

NM OIL CONSERVATION
ARTESIA DISTRICT

Form 3160-3
(June 2015)

FEB 25 2019

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NMNM036975
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other		6. If Indian, Allottee or Tribe Name
1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		7. If Unit or CA Agreement, Name and No.
2. Name of Operator MEWBOURNE OIL COMPANY		8. Lease Name and Well No. KANSAS 21/28 W2LM FED COM 1H 325015
3a. Address PO Box 5270 Hobbs NM 88240	3b. Phone No. (include area code) 14744 (575)393-5905	9. API Well No. 30-015-45763
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface SWNW / 2635 FNL / 330 FWL / LAT 32.203333 / LONG -104.1001392 At proposed prod. zone SWSW / 330 FSL / 330 FWL / LAT 32.1821057 / LONG -104.1000091		10. Field and Pool, or Exploratory WOLFCAMP / PURPLE SAGE WOLFCAMP 98220
11. Sec., T. R. M. or Blk. and Survey or Area SEC 21 / T24S / R28E / NMP		12. County or Parish EDDY
14. Distance in miles and direction from nearest town or post office* 3 miles		13. State NM
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 185 feet	16. No of acres in lease 920	17. Spacing Unit dedicated to this well 320
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1895 feet	19. Proposed Depth 10509 feet / 18058 feet	20. BLM/BIA Bond No. in file FED: NM1693
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3031 feet	22. Approximate date work will start* 08/10/2018	23. Estimated duration 60 days
24. Attachments		

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

- | | |
|---|---|
| 1. Well plat certified by a registered surveyor. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification. |
| 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) | 6. Such other site specific information and/or plans as may be requested by the BLM. |

25. Signature (Electronic Submission)	Name (Printed/Typed) Bradley Bishop / Ph: (575)393-5905	Date 05/15/2018
Title Regulatory		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) Cody Layton / Ph: (575)234-5959	Date 02/22/2019
Title Assistant Field Manager Lands & Minerals Office 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: 02/22/2019

(Continued on page 2)

*(Instructions on page 2)

RWP 2-25-19

INSTRUCTIONS

GENERAL: This form is designed for submitting proposals to perform certain well operations, as indicated on Federal and Indian lands and leases for action by appropriate Federal agencies, pursuant to applicable Federal laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from local Federal offices.

ITEM 1: If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable Federal regulations concerning subsequent work proposals or reports on the well.

ITEM 4: Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local Federal offices for specific instructions.

ITEM 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on the reverse side, showing the roads to, and the surveyed location of, the well, and any other required information, should be furnished when required by Federal agency offices.

ITEMS 15 AND 18: If well is to be, or has been directionally drilled, give distances for subsurface location of hole in any present or objective productive zone.

ITEM 22: Consult applicable Federal regulations, or appropriate officials, concerning approval of the proposal before operations are started.

ITEM 24: If the proposal will involve hydraulic fracturing operations, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

NOTICES

The Privacy Act of 1974 and regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR 3160

PRINCIPAL PURPOSES: The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service well or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.

ROUTINE USE: Information from the record and/or the record will be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.

EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM collects this information to allow evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Connection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

Additional Operator Remarks

Location of Well

- 1. SHL: SWNW / 2635 FNL / 330 FWL / TWSP: 24S / RANGE: 28E / SECTION: 21 / LAT: 32.203333 / LONG: -104.1001392 (TVD: 27 feet, MD: 27 feet)
PPP: NWSW / 2340 FSL / 330 FWL / TWSP: 24S / RANGE: 28E / SECTION: 21 / LAT: 32.2023242 / LONG: -104.1001343 (TVD: 10488 feet, MD: 10702 feet)
BHL: SWSW / 330 FSL / 330 FWL / TWSP: 24S / RANGE: 28E / SECTION: 28 / LAT: 32.1821057 / LONG: -104.1000091 (TVD: 10509 feet, MD: 18058 feet)

BLM Point of Contact

Name: Tenille Ortiz
Title: Legal Instruments Examiner
Phone: 5752342224
Email: tortiz@blm.gov

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Review and Appeal Rights

A person contesting a decision shall request a State Director review. This request must be filed within 20 working days of receipt of the Notice with the appropriate State Director (see 43 CFR 3165.3). The State Director review decision may be appealed to the Interior Board of Land Appeals, 801 North Quincy Street, Suite 300, Arlington, VA 22203 (see 43 CFR 3165.4). Contact the above listed Bureau of Land Management office for further information.

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**PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL**

OPERATOR'S NAME:	MEWBOURNE OIL COMPANY
LEASE NO.:	NMNM036975
WELL NAME & NO.:	KANSAS 21 28 W2LM FED COM 1H
SURFACE HOLE FOOTAGE:	2635'/N & 330'/W
BOTTOM HOLE FOOTAGE:	330'/S & 330'/W
LOCATION:	SECTION 21, T24S, R28E, NMPM
COUNTY:	EDDY, NEW MEXICO

COA

H2S	<input type="radio"/> Yes	<input checked="" type="radio"/> No	
Potash	<input checked="" type="radio"/> None	<input type="radio"/> Secretary	<input type="radio"/> R-111-P
Cave/Karst Potential	<input type="radio"/> Low	<input type="radio"/> Medium	<input checked="" type="radio"/> High
Variance	<input type="radio"/> None	<input checked="" type="radio"/> Flex Hose	<input type="radio"/> Other
Wellhead	<input type="radio"/> Conventional	<input checked="" type="radio"/> Multibowl	<input type="radio"/> Both
Other	<input type="checkbox"/> 4 String Area	<input type="checkbox"/> Capitan Reef	<input type="checkbox"/> WIPP
Other	<input type="checkbox"/> Fluid Filled	<input type="checkbox"/> Cement Squeeze	<input type="checkbox"/> Pilot Hole
Special Requirements	<input type="checkbox"/> Water Disposal	<input checked="" type="checkbox"/> COM	<input type="checkbox"/> 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

1. The 13-3/8 inch surface casing shall be set at approximately **425** feet (a minimum of 25 feet 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 minimum required fill of cement behind the **9-5/8** inch intermediate casing is: Cement to surface. If cement does not circulate see B.1.a, c-d above. **Additional cement maybe required. Excess calculates to 23%.**
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.
3. The minimum required fill of cement behind the **7** inch production casing is: Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.
 - a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.
 - b. Second stage above DV tool: Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.
4. The minimum required fill of cement behind the **4-1/2** inch production liner is:
 - Cement should tie-back **100 feet** into the previous casing. Operator shall provide method of verification.

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).
2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.

- c. Manufacturer representative shall install the test plug for the initial BOP test.
- d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
- e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

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

GENERAL REQUIREMENTS

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

- a. Spudding well (minimum of 24 hours)
 - b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
 - c. BOPE tests (minimum of 4 hours)
- Chaves and Roosevelt Counties
Call the Roswell Field Office, 2909 West Second St., Roswell NM 88201.
During office hours call (575) 627-0272.
After office hours call (575)
- 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)

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.

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.
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: 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.
 - 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.

ZS 022119

**PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL**

OPERATOR'S NAME:	MEWBOURNE OIL COMPANY
LEASE NO.:	NMNM036975
WELL NAME & NO.:	KANSAS 21 28 W2LM FED COM 1H
SURFACE HOLE FOOTAGE:	2635'/N & 330'/W
BOTTOM HOLE FOOTAGE:	330'/S & 330'/W
LOCATION:	SECTION 21, T24S, R28E, NMPM
COUNTY:	EDDY

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.

- General Provisions**
- Permit Expiration**
- Archaeology, Paleontology, and Historical Sites**
- Noxious Weeds**
- Special Requirements**
 - Texas Hornshell Zone D
- Construction**
 - Notification
 - Topsoil
 - Closed Loop System
 - Federal Mineral Material Pits
 - Well Pads
 - Roads
- Road Section Diagram**
- Production (Post Drilling)**
 - Well Structures & Facilities
- Interim Reclamation**
- Final Abandonment & Reclamation**

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)

Texas Hornshell Zone D

Oil and Gas and Associated Infrastructure Mitigation Measures for Zone D – CCA Boundary Requirements:

- The oil and gas Participant shall comply with SPCC requirements in accordance with 40 CFR Part 112.
- Provide CEHMM with the permit, lease grant, or other authorization form BLM, if applicable.
- Provide CEHMM with plats or other electronic media describing the new surface disturbance for the project.

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

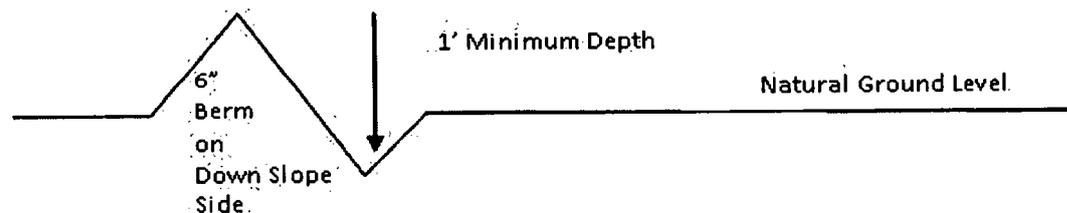
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

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:

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

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

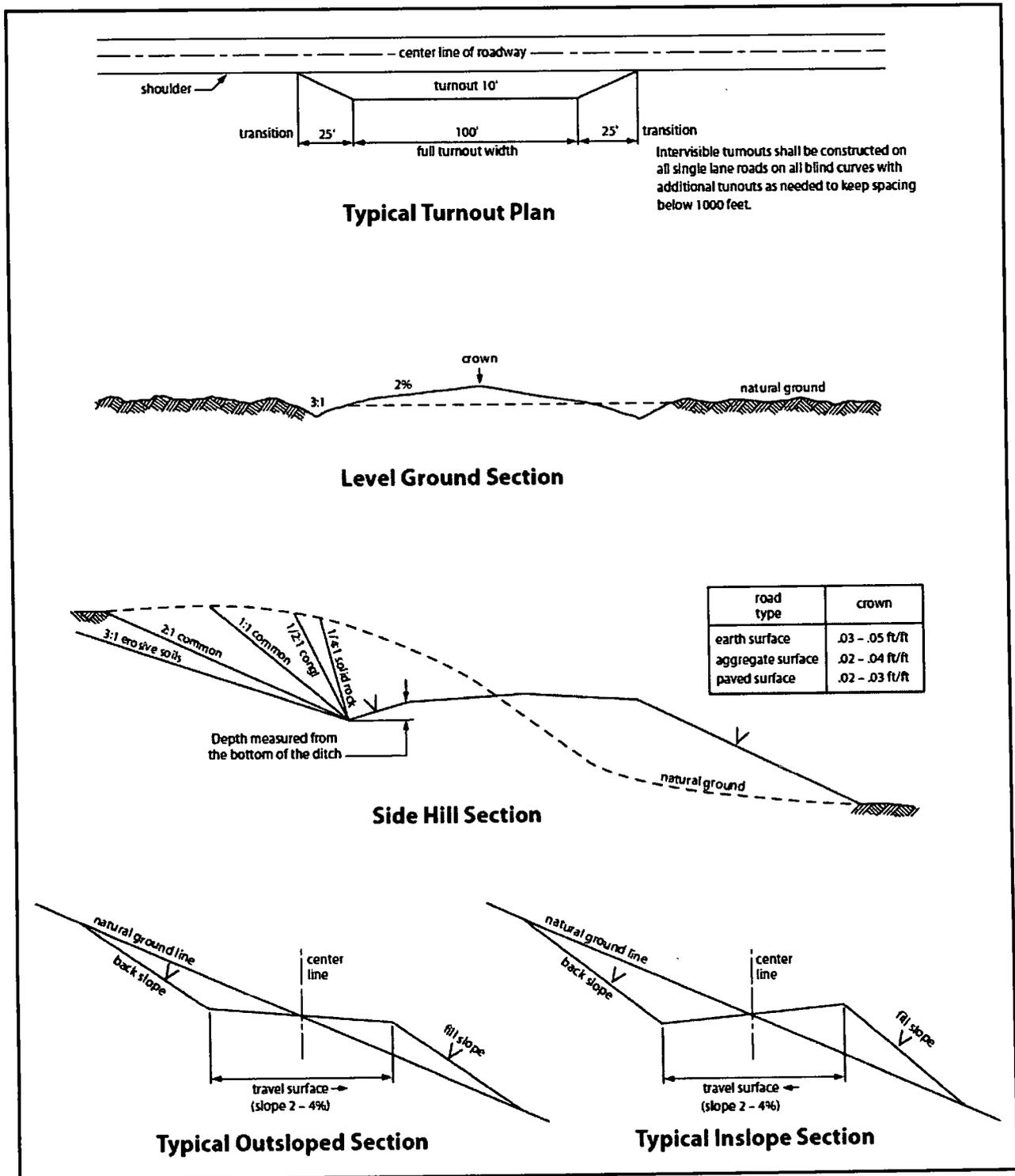


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

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).

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).

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: 05/15/2018

Title: Regulatory

Street Address: PO Box 5270

City: Hobbs

State: NM

Zip: 88240

Phone: (575)393-5905

Email address: bbishop@mewbourne.com

Field Representative

Representative Name:

Street Address:

City:

State:

Zip:

Phone:

Email address:



APD ID: 10400030164

Submission Date: 05/15/2018

Highlighted data
reflects the most
recent changes

Operator Name: MEWBOURNE OIL COMPANY

Well Name: KANSAS 21/28 W2LM FED COM

Well Number: 1H

[Show Final Text](#)

Well Type: CONVENTIONAL GAS WELL

Well Work Type: Drill

Section 1 - General

APD ID: 10400030164

Tie to previous NOS?

Submission Date: 05/15/2018

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: NMNM036975

Lease Acres: 920

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:

Kansas21_28W2LMFedCom1H_operatorletterofdesignation_20180510145630.pdf

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: KANSAS 21/28 W2LM FED COM

Well Number: 1H

Well API Number:

Field/Pool or Exploratory? Field and Pool

Field Name: WOLFCAMP

Pool Name: PURPLE SAGE
WOLFCAMP GAS

Is the proposed well in an area containing other mineral resources? USEABLE WATER,NATURAL GAS,OIL

Operator Name: MEWBOURNE OIL COMPANY

Well Name: KANSAS 21/28 W2LM FED COM

Well Number: 1H

Describe other minerals:

Is the proposed well in a Helium production area? N

Use Existing Well Pad? NO

New surface disturbance?

Type of Well Pad: MULTIPLE WELL

Multiple Well Pad Name:
KANSAS 21/28 WOLM & W2LM

Number: 2

Well Class: HORIZONTAL

Number of Legs:

Well Work Type: Drill

Well Type: CONVENTIONAL GAS WELL

Describe Well Type:

Well sub-Type: APPRAISAL

Describe sub-type:

Distance to town: 3 Miles

Distance to nearest well: 1895 FT

Distance to lease line: 185 FT

Reservoir well spacing assigned acres Measurement: 320 Acres

Well plat: Kansas21_28W2LMFedCom1H_wellplat_20180510145606.pdf

Well work start Date: 08/10/2018

Duration: 60 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83

Vertical Datum: NAVD88

Survey number:

	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
SHL Leg #1	263 5	FNL	330	FWL	24S	28E	21	Aliquot SWN W	32.20333 3	- 104.1001 392	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 036975	303 1	27	27
KOP Leg #1	255 5	FNL	330	FWL	24S	28E	21	Aliquot SWN W	32.20355 02	- 104.1001 419	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 036975	- 689 8	993 0	992 9
PPP Leg #1	234 0	FSL	330	FWL	24S	28E	21	Aliquot NWS W	32.20232 42	- 104.1001 343	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 036975	- 745 7	107 02	104 88

Operator Name: MEWBOURNE OIL COMPANY

Well Name: KANSAS 21/28 W2LM FED COM

Well Number: 1H

	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
EXIT Leg #1	330	FSL	330	FWL	24S	28E	28	Aliquot SWS W	32.18210 57	- 104.1000 091	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 036975	- 747 8	180 58	105 09
BHL Leg #1	330	FSL	330	FWL	24S	28E	28	Aliquot SWS W	32.18210 57	- 104.1000 091	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 036975	- 747 8	180 58	105 09

United States Department of the Interior
Bureau of Land Management
Carlsbad Field Office
620 E Greene Street
Carlsbad, New Mexico 88201-1287

Statement Accepting Responsibility for Operations

Operator Name: Mewbourne Oil Company
Street or Box: P.O. Box 5270
City, State: Hobbs, New Mexico
Zip Code: 88241

The undersigned accepts all applicable terms, conditions, stipulations, and restrictions concerning operations conducted of the leased land or portion thereof, as described below.

Lease Number: NMNM 036975
Legal Description of Land: Section 21, T24S, R28E, Eddy County, New Mexico.
Location @ 2635 FNL & 330 FWL
Formation (if applicable): Wolfcamp
Bond Coverage: \$150,000
BLM Bond File: NM1693 nationwide, NMB000919



Authorized Signature: _____
Name: Bradley Bishop
Title: Regulatory Manager
Date: 5-8-18



APD ID: 10400030164

Submission Date: 05/15/2018

Highlighted data
reflects the most
recent changes

Operator Name: MEWBOURNE OIL COMPANY

Well Name: KANSAS 21/28 W2LM FED COM

Well Number: 1H

[Show Final Text](#)

Well Type: CONVENTIONAL GAS WELL

Well Work Type: Drill

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1	UNKNOWN	3031	27	27		NONE	No
2	CASTILE	1951	1080	1080	SALT	NONE	No
3	LAMAR	516	2515	2515	LIMESTONE	NATURAL GAS,OIL	No
4	BELL CANYON	486	2545	2545	SANDSTONE	NATURAL GAS,OIL	No
5	CHERRY CANYON	-354	3385	3385	SANDSTONE	NATURAL GAS,OIL	No
6	MANZANITA	-464	3495	3495	LIMESTONE	NATURAL GAS,OIL	No
7	BRUSHY CANYON	-1579	4610	4610	SANDSTONE	NATURAL GAS,OIL	No
8	BONE SPRING LIME	-3159	6190	6190	LIMESTONE,SHALE	NATURAL GAS,OIL	No
9	BONE SPRING 1ST	-4059	7090	7090	SANDSTONE	NATURAL GAS,OIL	No
10	BONE SPRING 2ND	-4919	7950	7950	SANDSTONE	NATURAL GAS,OIL	No
11	BONE SPRING 3RD	-5969	9000	9000	SANDSTONE	NATURAL GAS,OIL	No
12	WOLFCAMP	-6339	9370	9370	LIMESTONE,SHALE,SANDSTONE	NATURAL GAS,OIL	Yes

Section 2 - Blowout Prevention

Pressure Rating (PSI): 5M

Rating Depth: 18058

Equipment: Annular, Pipe Ram, Blind Ram

Requesting Variance? YES

Variance request: A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. A multi-bowl wellhead is being used. See attached schematic

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

Operator Name: MEWBOURNE OIL COMPANY

Well Name: KANSAS 21/28 W2LM FED COM

Well Number: 1H

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.

Choke Diagram Attachment:

Kansas_21_28_W2LM_Fed_1H_5M_BOPE_Choke_Diagram_20180515140237.pdf

Kansas_21_28_W2LM_Fed_1H_Flex_Line_Specs_20180515140238.pdf

BOP Diagram Attachment:

Kansas_21_28_W2LM_Fed_1H_5M_BOPE_Schematic_20180515140349.pdf

Kansas_21_28_W2LM_Fed_1H_Multi_Bowl_WH_20180515140350.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	425	0	425	3058		425	H-40	48	STC	3.48	7.83	DRY	15.78	DRY	26.52
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	2440	0	2440	3058		2440	J-55	36	LTC	1.59	2.77	DRY	5.16	DRY	6.42
3	PRODUCTION	8.75	7.0	NEW	API	N	0	10630	0	10502	3058		10630	P-110	26	LTC	1.51	1.93	DRY	2.35	DRY	3
4	LINER	6.125	4.5	NEW	API	N	9930	18058	9930	10509			8128	P-110	13.5	LTC	1.5	1.75	DRY	3.08	DRY	3.85

Casing Attachments

Operator Name: MEWBOURNE OIL COMPANY

Well Name: KANSAS 21/28 W2LM 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):

Kansas_21_28_W2LM_Fed_1H_Csg_Assumptions_20180515140815.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Kansas_21_28_W2LM_Fed_1H_Csg_Assumptions_20180515141528.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Kansas_21_28_W2LM_Fed_1H_Csg_Assumptions_20180515143845.pdf

Operator Name: MEWBOURNE OIL COMPANY

Well Name: KANSAS 21/28 W2LM FED COM

Well Number: 1H

Casing Attachments

Casing ID: 4 String Type: LINER

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Kansas_21_28_W2LM_Fed_1H_Csg_Assumptions_20180515144106.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	240	155	2.12	12.5	329	100	Class C	Salt, Gel, Extender, LCM
SURFACE	Tail		240	425	200	1.34	14.8	268	100	Class C	Retarder
INTERMEDIATE	Lead		0	1800	345	2.12	12.5	731	25	Class C	Salt, Gel, Extender, LCM
INTERMEDIATE	Tail		1800	2440	200	1.34	14.8	268	25	Class C	Retarder
PRODUCTION	Lead	3495	2240	2860	60	2.12	12.5	127	25	Class C	Gel, Retarder, Defoamer, Extender
PRODUCTION	Tail		2860	3495	100	1.34	14.8	134	25	Class C	Retarder
PRODUCTION	Lead	3495	3495	8139	415	2.12	12.5	880	25	Class C	Gel, Retarder, Defoamer, Extender
PRODUCTION	Tail		8139	10630	400	1.18	15.6	472	25	Class H	Retarder, Fluid Loss, Defoamer
LINER	Lead		9930	18058	330	2.97	11.2	980	25	Class C	Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti-Settling Agent

Operator Name: MEWBOURNE OIL COMPANY

Well Name: KANSAS 21/28 W2LM FED COM

Well Number: 1H

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

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

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

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

Describe the mud monitoring system utilized: Pason/PVT/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	425	SPUD MUD	8.6	8.8							
425	2440	SALT SATURATED	10	10							
2440	9929	WATER-BASED MUD	8.6	9.7							
9929	10509	OIL-BASED MUD	10	12							

Section 6 - Test, Logging, Coring

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

Will run GR/CNL from KOP (9930') to surface

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

CNL,DS,GR,MWD,MUDLOG

Coring operation description for the well:

None

Operator Name: MEWBOURNE OIL COMPANY

Well Name: KANSAS 21/28 W2LM FED COM

Well Number: 1H

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 6558

Anticipated Surface Pressure: 4477.46

Anticipated Bottom Hole Temperature(F): 165

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

Describe:

Contingency Plans geohazards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

Kansas_21_28_W2LM_Fed_1H_H2S_Plan_20180515145104.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Kansas_21_28_W2LM_Fed_1H_Dir_Plot_20180515145134.pdf

Kansas_21_28_W2LM_Fed_1H_Dir_Plan_20180515145135.pdf

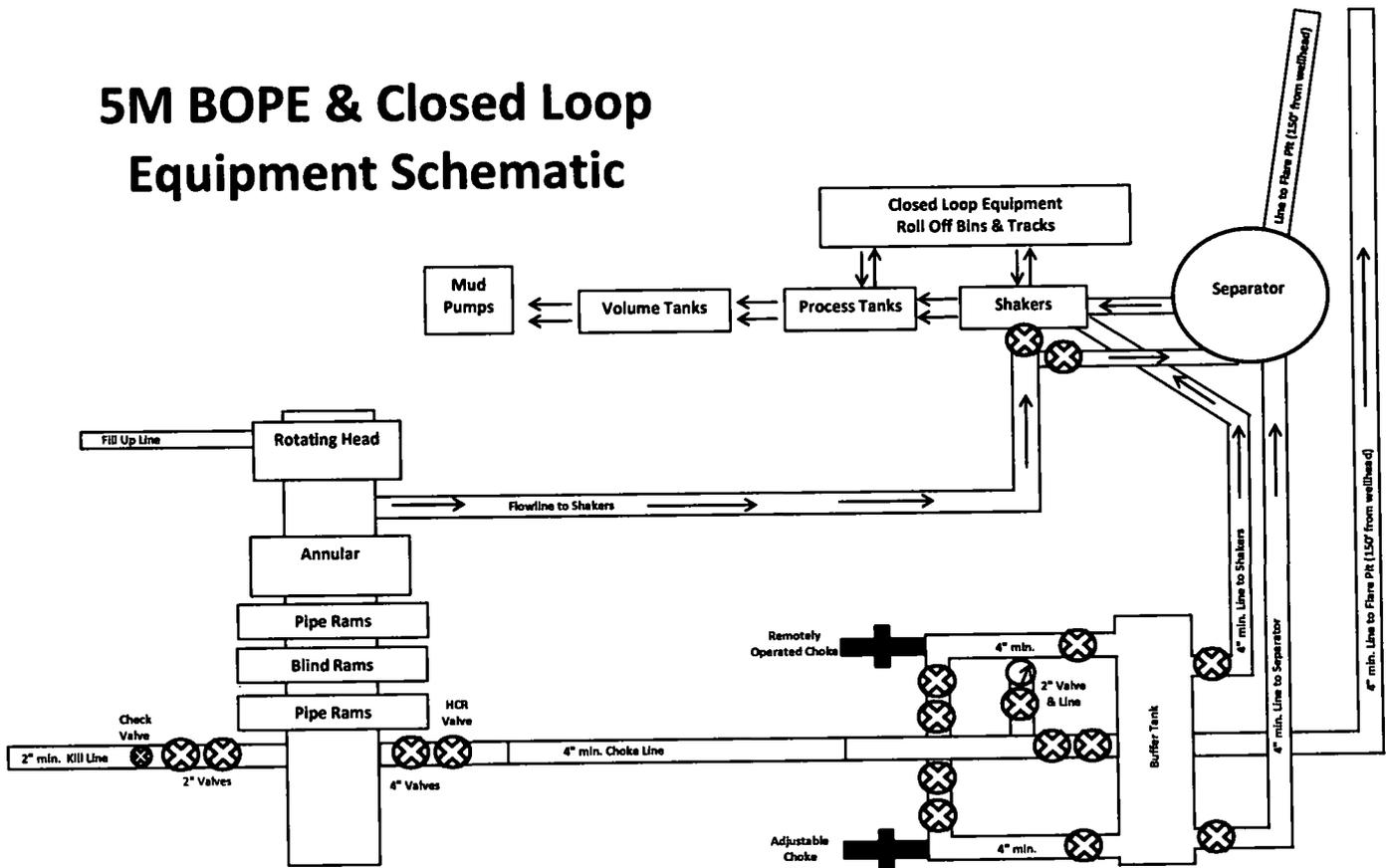
Other proposed operations facets description:

Other proposed operations facets attachment:

Kansas_21_28_W2LM_Fed_1H_Drlg_Program_20180515145144.doc

Other Variance attachment:

5M BOPE & Closed Loop Equipment Schematic



Drawing not to scale

Note: All valves & lines on choke manifold are 4" unless otherwise noted. Exact manifold configuration may vary.



GATES E & S NORTH AMERICA, INC.
134 44TH STREET
CORPUS CHRISTI, TEXAS 78405

PHONE: 361-887-9807
FAX: 361-887-0812
EMAIL: Tim.Cantu@gates.com
WEB: www.gates.com

10K CEMENTING ASSEMBLY PRESSURE TEST CERTIFICATE

Customer :	AUSTIN DISTRIBUTING	Test Date:	4/30/2015
Customer Ref. :	4060578	Hose Serial No.:	D-043015-7
Invoice No. :	500506	Created By:	JUSTIN CROPPER

Product Description:	10K3.548.0CK4.1/1610KFLGE/E LE		
End Fitting 1 :	4 1/16 10K FLG	End Fitting 2 :	4 1/16 10K FLG
Gates Part No. :	4773-6290	Assembly Code :	L36554102914D-043015-7
Working Pressure :	10,000 PSI	Test Pressure :	15,000 PSI

Gates E & S North America, Inc. certifies that the following hose assembly has been tested to the Gates Oilfield Roughneck Agreement/Specification requirements and passed the 15 minute hydrostatic test per API Spec 7K/Q1, Fifth Edition, June 2010, Test pressure 9.6.7 and per Table 9 to 15,000 psi in accordance with this product number. Hose burst pressure 9.6.7.2 exceeds the minimum of 2.5 times the working pressure per Table 9.

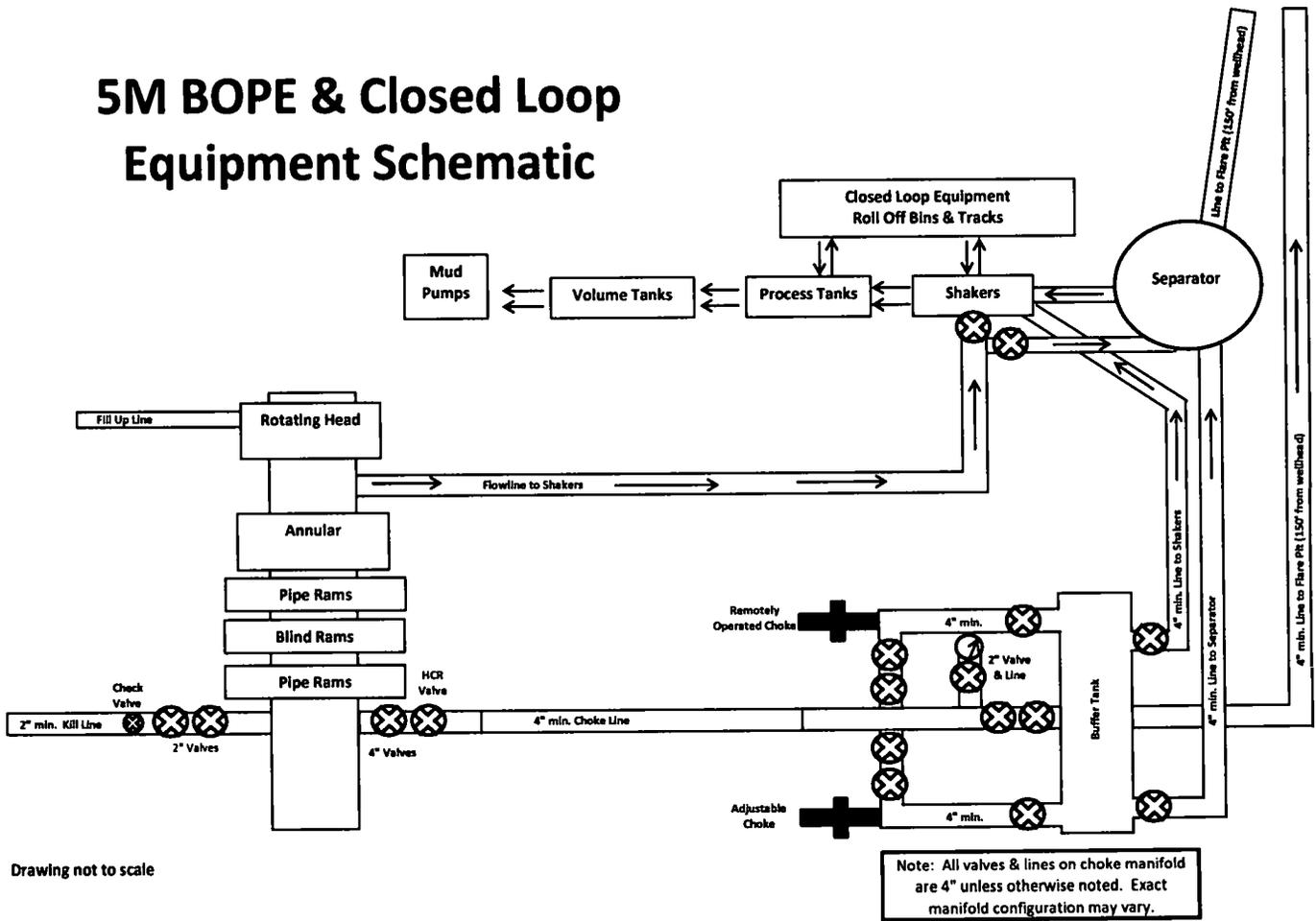
Quality Manager :	QUALITY
Date :	4/30/2015
Signature :	<i>Justin Cropper</i>

Production:	PRODUCTION
Date :	4/30/2015
Signature :	<i>[Signature]</i>

Form PTC - 01 Rev.02



5M BOPE & Closed Loop Equipment Schematic



Drawing not to scale



GATES E & S NORTH AMERICA, INC.
134 44TH STREET
CORPUS CHRISTI, TEXAS 78405

PHONE: 361-887-9807
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EMAIL: Tim.Cantu@gates.com
WEB: www.gates.com

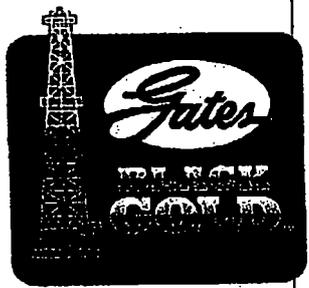
10K CEMENTING ASSEMBLY PRESSURE TEST CERTIFICATE

Customer :	AUSTIN DISTRIBUTING	Test Date:	4/30/2015
Customer Ref. :	4060578	Hose Serial No.:	D-043015-7
Invoice No. :	500506	Created By:	JUSTIN CROPPER
Product Description:	10K3.548.0CK4.1/1610KFLGE/E LE		
End Fitting 1 :	4 1/16 10K FLG	End Fitting 2 :	4 1/16 10K FLG
Gates Part No. :	4773-6290	Assembly Code :	L36554102914D-043015-7
Working Pressure :	10,000 PSI	Test Pressure :	15,000 PSI

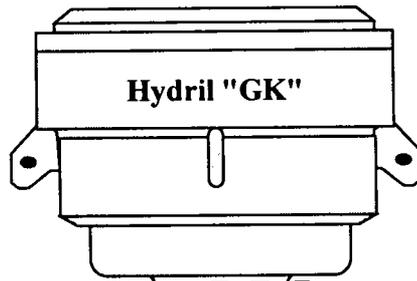
Gates E & S North America, Inc. certifies that the following hose assembly has been tested to the Gates Oilfield Roughneck Agreement/Specification requirements and passed the 15 minute hydrostatic test per API Spec 7K/Q1, Fifth Edition, June 2010, Test pressure 9.6.7 and per Table 9 to 15,000 psi in accordance with this product number. Hose burst pressure 9.6.7.2 exceeds the minimum of 2.5 times the working pressure per Table 9.

Quality Manager :	QUALITY	Production:	PRODUCTION
Date :	4/30/2015	Date :	4/30/2015
Signature :	<i>Justin Cropper</i>	Signature :	<i>Justin Cropper</i>

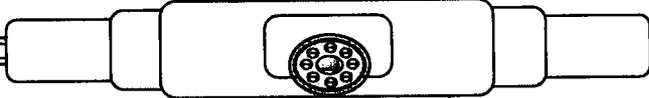
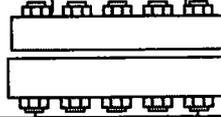
Form PTC - 01 Rev.02



Hydril "GK"
13 5/8" 5M

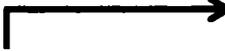


Hydril "GK"

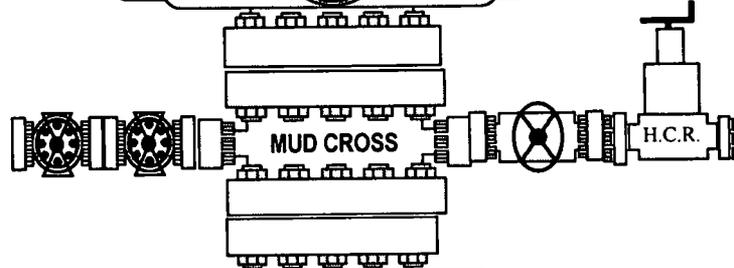


4 1/2" x 5 7/8" VBR

Cameron Type U
13 5/8" 5M

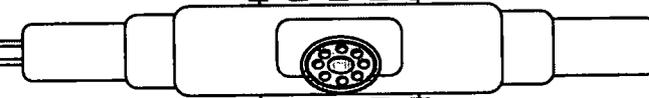


BLIND RAMS

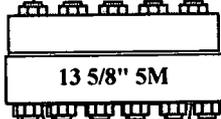


MUD CROSS

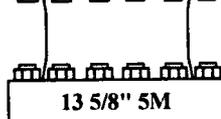
H.C.R.



7" RAMS

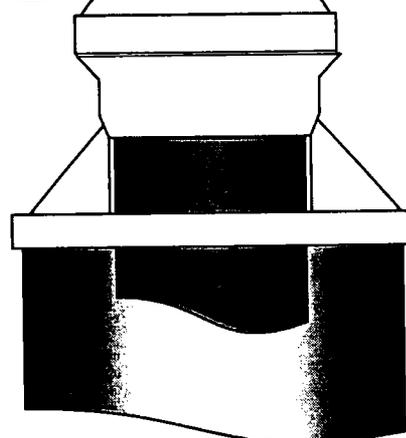
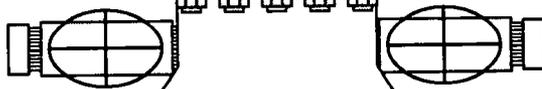


13 5/8" 5M



13 5/8" 5M

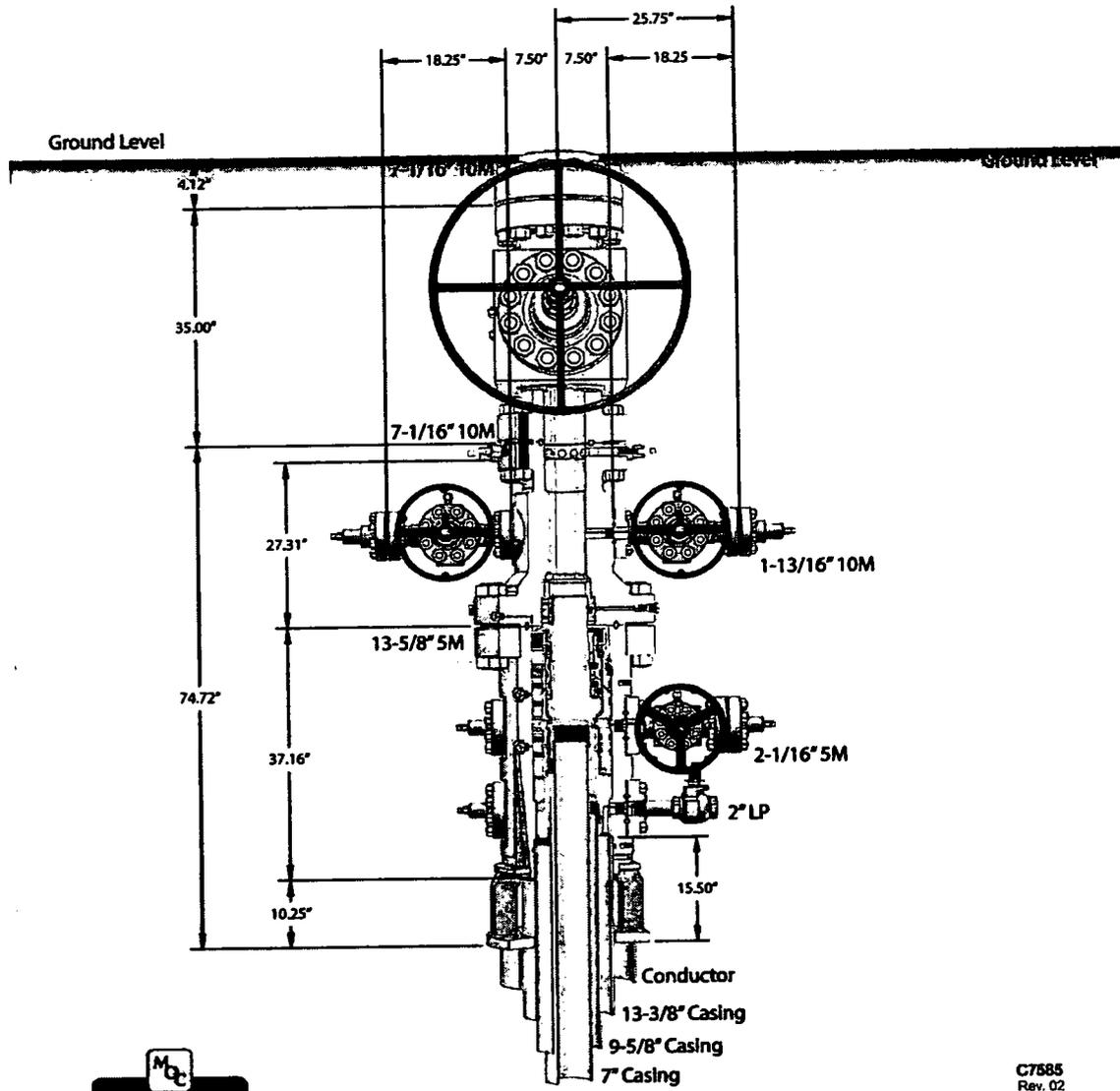
13 5/8" 5M



CAMERON

A Schlumberger Company

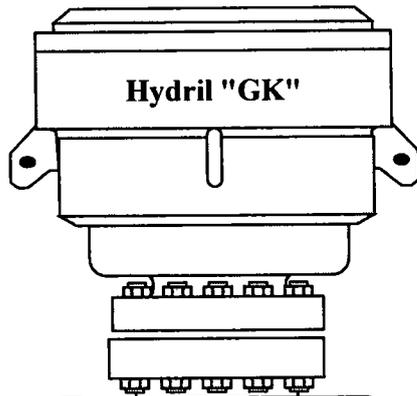
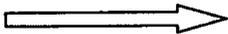
13-5/8" MN-DS Wellhead System



Lapping done 57" conductor cut-off
79

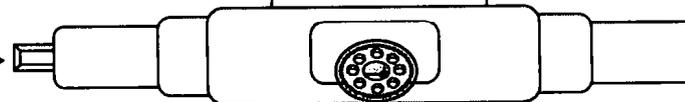
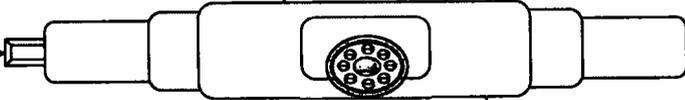
C7585
Rev. 02
NOTE: All dimensions on this drawing are estimated measurements and should be evaluated by engineering.

Hydril "GK"
13 5/8" 5M



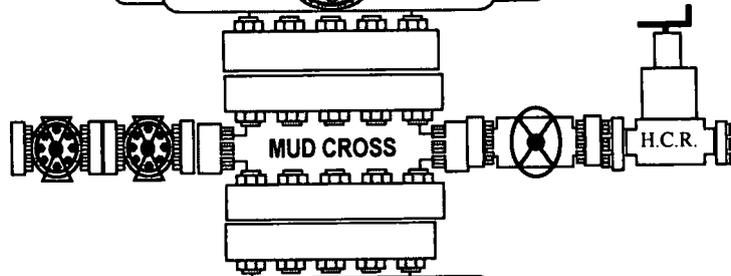
Hydril "GK"

Cameron Type U
13 5/8" 5M



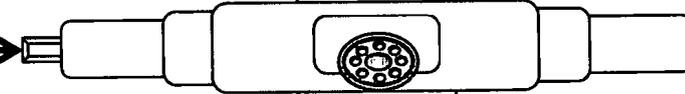
4 1/2" x 5 7/8" VBR

BLIND RAMS



MUD CROSS

H.C.R.

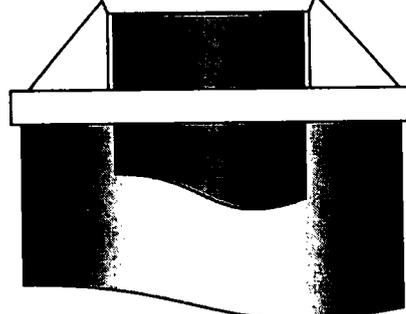
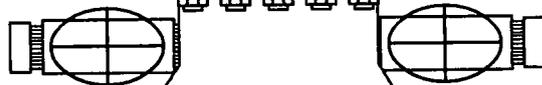


7" RAMS

13 5/8" 5M

13 5/8" 5M

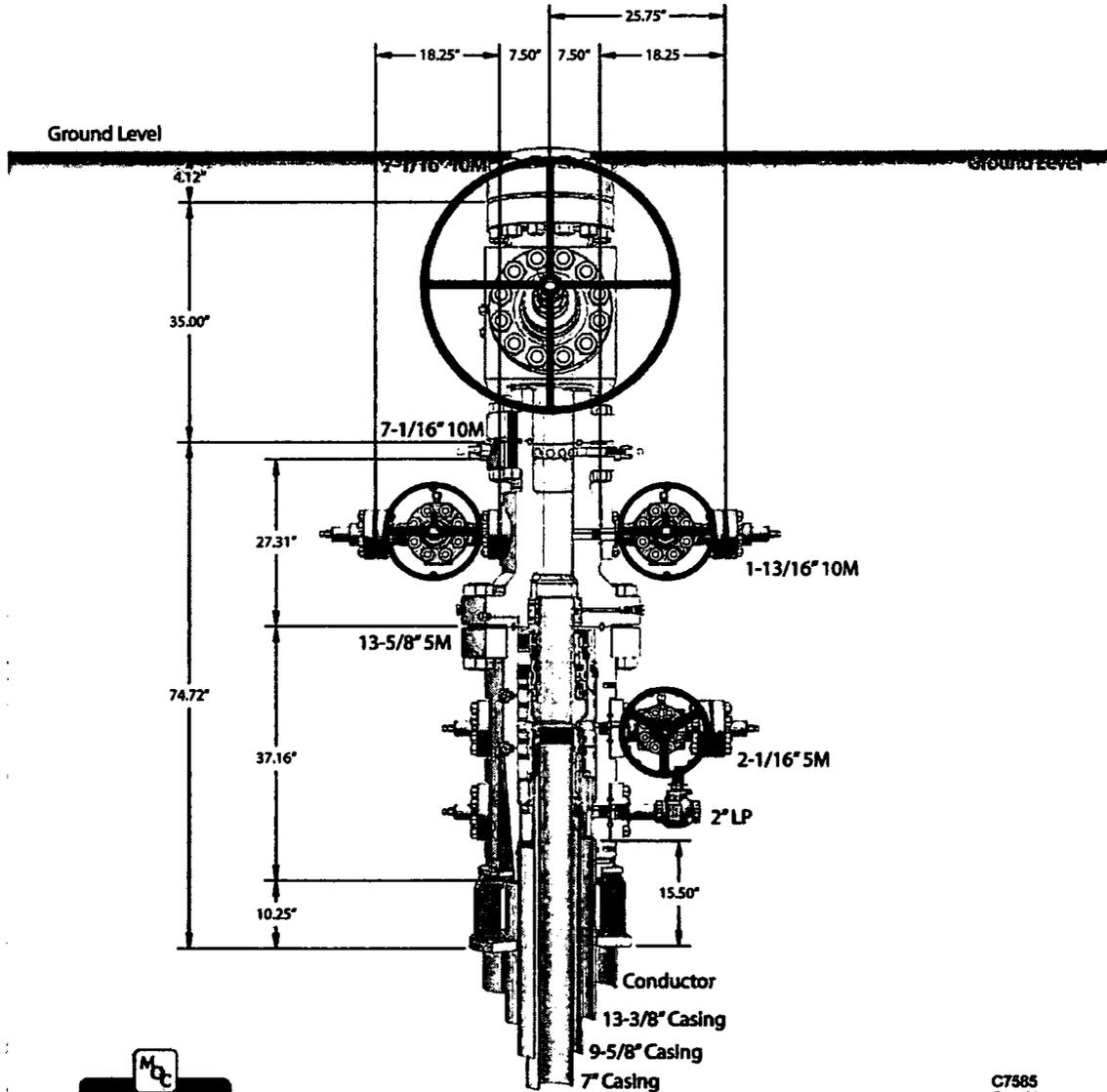
13 5/8" 5M



CAMERON

A Schlumberger Company

13-5/8" MN-DS Wellhead System



Lapping Range 57" conductor cut-off
79

C7585
Rev. 02

NOTE: All dimensions on this drawing are estimated measurements and should be evaluated by engineering.

Mewbourne Oil Company, Kansas 21/28 W2LM Fed #1H
Sec 21, T24S, R28E
SL: 2635' FSL & 330' FWL, Sec 21
BHL: 330' FSL & 330' FWL, Sec 28

Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
	From	To								
17.5"	0'	425'	13.375"	48	H40	STC	3.48	7.83	15.78	26.52
12.25"	0'	2440'	9.625"	36	J55	LTC	1.59	2.77	5.16	6.42
8.75"	0'	10,630'	7"	26	HCP110	LTC	1.51	1.93	2.35	3.00
6.125"	9930'	18,058'	4.5"	13.5	P110	LTC	1.50	1.75	3.08	3.85
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?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3 rd 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 2 nd 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, Kansas 21/28 W2LM Fed #1H
Sec 21, T24S, R28E
SL: 2635' FSL & 330' FWL, Sec 21
BHL: 330' FSL & 330' FWL, Sec 28

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Will the pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
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If yes, are there three strings cemented to surface?	

Mewbourne Oil Company, Kansas 21/28 W2LM Fed #1H
 Sec 21, T24S, R28E
 SL: 2635' FSL & 330' FWL, Sec 21
 BHL: 330' FSL & 330' FWL, Sec 28

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

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Mewbourne Oil Company, Kansas 21/28 W2LM Fed #1H
Sec 21, T24S, R28E
SL: 2635' FSL & 330' FWL, Sec 21
BHL: 330' FSL & 330' FWL, Sec 28

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

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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?	

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 known 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

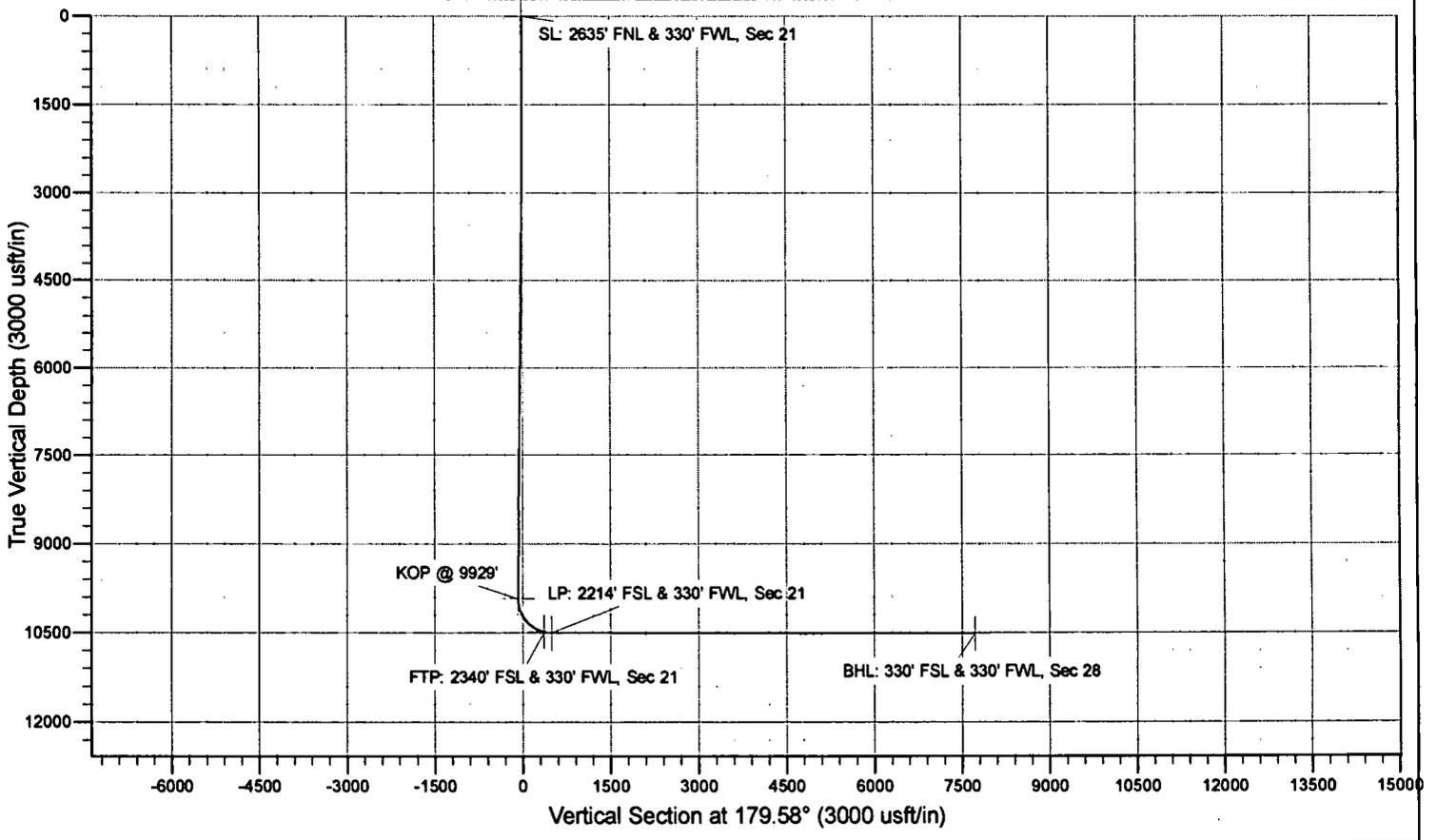
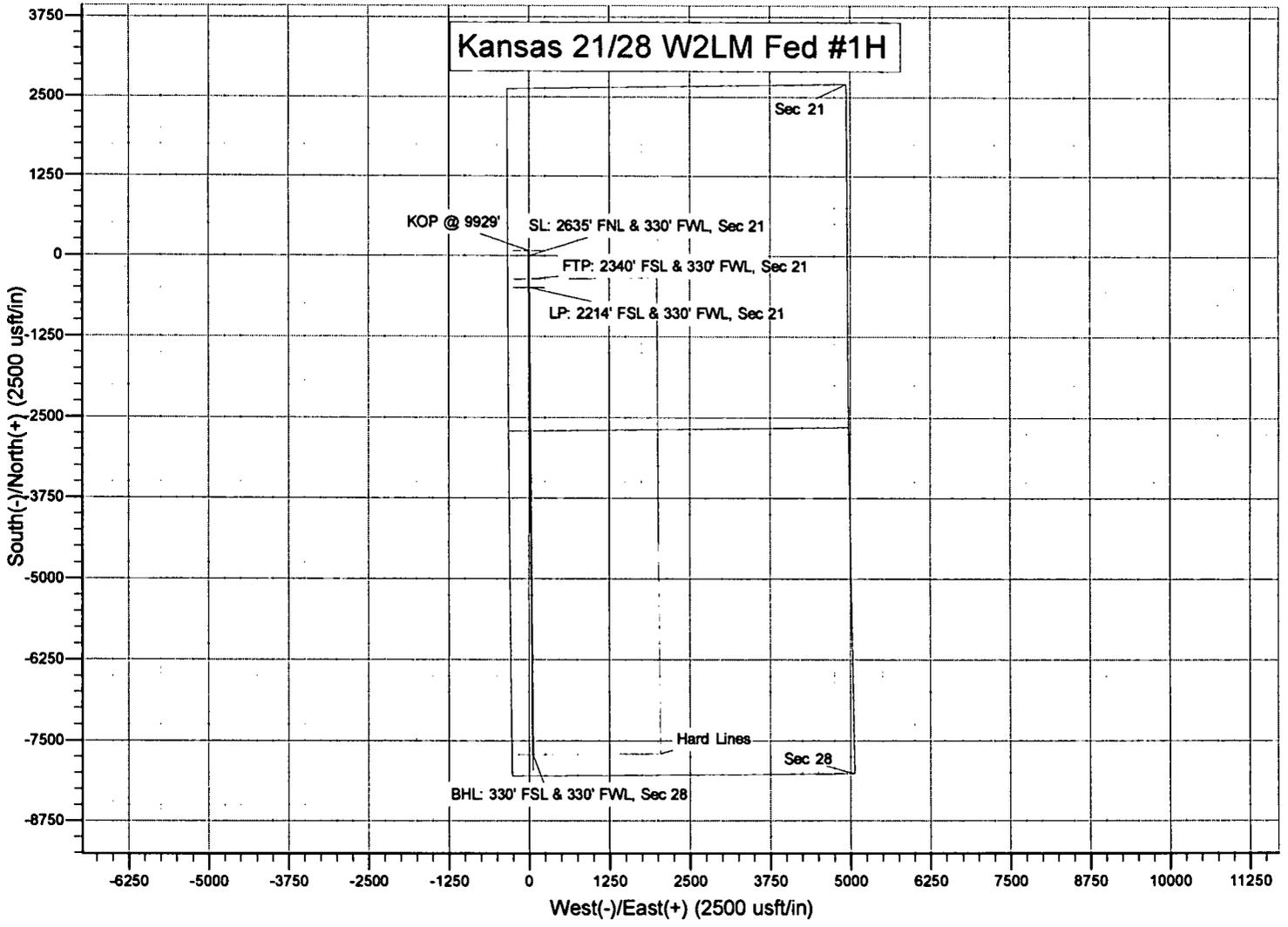
Drill stem testing is not an anticipated requirement for evaluation of this well. If a drill stem test is required, it will be conducted with a minimum number of personnel in the immediate vicinity. The test will be conducted during daylight hours only.

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



Mewbourne Oil Company

Eddy County, New Mexico NAD 83

Kansas 21/28 W2LM Fed #1H

Sec 21, T24S, R28E

SL: 2635' FNL & 330' FWL, Sec 21

BHL: 330' FSL & 330' FWL, Sec 28

Plan: Design #1

Standard Planning Report

27 April, 2018

Planning Report

Database: Hobbs
Company: Mewbourne Oil Company
Project: Eddy County, New Mexico NAD 83
Site: Kansas 21/28 W2LM Fed #1H
Well: Sec 21, T24S, R28E
Wellbore: BHL: 330' FSL & 330' FWL, Sec 28
Design: Design #1

Local Co-ordinate Reference: Site Kansas 21/28 W2LM Fed #1H
TVD Reference: WELL @ 3058.0usft (Original Well Elev)
MD Reference: WELL @ 3058.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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

Site	Kansas 21/28 W2LM Fed #1H				
Site Position:		Northing:	437,785.00 usft	Latitude:	32.2033330
From:	Map	Easting:	613,465.00 usft	Longitude:	-104.1001392
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.12 °

Well	Sec 21, T24S, R28E					
Well Position	+N/-S	0.0 usft	Northing:	437,785.00 usft	Latitude:	32.2033330
	+E/-W	0.0 usft	Easting:	613,465.00 usft	Longitude:	-104.1001392
Position Uncertainty		0.0 usft	Wellhead Elevation:	3,058.0 usft	Ground Level:	3,031.0 usft

Wellbore	BHL: 330' FSL & 330' FWL, Sec 28				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	4/27/2018	6.98	59.91	47,866

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	179.58	

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	
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,540.8	0.61	359.27	2,540.8	0.2	0.0	1.50	1.50	0.00	359.27	
9,888.6	0.61	359.27	9,888.2	78.8	-1.0	0.00	0.00	0.00	0.00	
9,929.5	0.00	0.00	9,929.0	79.0	-1.0	1.50	-1.50	0.00	180.00	KOP @ 9929'
10,828.9	89.94	179.57	10,502.0	-493.4	3.3	10.00	10.00	0.00	179.57	
18,057.7	89.94	179.57	10,509.0	-7,722.0	57.0	0.00	0.00	0.00	0.00	BHL: 330' FSL & 330'

Planning Report

Database: Hobbs
 Company: Mewbourne Oil Company
 Project: Eddy County, New Mexico NAD 83
 Site: Kansas 21/28 W2LM Fed #1H
 Well: Sec 21, T24S, R28E
 Wellbore: BHL: 330' FSL & 330' FWL, Sec 28
 Design: Design #1

Local Co-ordinate Reference:
 TVD Reference:
 MD Reference:
 North Reference:
 Survey Calculation Method:

Site Kansas 21/28 W2LM Fed #1H
 WELL @ 3058.0usft (Original Well Elev)
 WELL @ 3058.0usft (Original Well Elev)
 Grid
 Minimum Curvature

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	
SL: 2635' FNL & 330' FWL, Sec 21										
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	
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,540.8	0.61	359.27	2,540.8	0.2	0.0	-0.2	1.50	1.50	0.00	
2,600.0	0.61	359.27	2,600.0	0.9	0.0	-0.9	0.00	0.00	0.00	
2,700.0	0.61	359.27	2,700.0	1.9	0.0	-1.9	0.00	0.00	0.00	
2,800.0	0.61	359.27	2,800.0	3.0	0.0	-3.0	0.00	0.00	0.00	
2,900.0	0.61	359.27	2,900.0	4.1	-0.1	-4.1	0.00	0.00	0.00	
3,000.0	0.61	359.27	3,000.0	5.1	-0.1	-5.1	0.00	0.00	0.00	
3,100.0	0.61	359.27	3,100.0	6.2	-0.1	-6.2	0.00	0.00	0.00	
3,200.0	0.61	359.27	3,200.0	7.3	-0.1	-7.3	0.00	0.00	0.00	
3,300.0	0.61	359.27	3,300.0	8.3	-0.1	-8.3	0.00	0.00	0.00	
3,400.0	0.61	359.27	3,400.0	9.4	-0.1	-9.4	0.00	0.00	0.00	
3,500.0	0.61	359.27	3,499.9	10.5	-0.1	-10.5	0.00	0.00	0.00	
3,600.0	0.61	359.27	3,599.9	11.5	-0.1	-11.5	0.00	0.00	0.00	
3,700.0	0.61	359.27	3,699.9	12.6	-0.2	-12.6	0.00	0.00	0.00	
3,800.0	0.61	359.27	3,799.9	13.7	-0.2	-13.7	0.00	0.00	0.00	
3,900.0	0.61	359.27	3,899.9	14.8	-0.2	-14.8	0.00	0.00	0.00	
4,000.0	0.61	359.27	3,999.9	15.8	-0.2	-15.8	0.00	0.00	0.00	
4,100.0	0.61	359.27	4,099.9	16.9	-0.2	-16.9	0.00	0.00	0.00	
4,200.0	0.61	359.27	4,199.9	18.0	-0.2	-18.0	0.00	0.00	0.00	
4,300.0	0.61	359.27	4,299.9	19.0	-0.2	-19.0	0.00	0.00	0.00	
4,400.0	0.61	359.27	4,399.9	20.1	-0.3	-20.1	0.00	0.00	0.00	
4,500.0	0.61	359.27	4,499.9	21.2	-0.3	-21.2	0.00	0.00	0.00	
4,600.0	0.61	359.27	4,599.9	22.2	-0.3	-22.2	0.00	0.00	0.00	
4,700.0	0.61	359.27	4,699.9	23.3	-0.3	-23.3	0.00	0.00	0.00	
4,800.0	0.61	359.27	4,799.9	24.4	-0.3	-24.4	0.00	0.00	0.00	
4,900.0	0.61	359.27	4,899.9	25.4	-0.3	-25.4	0.00	0.00	0.00	
5,000.0	0.61	359.27	4,999.9	26.5	-0.3	-26.5	0.00	0.00	0.00	
5,100.0	0.61	359.27	5,099.9	27.6	-0.3	-27.6	0.00	0.00	0.00	

Planning Report

Database: Hobbs
Company: Mewbourne Oil Company
Project: Eddy County, New Mexico NAD 83
Site: Kansas 21/28 W2LM Fed #1H
Well: Sec 21, T24S, R28E
Wellbore: BHL: 330' FSL & 330' FWL, Sec 28
Design: Design #1

Local Co-ordinate Reference: Site Kansas 21/28 W2LM Fed #1H
TVD Reference: WELL @ 3058.0usft (Original Well Elev)
MD Reference: WELL @ 3058.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,200.0	0.61	359.27	5,199.8	28.7	-0.4	-28.7	0.00	0.00	0.00
5,300.0	0.61	359.27	5,299.8	29.7	-0.4	-29.7	0.00	0.00	0.00
5,400.0	0.61	359.27	5,399.8	30.8	-0.4	-30.8	0.00	0.00	0.00
5,500.0	0.61	359.27	5,499.8	31.9	-0.4	-31.9	0.00	0.00	0.00
5,600.0	0.61	359.27	5,599.8	32.9	-0.4	-32.9	0.00	0.00	0.00
5,700.0	0.61	359.27	5,699.8	34.0	-0.4	-34.0	0.00	0.00	0.00
5,800.0	0.61	359.27	5,799.8	35.1	-0.4	-35.1	0.00	0.00	0.00
5,900.0	0.61	359.27	5,899.8	36.1	-0.5	-36.1	0.00	0.00	0.00
6,000.0	0.61	359.27	5,999.8	37.2	-0.5	-37.2	0.00	0.00	0.00
6,100.0	0.61	359.27	6,099.8	38.3	-0.5	-38.3	0.00	0.00	0.00
6,200.0	0.61	359.27	6,199.8	39.3	-0.5	-39.3	0.00	0.00	0.00
6,300.0	0.61	359.27	6,299.8	40.4	-0.5	-40.4	0.00	0.00	0.00
6,400.0	0.61	359.27	6,399.8	41.5	-0.5	-41.5	0.00	0.00	0.00
6,500.0	0.61	359.27	6,499.8	42.6	-0.5	-42.6	0.00	0.00	0.00
6,600.0	0.61	359.27	6,599.8	43.6	-0.6	-43.6	0.00	0.00	0.00
6,700.0	0.61	359.27	6,699.8	44.7	-0.6	-44.7	0.00	0.00	0.00
6,800.0	0.61	359.27	6,799.8	45.8	-0.6	-45.8	0.00	0.00	0.00
6,900.0	0.61	359.27	6,899.7	46.8	-0.6	-46.8	0.00	0.00	0.00
7,000.0	0.61	359.27	6,999.7	47.9	-0.6	-47.9	0.00	0.00	0.00
7,100.0	0.61	359.27	7,099.7	49.0	-0.6	-49.0	0.00	0.00	0.00
7,200.0	0.61	359.27	7,199.7	50.0	-0.6	-50.0	0.00	0.00	0.00
7,300.0	0.61	359.27	7,299.7	51.1	-0.6	-51.1	0.00	0.00	0.00
7,400.0	0.61	359.27	7,399.7	52.2	-0.7	-52.2	0.00	0.00	0.00
7,500.0	0.61	359.27	7,499.7	53.2	-0.7	-53.2	0.00	0.00	0.00
7,600.0	0.61	359.27	7,599.7	54.3	-0.7	-54.3	0.00	0.00	0.00
7,700.0	0.61	359.27	7,699.7	55.4	-0.7	-55.4	0.00	0.00	0.00
7,800.0	0.61	359.27	7,799.7	56.4	-0.7	-56.5	0.00	0.00	0.00
7,900.0	0.61	359.27	7,899.7	57.5	-0.7	-57.5	0.00	0.00	0.00
8,000.0	0.61	359.27	7,999.7	58.6	-0.7	-58.6	0.00	0.00	0.00
8,100.0	0.61	359.27	8,099.7	59.7	-0.8	-59.7	0.00	0.00	0.00
8,200.0	0.61	359.27	8,199.7	60.7	-0.8	-60.7	0.00	0.00	0.00
8,300.0	0.61	359.27	8,299.7	61.8	-0.8	-61.8	0.00	0.00	0.00
8,400.0	0.61	359.27	8,399.7	62.9	-0.8	-62.9	0.00	0.00	0.00
8,500.0	0.61	359.27	8,499.7	63.9	-0.8	-63.9	0.00	0.00	0.00
8,600.0	0.61	359.27	8,599.7	65.0	-0.8	-65.0	0.00	0.00	0.00
8,700.0	0.61	359.27	8,699.6	66.1	-0.8	-66.1	0.00	0.00	0.00
8,800.0	0.61	359.27	8,799.6	67.1	-0.8	-67.1	0.00	0.00	0.00
8,900.0	0.61	359.27	8,899.6	68.2	-0.9	-68.2	0.00	0.00	0.00
9,000.0	0.61	359.27	8,999.6	69.3	-0.9	-69.3	0.00	0.00	0.00
9,100.0	0.61	359.27	9,099.6	70.3	-0.9	-70.4	0.00	0.00	0.00
9,200.0	0.61	359.27	9,199.6	71.4	-0.9	-71.4	0.00	0.00	0.00
9,300.0	0.61	359.27	9,299.6	72.5	-0.9	-72.5	0.00	0.00	0.00
9,400.0	0.61	359.27	9,399.6	73.6	-0.9	-73.6	0.00	0.00	0.00
9,500.0	0.61	359.27	9,499.6	74.6	-0.9	-74.6	0.00	0.00	0.00
9,600.0	0.61	359.27	9,599.6	75.7	-1.0	-75.7	0.00	0.00	0.00
9,700.0	0.61	359.27	9,699.6	76.8	-1.0	-76.8	0.00	0.00	0.00
9,800.0	0.61	359.27	9,799.6	77.8	-1.0	-77.8	0.00	0.00	0.00
9,888.6	0.61	359.27	9,888.2	78.8	-1.0	-78.8	0.00	0.00	0.00
9,900.0	0.44	359.27	9,899.6	78.9	-1.0	-78.9	1.50	-1.50	0.00
9,929.5	0.00	0.00	9,929.0	79.0	-1.0	-79.0	1.50	-1.50	0.00
KOP @ 9929'									
10,000.0	7.05	179.57	9,999.4	74.7	-1.0	-74.7	10.00	10.00	0.00
10,100.0	17.05	179.57	10,097.1	53.8	-0.8	-53.8	10.00	10.00	0.00

Planning Report

Database: Hobbs
 Company: Mewbourne Oil Company
 Project: Eddy County, New Mexico NAD 83
 Site: Kansas 21/28 W2LM Fed #1H
 Well: Sec 21, T24S, R28E
 Wellbore: BHL: 330' FSL & 330' FWL, Sec 28
 Design: Design #1

Local Co-ordinate Reference:
 TVD Reference:
 MD Reference:
 North Reference:
 Survey Calculation Method:

Site Kansas 21/28 W2LM Fed #1H
 WELL @ 3058.0usft (Original Well Elev)
 WELL @ 3058.0usft (Original Well Elev)
 Grid
 Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
10,200.0	27.05	179.57	10,189.6	16.3	-0.5	-16.3	10.00	10.00	0.00	
10,300.0	37.05	179.57	10,274.3	-36.7	-0.1	36.7	10.00	10.00	0.00	
10,400.0	47.05	179.57	10,348.4	-103.6	0.4	103.6	10.00	10.00	0.00	
10,500.0	57.05	179.57	10,409.9	-182.3	0.9	182.3	10.00	10.00	0.00	
10,600.0	67.05	179.57	10,456.7	-270.6	1.6	270.6	10.00	10.00	0.00	
10,700.0	77.05	179.57	10,487.4	-365.6	2.3	365.6	10.00	10.00	0.00	
10,701.5	77.20	179.57	10,487.8	-367.0	2.3	367.0	10.00	10.00	0.00	
FTP: 2340' FSL & 330' FWL, Sec 21										
10,800.0	87.05	179.57	10,501.2	-464.5	3.0	464.5	10.00	10.00	0.00	
10,828.9	89.94	179.57	10,502.0	-493.4	3.3	493.4	10.00	10.00	0.00	
LP: 2214' FSL & 330' FWL, Sec 21										
10,900.0	89.94	179.57	10,502.1	-564.5	3.8	564.5	0.00	0.00	0.00	
11,000.0	89.94	179.57	10,502.2	-664.5	4.5	664.5	0.00	0.00	0.00	
11,100.0	89.94	179.57	10,502.3	-764.5	5.3	764.5	0.00	0.00	0.00	
11,200.0	89.94	179.57	10,502.4	-864.5	6.0	864.5	0.00	0.00	0.00	
11,300.0	89.94	179.57	10,502.5	-964.5	6.8	964.5	0.00	0.00	0.00	
11,400.0	89.94	179.57	10,502.6	-1,064.5	7.5	1,064.5	0.00	0.00	0.00	
11,500.0	89.94	179.57	10,502.6	-1,164.5	8.2	1,164.5	0.00	0.00	0.00	
11,600.0	89.94	179.57	10,502.7	-1,264.5	9.0	1,264.5	0.00	0.00	0.00	
11,700.0	89.94	179.57	10,502.8	-1,364.5	9.7	1,364.5	0.00	0.00	0.00	
11,800.0	89.94	179.57	10,502.9	-1,464.5	10.5	1,464.5	0.00	0.00	0.00	
11,900.0	89.94	179.57	10,503.0	-1,564.4	11.2	1,564.5	0.00	0.00	0.00	
12,000.0	89.94	179.57	10,503.1	-1,664.4	12.0	1,664.5	0.00	0.00	0.00	
12,100.0	89.94	179.57	10,503.2	-1,764.4	12.7	1,764.5	0.00	0.00	0.00	
12,200.0	89.94	179.57	10,503.3	-1,864.4	13.4	1,864.5	0.00	0.00	0.00	
12,300.0	89.94	179.57	10,503.4	-1,964.4	14.2	1,964.5	0.00	0.00	0.00	
12,400.0	89.94	179.57	10,503.5	-2,064.4	14.9	2,064.5	0.00	0.00	0.00	
12,500.0	89.94	179.57	10,503.6	-2,164.4	15.7	2,164.5	0.00	0.00	0.00	
12,600.0	89.94	179.57	10,503.7	-2,264.4	16.4	2,264.5	0.00	0.00	0.00	
12,700.0	89.94	179.57	10,503.8	-2,364.4	17.2	2,364.5	0.00	0.00	0.00	
12,800.0	89.94	179.57	10,503.9	-2,464.4	17.9	2,464.5	0.00	0.00	0.00	
12,900.0	89.94	179.57	10,504.0	-2,564.4	18.7	2,564.5	0.00	0.00	0.00	
13,000.0	89.94	179.57	10,504.1	-2,664.4	19.4	2,664.5	0.00	0.00	0.00	
13,100.0	89.94	179.57	10,504.2	-2,764.4	20.1	2,764.5	0.00	0.00	0.00	
13,200.0	89.94	179.57	10,504.3	-2,864.4	20.9	2,864.5	0.00	0.00	0.00	
13,300.0	89.94	179.57	10,504.4	-2,964.4	21.6	2,964.5	0.00	0.00	0.00	
13,400.0	89.94	179.57	10,504.5	-3,064.4	22.4	3,064.5	0.00	0.00	0.00	
13,500.0	89.94	179.57	10,504.6	-3,164.4	23.1	3,164.5	0.00	0.00	0.00	
13,600.0	89.94	179.57	10,504.7	-3,264.4	23.9	3,264.5	0.00	0.00	0.00	
13,700.0	89.94	179.57	10,504.8	-3,364.4	24.6	3,364.5	0.00	0.00	0.00	
13,800.0	89.94	179.57	10,504.9	-3,464.4	25.3	3,464.5	0.00	0.00	0.00	
13,900.0	89.94	179.57	10,505.0	-3,564.4	26.1	3,564.5	0.00	0.00	0.00	
14,000.0	89.94	179.57	10,505.1	-3,664.4	26.8	3,664.5	0.00	0.00	0.00	
14,100.0	89.94	179.57	10,505.2	-3,764.4	27.6	3,764.5	0.00	0.00	0.00	
14,200.0	89.94	179.57	10,505.3	-3,864.4	28.3	3,864.5	0.00	0.00	0.00	
14,300.0	89.94	179.57	10,505.4	-3,964.4	29.1	3,964.5	0.00	0.00	0.00	
14,400.0	89.94	179.57	10,505.5	-4,064.4	29.8	4,064.5	0.00	0.00	0.00	
14,500.0	89.94	179.57	10,505.6	-4,164.4	30.5	4,164.5	0.00	0.00	0.00	
14,600.0	89.94	179.57	10,505.7	-4,264.4	31.3	4,264.5	0.00	0.00	0.00	
14,700.0	89.94	179.57	10,505.7	-4,364.4	32.0	4,364.5	0.00	0.00	0.00	
14,800.0	89.94	179.57	10,505.8	-4,464.4	32.8	4,464.5	0.00	0.00	0.00	
14,900.0	89.94	179.57	10,505.9	-4,564.4	33.5	4,564.5	0.00	0.00	0.00	
15,000.0	89.94	179.57	10,506.0	-4,664.4	34.3	4,664.5	0.00	0.00	0.00	
15,100.0	89.94	179.57	10,506.1	-4,764.4	35.0	4,764.5	0.00	0.00	0.00	

Planning Report

Database: Hobbs
 Company: Mewbourne Oil Company
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 Site: Kansas 21/28 W2LM Fed #1H
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 Wellbore: BHL: 330' FSL & 330' FWL, Sec 28
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 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
15,200.0	89.94	179.57	10,506.2	-4,864.4	35.8	4,864.5	0.00	0.00	0.00
15,300.0	89.94	179.57	10,506.3	-4,964.4	36.5	4,964.5	0.00	0.00	0.00
15,400.0	89.94	179.57	10,506.4	-5,064.4	37.2	5,064.5	0.00	0.00	0.00
15,500.0	89.94	179.57	10,506.5	-5,164.3	38.0	5,164.5	0.00	0.00	0.00
15,600.0	89.94	179.57	10,506.6	-5,264.3	38.7	5,264.5	0.00	0.00	0.00
15,700.0	89.94	179.57	10,506.7	-5,364.3	39.5	5,364.5	0.00	0.00	0.00
15,800.0	89.94	179.57	10,506.8	-5,464.3	40.2	5,464.5	0.00	0.00	0.00
15,900.0	89.94	179.57	10,506.9	-5,564.3	41.0	5,564.5	0.00	0.00	0.00
16,000.0	89.94	179.57	10,507.0	-5,664.3	41.7	5,664.5	0.00	0.00	0.00
16,100.0	89.94	179.57	10,507.1	-5,764.3	42.4	5,764.5	0.00	0.00	0.00
16,200.0	89.94	179.57	10,507.2	-5,864.3	43.2	5,864.5	0.00	0.00	0.00
16,300.0	89.94	179.57	10,507.3	-5,964.3	43.9	5,964.5	0.00	0.00	0.00
16,400.0	89.94	179.57	10,507.4	-6,064.3	44.7	6,064.5	0.00	0.00	0.00
16,500.0	89.94	179.57	10,507.5	-6,164.3	45.4	6,164.5	0.00	0.00	0.00
16,600.0	89.94	179.57	10,507.6	-6,264.3	46.2	6,264.5	0.00	0.00	0.00
16,700.0	89.94	179.57	10,507.7	-6,364.3	46.9	6,364.5	0.00	0.00	0.00
16,800.0	89.94	179.57	10,507.8	-6,464.3	47.6	6,464.5	0.00	0.00	0.00
16,900.0	89.94	179.57	10,507.9	-6,564.3	48.4	6,564.5	0.00	0.00	0.00
17,000.0	89.94	179.57	10,508.0	-6,664.3	49.1	6,664.5	0.00	0.00	0.00
17,100.0	89.94	179.57	10,508.1	-6,764.3	49.9	6,764.5	0.00	0.00	0.00
17,200.0	89.94	179.57	10,508.2	-6,864.3	50.6	6,864.5	0.00	0.00	0.00
17,300.0	89.94	179.57	10,508.3	-6,964.3	51.4	6,964.5	0.00	0.00	0.00
17,400.0	89.94	179.57	10,508.4	-7,064.3	52.1	7,064.5	0.00	0.00	0.00
17,500.0	89.94	179.57	10,508.5	-7,164.3	52.9	7,164.5	0.00	0.00	0.00
17,600.0	89.94	179.57	10,508.6	-7,264.3	53.6	7,264.5	0.00	0.00	0.00
17,700.0	89.94	179.57	10,508.7	-7,364.3	54.3	7,364.5	0.00	0.00	0.00
17,800.0	89.94	179.57	10,508.8	-7,464.3	55.1	7,464.5	0.00	0.00	0.00
17,900.0	89.94	179.57	10,508.8	-7,564.3	55.8	7,564.5	0.00	0.00	0.00
18,000.0	89.94	179.57	10,508.9	-7,664.3	56.6	7,664.5	0.00	0.00	0.00
18,057.7	89.94	179.57	10,509.0	-7,722.0	57.0	7,722.2	0.00	0.00	0.00

BHL: 330' FSL & 330' FWL, Sec 28

Planning Report

Database: Hobbs
Company: Mewbourne Oil Company
Project: Eddy County, New Mexico NAD 83
Site: Kansas 21/28 W2LM Fed #1H
Well: Sec 21, T24S, R28E
Wellbore: BHL: 330' FSL & 330' FWL, Sec 28
Design: Design #1

Local Co-ordinate Reference: Site Kansas 21/28 W2LM Fed #1H
TVD Reference: WELL @ 3058.0usft (Original Well Elev)
MD Reference: WELL @ 3058.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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
SL: 2635' FNL & 330' FV - plan hits target center - Point	0.00	0.00	0.0	0.0	0.0	437,785.00	613,465.00	32.2033330	-104.1001392
KOP @ 9929' - plan hits target center - Point	0.00	0.00	9,929.0	79.0	-1.0	437,864.00	613,464.00	32.2035502	-104.1001419
FTP: 2340' FSL & 330' F - plan hits target center - Point	0.00	0.00	10,487.8	-367.0	2.3	437,418.00	613,467.32	32.2023242	-104.1001343
LP: 2214' FSL & 330' FV - plan hits target center - Point	0.00	0.00	10,502.0	-493.4	3.3	437,291.60	613,468.30	32.2019767	-104.1001320
BHL: 330' FSL & 330' Fv - plan hits target center - Point	0.00	0.00	10,509.0	-7,722.0	57.0	430,063.00	613,522.00	32.1821057	-104.1000091

Mewbourne Oil Company, Kansas 21/28 W2LM Fed #1H
Sec 21, T24S, R28E
SL: 2635' FSL & 330' FWL, Sec 21
BHL: 330' FSL & 330' FWL, Sec 28

1. Geologic Formations

TVD of target	10,509'	Pilot hole depth	NA
MD at TD:	18,058'	Deepest expected fresh water:	50'

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface		
Rustler			
Top of Salt			
Castile	1080		
Base of Salt			
Yates			
Capitan			
Lamar	2515	Oil	
Bell Canyon	2545		
Cherry Canyon	3385		
Manzanita Marker	3495		
Brushy Canyon	4610		
Bone Spring	6190	Oil/Gas	
1 st Bone Spring Sand	7090		
2 nd Bone Spring Sand	7950		
3 rd Bone Spring Sand	9000		
Abo			
Wolfcamp	9370	Target Zone	
Devonian			
Ellenburger			
Granite Wash			

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

Mewbourne Oil Company, Kansas 21/28 W2LM Fed #1H
Sec 21, T24S, R28E
SL: 2635' FSL & 330' FWL, Sec 21
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2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
	From	To								
17.5"	0'	425'	13.375"	48	H40	STC	3.48	7.83	15.78	26.52
12.25"	0'	2440'	9.625"	36	J55	LTC	1.59	2.77	5.16	6.42
8.75"	0'	10,630'	7"	26	HCP110	LTC	1.51	1.93	2.35	3.00
6.125"	9930'	18,058'	4.5"	13.5	P110	LTC	1.50	1.75	3.08	3.85
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?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3 rd 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 2 nd 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, Kansas 21/28 W2LM Fed #1H
Sec 21, T24S, R28E
SL: 2635' FSL & 330' FWL, Sec 21
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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 ft ³ /sack	H ₂ O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf.	155	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
Inter.	345	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
Prod. Stg 1	415	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
ECP/DV Tool @ 3495'						
Prod. Stg 2	60	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
Liner	330	11.2	2.97	18	16	Class C + 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.

Casing String	TOC	% Excess
Surface	0'	100%
Intermediate	0'	25%
Production	2240'	25%
Liner	9930'	25%

Mewbourne Oil Company, Kansas 21/28 W2LM Fed #1H
Sec 21, T24S, R28E
SL: 2635' FSL & 330' FWL, Sec 21
BHL: 330' FSL & 330' FWL, Sec 28

4. Pressure Control Equipment

N	Variance: None
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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.
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Mewbourne Oil Company, Kansas 21/28 W2LM Fed #1H
Sec 21, T24S, R28E
SL: 2635' FSL & 330' FWL, Sec 21
BHL: 330' FSL & 330' FWL, Sec 28

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.	
	<ul style="list-style-type: none"> Provide description here: See attached schematic. 	

5. Mud Program

TVD		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	425'	FW Gel	8.6-8.8	28-34	N/C
425'	2440'	Saturated Brine	10.0	28-34	N/C
2440'	9929'	Cut Brine	8.6-9.5	28-34	N/C
9929'	10,509'	OBM	10.0-12.0	30-40	<10cc

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 (9930') 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
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Mewbourne Oil Company, Kansas 21/28 W2LM Fed #1H
Sec 21, T24S, R28E
SL: 2635' FSL & 330' FWL, Sec 21
BHL: 330' FSL & 330' FWL, Sec 28

X	Gamma Ray	9930' (KOP) to TD
	Density	
	CBL	
	Mud log	
	PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	6558 psi
Abnormal Temperature	No

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

Hydrogen Sulfide (H ₂ S) monitors will be installed prior to drilling out the surface shoe. If H ₂ S 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.	
	H ₂ S is present
X	H ₂ S 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, Kansas 21/28 W2LM Fed #1H

Sec 21, T24S, R28E

SL: 2635' FSL & 330' FWL, Sec 21

BHL: 330' FSL & 330' FWL, Sec 28

Directional Plan

Other, describe



APD ID: 10400030164

Submission Date: 05/15/2018

Highlighted data
reflects the most
recent changes

[Show Final Text](#)

Operator Name: MEWBOURNE OIL COMPANY

Well Name: KANSAS 21/28 W2LM FED COM

Well Number: 1H

Well Type: CONVENTIONAL GAS WELL

Well Work Type: Drill

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

Kansas21_28W2LMFedCom1H_existingroadmap_20180510145708.pdf

Existing Road Purpose: ACCESS,FLUID TRANSPORT

Row(s) Exist? NO

ROW ID(s)

ID:

Do the existing roads need to be improved? NO

Existing Road Improvement Description:

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? NO

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

Kansas21_28W2LMFedCom1H_existingwellmap_20180510145731.pdf

Operator Name: MEWBOURNE OIL COMPANY

Well Name: KANSAS 21/28 W2LM FED COM

Well Number: 1H

Existing Wells description:

Section 4 - Location of Existing and/or Proposed Production Facilities

Submit or defer a Proposed Production Facilities plan? SUBMIT

Production Facilities description: a. All permanent, lasting more than 6 months, above ground structures including but not limited to pumpjacks, storage tanks, pipeline risers, meter housing, etc. that are not subject to safety requirements will be painted a non-reflective paint color that blends in with the surrounding landscape. The paint color will be one of the colors from the BLM Standard Environmental Colors chart selected by the BLM authorized officer. b. All proposed production facilities that are located on the well pad will be strategically placed to allow for maximum interim reclamation, recontouring, and revegetation of the well location. c. Production from the proposed well will be located on the East edge of location. d. If any plans change regarding the production facility or other infrastructure (pipeline, electric line, etc.), we will submit a sundry notice or right of way (if applicable) prior to installation of construction. e. An electric line will be applied for through a sundry notice or BLM right of way at a later date.

Production Facilities map:

Kansas21_28W2LMFedCom1H_productionfacilitymap_20180510145745.pdf

Section 5 - Location and Types of Water Supply

Water Source Table

Water source use type: DUST CONTROL,
INTERMEDIATE/PRODUCTION CASING, STIMULATION, SURFACE
CASING

Describe type:

Source latitude: 32.193806

Source datum: NAD83

Water source permit type: WATER WELL

Source land ownership: PRIVATE

Water source transport method: TRUCKING

Source transportation land ownership: COMMERCIAL

Water source volume (barrels): 2152

Source volume (gal): 90384

Water source type: IRRIGATION

Source longitude: -104.04341

Source volume (acre-feet): 0.27737793

Water source use type: DUST CONTROL,
INTERMEDIATE/PRODUCTION CASING, STIMULATION, SURFACE
CASING

Describe type:

Source latitude: 32.193806

Source datum: NAD83

Water source permit type: WATER WELL

Source land ownership: FEDERAL

Water source type: IRRIGATION

Source longitude: -104.04341

Operator Name: MEWBOURNE OIL COMPANY

Well Name: KANSAS 21/28 W2LM FED COM

Well Number: 1H

Water source transport method: TRUCKING

Source transportation land ownership: COMMERCIAL

Water source volume (barrels): 2152

Source volume (acre-feet): 0.27737793

Source volume (gal): 90384

Water source and transportation map:

Kansas21_28W2LMFedCom1H_watersourceandtransmap_20180510145804.pdf

Water source comments: Both sources shown on one map.

New water well? NO

New Water Well Info

Well latitude:

Well Longitude:

Well datum:

Well target aquifer:

Est. depth to top of aquifer(ft):

Est thickness of aquifer:

Aquifer comments:

Aquifer documentation:

Well depth (ft):

Well casing type:

Well casing outside diameter (in.):

Well casing inside diameter (in.):

New water well casing?

Used casing source:

Drilling method:

Drill material:

Grout material:

Grout depth:

Casing length (ft.):

Casing top depth (ft.):

Well Production type:

Completion Method:

Water well additional information:

State appropriation permit:

Additional information attachment:

Section 6 - Construction Materials

Construction Materials description: Caliche

Construction Materials source location attachment:

Kansas21_28W2LMFedCom1H_calichesourceandtransmap_20180510145817.pdf

Operator Name: MEWBOURNE OIL COMPANY

Well Name: KANSAS 21/28 W2LM FED COM

Well Number: 1H

Section 7 - Methods for Handling Waste

Waste type: SEWAGE

Waste content description: Human waste & grey water

Amount of waste: 1500 gallons

Waste disposal frequency : Weekly

Safe containment description: 2,000 gallon plastic container

Safe containmant attachment:

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

Disposal type description:

Disposal location description: City of Carlsbad Water Treatment facility

Waste type: GARBAGE

Waste content description: Garbage & trash

Amount of waste: 1500 pounds

Waste disposal frequency : One Time Only

Safe containment description: Enclosed trash trailer

Safe containmant attachment:

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

Disposal type description:

Disposal location description: Waste Management facility in Carlsbad.

Waste type: DRILLING

Waste content description: Drill cuttings

Amount of waste: 940 barrels

Waste disposal frequency : One Time Only

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

Safe containmant attachment:

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

Disposal type description:

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

Reserve Pit

Operator Name: MEWBOURNE OIL COMPANY

Well Name: KANSAS 21/28 W2LM FED COM

Well Number: 1H

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit?

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

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

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

Reserve pit liner

Reserve pit liner specifications and installation description

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? NO

Description of cuttings location

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

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

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

WCuttings area liner

Cuttings area liner specifications and installation description

Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: NO

Ancillary Facilities attachment:

Comments:

Section 9 - Well Site Layout

Well Site Layout Diagram:

Kansas21_28W2LMFedCom1H_wellsitelayout_20180510150016.pdf

Comments:

Operator Name: MEWBOURNE OIL COMPANY

Well Name: KANSAS 21/28 W2LM FED COM

Well Number: 1H

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance

Multiple Well Pad Name: KANSAS 21/28 W0LM & W2LM

Multiple Well Pad Number: 2

Recontouring attachment:

Drainage/Erosion control construction: None

Drainage/Erosion control reclamation: None

Well pad proposed disturbance (acres): 5.92	Well pad interim reclamation (acres): 1.53	Well pad long term disturbance (acres): 4.39
Road proposed disturbance (acres): 0	Road interim reclamation (acres): 0	Road long term disturbance (acres): 4.39
Powerline proposed disturbance (acres): 0	Powerline interim reclamation (acres): 0	Powerline long term disturbance (acres): 0
Pipeline proposed disturbance (acres): 0	Pipeline interim reclamation (acres): 0	Pipeline long term disturbance (acres): 0
Other proposed disturbance (acres): 0	Other interim reclamation (acres): 0	Other long term disturbance (acres): 0
Total proposed disturbance: 5.92	Total interim reclamation: 1.53	Total long term disturbance: 8.78

Disturbance Comments: In areas to be heavily disturbed, the top 6 inches of soil material, will be stripped and stockpiled on the perimeter of the well location to keep topsoil viable, and to make redistribution of topsoil more efficient during interim reclamation. Stockpiled topsoil should include vegetative material. Topsoil will be clearly segregated and stored separately from subsoils. Contaminated soil will not be stockpiled, but properly treated and handled prior to topsoil salvaging.

Reconstruction method: The areas planned for interim reclamation will then be recontoured to the original contour if feasible, or if not feasible, to an interim contour that blends with the surrounding topography as much as possible. Where applicable, the fill material of the well pad will be backfilled into the cut to bring the area back to the original contour. The interim cut and fill slopes prior to re-seeding will not be steeper than a 3:1 ratio, unless the adjacent native topography is steeper. Note: Constructed slopes may be much steeper during drilling, but will be recontoured to the above ratios during interim reclamation.

Topsoil redistribution: Topsoil will be evenly respread and aggressively revegetated over the entire disturbed area not needed for all-weather operations including cuts & fills. To seed the area, the proper BLM seed mixture, free of noxious weeds, will be used.

Soil treatment: NA

Existing Vegetation at the well pad: Various brush & grasses

Existing Vegetation at the well pad attachment:

Existing Vegetation Community at the road: Various brush & grasses

Existing Vegetation Community at the road attachment:

Existing Vegetation Community at the pipeline: NA

Existing Vegetation Community at the pipeline attachment:

Existing Vegetation Community at other disturbances: NA

Existing Vegetation Community at other disturbances attachment:

Operator Name: MEWBOURNE OIL COMPANY

Well Name: KANSAS 21/28 W2LM FED COM

Well Number: 1H

Non native seed used? NO

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project? NO

Seedling transplant description attachment:

Will seed be harvested for use in site reclamation? NO

Seed harvest description:

Seed harvest description attachment:

Seed Management

Seed Table

Seed type:

Seed source:

Seed name:

Source name:

Source address:

Source phone:

Seed cultivar:

Seed use location:

PLS pounds per acre:

Proposed seeding season:

Seed Summary

Total pounds/Acre:

Seed Type	Pounds/Acre
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Seed reclamation attachment:

Operator Contact/Responsible Official Contact Info

First Name: Bradley

Last Name: Bishop

Phone: (575)393-5905

Email: bbishop@mewbourne.com

Seedbed prep: Final seedbed preparation will consist of contour cultivating to a depth of 4 to 6 inches within 24 hours prior to seeding, dozer tracking, or other imprinting in order to break the soil crust and create seed germination micro-sites.

Seed BMP: To seed the area, the proper BLM seed mixture, free of noxious weeds, will be used.

Seed method: drilling or broadcasting seed over entire reclaimed area.

Existing invasive species? NO

Operator Name: MEWBOURNE OIL COMPANY

Well Name: KANSAS 21/28 W2LM FED COM

Well Number: 1H

Existing invasive species treatment description:

Existing invasive species treatment attachment:

Weed treatment plan description: NA

Weed treatment plan attachment:

Monitoring plan description: vii. All reclaimed areas will be monitored periodically to ensure that revegetation occurs, that the area is not redisturbed, and that erosion and invasive/noxious weeds are controlled.

Monitoring plan attachment:

Success standards: regrowth within 1 full growing season of reclamation.

Pit closure description: NA

Pit closure attachment:

Section 11 - Surface Ownership

Disturbance type: NEW ACCESS ROAD

Describe:

Surface Owner: PRIVATE OWNERSHIP

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland:

USFS Ranger District:

Operator Name: MEWBOURNE OIL COMPANY

Well Name: KANSAS 21/28 W2LM FED COM

Well Number: 1H

Fee Owner: Pecos Valley Artesian Conservation
District
Phone: (575)622-7000

Fee Owner Address: PO Box 1346 Roswell NM 88202

Email:

Surface use plan certification: NO

Surface use plan certification document:

Surface access agreement or bond: Agreement

Surface Access Agreement Need description: SUA in place

Surface Access Bond BLM or Forest Service:

BLM Surface Access Bond number:

USFS Surface access bond number:

Disturbance type: EXISTING ACCESS ROAD

Describe:

Surface Owner: PRIVATE OWNERSHIP

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland:

USFS Ranger District:

Operator Name: MEWBOURNE OIL COMPANY

Well Name: KANSAS 21/28 W2LM FED COM

Well Number: 1H

Fee Owner: Pecos Valley Artesian Conservation
District
Phone: (575)622-7000

Fee Owner Address: PO Box 1346 Roswell NM 88202

Email:

Surface use plan certification: NO

Surface use plan certification document:

Surface access agreement or bond: Agreement

Surface Access Agreement Need description: SUA in place

Surface Access Bond BLM or Forest Service:

BLM Surface Access Bond number:

USFS Surface access bond number:

Disturbance type: WELL PAD

Describe:

Surface Owner: PRIVATE OWNERSHIP

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland:

USFS Ranger District:

Operator Name: MEWBOURNE OIL COMPANY

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Well Number: 1H

Fee Owner: Pecos Valley Artesian Conservation
District
Phone: (575)622-7000

Fee Owner Address: PO Box 1346 Roswell NM 88202
Email:

Surface use plan certification: NO

Surface use plan certification document:

Surface access agreement or bond: Agreement

Surface Access Agreement Need description: SUA in place

Surface Access Bond BLM or Forest Service:

BLM Surface Access Bond number:

USFS Surface access bond number:

Section 12 - Other Information

Right of Way needed? NO

Use APD as ROW?

ROW Type(s):

ROW Applications

SUPO Additional Information: NONE

Use a previously conducted onsite? YES

Previous Onsite information: APR 06 2018 Met with RRC Surveying & staked location @ 2635' FNL & 330' FWL, Sec 21 T24S R28E, Eddy Co NM. This appears to be a drillable location. Elevation @ 3037'. Kansas 21/28 W0LM Fed #2H staked 30' East, Creedence 21/16 W0ED State Com #2H & Creedence 21/16 W0ED State Com #1H staked 200' North. Requires SUA with Pecos Valley Artesian Conservation District & BLM onsite for approval.

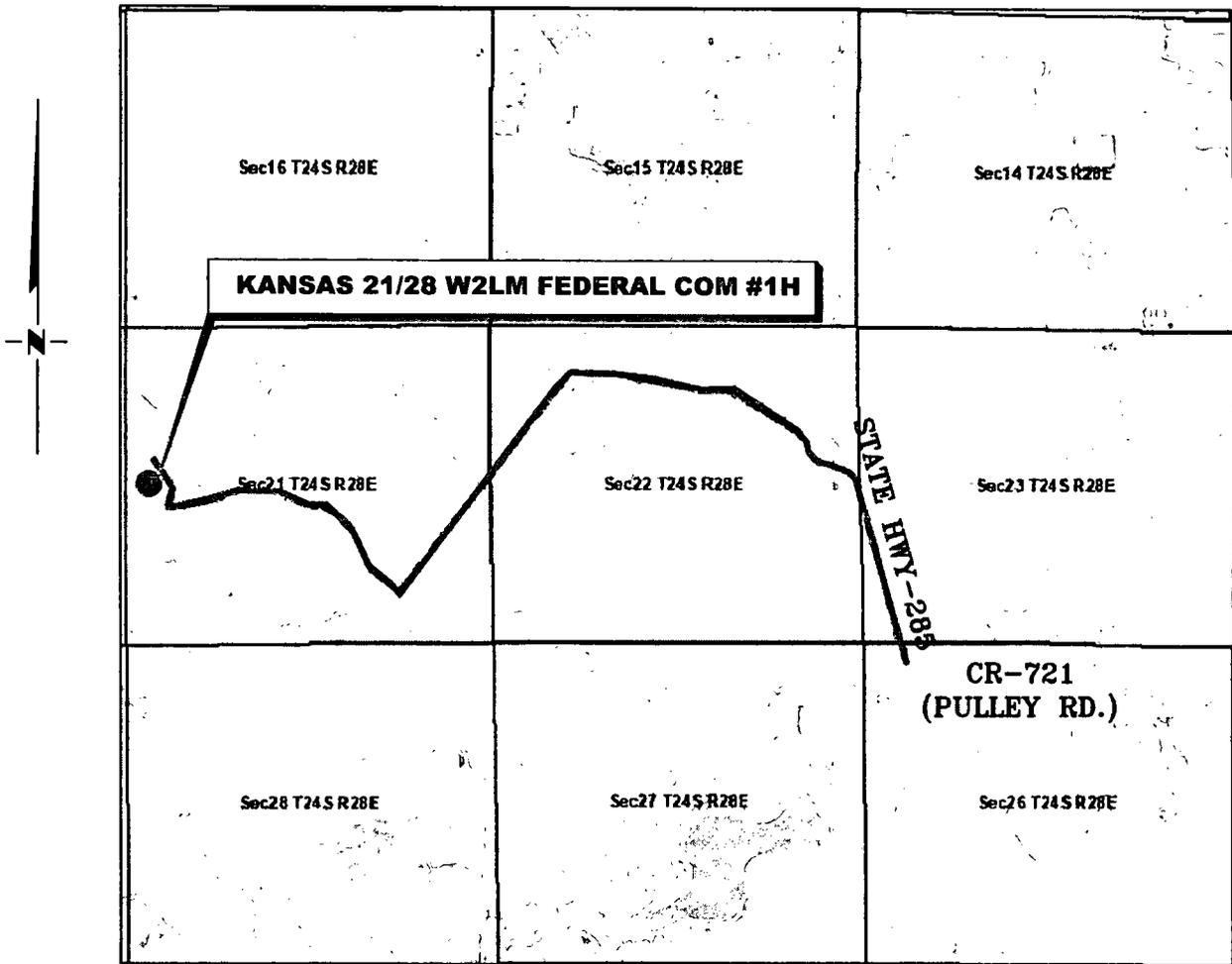
Other SUPO Attachment

Kansas21_28W2LMFedCom1H_interimreclamationdiagram_20180510150208.pdf

Kansas21_28W2LMFedCom1H_gascaptureplan_20180510150238.pdf

VICINITY MAP

NOT TO SCALE



*SECTION 21, TWP. 24 SOUTH, RGE. 28 EAST,
N. M. P. M., EDDY COUNTY, NEW MEXICO*

OPERATOR: Mewbourne Oil Company
 LEASE: Kansas 21/28 W2LM Federal Com
 WELL NO.: 1H

LOCATION: 2635' FNL & 330' FWL
 ELEVATION: 3031'

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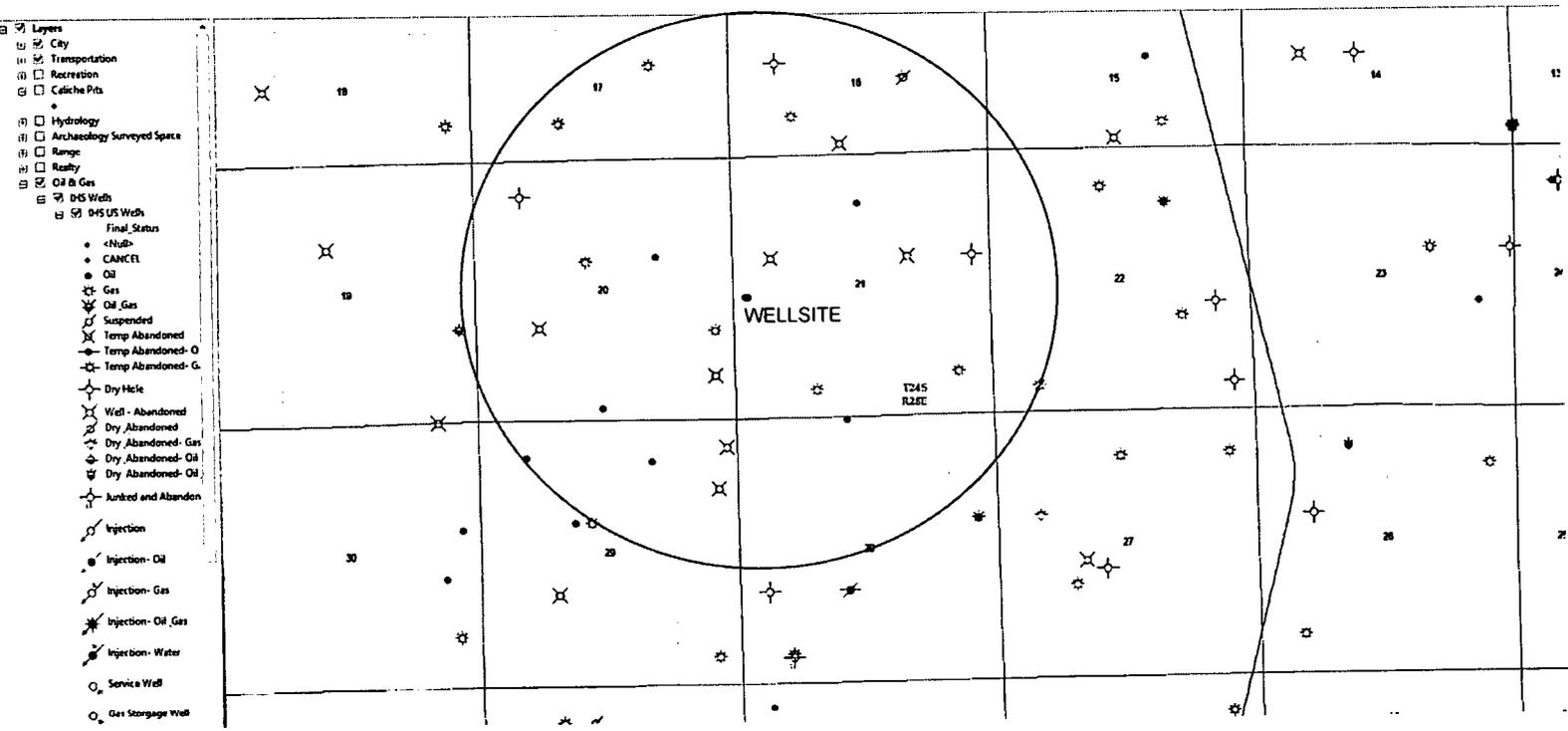
NO.	REVISION	DATE
JOB NO.: LS1804445		
DWG. NO.: 1804445VM		

RRC

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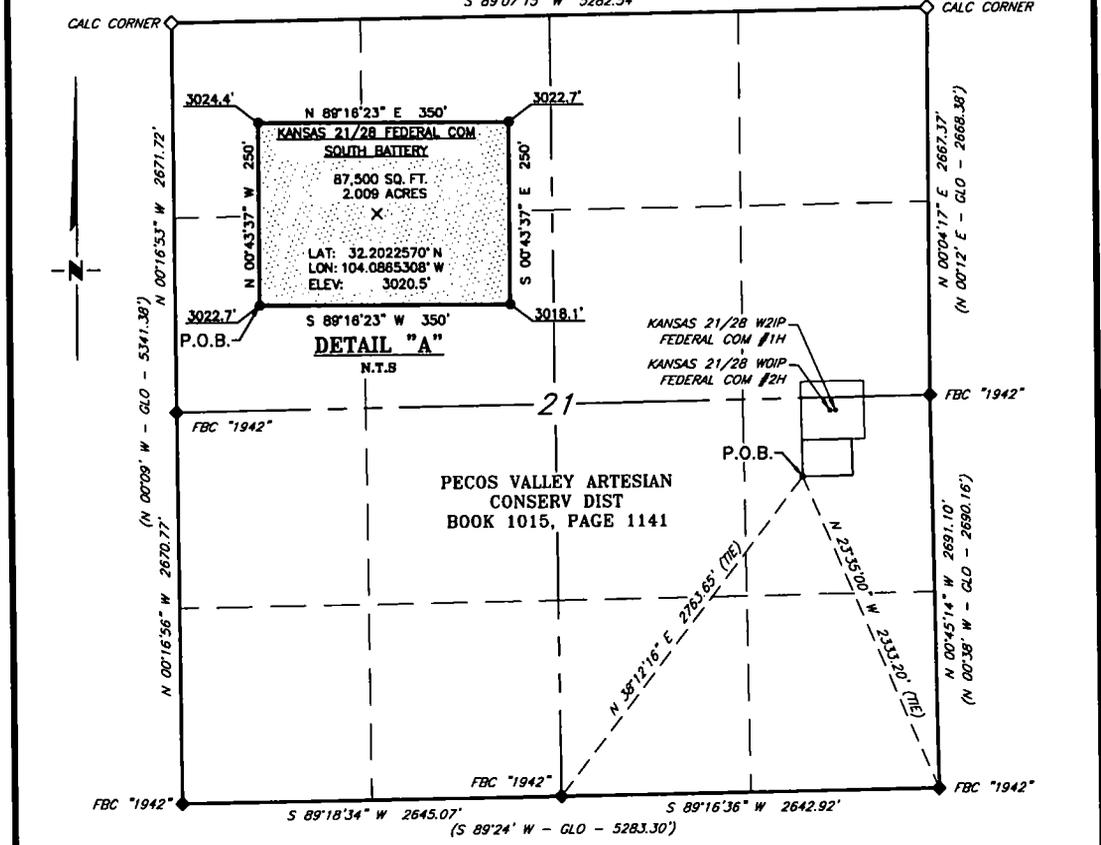
SCALE: N. T. S.
DATE: 4-05-2018
SURVEYED BY: ML/TF
DRAWN BY: LPS
APPROVED BY: RMH
SHEET: 1 OF 1

EXISTING WELL MAP KANSAS 21/28 W2LM FEDERAL COM WELL #1H



MEWBOURNE OIL COMPANY
SURVEY FOR THE PROPOSED KANSAS 21/28 FEDERAL COM
WELL LOCATIONS SOUTH BATTERY
SECTION 21, T24S, R28E
N. M. P. M., EDDY COUNTY, NEW MEXICO

(S 89°19' W - GLO - 5280.66')
 S 89°07'15" W 5282.54'



DESCRIPTION

A tract of land situated within the Southeast quarter of Section 21, Township 24 South, Range 28 East, N. M. P. M., Eddy County, New Mexico, across the lands of Pecos Valley Artesian Conserv. Dist., according to a deed filed for record in Book 1015, Page 1141, of the Deed Records of Eddy County, New Mexico, and being more particularly described by metes and bounds as follows:

BEGINNING at a point, which bears, N 38°12'16" E, 2,763.65 feet from a brass cap, stamped "1942", found for the South quarter corner of Section 21, and bears, N 23°35'00" W, 2,333.20 feet from a brass cap, stamped "1942", found for the Southeast corner of Section 21;

Thence N 00°43'37" W, 250 feet, to a point;

Thence N 89°16'23" E, 350 feet, to a point;

Thence S 00°43'37" E, 250 feet, to a point;

Thence S 89°16'23" W, 350 feet, to the Point of Beginning.

Said tract of land contains 87,500 square feet or 2.009 acres, more or less, and is allocated by forties as:

SCALE: 1" = 1000' NE 1/4 SE 1/4 87,500 Sq. Ft. 2.009 Acres

BEARINGS ARE GRID MAG 83
 NAD 83
 DISTANCES ARE HORIZ. GROUND.

- LEGEND**
- () RECORD DATA - GLO
 - ◆ FOUND MONUMENT AS NOTED
 - P.O.B. POINT OF BEGINNING

I, R. M. Howett, a N. M. Professional Surveyor, hereby certify that I prepared this plat from an actual survey made on the ground under my direct supervision, said survey and plat meet the Min. Stds. for Land Surveying in the State of N. M. and are true and correct to the best of my knowledge and belief.

Robert M. Howett
 Robert M. Howett NM PS 19680



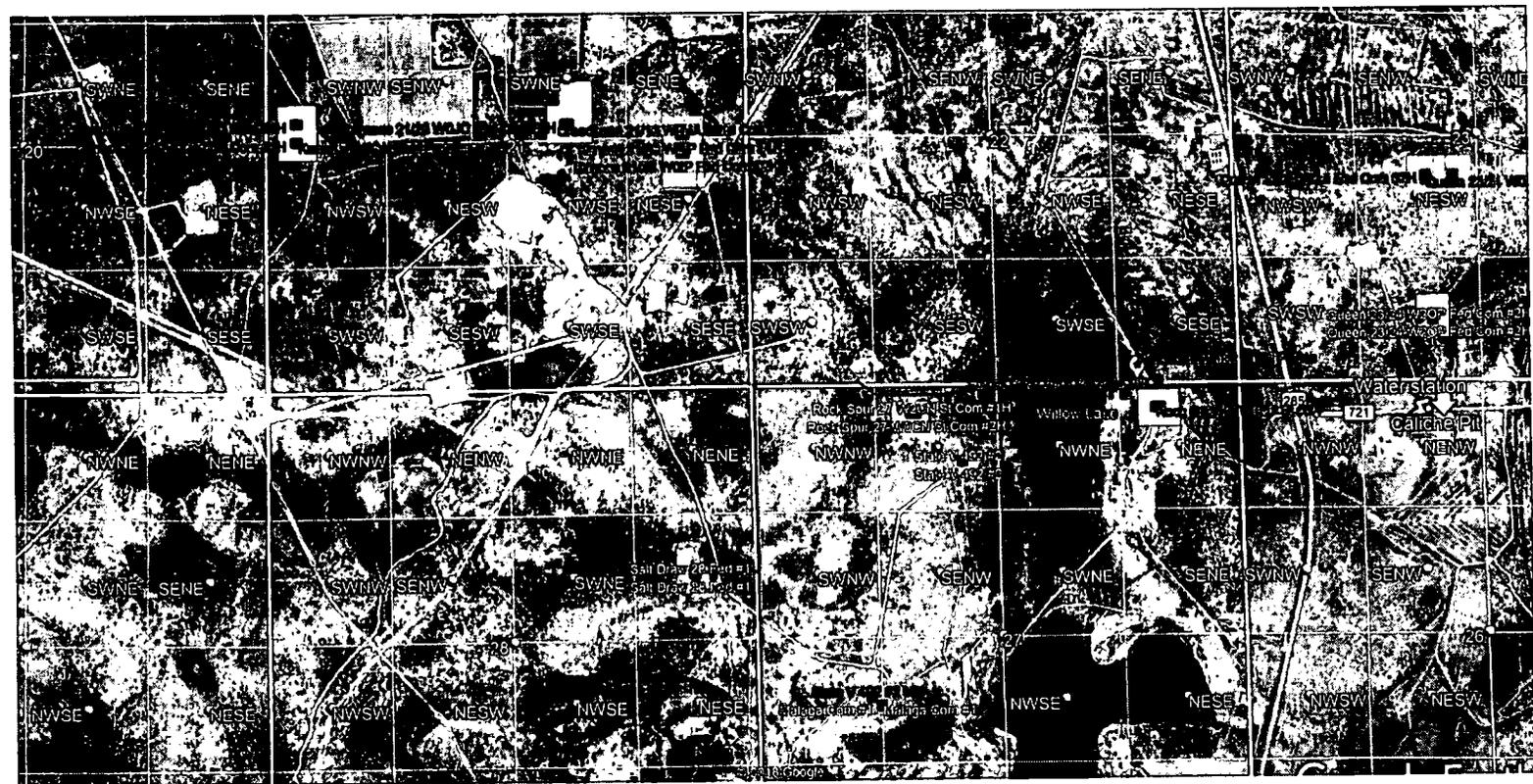
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NO.	REVISION	DATE
JOB NO.: LS1802254		
DWG. NO.: 1802254BT		

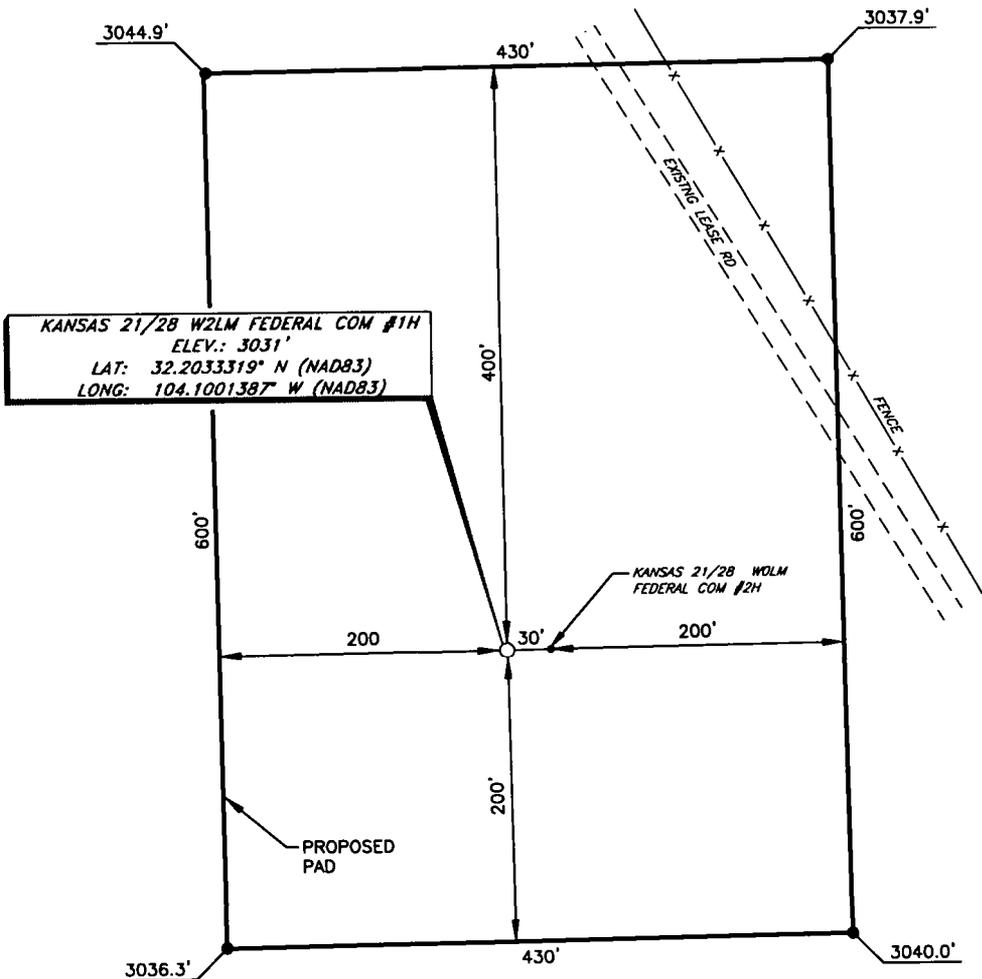


308 W. BROADWAY ST., HOBBS, NM 88240 (575) 964-8200

SCALE: 1" = 1000'
DATE: 02-23-2018
SURVEYED BY: ML/TF
DRAWN BY: AiAC
APPROVED BY: RMH
SHEET: 1 OF 1



MEWBOURNE OIL COMPANY
KANSAS 21/28 W2LM FEDERAL COM #1H
(2635' FNL & 330' FWL)
SECTION 21, T24S, R28E
N. M. P. M., EDDY COUNTY, NEW MEXICO



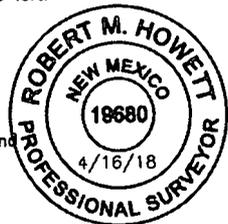
DIRECTIONS TO LOCATION

From the intersection of U.S. Hwy 285 and CR-721 (Pulley Rd.);
 Go North on U.S. Hwy 285 approx. 0.6 miles to a lease road on the left;
 Turn left and go West approx. 0.9 miles to a lease road on the left;
 Turn left and go Southwest approx. 0.8 miles to a lease road on the right;
 Turn right and go Northwest approx. 0.3 miles to a "Y".
 Keep left at "Y" and go West approx. 0.1 miles to a proposed road right;
 Turn right and go Northwest approx. 0.4 miles to a proposed road right;
 Turn right and go North approx. 0.1 miles to a proposed road left;
 Turn left and go Northwest approx. 87 feet to an existing road;
 Continue Northwest on existing road approx. 120 feet to location on the left.



I, R. M. Howett, a N. M. Professional Surveyor, hereby certify that I prepared this unclassified survey of a well location from an actual survey made on the ground under my direct supervision, said survey and plat meet the Min. Stds. for Land Surveying in the State of N. M. and are true and correct to the best of my knowledge and belief.

Robert M. Howett
 Robert M. Howett NM PS 19680



SCALE: 1" = 100'
 0 50 100
 BEARINGS ARE
 NAD 83 GRID - NM EAST
 DISTANCES ARE GROUND

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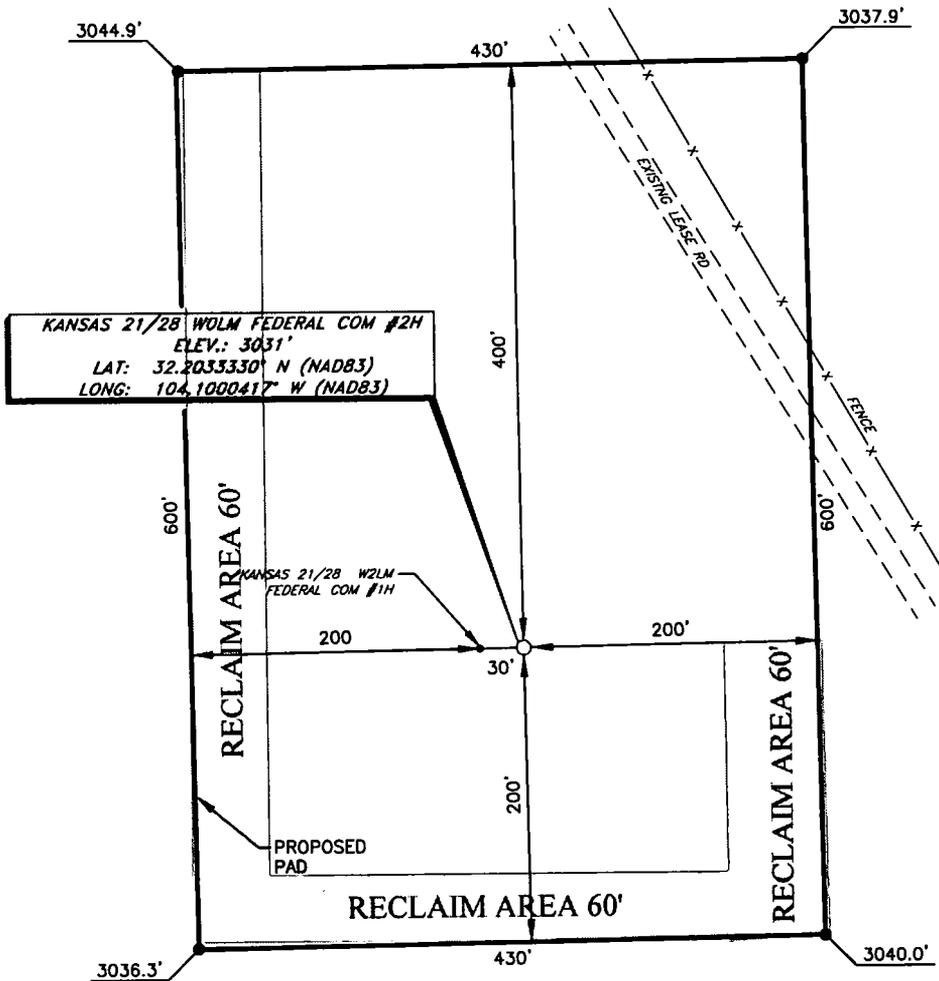
NO.	REVISION	DATE
JOB NO.: LS1804445		
DWG. NO.: 1804445PAD		



308 W. BROADWAY ST., HOBBS, NM 88240 (575) 964-8200

SCALE: 1" = 100'
DATE: 4-05-2018
SURVEYED BY: ML/TF
DRAWN BY: LPS
APPROVED BY: RMH
SHEET: 1 OF 1

**MEWBOURNE OIL COMPANY
KANSAS 21/28 WOLM FEDERAL COM #2H
(2635' FNL & 360' FWL)
SECTION 21, T24S, R28E
N. M. P. M., EDDY COUNTY, NEW MEXICO**



DIRECTIONS TO LOCATION

From the intersection of U.S. Hwy 285 and CR-721 (Pulley Rd.);
Go North on U.S. Hwy 285 approx. 0.6 miles to a lease road on the left;
Turn left and go West approx. 0.9 miles to a lease road on the left;
Turn left and go Southwest approx. 0.8 miles to a lease road on the right;
Turn right and go Northwest approx. 0.3 miles to a "Y".
Keep left at "Y" and go West approx. 0.1 miles to a proposed road right;
Turn right and go Northwest approx. 0.4 miles to a proposed road right;
Turn right and go North approx. 0.1 miles to a proposed road left;
Turn left and go Northwest approx. 87 feet to an existing road;
Continue Northwest on existing road approx. 120 feet to location on the left.



SCALE: 1" = 100'
0 50 100
BEARINGS ARE
NAD 83 GRID - NM EAST
DISTANCES ARE GROUND

I, R. M. Howett, a N. M. Professional Surveyor, hereby certify that I prepared this unclassified survey of a well location from an actual survey made on the ground under my direct supervision, said survey and plat meet the Min. Stds. for Land Surveying in the State of N. M. and are true and correct to the best of my knowledge and belief.

Robert M. Howett
Robert M. Howett NM PS 19680



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NO.	REVISION	DATE
JOB NO.: LS1804444		
DWG. NO.: 1804444PAD		

RRC

308 W. BROADWAY ST., HOBBS, NM 88240 (575) 964-8200

SCALE: 1" = 100'
DATE: 4-05-2018
SURVEYED BY: ML/TF
DRAWN BY: LPS
APPROVED BY: RMH
SHEET: 1 OF 1



Section 1 - General

Would you like to address long-term produced water disposal? NO

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Describe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Lined pit Monitor description:

Lined pit Monitor attachment:

Lined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Describe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

Do you propose to put the produced water to beneficial use?

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

Does the produced water have an annual average Total Dissolved Solids (TDS) concentration equal to or less than that of the existing water to be protected?

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

Unlined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

Section 4 - Injection

Would you like to utilize Injection PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

Injection well number:

Assigned injection well API number?

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection attachment:

Underground Injection Control (UIC) Permit?

UIC Permit attachment:

Injection well name:

Injection well API number:

Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 - Other

Would you like to utilize Other PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Other PWD discharge volume (bbl/day):

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:



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

Bond Info Data Report

02/25/2019

Bond Information

Federal/Indian APD: FED

BLM Bond number: NM1693

BIA Bond number:

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond attachment:

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment: