

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

GENERAL REQUIREMENTS

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

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

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

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

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

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

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

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

A. CASING

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

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

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

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

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

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

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

B. PRESSURE CONTROL

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

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

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

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

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

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

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

lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

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

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

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

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

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

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

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

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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

OTA02042020

PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL

MEWBOURNE OIL COMPANY
Lease Number NMNM0001165

Pad 1
GLOCK 17/16 B3EH FED COM 1H
Surface Hole Location: 2090' FSL & 230' FWL, Section 17, T. 20 S., R. 29 E.
Bottom Hole Location: 2200' FNL & 100' FEL, Section 16, T. 20 S, R. 29 E.

GLOCK 17/16 W0LI FED COM 1H
Surface Hole Location: 2060' FSL & 230' FWL, Section 17, T. 20 S., R. 29 E.
Bottom Hole Location: 2200' FSL & 100' FEL, Section 16, T. 20 S, R. 29 E.

Pad 2
GLOCK 17/16 B3MP FED COM 1H
Surface Hole Location: 1300' FSL & 230' FWL, Section 17, T. 20 S., R. 29 E.
Bottom Hole Location: 1310' FSL & 100' FEL, Section 16, T. 20 S, R. 29 E.

GLOCK 17/16 W0MP FED COM 1H
Surface Hole Location: 1270' FSL & 230' FWL, Section 17, T. 20 S., R. 29 E.
Bottom Hole Location: 440' FSL & 100' FEL, Section 16, T. 20 S, R. 29 E.

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for

acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

Cave and Karst

** Depending on location, additional Drilling, Casing, and Cementing procedures may be required by engineering to protect critical karst groundwater recharge areas.

Cave/Karst Surface Mitigation

The following stipulations will be applied to minimize impacts during construction, drilling and production:

Construction:

General Construction:

- No blasting
- The BLM, Carlsbad Field Office, will be informed immediately if any subsurface drainage channels, cave passages, or voids are penetrated during construction, and no additional construction shall occur until clearance has been issued by the Authorized Officer.
- All linear surface disturbance activities will avoid sinkholes and other karst features to lessen the possibility of encountering near surface voids during construction, minimize changes to runoff, and prevent untimely leaks and spills from entering the karst drainage system.
- All spills or leaks will be reported to the BLM immediately for their immediate and proper treatment.

Pad Construction:

- The pad will be constructed and leveled by adding the necessary fill and caliche – no blasting.
- The entire perimeter of the well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad.
- The compacted berm shall be constructed at a minimum of 12 inches high with impermeable mineral material (e.g., caliche).
- No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad.
- The topsoil stockpile shall be located outside the bermed well pad.
- Topsoil, either from the well pad or surrounding area, shall not be used to construct the berm.
- No storm drains, tubing or openings shall be placed in the berm.

- If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.
- The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed.
- Any access road entering the well pad shall be constructed so that the integrity of the berm height surrounding the well pad is not compromised (i.e. an access road crossing the berm cannot be lower than the berm height).
- Following a rain event, all fluids will vacuumed off of the pad and hauled off-site and disposed at a proper disposal facility.

Tank Battery Construction:

- The pad will be constructed and leveled by adding the necessary fill and caliche – no blasting.
- All tank battery locations and facilities will be lined and bermed.
- The liner should be at least 20 mil in thickness and installed with a 4 oz. felt backing, or equivalent, to prevent tears or punctures.
- Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank.

Road Construction:

- Turnout ditches and drainage leadoffs will not be constructed in such a manner as to alter the natural flow of water into or out of cave or karst features.
- Special restoration stipulations or realignment may be required if subsurface features are discovered during construction.

Buried Pipeline/Cable Construction:

- Rerouting of the buried line(s) may be required if a subsurface void is encountered during construction to minimize the potential subsidence/collapse of the feature(s) as well as the possibility of leaks/spills entering the karst drainage system.

Powerline Construction:

- Smaller powerlines will be routed around sinkholes and other karst features to avoid or lessen the possibility of encountering near surface voids and to minimize changes to runoff or possible leaks and spills from entering karst systems.
- Larger powerlines will adjust their pole spacing to avoid cave and karst features.
- Special restoration stipulations or realignment may be required if subsurface voids are encountered.

Surface Flowlines Installation:

- Flowlines will be routed around sinkholes and other karst features to minimize the possibility of leaks/spills from entering the karst drainage system.

Leak Detection System:

- A method of detecting leaks is required. The method could incorporate gauges to measure loss, situating values and lines so they can be visually inspected, or installing electronic sensors to alarm when a leak is present.
- A leak detection plan will be submitted to BLM that incorporates an automatic shut off system (see below) to minimize the effects of an undesirable event that could negatively sensitive cave/karst resources.
- Well heads, pipelines (surface and buried), storage tanks, and all supporting equipment should be monitored regularly after installation to promptly identify and fix leaks.

Automatic Shut-off Systems:

- Automatic shut off, check values, or similar systems will be installed for pipelines and tanks to minimize the effects of catastrophic line failures used in production or drilling.

Cave/Karst Subsurface Mitigation

The following stipulations will be applied to protect cave/karst and groundwater concerns:

Closed Loop System:

- A closed loop system using steel tanks will be utilized during drilling – no pits
- All fluids and cuttings will be hauled off-site and disposed of properly at an authorized site

Rotary Drilling with Fresh Water:

- Fresh water will be used as a circulating medium in zones where caves or karst features are expected. SEE ALSO: Drilling COAs for this well.

Directional Drilling:

- The kick off point for directional drilling will occur at least 100 feet below the bottom of the cave occurrence zone. SEE ALSO: Drilling COAs for this well.

Lost Circulation:

- ALL lost circulation zones between surface and the base of the cave occurrence zone will be logged and reported in the drilling report.
- If a void of four feet or more and circulation losses greater than 70 percent occur simultaneously while drilling in any cave-bearing zone, regardless of the type of drilling machinery used, the BLM will be notified immediately by the operator. The BLM will assess the situation and work with the operator on corrective actions to resolve the problem.

Abandonment Cementing:

- Additional plugging conditions of approval may be required upon well abandonment in high and medium karst potential occurrence zones.

- The BLM will assess the situation and work with the operator to ensure proper plugging of the wellbore.

Pressure Testing:

- The operator will perform annual pressure monitoring on all casing annuli and reported in a sundry notice.
- If the test results indicated a casing failure has occurred, remedial action will be undertaken to correct the problem to the BLM's approval.

Watershed

- The entire well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. Topsoil shall not be used to construct the berm. No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad. The berm shall be maintained through the life of the well and after interim reclamation has been completed.
- Any water erosion that may occur due to the construction of the well pad during the life of the well will be quickly corrected and proper measures will be taken to prevent future erosion.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5909 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation. The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing
The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

G. ON LEASE ACCESS ROADS

Road Width
The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.

Surfacing
Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

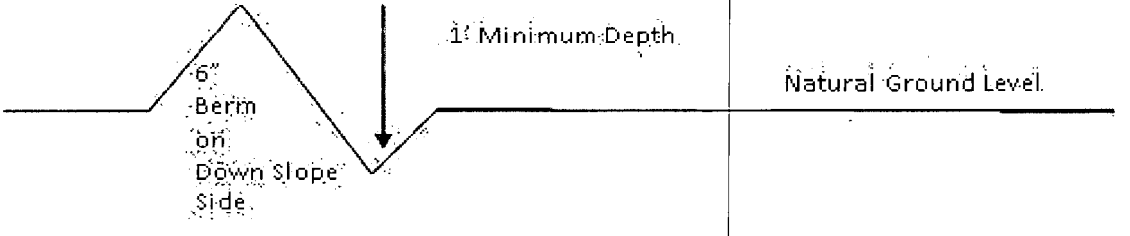
Ditching
Ditching shall be required on both sides of the road.

Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage
Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

$$\text{400 foot road with 4\% road slope: } \frac{400'}{4\%} + 100' = 200' \text{ lead-off ditch interval}$$

Cattle guards

An appropriately sized cattle guard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattle guards on the access road route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattle guards that are in place and are utilized during lease operations.

Fence Requirement

Where entry is granted across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

Public Access

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Construction Steps

1. Salvage topsoil
2. Construct road
3. Redistribute topsoil
4. Revegetate slopes

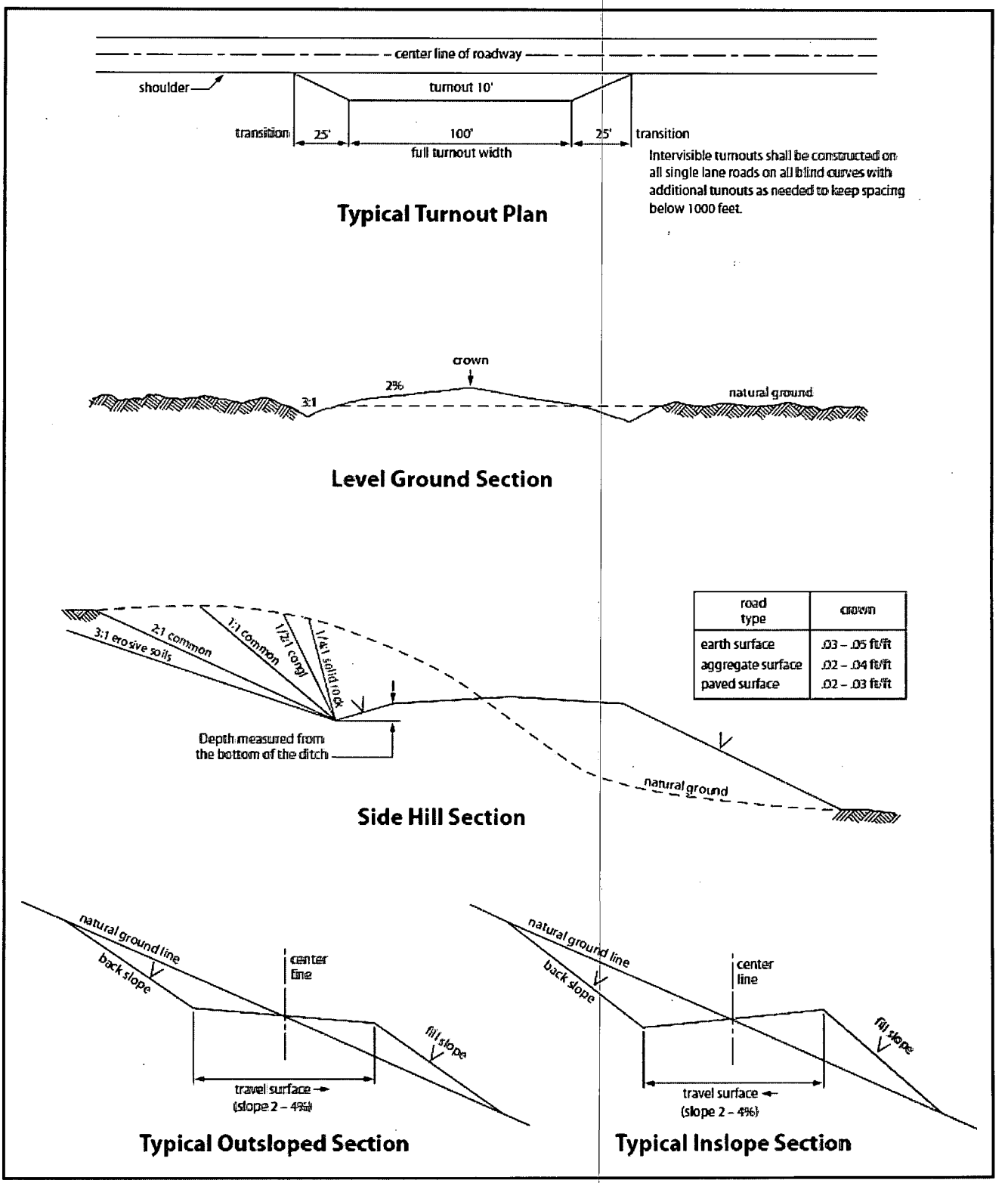


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities
Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Exclosure Netting (Open-top Tanks)
Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

Chemical and Fuel Secondary Containment and Exclosure Screening
The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

Open-Vent Exhaust Stack Exclosures
The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone.*) Production

equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

Containment Structures
Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

Painting Requirement
All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, **Shale Green** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

B. PIPELINES

BURIED PIPELINE STIPULATIONS

A copy of the application (Grant, APD, or Sundry Notice) and attachments, including conditions of approval, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42

U.S.C.6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil or other pollutant, wherever found, shall be the responsibility of holder, regardless of fault. Upon failure of holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve holder of any responsibility as provided herein.

5. All construction and maintenance activity will be confined to the authorized right-of-way.

6. The pipeline will be buried with a minimum cover of **36** inches between the top of the pipe and ground level.

7. The maximum allowable disturbance for construction in this right-of-way will be **30** feet:

- Blading of vegetation within the right-of-way will be allowed: maximum width of blading operations will not exceed **20** feet. The trench is included in this area. (*Blading is defined as the complete removal of brush and ground vegetation.*)

- Clearing of brush species within the right-of-way will be allowed: maximum width of clearing operations will not exceed **30** feet. The trench and bladed area are included in this area. (*Clearing is defined as the removal of brush while leaving ground vegetation (grasses, weeds, etc.) intact. Clearing is best accomplished by holding the blade 4 to 6 inches above the ground surface.*)

- The remaining area of the right-of-way (if any) shall only be disturbed by compressing the vegetation. (*Compressing can be caused by vehicle tires, placement of equipment, etc.*)

8. The holder shall stockpile an adequate amount of topsoil where blading is allowed. The topsoil to be stripped is approximately ___6___ inches in depth. The topsoil will be

segregated from other spoil piles from trench construction. The topsoil will be evenly distributed over the bladed area for the preparation of seeding.

9. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

10. Vegetation, soil, and rocks left as a result of construction or maintenance activity will be randomly scattered on this right-of-way and will not be left in rows, piles, or berms, unless otherwise approved by the Authorized Officer. The entire right-of-way shall be recontoured to match the surrounding landscape. The backfilled soil shall be compacted and a 6 inch berm will be left over the ditch line to allow for settling back to grade.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. The holder will reseed all disturbed areas. Seeding will be done according to the attached seeding requirements, using the following seed mix.

( ) seed mixture 1	( ) seed mixture 3
(X) seed mixture 2	( ) seed mixture 4
( ) seed mixture 2/LPC	( ) Aplomado Falcon Mixture

13. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2.

14. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. All signs and information thereon will be posted in a permanent, conspicuous manner, and will be maintained in a legible condition for the life of the pipeline.

15. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the

holder before maintenance begins. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway. As determined necessary during the life of the pipeline, the Authorized Officer may ask the holder to construct temporary deterrence structures.

16. Any cultural and/or paleontological resources (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

17. The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes associated roads, pipeline corridor and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

18. Escape Ramps - The operator will construct and maintain pipeline/utility trenches [that are not otherwise fenced, screened, or netted] to prevent livestock, wildlife, and humans from becoming entrapped. At a minimum, the operator will construct and maintain escape ramps, ladders, or other methods of avian and terrestrial wildlife escape in the trenches according to the following criteria:

a. Any trench left open for eight (8) hours or less is not required to have escape ramps; however, before the trench is backfilled, the contractor/operator shall inspect the trench for wildlife, remove all trapped wildlife, and release them at least 100 yards from the trench.
b. For trenches left open for eight (8) hours or more, earthen escape ramps (built at no more than a 30 degree slope and spaced no more than 500 feet apart) shall be placed in the trench.

STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES

A copy of the application (Grant, Sundry Notice, APD) and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage

to life or property arising from the occupancy or use of public lands under this grant.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to activity of the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. The holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. The holder shall be held to a standard of strict liability for damage or injury to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the right-of-way or permit area:

a. Activities of the holder including, but not limited to construction, operation, maintenance, and termination of the facility.
b. Activities of other parties including, but not limited to:
    (1) Land clearing.
    (2) Earth-disturbing and earth-moving work.
    (3) Blasting.
    (4) Vandalism and sabotage.
c. Acts of God.

The maximum limitation for such strict liability damages shall not exceed one million dollars ($1,000,000) for any one event, and any liability in excess of such

amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from an act of war or from the negligent acts or omissions of the United States.

5. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil, salt water, or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil, salt water, or other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any responsibility as provided herein.

6. All construction and maintenance activity will be confined to the authorized right-of-way width of **20** feet. If the pipeline route follows an existing road or buried pipeline right-of-way, the surface pipeline must be installed no farther than 10 feet from the edge of the road or buried pipeline right-of-way. If existing surface pipelines prevent this distance, the proposed surface pipeline must be installed immediately adjacent to the outer surface pipeline. All construction and maintenance activity will be confined to existing roads or right-of-ways.

7. No blading or clearing of any vegetation will be allowed unless approved in writing by the Authorized Officer.

8. The holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky of duney areas, the pipeline will be "snaked" around hummocks and dunes rather then suspended across these features.

9. The pipeline shall be buried with a minimum of **24** inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of construction, shall be returned to at least its former state with no bumps or dips remaining in the road surface.

10. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner

of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. Excluding the pipe, all above-ground structures not subject to safety requirement shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2; designated by the Rocky Mountain Five State Interagency Committee.

13. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. Signs will be maintained in a legible condition for the life of the pipeline.

14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.

15. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.

16. The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, powerline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

17. Surface pipelines must be less than or equal to 4 inches and a working pressure below 125 psi.

VIII. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

IX. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Seed Mixture 2, for Sandy Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law (s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species	lb/acre
Sand dropseed (Sporobolus cryptandrus)	1.0
Sand love grass (Eragrostis trichodes)	1.0
Plains bristlegrass (Setaria macrostachya)	2.0

*Pounds of pure live seed:

Pounds of seed **x** percent purity **x** percent germination = pounds pure live seed

AFMSS

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

Operator Certification Data Report

02/10/2020

Operator Certification

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

NAME: Bradley Bishop

Signed on: 09/23/2019

Title: Regulatory

Street Address: PO Box 5270

City: Hobbs **State:** NM **Zip:** 88260

Phone: (575)393-5905

Email address: bbishop@mewbourne.com

Field Representative

Representative Name:

Street Address:

City: **State:** **Zip:**

Phone: (575)393-5905

Email address: bbishop@mewbourne.com

AFMSS

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

Application Data Report

02/10/2020

APD ID: 10400047723 **Submission Date:** 09/23/2019

Operator Name: MEWBOURNE OIL COMPANY

Well Name: GLOCK 17/16 W0MP FED COM **Well Number:** 1H

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

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - General

APD ID: 10400047723 **Tie to previous NOS?** N **Submission Date:** 09/23/2019

BLM Office: CARLSBAD **User:** Bradley Bishop **Title:** Regulatory

Federal/Indian APD: FED **Is the first lease penetrated for production Federal or Indian?** FED

Lease number: NMNM0001165 **Lease Acres:** 2494.41

Surface access agreement in place? **Allotted?** **Reservation:**

Agreement in place? NO **Federal or Indian agreement:**

Agreement number:

Agreement name:

Keep application confidential? YES

Permitting Agent? NO **APD Operator:** MEWBOURNE OIL COMPANY

Operator letter of designation:

Operator Info

Operator Organization Name: MEWBOURNE OIL COMPANY

Operator Address: PO Box 5270

Zip: 88240

Operator PO Box:

Operator City: Hobbs **State:** NM

Operator Phone: (575)393-5905

Operator Internet Address:

Section 2 - Well Information

Well in Master Development Plan? NO **Master Development Plan name:**

Well in Master SUPO? NO **Master SUPO name:**

Well in Master Drilling Plan? NO **Master Drilling Plan name:**

Well Name: GLOCK 17/16 W0MP FED COM **Well Number:** 1H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** WILDCAT; WOLFCAMP **Pool Name:** WOLFCAMP GAS

Is the proposed well in an area containing other mineral resources? NONE

Operator Name: MEWBOURNE OIL COMPANY

Well Name: GLOCK 17/16 W0MP FED COM **Well Number:** 1H

Is the proposed well in an area containing other mineral resources? NONE

Is the proposed well in a Helium production area? N **Use Existing Well Pad?** N **New surface disturbance?**

Type of Well Pad: MULTIPLE WELL **Multiple Well Pad Name:** Glock 17/16 MP Fed Com wells **Number:** 2

Well Class: HORIZONTAL **Number of Legs:** 1

Well Work Type: Drill

Well Type: CONVENTIONAL GAS WELL

Describe Well Type:

Well sub-Type: EXPLORATORY (WILDCAT)

Describe sub-type:

Distance to town: 8.5 Miles **Distance to nearest well:** 50 FT **Distance to lease line:** 330 FT

Reservoir well spacing assigned acres Measurement: 640 Acres

Well plat: GLOCK17_16W0MPFEDCOM1H_wellplat_20190919141221.pdf

Well work start Date: 11/19/2019 **Duration:** 56 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number: **Reference Datum:** GROUND LEVEL

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
SHL Leg #1	1270	FSL	230	FWL	20S	29E	17	Aliquot SWSW	32.5697312	-104.1050399	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 013413	3277	0	0	Y
KOP Leg #1	440	FSL	10	FWL	20S	29E	17	Aliquot SWSW	32.5674529	-104.1057524	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 013413	-5545	8872	8822	Y
PPP Leg	440	FSL	100	FWL	20S	29E	17	Aliquot SWS	32.5674527	-104.1054	EDDY	NEW MEXI	NEW MEXI	F	NMNM 013413	-582	9167	9098	Y

Operator Name: MEWBOURNE OIL COMPANY

Well Name: GLOCK 17/16 W0MP FED COM **Well Number:** 1H

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
PPP Leg #1-2	440	FSL	0	FWL	20S	29E	17	Aliquot SWSW	32.5674415	-104.0886002	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 0554771	-6084	14429	9361	Y
EXIT Leg #1	440	FSL	100	FEL	20S	29E	17	Aliquot SESE	32.5674271	-104.0717844	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 0554771	-6151	19610	9428	Y
BHL Leg #1	440	FSL	100	FEL	20S	29E	17	Aliquot SESE	32.5674271	-104.0717844	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 0554771	-6151	19610	9428	Y

AFMSS

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

Drilling Plan Data Report

02/10/2020

APD ID: 10400047723

Submission Date: 09/23/2019

Operator Name: MEWBOURNE OIL COMPANY

Well Name: GLOCK 17/16 W0MP FED COM

Well Number: 1H

Well Type: CONVENTIONAL GAS WELL

Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
542225	UNKNOWN	3277	27	27	OTHER : Topsoil	NONE	N
542216	TOP SALT	2767	510	510	SALT	NONE	N
542217	BASE OF SALT	2402	875	875	SALT	NONE	N
542219	CAPITAN REEF	1822	1455	1455	DOLOMITE, LIMESTONE, SANDSTONE	NATURAL GAS, OIL, USEABLE WATER	N
542218	LAMAR	122	3155	3155	LIMESTONE	NATURAL GAS, OIL	N
542220	BONE SPRING LIME	-2518	5795	5795	LIMESTONE, SHALE	NATURAL GAS, OIL	N
542221	BONE SPRING 1ST	-3588	6865	6865	SANDSTONE	NATURAL GAS, OIL	N
542222	BONE SPRING 2ND	-4183	7460	7460	SANDSTONE	NATURAL GAS, OIL	N
542223	BONE SPRING 3RD	-5518	8795	8795	SANDSTONE	NATURAL GAS, OIL	N
542224	WOLFCAMP	-5908	9185	9185	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

ressure Rating (PSI): 5M **Rating Depth:** 19610

quipment: Annular, Blind Ram, Pipe Ram

equesting Variance? YES

ariance request: A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. Anchors are ot required by manufacturer. A multi-bowl wellhead is being used. See attached schematic.

esting Procedure: BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure ıdicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the orking pressure listed in the table above. If the system is upgraded all the components installed will be functional and ested. Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out f the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly ock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

hoke Diagram Attachment:

Operator Name: MEWBOURNE OIL COMPANY

Well Name: GLOCK 17/16 W0MP FED COM **Well Number:** 1H

Glock_17_16_W0MP_Fed_Com_1H_5M_BOPE_Choke_Diagram_20190920170929.pdf

Glock_17_16_W0MP_Fed_Com_1H_Flex_Line_Specs_20190920170929.pdf

Glock_17_16_W0MP_Fed_Com_1H_Flex_Line_Specs_API_16C_20190920170929.pdf

OP Diagram Attachment:

Glock_17_16_W0MP_Fed_Com_1H_5M_BOPE_Schematic_20190920170942.pdf

Glock_17_16_W0MP_Fed_Com_1H_Multi_Bowl_WH_20190920170942.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	26	20.0	NEW	API	N	0	375	0	375	3277	2902	375	J-55	94	BUTT	3.17	12.88	DRY	39.77	DRY	41.99
2	INTERMEDIATE	17.5	13.375	NEW	API	N	0	1316	0	1316	3277	1961	1316	H-40	48	ST&C	1.13	2.53	DRY	5.1	DRY	8.56
3	INTERMEDIATE	12.25	9.625	NEW	API	N	0	3075	0	3075	2982	202	3075	J-55	36	LT&C	1.4	2.45	DRY	4.09	DRY	5.09
4	PRODUCTION	8.75	7.0	NEW	API	N	0	9500	0	9500	2982	-6223	9500	HCP-110	26	LT&C	1.62	2.16	DRY	2.81	DRY	3.36
5	LINER	6.125	4.5	NEW	API	N	8872	19610	8822	9428	-5545	-6151	10738	P-110	13.5	LT&C	1.67	1.95	DRY	2.33	DRY	2.91

Casing Attachments

Operator Name: MEWBOURNE OIL COMPANY

Well Name: GLOCK 17/16 W0MP FED COM **Well Number:** 1H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Glock_17_16_W0MP_Fed_Com_1H_Csg_Assumptions_20190920171152.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Glock_17_16_W0MP_Fed_Com_1H_Csg_Assumptions_20190920171243.pdf

Casing ID: 3 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Glock_17_16_W0MP_Fed_Com_1H_Csg_Assumptions_20190920171320.pdf

Operator Name: MEWBOURNE OIL COMPANY

Well Name: GLOCK 17/16 W0MP FED COM **Well Number:** 1H

Casing Attachments

Casing ID: 4 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Glock_17_16_W0MP_Fed_Com_1H_Csg_Assumptions_20190920171355.pdf

Casing ID: 5 **String Type:** LINER

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Glock_17_16_W0MP_Fed_Com_1H_Csg_Assumptions_20190920171431.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	287	410	2.12	12.5	869	100	Class C	Salt, Gel, Extender, LCM
SURFACE	Tail		287	375	200	1.34	14.8	268	100	Class C	Retarder
NTERMEDIATE	Lead		0	1046	490	2.12	12.5	1039	25	Class C	Salt, Gel, Extender, LCM
NTERMEDIATE	Tail		1046	1316	200	1.34	14.8	268	25	Class C	Retarder
NTERMEDIATE	Lead	1400	0	1117	250	2.12	12.5	530	25	Class C	Salt, Gel, Extender,

Operator Name: MEWBOURNE OIL COMPANY

Well Name: GLOCK 17/16 W0MP FED COM **Well Number:** 1H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
NTERMEDIATE	Tail		1117	1400	100	1.34	14.8	134	25	Class C	Retarder
NTERMEDIATE	Lead	1400	1400	2395	185	2.12	12.5	392	25	Class C	Salt, Gel, Extender, LCM
NTERMEDIATE	Tail		2395	3075	200	1.34	14.8	268	25	Class C	Retarder
PRODUCTION	Lead		1405	7023	505	2.12	12.5	1071	25	Class C	Gel, Retarder, Defoamer, Extender
PRODUCTION	Tail		7023	9500	400	1.18	15.6	472	25	Class H	Retarder, Fluid Loss, Defoamer
LINER	Lead		8872	19610	435	2.97	11.2	1292	25	Class C	Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti-Settling Agent

Section 5 - Circulating Medium

lud System Type: Closed

Will an air or gas system be Used? NO

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

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

escribe what will be on location to control well or mitigate other conditions: Sufficient mud materials to maintain mud roperties & meet minimum lost circulation and weight increase requirements will be kept on location at all times.

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

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)		Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	375	SPUD MUD	8.6	8.8								

Operator Name: MEWBOURNE OIL COMPANY

Well Name: GLOCK 17/16 W0MP FED COM **Well Number:** 1H

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
375	1316	SALT SATURATED	10	10							
1316	9284	WATER-BASED MUD	8.6	9.7							
9284	9428	OIL-BASED MUD	10	12							

Section 6 - Test, Logging, Coring

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

Vill run GR/CNL from KOP (8872') to surface
Vill run MWD GR from KOP (8872') to TD

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

:OMPENSATED NEUTRON LOG,GAMMA RAY LOG,MEASUREMENT WHILE DRILLING,MUD LOG/GEOLOGIC ITHOLOGY LOG,DIRECTIONAL SURVEY,

:oring operation description for the well:

lone

Section 7 - Pressure

.nticipated Bottom Hole Pressure: 5883 **Anticipated Surface Pressure:** 3808

.nticipated Bottom Hole Temperature(F): 165

.nticipated abnormal pressures, temperatures, or potential geologic hazards? NO

lescribe:

:ontingency Plans geoharzards description:

:ontingency Plans geohazards attachment:

lydrogen Sulfide drilling operations plan required? YES

lydrogen sulfide drilling operations plan:

Glock_17_16_W0MP_Fed_Com_1H_H2S_Plan_20190920172335.pdf

Operator Name: MEWBOURNE OIL COMPANY

Well Name: GLOCK 17/16 W0MP FED COM **Well Number:** 1H

Section 8 - Other Information

roposed horizontal/directional/multi-lateral plan submission:

Glock_17_16_W0MP_Fed_Com_1H_Dir_Plot_20190920172358.pdf

Glock_17_16_W0MP_Fed_Com_1H_Dir_Plan_20190920172400.pdf

ther proposed operations facets description:

ther proposed operations facets attachment:

Glock_17_16_W0MP_Fed_Com_1H_Drlg_Program_20190920172544.doc

Glock_17_16_W0MP_Fed_Com_1H_Add_Info_20190920172557.pdf

ther Variance attachment:

Mewbourne Oil Company, Glock 17/16 W0MP Fed Com #1H
Sec 17, T20S, R29E
SHL: 1270' FSL & 230' FWL, Sec 17
BHL: 440' FSL & 100' FEL, Sec 16

Casing Program

Hole Size	Casing Interval From	To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
26"	0'	375'	20"	94	J55	BTC	3.17	12.88	39.77	41.99
17.5"	0'	1316'	13.375"	48	H40	STC	1.13	2.53	5.10	8.56
12.25"	0'	3075'	9.625"	36	J55	LTC	1.40	2.45	4.09	5.09
8.75"	0'	9500'	7"	26	HCP110	LTC	1.62	2.16	2.81	3.36
6.125"	8872'	19,610'	4.5"	13.5	P110	LTC	1.67	1.95	2.33	2.91
				BLM Minimum Safety Factor			1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet

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

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Is casing API approved? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	Y
If yes, does production casing cement tie back a minimum of 50' above the Reef?	Y
Is well within the designated 4 string boundary.	Y
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	Y
If yes, are there two strings cemented to surface?	Y
(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, Glock 17/16 W0MP Fed Com #1H
Sec 17, T20S, R29E
SHL: 1270' FSL & 230' FWL, Sec 17
BHL: 440' FSL & 100' FEL, Sec 16

Casing Program

Hole Size	Casing Interval From	Casing Interval To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
26"	0'	375'	20"	94	J55	BTC	3.17	12.88	39.77	41.99
17.5"	0'	1316'	13.375"	48	H40	STC	1.13	2.53	5.10	8.56
12.25"	0'	3075'	9.625"	36	J55	LTC	1.40	2.45	4.09	5.09
8.75"	0'	9500'	7"	26	HCP110	LTC	1.62	2.16	2.81	3.36
6.125"	8872'	19,610'	4.5"	13.5	P110	LTC	1.67	1.95	2.33	2.91
				BLM Minimum Safety Factor			1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet

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Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	Y
If yes, does production casing cement tie back a minimum of 50' above the Reef?	Y
Is well within the designated 4 string boundary.	Y
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	
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Mewbourne Oil Company, Glock 17/16 W0MP Fed Com #1H
Sec 17, T20S, R29E
SHL: 1270' FSL & 230' FWL, Sec 17
BHL: 440' FSL & 100' FEL, Sec 16

Casing Program

Hole Size	Casing Interval From	Casing Interval To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
26"	0'	375'	20"	94	J55	BTC	3.17	12.88	39.77	41.99
17.5"	0'	1316'	13.375"	48	H40	STC	1.13	2.53	5.10	8.56
12.25"	0'	3075'	9.625"	36	J55	LTC	1.40	2.45	4.09	5.09
8.75"	0'	9500'	7"	26	HCP110	LTC	1.62	2.16	2.81	3.36
6.125"	8872'	19,610'	4.5"	13.5	P110	LTC	1.67	1.95	2.33	2.91
				BLM Minimum Safety Factor			1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet

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Must have table for contingency casing

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Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	Y
If yes, does production casing cement tie back a minimum of 50' above the Reef?	Y
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Mewbourne Oil Company, Glock 17/16 W0MP Fed Com #1H
Sec 17, T20S, R29E
SHL: 1270' FSL & 230' FWL, Sec 17
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Casing Program

Hole Size	Casing Interval From	To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
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12.25"	0'	3075'	9.625"	36	J55	LTC	1.40	2.45	4.09	5.09
8.75"	0'	9500'	7"	26	HCP110	LTC	1.62	2.16	2.81	3.36
6.125"	8872'	19,610'	4.5"	13.5	P110	LTC	1.67	1.95	2.33	2.91
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All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h
Must have table for contingency casing

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Is casing new? If used, attach certification as required in Onshore Order #1	Y
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Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
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Mewbourne Oil Company, Glock 17/16 W0MP Fed Com #1H
Sec 17, T20S, R29E
SHL: 1270' FSL & 230' FWL, Sec 17
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12.25"	0'	3075'	9.625"	36	J55	LTC	1.40	2.45	4.09	5.09
8.75"	0'	9500'	7"	26	HCP110	LTC	1.62	2.16	2.81	3.36
6.125"	8872'	19,610'	4.5"	13.5	P110	LTC	1.67	1.95	2.33	2.91
				BLM Minimum Safety Factor			1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet

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

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Is casing API approved? If no, attach casing specification sheet.	Y
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Hydrogen Sulfide Drilling Operations Plan
Mewbourne Oil Company

1. General Requirements

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

2. Hydrogen Sulfide Training

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

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

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

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

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

3. Hydrogen Sulfide Safety Equipment and Systems

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

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

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

3. Hydrogen Sulfide Protection and Monitoring Equipment

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

4. Visual Warning Systems

A. Wind direction indicators as indicated on the wellsite diagram.

B. Caution signs shall be posted on roads providing access to location. Signs shall be painted a high visibility color with lettering of sufficient size to be readable at reasonable distances from potentially contaminated areas.

4. Mud Program

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

5. Metallurgy

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

6. Communications

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

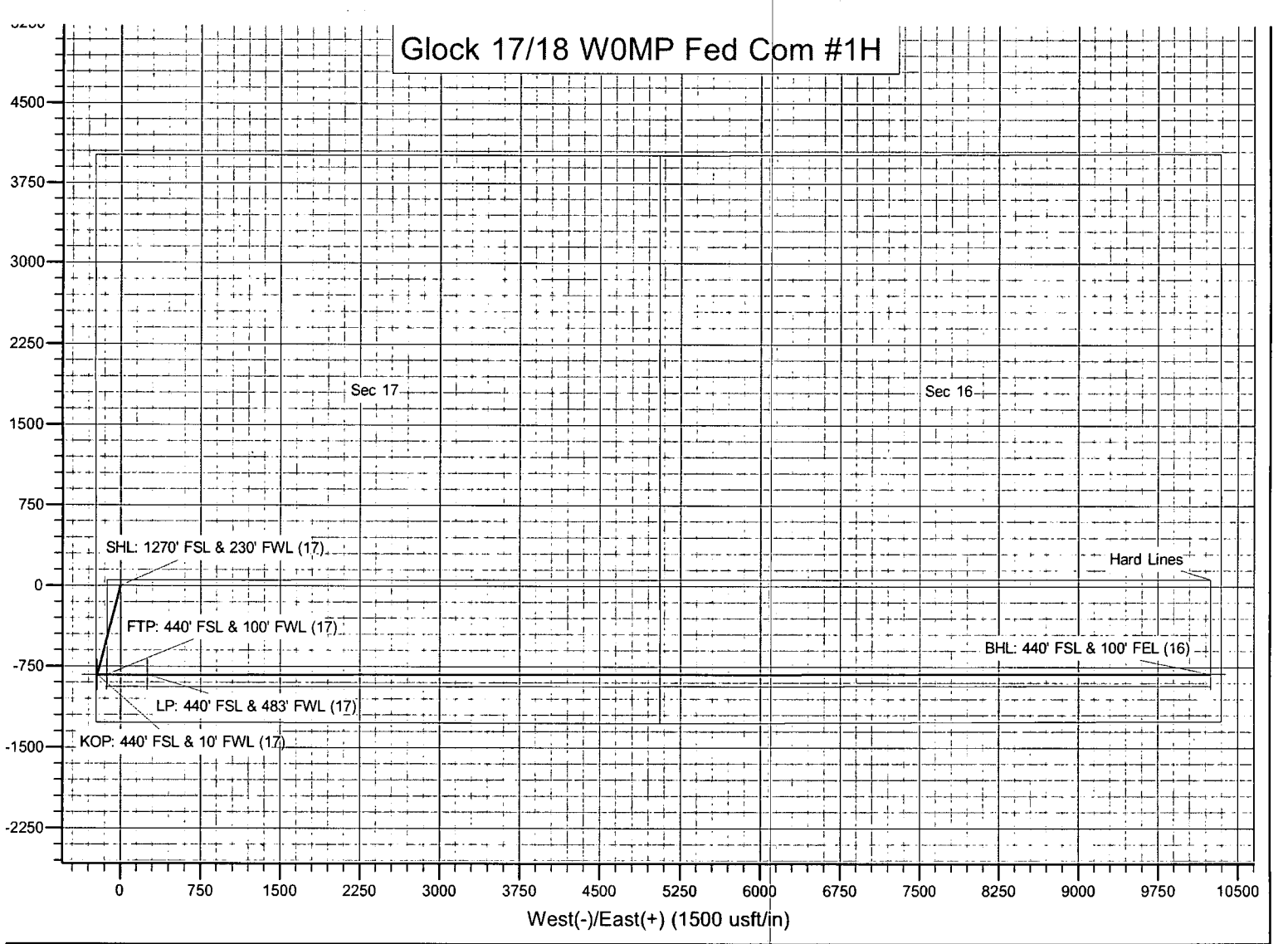
7. Well Testing

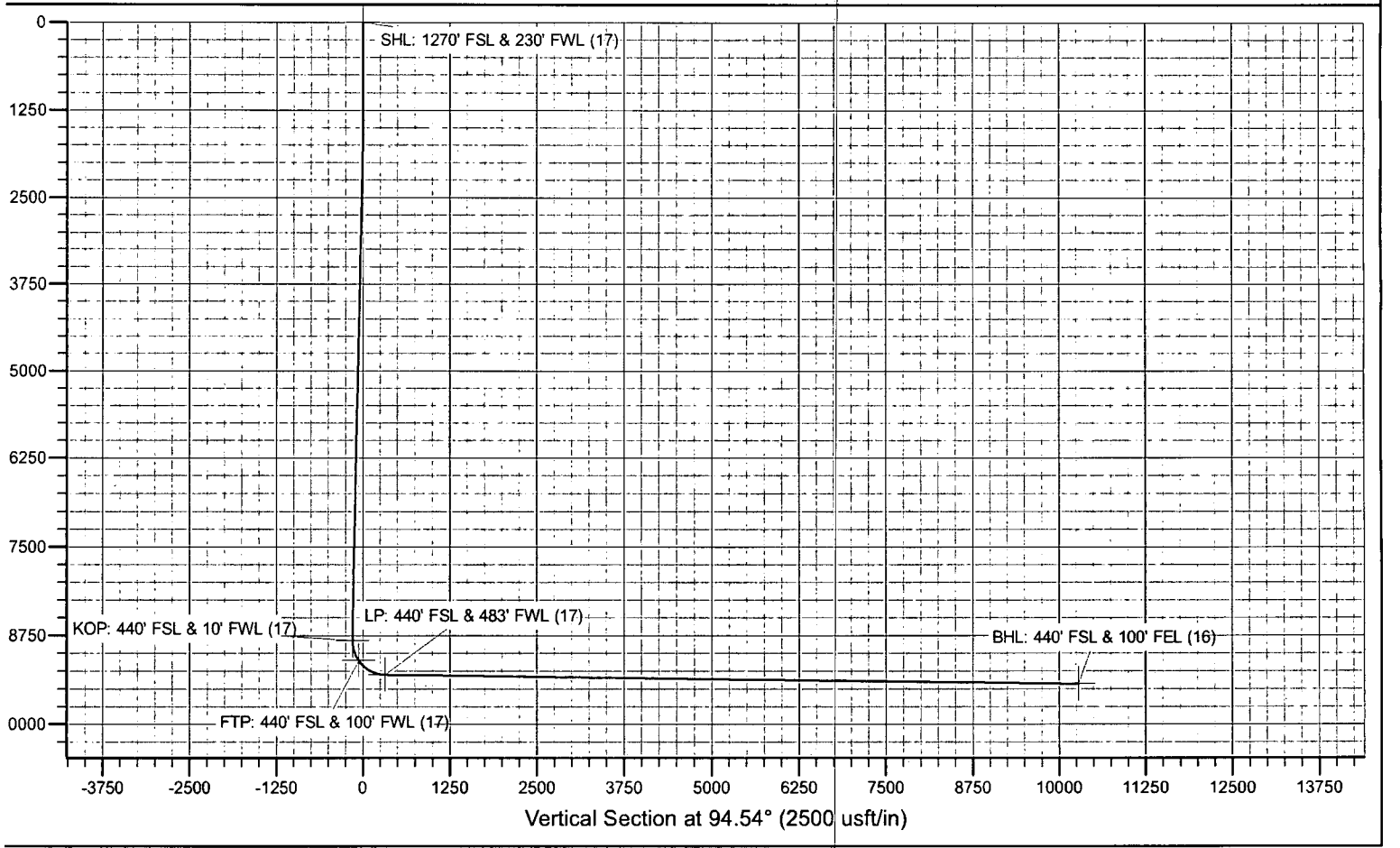
Drill stem testing is not an anticipated requirement for evaluation of this well. If a drill stem test is required, it will be conducted with a minimum number of personnel in the immediate vicinity. The test will be conducted during daylight hours only.

8. Emergency Phone Numbers

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

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


Glock 17/18 W0MP Fed Com #1H
Sec 17
Sec 16
SHL: 1270' FSL & 230' FWL (17)
Hard Lines
FTP: 440' FSL & 100' FWL (17)
BHL: 440' FSL & 100' FEL (16)
LP: 440' FSL & 483' FWL (17)
KOP: 440' FSL & 10' FWL (17)
4500
3750
3000
2250
1500
750
0
-750
-1500
-2250
0
750
1500
2250
3000
3750
4500
5250
6000
6750
7500
8250
9000
9750
10500
West(-)/East(+) (1500 usft/in)


SHL: 1270' FSL & 230' FWL (17)
KOP: 440' FSL & 10' FWL (17)
LP: 440' FSL & 483' FWL (17)
BHL: 440' FSL & 100' FEL (16)
FTP: 440' FSL & 100' FWL (17)
0
1250
2500
3750
5000
6250
7500
8750
0000
-3750
-2500
-1250
0
1250
2500
3750
5000
6250
7500
8750
10000
11250
12500
13750
Vertical Section at 94.54° (2500 usft/in)

Mewbourne Oil Company

Eddy County, New Mexico NAD 83
Glock 17/18 W0MP Fed Com #1H
Sec 17, T20S, R29E
SHL: 1270' FSL & 230' FWL, Sec 17
BHL: 440' FSL & 100' FEL, Sec 16

Plan: Design #1

Standard Planning Report

19 September, 2019

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Glock 17/18 W0MP Fed Com #1H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3305.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3305.0usft (Original Well Elev)
Site:	Glock 17/18 W0MP Fed Com #1H	**North Reference:**	Grid
Well:	Sec 17, T20S, R29E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 440' FSL & 100' FEL, Sec 16		
Design:	Design #1		

Project	Eddy County, New Mexico NAD 83		
Map System:	US State Plane 1983	**System Datum:**	Ground Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Glock 17/18 W0MP Fed Com #1H				
Site Position:		**Northing:**	571,074.00 usft	**Latitude:**	32.5697303
From:	Map	**Easting:**	611,665.00 usft	**Longitude:**	-104.1050390
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.12 °

Well	Sec 17, T20S, R29E					
Well Position	**+N/-S**	0.0 usft	**Northing:**	571,074.00 usft	**Latitude:**	32.5697303
	+E/-W	0.0 usft	**Easting:**	611,665.00 usft	**Longitude:**	-104.1050390
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	3,305.0 usft	**Ground Level:**	3,277.0 usft

Wellbore	BHL: 440' FSL & 100' FEL, Sec 16				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2010	9/19/2019	6.84	60.21	47,918

Design	Design #1				
Audit Notes:					
Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.0
Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**	
	0.0	0.0	0.0	94.54	

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,375.0	0.00	0.00	1,375.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,719.1	6.88	194.73	1,718.3	-20.0	-5.2	2.00	2.00	0.00	194.73	
8,528.2	6.88	194.73	8,478.3	-809.0	-212.8	0.00	0.00	0.00	0.00	
8,872.3	0.00	0.00	8,821.5	-829.0	-218.0	2.00	-2.00	0.00	180.00	KOP: 440' FSL & 10' I
9,616.1	89.26	89.92	9,299.0	-828.3	253.3	12.00	12.00	0.00	89.92	
19,609.7	89.26	89.92	9,428.0	-814.0	10,246.0	0.00	0.00	0.00	0.00	BHL: 440' FSL & 100'

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Glock 17/18 W0MP Fed Com #1H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3305.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3305.0usft (Original Well Elev)
Site:	Glock 17/18 W0MP Fed Com #1H	**North Reference:**	Grid
Well:	Sec 17, T20S, R29E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 440' FSL & 100' FEL, Sec 16		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
SHL: 1270' FSL & 230' FWL (17)									
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
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	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,375.0	0.00	0.00	1,375.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.50	194.73	1,400.0	-0.1	0.0	0.0	2.00	2.00	0.00
1,500.0	2.50	194.73	1,500.0	-2.6	-0.7	-0.5	2.00	2.00	0.00
1,600.0	4.50	194.73	1,599.8	-8.5	-2.2	-1.6	2.00	2.00	0.00
1,700.0	6.50	194.73	1,699.3	-17.8	-4.7	-3.3	2.00	2.00	0.00
1,719.1	6.88	194.73	1,718.3	-20.0	-5.2	-3.7	2.00	2.00	0.00
1,800.0	6.88	194.73	1,798.6	-29.3	-7.7	-5.4	0.00	0.00	0.00
1,900.0	6.88	194.73	1,897.9	-40.9	-10.8	-7.5	0.00	0.00	0.00
2,000.0	6.88	194.73	1,997.1	-52.5	-13.8	-9.6	0.00	0.00	0.00
2,100.0	6.88	194.73	2,096.4	-64.1	-16.9	-11.7	0.00	0.00	0.00
2,200.0	6.88	194.73	2,195.7	-75.7	-19.9	-13.8	0.00	0.00	0.00
2,300.0	6.88	194.73	2,295.0	-87.3	-23.0	-16.0	0.00	0.00	0.00
2,400.0	6.88	194.73	2,394.3	-98.9	-26.0	-18.1	0.00	0.00	0.00
2,500.0	6.88	194.73	2,493.5	-110.5	-29.0	-20.2	0.00	0.00	0.00
2,600.0	6.88	194.73	2,592.8	-122.0	-32.1	-22.3	0.00	0.00	0.00
2,700.0	6.88	194.73	2,692.1	-133.6	-35.1	-24.4	0.00	0.00	0.00
2,800.0	6.88	194.73	2,791.4	-145.2	-38.2	-26.6	0.00	0.00	0.00
2,900.0	6.88	194.73	2,890.7	-156.8	-41.2	-28.7	0.00	0.00	0.00
3,000.0	6.88	194.73	2,989.9	-168.4	-44.3	-30.8	0.00	0.00	0.00
3,100.0	6.88	194.73	3,089.2	-180.0	-47.3	-32.9	0.00	0.00	0.00
3,200.0	6.88	194.73	3,188.5	-191.6	-50.4	-35.0	0.00	0.00	0.00
3,300.0	6.88	194.73	3,287.8	-203.2	-53.4	-37.2	0.00	0.00	0.00
3,400.0	6.88	194.73	3,387.1	-214.8	-56.5	-39.3	0.00	0.00	0.00
3,500.0	6.88	194.73	3,486.3	-226.3	-59.5	-41.4	0.00	0.00	0.00
3,600.0	6.88	194.73	3,585.6	-237.9	-62.6	-43.5	0.00	0.00	0.00
3,700.0	6.88	194.73	3,684.9	-249.5	-65.6	-45.6	0.00	0.00	0.00
3,800.0	6.88	194.73	3,784.2	-261.1	-68.7	-47.8	0.00	0.00	0.00
3,900.0	6.88	194.73	3,883.5	-272.7	-71.7	-49.9	0.00	0.00	0.00
4,000.0	6.88	194.73	3,982.7	-284.3	-74.8	-52.0	0.00	0.00	0.00
4,100.0	6.88	194.73	4,082.0	-295.9	-77.8	-54.1	0.00	0.00	0.00
4,200.0	6.88	194.73	4,181.3	-307.5	-80.9	-56.2	0.00	0.00	0.00
4,300.0	6.88	194.73	4,280.6	-319.1	-83.9	-58.4	0.00	0.00	0.00
4,400.0	6.88	194.73	4,379.9	-330.6	-86.9	-60.5	0.00	0.00	0.00
4,500.0	6.88	194.73	4,479.1	-342.2	-90.0	-62.6	0.00	0.00	0.00
4,600.0	6.88	194.73	4,578.4	-353.8	-93.0	-64.7	0.00	0.00	0.00
4,700.0	6.88	194.73	4,677.7	-365.4	-96.1	-66.8	0.00	0.00	0.00
4,800.0	6.88	194.73	4,777.0	-377.0	-99.1	-69.0	0.00	0.00	0.00
4,900.0	6.88	194.73	4,876.3	-388.6	-102.2	-71.1	0.00	0.00	0.00
5,000.0	6.88	194.73	4,975.5	-400.2	-105.2	-73.2	0.00	0.00	0.00

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Well:	Sec 17, T20S, R29E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 440' FSL & 100' FEL, Sec 16		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,100.0	6.88	194.73	5,074.8	-411.8	-108.3	-75.3	0.00	0.00	0.00
5,200.0	6.88	194.73	5,174.1	-423.4	-111.3	-77.5	0.00	0.00	0.00
5,300.0	6.88	194.73	5,273.4	-434.9	-114.4	-79.6	0.00	0.00	0.00
5,400.0	6.88	194.73	5,372.7	-446.5	-117.4	-81.7	0.00	0.00	0.00
5,500.0	6.88	194.73	5,471.9	-458.1	-120.5	-83.8	0.00	0.00	0.00
5,600.0	6.88	194.73	5,571.2	-469.7	-123.5	-85.9	0.00	0.00	0.00
5,700.0	6.88	194.73	5,670.5	-481.3	-126.6	-88.1	0.00	0.00	0.00
5,800.0	6.88	194.73	5,769.8	-492.9	-129.6	-90.2	0.00	0.00	0.00
5,900.0	6.88	194.73	5,869.0	-504.5	-132.7	-92.3	0.00	0.00	0.00
6,000.0	6.88	194.73	5,968.3	-516.1	-135.7	-94.4	0.00	0.00	0.00
6,100.0	6.88	194.73	6,067.6	-527.6	-138.8	-96.5	0.00	0.00	0.00
6,200.0	6.88	194.73	6,166.9	-539.2	-141.8	-98.7	0.00	0.00	0.00
6,300.0	6.88	194.73	6,266.2	-550.8	-144.8	-100.8	0.00	0.00	0.00
6,400.0	6.88	194.73	6,365.4	-562.4	-147.9	-102.9	0.00	0.00	0.00
6,500.0	6.88	194.73	6,464.7	-574.0	-150.9	-105.0	0.00	0.00	0.00
6,600.0	6.88	194.73	6,564.0	-585.6	-154.0	-107.1	0.00	0.00	0.00
6,700.0	6.88	194.73	6,663.3	-597.2	-157.0	-109.3	0.00	0.00	0.00
6,800.0	6.88	194.73	6,762.6	-608.8	-160.1	-111.4	0.00	0.00	0.00
6,900.0	6.88	194.73	6,861.8	-620.4	-163.1	-113.5	0.00	0.00	0.00
7,000.0	6.88	194.73	6,961.1	-631.9	-166.2	-115.6	0.00	0.00	0.00
7,100.0	6.88	194.73	7,060.4	-643.5	-169.2	-117.7	0.00	0.00	0.00
7,200.0	6.88	194.73	7,159.7	-655.1	-172.3	-119.9	0.00	0.00	0.00
7,300.0	6.88	194.73	7,259.0	-666.7	-175.3	-122.0	0.00	0.00	0.00
7,400.0	6.88	194.73	7,358.2	-678.3	-178.4	-124.1	0.00	0.00	0.00
7,500.0	6.88	194.73	7,457.5	-689.9	-181.4	-126.2	0.00	0.00	0.00
7,600.0	6.88	194.73	7,556.8	-701.5	-184.5	-128.3	0.00	0.00	0.00
7,700.0	6.88	194.73	7,656.1	-713.1	-187.5	-130.5	0.00	0.00	0.00
7,800.0	6.88	194.73	7,755.4	-724.7	-190.6	-132.6	0.00	0.00	0.00
7,900.0	6.88	194.73	7,854.6	-736.2	-193.6	-134.7	0.00	0.00	0.00
8,000.0	6.88	194.73	7,953.9	-747.8	-196.7	-136.8	0.00	0.00	0.00
8,100.0	6.88	194.73	8,053.2	-759.4	-199.7	-138.9	0.00	0.00	0.00
8,200.0	6.88	194.73	8,152.5	-771.0	-202.8	-141.1	0.00	0.00	0.00
8,300.0	6.88	194.73	8,251.8	-782.6	-205.8	-143.2	0.00	0.00	0.00
8,400.0	6.88	194.73	8,351.0	-794.2	-208.8	-145.3	0.00	0.00	0.00
8,500.0	6.88	194.73	8,450.3	-805.8	-211.9	-147.4	0.00	0.00	0.00
8,528.2	6.88	194.73	8,478.3	-809.0	-212.8	-148.0	0.00	0.00	0.00
8,600.0	5.45	194.73	8,549.7	-816.5	-214.7	-149.4	2.00	-2.00	0.00
8,700.0	3.45	194.73	8,649.4	-824.0	-216.7	-150.7	2.00	-2.00	0.00
8,800.0	1.45	194.73	8,749.3	-828.1	-217.8	-151.5	2.00	-2.00	0.00
8,872.3	0.00	0.00	8,821.5	-829.0	-218.0	-151.7	2.00	-2.00	0.00
KOP: 440' FSL & 10' FWL (17)									
8,900.0	3.33	89.92	8,849.3	-829.0	-217.2	-150.9	12.00	12.00	0.00
9,000.0	15.33	89.92	8,947.8	-829.0	-201.0	-134.7	12.00	12.00	0.00
9,100.0	27.33	89.92	9,040.7	-828.9	-164.7	-98.5	12.00	12.00	0.00
9,166.8	35.35	89.92	9,097.8	-828.9	-130.0	-63.9	12.00	12.00	0.00
FTP: 440' FSL & 100' FWL (17)									
9,200.0	39.33	89.92	9,124.2	-828.8	-109.9	-43.9	12.00	12.00	0.00
9,300.0	51.33	89.92	9,194.3	-828.7	-38.9	26.9	12.00	12.00	0.00
9,400.0	63.32	89.92	9,248.2	-828.6	45.1	110.6	12.00	12.00	0.00
9,500.0	75.32	89.92	9,283.5	-828.5	138.5	203.7	12.00	12.00	0.00
9,600.0	87.32	89.92	9,298.5	-828.3	237.2	302.1	12.00	12.00	0.00
9,616.1	89.26	89.92	9,299.0	-828.3	253.3	318.1	12.00	12.00	0.00
LP: 440' FSL & 483' FWL (17)									

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Glock 17/18 W0MP Fed Com #1H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3305.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3305.0usft (Original Well Elev)
Site:	Glock 17/18 W0MP Fed Com #1H	**North Reference:**	Grid
Well:	Sec 17, T20S, R29E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 440' FSL & 100' FEL, Sec 16		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,700.0	89.26	89.92	9,300.1	-828.2	337.2	401.7	0.01	0.01	0.00
9,800.0	89.26	89.92	9,301.4	-828.1	437.2	501.4	0.00	0.00	0.00
9,900.0	89.26	89.92	9,302.7	-827.9	537.2	601.0	0.00	0.00	0.00
10,000.0	89.26	89.92	9,304.0	-827.8	637.2	700.7	0.00	0.00	0.00
10,100.0	89.26	89.92	9,305.2	-827.6	737.2	800.4	0.00	0.00	0.00
10,200.0	89.26	89.92	9,306.5	-827.5	837.1	900.0	0.00	0.00	0.00
10,300.0	89.26	89.92	9,307.8	-827.3	937.1	999.7	0.00	0.00	0.00
10,400.0	89.26	89.92	9,309.1	-827.2	1,037.1	1,099.4	0.00	0.00	0.00
10,500.0	89.26	89.92	9,310.4	-827.1	1,137.1	1,199.0	0.00	0.00	0.00
10,600.0	89.26	89.92	9,311.7	-826.9	1,237.1	1,298.7	0.00	0.00	0.00
10,700.0	89.26	89.92	9,313.0	-826.8	1,337.1	1,398.4	0.00	0.00	0.00
10,800.0	89.26	89.92	9,314.3	-826.6	1,437.1	1,498.0	0.00	0.00	0.00
10,900.0	89.26	89.92	9,315.6	-826.5	1,537.1	1,597.7	0.00	0.00	0.00
11,000.0	89.26	89.92	9,316.9	-826.3	1,637.1	1,697.4	0.00	0.00	0.00
11,100.0	89.26	89.92	9,318.2	-826.2	1,737.1	1,797.0	0.00	0.00	0.00
11,200.0	89.26	89.92	9,319.4	-826.1	1,837.1	1,896.7	0.00	0.00	0.00
11,300.0	89.26	89.92	9,320.7	-825.9	1,937.0	1,996.4	0.00	0.00	0.00
11,400.0	89.26	89.92	9,322.0	-825.8	2,037.0	2,096.0	0.00	0.00	0.00
11,500.0	89.26	89.92	9,323.3	-825.6	2,137.0	2,195.7	0.00	0.00	0.00
11,600.0	89.26	89.92	9,324.6	-825.5	2,237.0	2,295.4	0.00	0.00	0.00
11,700.0	89.26	89.92	9,325.9	-825.3	2,337.0	2,395.0	0.00	0.00	0.00
11,800.0	89.26	89.92	9,327.2	-825.2	2,437.0	2,494.7	0.00	0.00	0.00
11,900.0	89.26	89.92	9,328.5	-825.1	2,537.0	2,594.4	0.00	0.00	0.00
12,000.0	89.26	89.92	9,329.8	-824.9	2,637.0	2,694.0	0.00	0.00	0.00
12,100.0	89.26	89.92	9,331.1	-824.8	2,737.0	2,793.7	0.00	0.00	0.00
12,200.0	89.26	89.92	9,332.4	-824.6	2,837.0	2,893.4	0.00	0.00	0.00
12,300.0	89.26	89.92	9,333.6	-824.5	2,937.0	2,993.0	0.00	0.00	0.00
12,400.0	89.26	89.92	9,334.9	-824.3	3,037.0	3,092.7	0.00	0.00	0.00
12,500.0	89.26	89.92	9,336.2	-824.2	3,136.9	3,192.4	0.00	0.00	0.00
12,600.0	89.26	89.92	9,337.5	-824.0	3,236.9	3,292.0	0.00	0.00	0.00
12,700.0	89.26	89.92	9,338.8	-823.9	3,336.9	3,391.7	0.00	0.00	0.00
12,800.0	89.26	89.92	9,340.1	-823.8	3,436.9	3,491.4	0.00	0.00	0.00
12,900.0	89.26	89.92	9,341.4	-823.6	3,536.9	3,591.0	0.00	0.00	0.00
13,000.0	89.26	89.92	9,342.7	-823.5	3,636.9	3,690.7	0.00	0.00	0.00
13,100.0	89.26	89.92	9,344.0	-823.3	3,736.9	3,790.4	0.00	0.00	0.00
13,200.0	89.26	89.92	9,345.3	-823.2	3,836.9	3,890.0	0.00	0.00	0.00
13,300.0	89.26	89.92	9,346.6	-823.0	3,936.9	3,989.7	0.00	0.00	0.00
13,400.0	89.26	89.92	9,347.8	-822.9	4,036.9	4,089.4	0.00	0.00	0.00
13,500.0	89.26	89.92	9,349.1	-822.8	4,136.9	4,189.0	0.00	0.00	0.00
13,600.0	89.26	89.92	9,350.4	-822.6	4,236.9	4,288.7	0.00	0.00	0.00
13,700.0	89.26	89.92	9,351.7	-822.5	4,336.8	4,388.4	0.00	0.00	0.00
13,800.0	89.26	89.92	9,353.0	-822.3	4,436.8	4,488.0	0.00	0.00	0.00
13,900.0	89.26	89.92	9,354.3	-822.2	4,536.8	4,587.7	0.00	0.00	0.00
14,000.0	89.26	89.92	9,355.6	-822.0	4,636.8	4,687.4	0.00	0.00	0.00
14,100.0	89.26	89.92	9,356.9	-821.9	4,736.8	4,787.0	0.00	0.00	0.00
14,200.0	89.26	89.92	9,358.2	-821.8	4,836.8	4,886.7	0.00	0.00	0.00
14,300.0	89.26	89.92	9,359.5	-821.6	4,936.8	4,986.4	0.00	0.00	0.00
14,400.0	89.26	89.92	9,360.8	-821.5	5,036.8	5,086.0	0.00	0.00	0.00
14,429.2	89.26	89.92	9,361.1	-821.4	5,066.0	5,115.1	0.00	0.00	0.00
PPP2: 440' FSL & 0' FWL (16)									
14,500.0	89.26	89.92	9,362.0	-821.3	5,136.8	5,185.7	0.00	0.00	0.00
14,600.0	89.26	89.92	9,363.3	-821.2	5,236.8	5,285.4	0.00	0.00	0.00
14,700.0	89.26	89.92	9,364.6	-821.0	5,336.8	5,385.0	0.00	0.00	0.00

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Glock 17/18 W0MP Fed Com #1H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3305.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3305.0usft (Original Well Elev)
Site:	Glock 17/18 W0MP Fed Com #1H	**North Reference:**	Grid
Well:	Sec 17, T20S, R29E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 440' FSL & 100' FEL, Sec 16		
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)
14,800.0	89.26	89.92	9,365.9	-820.9	5,436.8	5,484.7	0.00	0.00	0.00
14,900.0	89.26	89.92	9,367.2	-820.8	5,536.7	5,584.4	0.00	0.00	0.00
15,000.0	89.26	89.92	9,368.5	-820.6	5,636.7	5,684.0	0.00	0.00	0.00
15,100.0	89.26	89.92	9,369.8	-820.5	5,736.7	5,783.7	0.00	0.00	0.00
15,200.0	89.26	89.92	9,371.1	-820.3	5,836.7	5,883.4	0.00	0.00	0.00
15,300.0	89.26	89.92	9,372.4	-820.2	5,936.7	5,983.0	0.00	0.00	0.00
15,400.0	89.26	89.92	9,373.7	-820.0	6,036.7	6,082.7	0.00	0.00	0.00
15,500.0	89.26	89.92	9,375.0	-819.9	6,136.7	6,182.4	0.00	0.00	0.00
15,600.0	89.26	89.92	9,376.2	-819.7	6,236.7	6,282.0	0.00	0.00	0.00
15,700.0	89.26	89.92	9,377.5	-819.6	6,336.7	6,381.7	0.00	0.00	0.00
15,800.0	89.26	89.92	9,378.8	-819.5	6,436.7	6,481.4	0.00	0.00	0.00
15,900.0	89.26	89.92	9,380.1	-819.3	6,536.7	6,581.0	0.00	0.00	0.00
16,000.0	89.26	89.92	9,381.4	-819.2	6,636.7	6,680.7	0.00	0.00	0.00
16,100.0	89.26	89.92	9,382.7	-819.0	6,736.6	6,780.3	0.00	0.00	0.00
16,200.0	89.26	89.92	9,384.0	-818.9	6,836.6	6,880.0	0.00	0.00	0.00
16,300.0	89.26	89.92	9,385.3	-818.7	6,936.6	6,979.7	0.00	0.00	0.00
16,400.0	89.26	89.92	9,386.6	-818.6	7,036.6	7,079.3	0.00	0.00	0.00
16,500.0	89.26	89.92	9,387.9	-818.5	7,136.6	7,179.0	0.00	0.00	0.00
16,600.0	89.26	89.92	9,389.2	-818.3	7,236.6	7,278.7	0.00	0.00	0.00
16,700.0	89.26	89.92	9,390.4	-818.2	7,336.6	7,378.3	0.00	0.00	0.00
16,800.0	89.26	89.92	9,391.7	-818.0	7,436.6	7,478.0	0.00	0.00	0.00
16,900.0	89.26	89.92	9,393.0	-817.9	7,536.6	7,577.7	0.00	0.00	0.00
17,000.0	89.26	89.92	9,394.3	-817.7	7,636.6	7,677.3	0.00	0.00	0.00
17,100.0	89.26	89.92	9,395.6	-817.6	7,736.6	7,777.0	0.00	0.00	0.00
17,200.0	89.26	89.92	9,396.9	-817.5	7,836.6	7,876.7	0.00	0.00	0.00
17,300.0	89.26	89.92	9,398.2	-817.3	7,936.5	7,976.3	0.00	0.00	0.00
17,400.0	89.26	89.92	9,399.5	-817.2	8,036.5	8,076.0	0.00	0.00	0.00
17,500.0	89.26	89.92	9,400.8	-817.0	8,136.5	8,175.7	0.00	0.00	0.00
17,600.0	89.26	89.92	9,402.1	-816.9	8,236.5	8,275.3	0.00	0.00	0.00
17,700.0	89.26	89.92	9,403.3	-816.7	8,336.5	8,375.0	0.00	0.00	0.00
17,800.0	89.26	89.92	9,404.6	-816.6	8,436.5	8,474.7	0.00	0.00	0.00
17,900.0	89.26	89.92	9,405.9	-816.5	8,536.5	8,574.3	0.00	0.00	0.00
18,000.0	89.26	89.92	9,407.2	-816.3	8,636.5	8,674.0	0.00	0.00	0.00
18,100.0	89.26	89.92	9,408.5	-816.2	8,736.5	8,773.7	0.00	0.00	0.00
18,200.0	89.26	89.92	9,409.8	-816.0	8,836.5	8,873.3	0.00	0.00	0.00
18,300.0	89.26	89.92	9,411.1	-815.9	8,936.5	8,973.0	0.00	0.00	0.00
18,400.0	89.26	89.92	9,412.4	-815.7	9,036.4	9,072.7	0.00	0.00	0.00
18,500.0	89.26	89.92	9,413.7	-815.6	9,136.4	9,172.3	0.00	0.00	0.00
18,600.0	89.26	89.92	9,415.0	-815.4	9,236.4	9,272.0	0.00	0.00	0.00
18,700.0	89.26	89.92	9,416.3	-815.3	9,336.4	9,371.7	0.00	0.00	0.00
18,800.0	89.26	89.92	9,417.5	-815.2	9,436.4	9,471.3	0.00	0.00	0.00
18,900.0	89.26	89.92	9,418.8	-815.0	9,536.4	9,571.0	0.00	0.00	0.00
19,000.0	89.26	89.92	9,420.1	-814.9	9,636.4	9,670.7	0.00	0.00	0.00
19,100.0	89.26	89.92	9,421.4	-814.7	9,736.4	9,770.3	0.00	0.00	0.00
19,200.0	89.26	89.92	9,422.7	-814.6	9,836.4	9,870.0	0.00	0.00	0.00
19,300.0	89.26	89.92	9,424.0	-814.4	9,936.4	9,969.7	0.00	0.00	0.00
19,400.0	89.26	89.92	9,425.3	-814.3	10,036.4	10,069.3	0.00	0.00	0.00
19,500.0	89.26	89.92	9,426.6	-814.2	10,136.4	10,169.0	0.00	0.00	0.00
19,600.0	89.26	89.92	9,427.9	-814.0	10,236.3	10,268.7	0.00	0.00	0.00
19,609.7	89.26	89.92	9,428.0	-814.0	10,246.0	10,278.3	0.00	0.00	0.00
BHL: 440' FSL & 100' FEL (16)									

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Glock 17/18 W0MP Fed Com #1H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3305.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3305.0usft (Original Well Elev)
Site:	Glock 17/18 W0MP Fed Com #1H	**North Reference:**	Grid
Well:	Sec 17, T20S, R29E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 440' FSL & 100' FEL, Sec 16		
Design:	Design #1		

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL: 1270' FSL & 230' F - plan hits target center - Point	0.00	0.00	0.0	0.0	0.0	571,074.00	611,665.00	32.5697303	-104.1050390
KOP: 440' FSL & 10' FW - plan hits target center - Point	0.00	0.00	8,821.5	-829.0	-218.0	570,245.00	611,447.00	32.5674529	-104.1057524
FTP: 440' FSL & 100' FV - plan hits target center - Point	0.00	0.00	9,097.8	-828.9	-130.0	570,245.13	611,535.00	32.5674527	-104.1054668
LP: 440' FSL & 483' FWI - plan hits target center - Point	0.00	0.00	9,299.0	-828.3	253.3	570,245.70	611,918.30	32.5674521	-104.1042225
PPP2: 440' FSL & 0' FW - plan hits target center - Point	0.00	0.00	9,361.1	-821.4	5,066.0	570,252.58	616,731.00	32.5674415	-104.0886002
BHL: 440' FSL & 100' FE - plan hits target center - Point	0.00	0.00	9,428.0	-814.0	10,246.0	570,260.00	621,911.00	32.5674281	-104.0717856

Mewbourne Oil Company, Glock 17/16 W0MP Fed Com #1H
Sec 17, T20S, R29E
SHL: 1270' FSL & 230' FWL, Sec 17
BHL: 440' FSL & 100' FEL, Sec 16

1. Geologic Formations

TVD of target	9428'	Pilot hole depth	NA
MD at TD:	19,610'	Deepest expected fresh water:	50'

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface		
Rustler		Water	
Top of Salt	510		
Castile			
Base Salt	875		
Yates	1080	Oil/Gas	
Capitan	1455	Water	
Queen		Oil/Gas	
Grayburg			
Delaware	3155	Oil/Gas	
Bone Spring	5795	Oil/Gas	
1st Bone Spring Sand	6865		
2nd Bone Spring Sand	7460		
3rd Bone Spring Sand	8795		
Abo			
Wolfcamp	9185	Target Zone	
Devonian			
Fusselman			
Ellenburger			
Granite Wash			

*H2S, water flows, loss of circulation, abnormal pressures, etc.

Mewbourne Oil Company, Glock 17/16 W0MP Fed Com #1H
Sec 17, T20S, R29E
SHL: 1270' FSL & 230' FWL, Sec 17
BHL: 440' FSL & 100' FEL, Sec 16

2. Casing Program

Hole Size	Casing Interval From	To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
26"	0'	375'	20"	94	J55	BTC	3.17	12.88	39.77	41.99
17.5"	0'	1316'	13.375"	48	H40	STC	1.13	2.53	5.10	8.56
12.25"	0'	3075'	9.625"	36	J55	LTC	1.40	2.45	4.09	5.09
8.75"	0'	9500'	7"	26	HCP110	LTC	1.62	2.16	2.81	3.36
6.125"	8872'	19,610'	4.5"	13.5	P110	LTC	1.67	1.95	2.33	2.91
BLM Minimum Safety Factor			1.125	1	1.6 Dry 1.8 Wet		1.6 Dry 1.8 Wet			

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

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

Mewbourne Oil Company, Glock 17/16 W0MP Fed Com #1H
Sec 17, T20S, R29E
SHL: 1270' FSL & 230' FWL, Sec 17
BHL: 440' FSL & 100' FEL, Sec 16

Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H_20 gal/ sk	500# Comp. Strength (hours)	Slurry Description
Surf.	410	12.5	2.12	11	10	Lead: Class C + Salt + Gel + Extender + LCM
	200	14.8	1.34	6.3	8	Tail: Class C + Retarder
1st Inter.	490	12.5	2.12	11	10	Lead: Class C + Salt + Gel + Extender + LCM
	200	14.8	1.34	6.3	8	Tail: Class C + Retarder
2nd Inter. Stg 1	185	12.5	2.12	11	10	Lead: Class C + Salt + Gel + Extender + LCM
	200	14.8	1.34	6.3	8	Tail: Class C + Retarder
ECP/DV Tool @ 1400'						
2nd Inter. Stg 2	250	12.5	2.12	11	10	Lead: Class C + Salt + Gel + Extender + LCM
	100	14.8	1.34	6.3	8	Tail: Class C + Retarder
Prod.	505	12.5	2.12	11	9	Lead: Class C + Gel + Retarder + Defoamer + Extender
	400	15.6	1.18	5.2	10	Tail: Class H + Retarder + Fluid Loss + Defoamer
Liner	435	11.2	2.97	17	16	Class H + Salt + Gel + Fluid Loss + Retarder + Dispersant + Defoamer + Anti-Settling Agent

A copy of cement test will be available on location at time of cement job providing pump times, compressive strengths, etc.

Casing String	TOC	% Excess
Surface	0'	100%
1st Intermediate	0'	25%
2nd Intermediate	0'	25%
Production	1405'	25%
Liner	8872'	25%

Mewbourne Oil Company, Glock 17/16 W0MP Fed Com #1H
Sec 17, T20S, R29E
SHL: 1270' FSL & 230' FWL, Sec 17
BHL: 440' FSL & 100' FEL, Sec 16

4. Pressure Control Equipment

	Variance: None

BOP installed and tested before drilling which hole?	Size?	System Rated WP	Type	✓	Tested to:
12-1/4"	13-5/8"	5M	Annular	X	2500#
			Blind Ram	X	5000#
			Pipe Ram	X	
			Double Ram		
			Other*		

*Specify if additional ram is utilized.

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

X	Formation integrity test will be performed per Onshore Order #2. 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 Onshore Oil and Gas Order #2 III.B.1.i.

Y	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
	N — Are anchors required by manufacturer?
Y	A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. • Provide description here See attached schematic.

5. Mud Program

TVD		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0'	375'	FW Gel	8.6-8.8	28-34	N/C
375'	1316'	Saturated Brine	10.0	28-34	N/C
1316'	9284'	Cut Brine	8.6-9.7	28-34	N/C
9284'	9428'	OBM	10-12.0	30-40	<20cc

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times. MW up to 13.0 ppg may be required for shale control. The highest MW needed to balance formation pressure is expected to be 12.0 ppg.

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

6. Logging and Testing Procedures

Logging, Coring and Testing.	
X	Will run GR/CNL from KOP (8872') to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
	No Logs are planned based on well control or offset log information.
	Drill stem test? If yes, explain
	Coring? If yes, explain

Additional logs planned	Interval

X	Gamma Ray	8872' (KOP) to TD
	Density	
	CBL	
	Mud log	
	PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	5883 psi
Abnormal Temperature	No

Mitigation measure for abnormal conditions. Describe. Lost circulation material/sweeps/mud scavengers in surface hole.

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

8. Other facets of operation

Is this a walking operation? If yes, describe.
Will be pre-setting casing? If yes, describe.

Attachments

Mewbourne Oil Company, Glock 17/16 W0MP Fed Com #1H
Sec 17, T20S, R29E
SHL: 1270' FSL & 230' FWL, Sec 17
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___ Directional Plan
___ Other, describe