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DISTRICT II-ARTESIA O.C.D.

Form 3160-3
(June 2015)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMNM036975

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

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

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

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

8. Lease Name and Well No.
KANSAS 21/28 W0LM FED COM 2H
325688

2. Name of Operator
MEWBOURNE OIL COMPANY

9. API Well No.
30-015-46016

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

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

At surface SWNW / 2635 FNL / 360 FWL / LAT 32.2033329 / LONG -104.1000422

At proposed prod. zone SWSW / 330 FSL / 400 FWL / LAT 32.1821053 / LONG -104.0997828

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 21 / T24S / R28E / NMP

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

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
185 feet	920	320

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
1895 feet	9457 feet / 16988 feet	FED: NM1693

21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
3031 feet	08/10/2018	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.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be requested by the BLM.

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	Bradley Bishop / Ph: (575)393-5905	12/07/2016

Title
Regulatory

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575)234-5959	05/17/2019

Title	Office
Assistant Field Manager Lands & Minerals	CARLSBAD

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

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

APPROVED WITH CONDITIONS

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 05/17/2019 RJP 5-22-19

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 I: 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 wen, 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 directionany 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 wen 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 win 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 conects this information to anow 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 Conection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

(Continued on page 3)

Additional Operator Remarks

Location of Well

1. SHL: SWNW / 2635 FNL / 360 FWL / TWSP: 24S / RANGE: 28E / SECTION: 21 / LAT: 32.2033329 / LONG: -104.1000422 (TVD: 27 feet, MD: 27 feet)
   PPP: NWSW / 2341 FSL / 400 FWL / TWSP: 24S / RANGE: 28E / SECTION: 21 / LAT: 32.2023265 / LONG: -104.0999067 (TVD: 9457 feet, MD: 9530 feet)
   BHL: SWSW / 330 FSL / 400 FWL / TWSP: 24S / RANGE: 28E / SECTION: 28 / LAT: 32.1821053 / LONG: -104.0997828 (TVD: 9457 feet, MD: 16988 feet)

BLM Point of Contact

Name: Katrina Ponder

Title: Geologist

Phone: 5752345969

Email: kponder@blm.gov

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.

PECOS DISTRICT DRILLING
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**Mewbourne Oil Company**
LEASE NO.:	**NMNM-36975**
WELL NAME & NO.:	**Kansas 28 W2PA Federal 1H**
SURFACE HOLE FOOTAGE:	**0185' FSL & 0490' FEL**
BOTTOM HOLE FOOTAGE	**0330' FNL & 0440' FEL**
LOCATION:	**Section 28, T. 24 S., R 28 E., NMPM**
COUNTY:	**County, New Mexico**

DRILLING

In the interest of resource development, submission of additional well gas capture development plan information is deferred but may be required by the BLM Authorized Officer at a later date.

A. DRILLING OPERATIONS REQUIREMENTS

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

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

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

1. **Although Hydrogen Sulfide has not been reported in the area, it is always a potential hazard. If Hydrogen Sulfide is encountered, report measured amounts and formations to the BLM.**

2. 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. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a "Major" violation.**

3. 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 is located, this does not include the dog house or stairway area.

4. **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.**

B. CASING

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.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

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.

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.

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

A MINIMUM OF TWO CASING STRINGS CEMENTED TO SURFACE IS REQUIRED IN HIGH CAVE/KARST AREAS. THE CEMENT MUST BE IN A SOLID SHEATH. THEREFORE, ONE INCH OPERATIONS ARE NOT SUFFICIENT TO PROTECT CAVE KARST RESOURCES. A CASING DESIGN THAT HAS A ONE INCH JOB PERFORMED DOES NOT COUNT AS A SOLID SHEATH. IF THE PRIMARY CEMENT JOB ON THE SURFACE CASING DOES NOT CIRCULATE, THEN THE NEXT TWO CASING STRINGS MUST BE CEMENTED TO SURFACE.

1. The **13-3/8** inch surface casing shall be set at approximately **420** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. **If salt is encountered, set casing at least 25 feet above the salt.**

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

    b. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.**

    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. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst. Excess calculates to 24% - Additional cement may be required.**

Formation below the 9-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to

prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

Centralizers required through the curve and a minimum of one every other joint.

7'' casing shall be kept fluid filled while running into hole to meet BLM minimum collapse requirements.

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

   ☐ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification.

Formation below the 7" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe and the mud weight for the bottom of the hole. Report results to BLM office.

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

   ☐ Cement as proposed. Operator shall provide method of verification.

5. 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.

C. 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 53.

2. Variance approved to use flex line from BOP to choke manifold. 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.** If the BLM inspector questions the

straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be psi.

    a. **For surface casing only:** If the BOP/BOPE is to be tested against casing, the wait on cement (WOC) time for that casing is to be met (see WOC statement at start of casing section). Independent service company required.

4. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9-5/8** intermediate casing shoe shall be psi. **5M 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.**

5. The appropriate BLM office shall be notified a minimum of 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).

    a. 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).

    b. 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.

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

d. 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.**

e. 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.

f. 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.

D. 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.

E. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

F. 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.

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

Operator Certification Data Report

05/20/2019

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:** 11/17/2016

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:

AFMSS

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

Application Data Report

05/20/2019

APD ID: 10400008156

Submission Date: 12/07/2016

Operator Name: MEWBOURNE OIL COMPANY

Well Name: KANSAS 21/28 W0LM FED COM

Well Number: 2H

Well Type: CONVENTIONAL GAS WELL

Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - General

APD ID: 10400008156

Tie to previous NOS?

Submission Date: 12/07/2016

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_28W0LMFedCom2H_operatorletterofdesignation_20180510141556.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 W0LM FED COM

Well Number: 2H

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 W0LM FED COM **Well Number:** 2H

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 W0LM & 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_28W0LMFedCom2H_wellplat_20180510141755.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	2635	FNL	360	FWL	24S	28E	21	Aliquot SWNW	32.2033329	-104.1000422	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 036975	3031	27	27
KOP Leg #1	2635	FNL	400	FWL	24S	28E	21	Aliquot SWNW	32.2033326	-104.0999129	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 036975	-5962	8993	8993
PPP Leg #1	2341	FSL	400	FWL	24S	28E	21	Aliquot NWSW	32.2023265	-104.0999067	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 036975	-6426	9530	9457

Operator Name: MEWBOURNE OIL COMPANY

Well Name: KANSAS 21/28 W0LM FED COM **Well Number:** 2H

	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	400	FWL	24S	28E	28	Aliquot SWSW	32.1821053	-104.0997828	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 036975	-6426	16988	9457
BHL Leg #1	330	FSL	400	FWL	24S	28E	28	Aliquot SWSW	32.1821053	-104.0997828	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 036975	-6426	16988	9457

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 & 360 FWL
Formation (if applicable):	Wolfcamp
Bond Coverage:	$150,000
BLM Bond File:	NM1693 nationwide, NMB000919

Authorized Signature: Bradley C Bishop

Name: Bradley Bishop
Title: Regulatory Manager

Date: 5-8-18

AFMSS

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

Drilling Plan Data Report

05/20/2019

APD ID: 10400008156

Submission Date: 12/07/2016

Highlighted data reflects the most recent changes

Show Final Text

Operator Name: MEWBOURNE OIL COMPANY

Well Name: KANSAS 21/28 W0LM FED COM

Well Number: 2H

Well Type: CONVENTIONAL GAS WELL

Well Work Type: Drill

Section 1 - Geologic Formations

ormation 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

ressure Rating (PSI): 5M

Rating Depth: 16988

quipment: Annular, Pipe Ram, Blind Ram

equesting Variance? YES

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

esting Procedure: BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure ndicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the

Operator Name: MEWBOURNE OIL COMPANY

Well Name: KANSAS 21/28 W0LM FED COM **Well Number:** 2H

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

Choke Diagram Attachment:

Kansas_21_28_W0LM_Fed_2H_5M_BOPE_Choke_Diagram_20180427151850.pdf

Kansas_21_28_W0LM_Fed_2H_Flex_Line_Specs_20180427151851.pdf

BOP Diagram Attachment:

Kansas_21_28_W0LM_Fed_2H_5M_BOPE_Schematic_20180427151907.pdf

Kansas_21_28_W0LM_Fed_2H_Multi_Bowl_WH_20180427151908.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	9580	0	9443	3058		9580	P-110	26	LTC	1.67	2.13	DRY	2.62	DRY	3.33
4	LINER	6.125	4.5	NEW	API	N	8993	16988	8993	9470			7995	P-110	13.5	LTC	1.81	2.1	DRY	3.13	DRY	3.91

Casing Attachments

Operator Name: MEWBOURNE OIL COMPANY

Well Name: KANSAS 21/28 W0LM FED COM **Well Number:** 2H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Kansas_21_28_W0LM_Fed_2H_Csg_Assumptions_20180427151953.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Kansas_21_28_W0LM_Fed_2H_Csg_Assumptions_20180427152021.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Kansas_21_28_W0LM_Fed_2H_Csg_Assumptions_20180427152032.pdf

Operator Name: MEWBOURNE OIL COMPANY

Well Name: KANSAS 21/28 W0LM FED COM **Well Number:** 2H

Casing Attachments

Casing ID: 4 **String Type:** LINER

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Kansas_21_28_W0LM_Fed_2H_Csg_Assumptions_20180427152108.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
NTERMEDIATE	Lead		0	1800	345	2.12	12.5	731	25	Class C	Salt, Gel, Extender, LCM
NTERMEDIATE	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	7083	320	2.12	12.5	678	25	Class C	Gel, Retarder, Defoamer, Extender
PRODUCTION	Tail		7083	9580	400	1.18	15.6	472	25	Class H	Retarder, Fluid Loss, Defoamer
LINER	Lead		8993	16988	320	2.97	11.2	678	25	Class C	Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti-Settling Agent

Operator Name: MEWBOURNE OIL COMPANY

Well Name: KANSAS 21/28 W0LM FED COM **Well Number:** 2H

Section 5 - Circulating Medium

lud System Type: Closed

Vill an air or gas system be Used? NO

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

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

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

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

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	425	SPUD MUD	8.6	8.8							
425	2440	SALT SATURATED	10	10							
2440	8993	WATER-BASED MUD	8.6	9.7							
8993	9470	OIL-BASED MUD	10	12							

Section 6 - Test, Logging, Coring

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

Vill run GR/CNL from KOP (8993') to surface

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

:NL,DS,GR,MWD,MUDLOG

:oring operation description for the well:

lone

Operator Name: MEWBOURNE OIL COMPANY

Well Name: KANSAS 21/28 W0LM FED COM **Well Number:** 2H

Section 7 - Pressure

nticipated Bottom Hole Pressure: 5909 **Anticipated Surface Pressure:** 3828.46

nticipated Bottom Hole Temperature(F): 165

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

escribe:

ontingency Plans geoharzards description:

ontingency Plans geohazards attachment:

ydrogen Sulfide drilling operations plan required? YES

ydrogen sulfide drilling operations plan:

Kansas_21_28_W0LM_Fed_2H_H2S_Plan_20180427152317.pdf

Section 8 - Other Information

roposed horizontal/directional/multi-lateral plan submission:

Kansas_21_28_W0LM_Fed_2H_Dir_Plot_20180427152337.pdf

Kansas_21_28_W0LM_Fed_2H_Dir_Plan_20180427152338.pdf

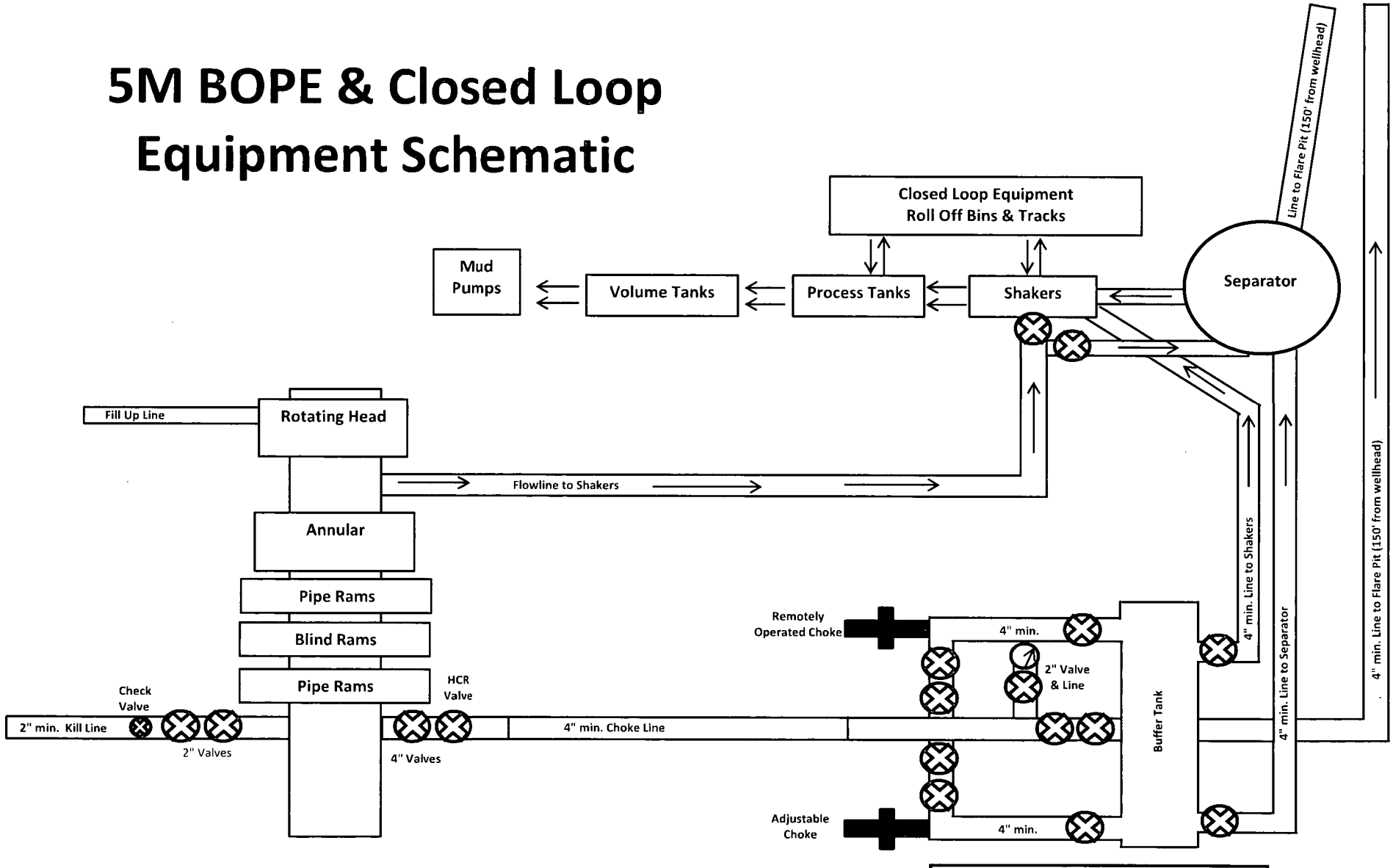
ther proposed operations facets description:

ther proposed operations facets attachment:

Kansas_21_28_W0LM_Fed_2H_Drlg_Program_20180427152351.doc

ther 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

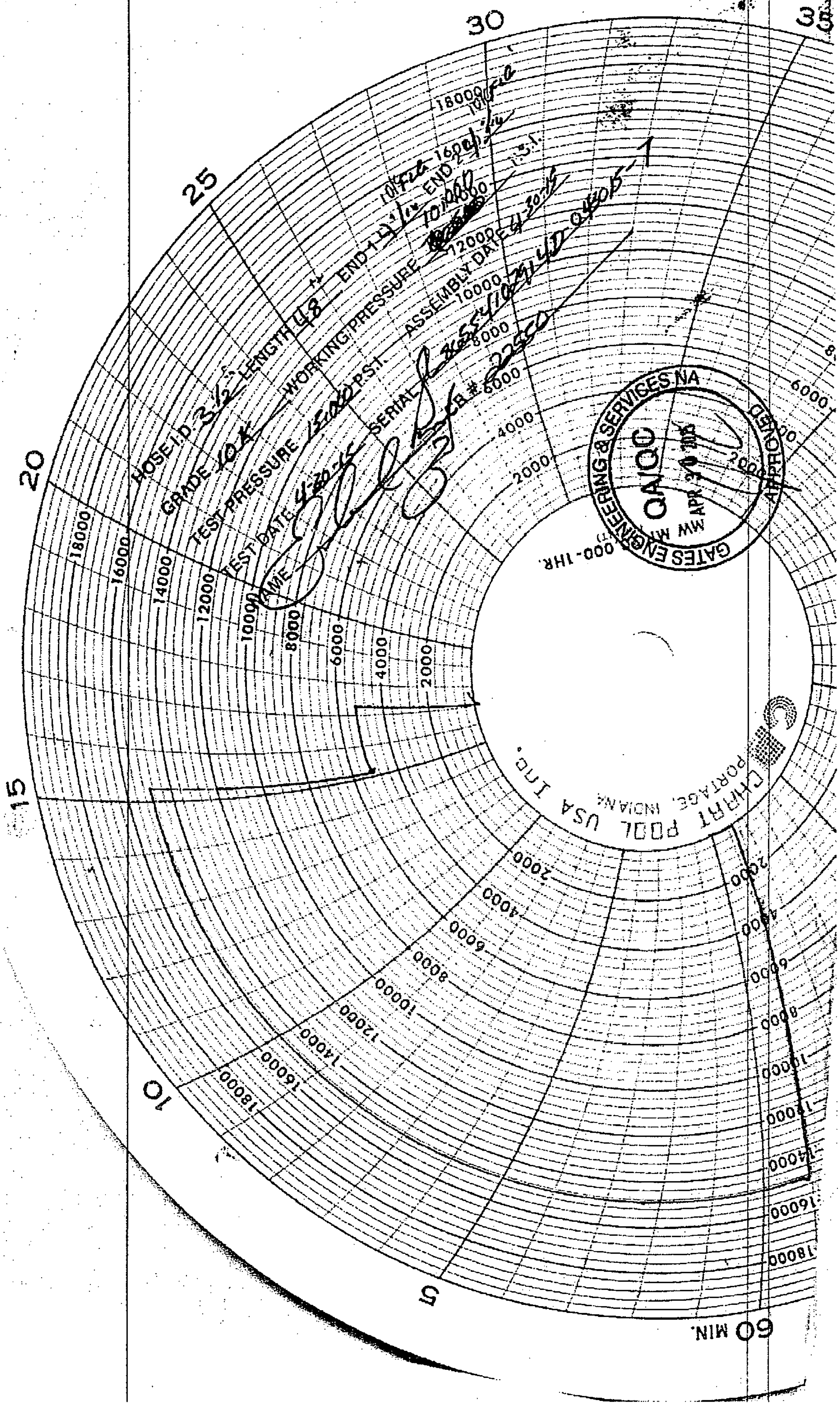
Product Description:	10K3.548.0CK4.1/1610KFLGE/E LE

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

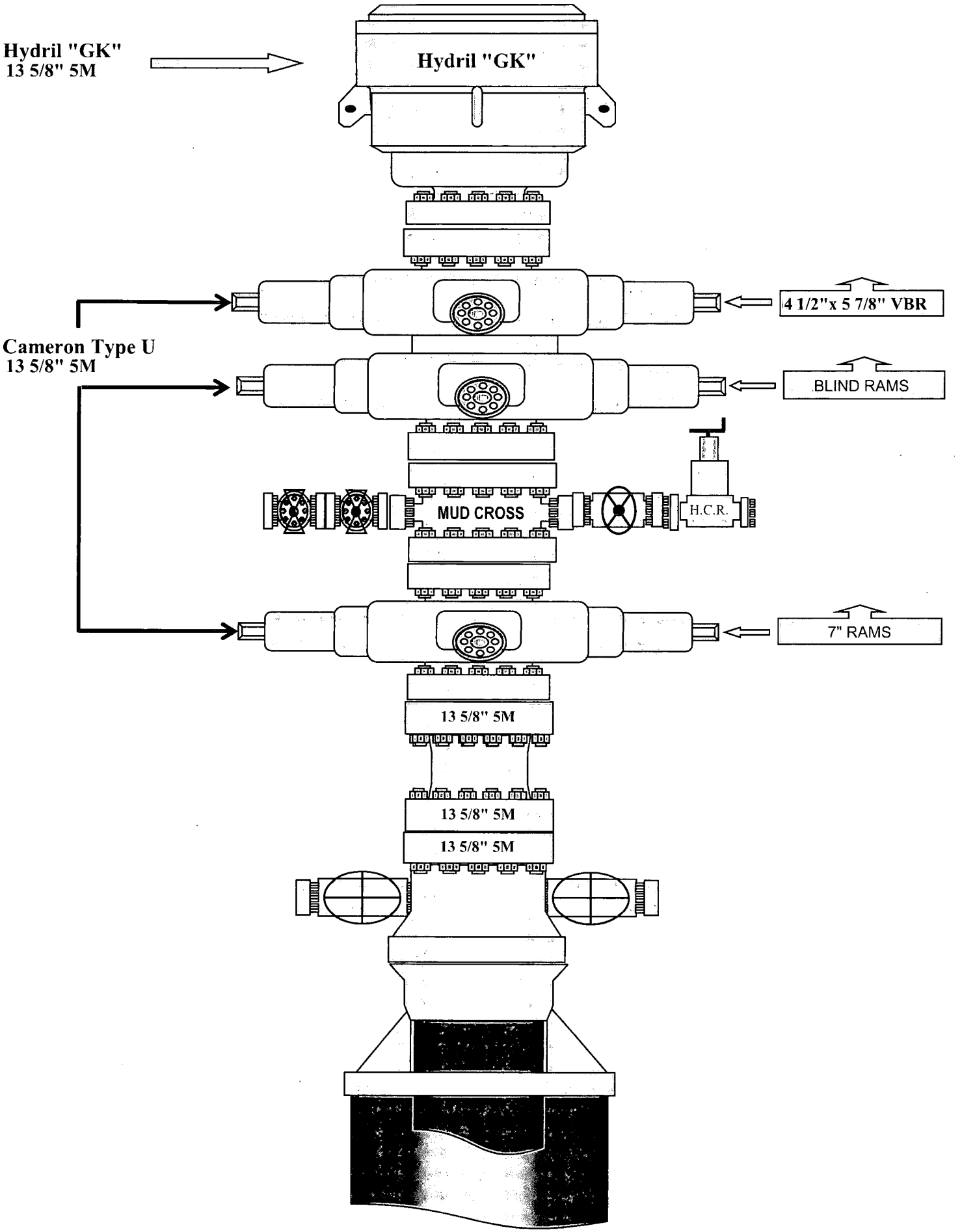
Gates E & S North America, Inc. certifies that the following hose assembly has been tested to the Gates Oilfield Roughneck Agreement/Specification requirements and passed the 15 minute hydrostatic test per API Spec 7K/Q1, Fifth Edition, June 2010, Test pressure 9.6.7 and per Table 9 to 15,000 psi in 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	Produciton:	PRODUCTION
Date :	4/30/2015	Date :	4/30/2015
Signature :		Signature :	

Form PTC - 01 Rev.0 2

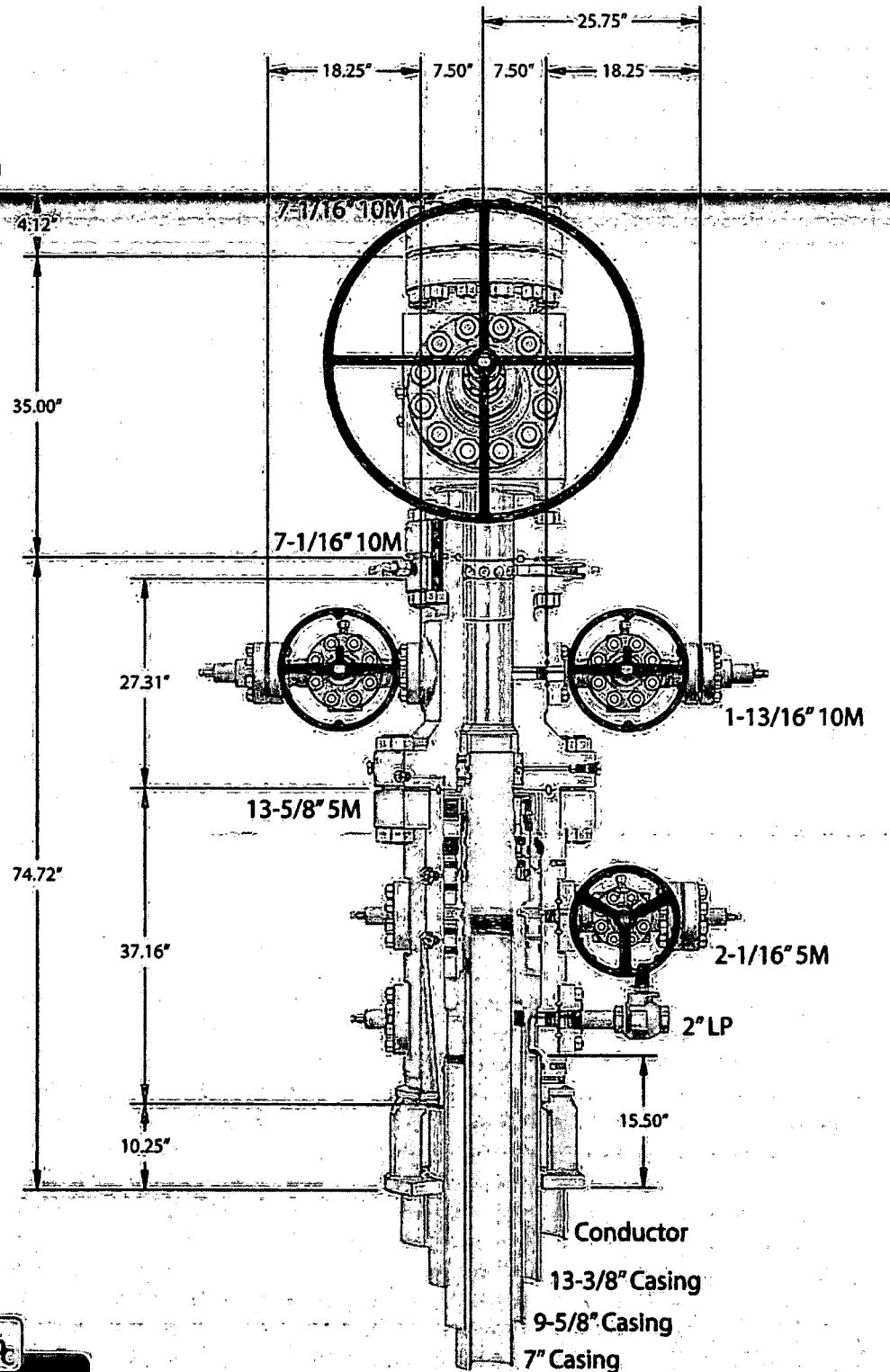


HOSE I.D. 3 1/2" LENGTH 48" END
GRADE 10K WORKING PRESSURE 10,000 P.S.I.
TEST PRESSURE 15,000 P.S.I.
ASSEMBLY DATE 4-30-15
SERIAL
TEST DATE 4-30-15
NAME
GATES ENGINEERING & SERVICES NA
QA/QC
APPROVED
APR 30 2015
CHART POOL USA Inc.
PORTAGE, INDIANA
60 MIN.


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



MEWBOURNE OIL COMPANY

C7585
Rev. 02

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

Cupped flange 57" conductor cut-off

79

Mewbourne Oil Company, Kansas 21/28 W0LM Fed Com #2H
Sec 21, T24S, R28E
SL: 2635' FSL & 360' FWL, Sec 21
BHL: 330' FSL & 400' FWL, Sec 28

Casing Program

Hole Size	Casing Interval From	To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
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'	9580'	7"	26	HCP110	LTC	1.67	2.13	2.62	3.33
6.125"	8993'	16,988'	4.5"	13.5	P110	LTC	1.81	2.10	3.13	3.91
			BLM Minimum Safety Factor				1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet

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

Must have table for contingency casing

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

Mewbourne Oil Company, Kansas 21/28 W0LM Fed Com #2H
Sec 21, T24S, R28E
SL: 2635' FSL & 360' FWL, Sec 21
BHL: 330' FSL & 400' FWL, Sec 28

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Mewbourne Oil Company, Kansas 21/28 W0LM Fed Com #2H
Sec 21, T24S, R28E
SL: 2635' FSL & 360' FWL, Sec 21
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Mewbourne Oil Company, Kansas 21/28 W0LM Fed Com #2H
Sec 21, T24S, R28E
SL: 2635' FSL & 360' FWL, Sec 21
BHL: 330' FSL & 400' FWL, Sec 28

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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 know hydrogen sulfide source. The initial training session shall include a review of the site specific Hydrogen Sulfide Drilling Operations Plan.

3. Hydrogen Sulfide Safety Equipment and Systems

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

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

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

3. Hydrogen Sulfide Protection and Monitoring Equipment

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

4. Visual Warning Systems

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

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

4. Mud Program

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

5. Metallurgy

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

6. Communications

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

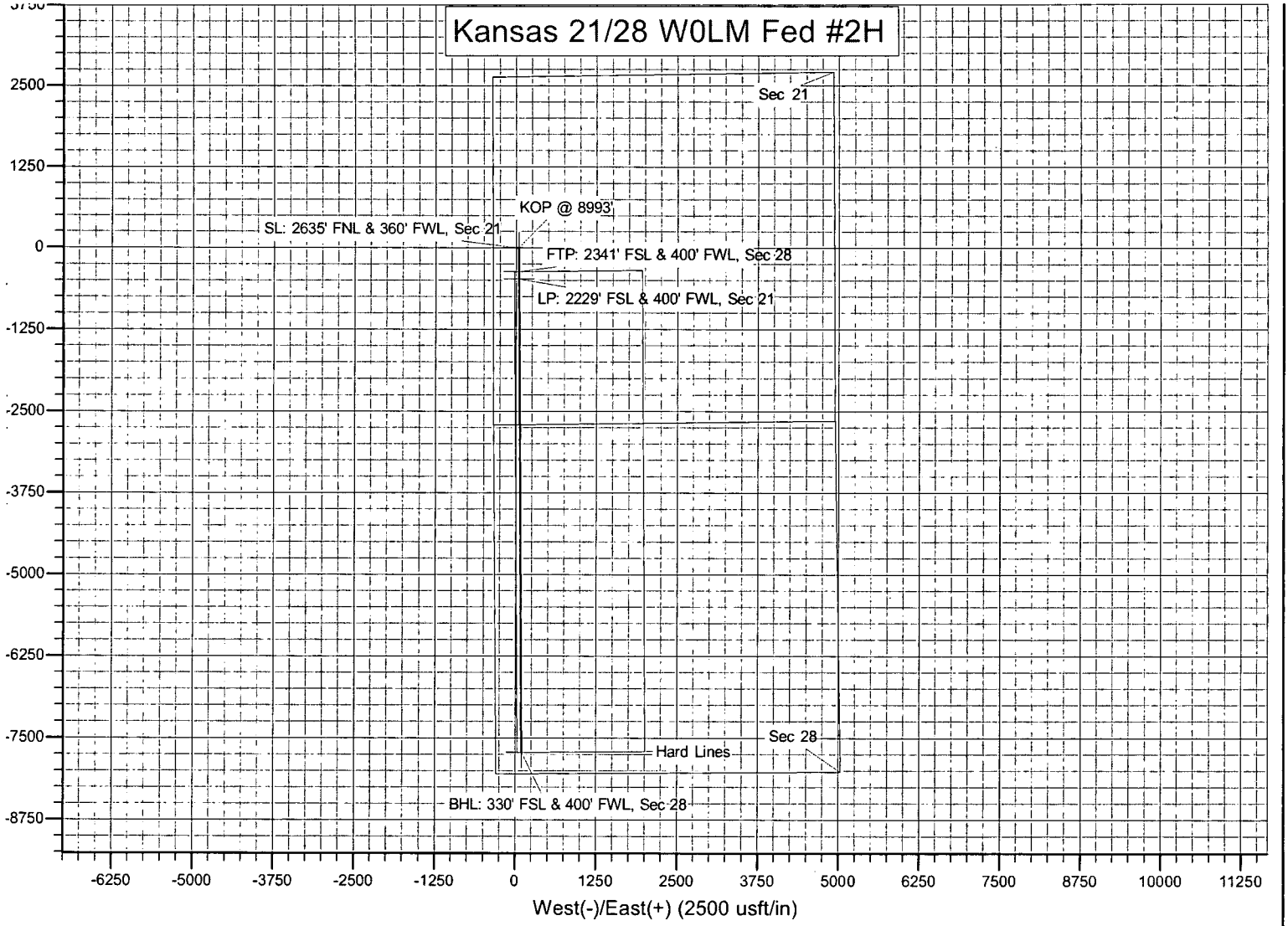
7. Well Testing

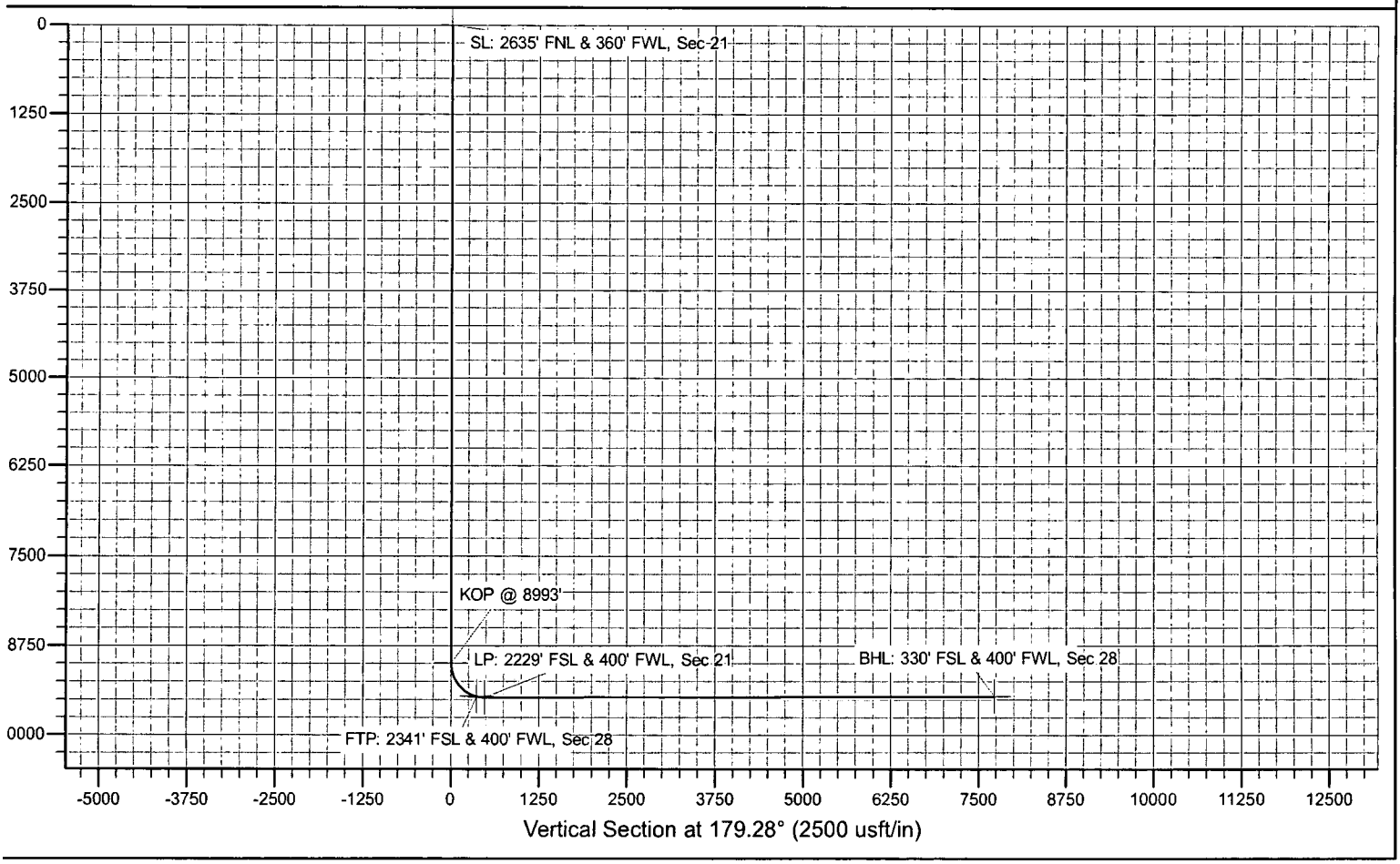
Drill stem testing is not an anticipated requirement for evaluation of this well. If a drill stem test is required, it will be conducted with a minimum number of personnel in the immediate vicinity. The test will be conducted during daylight hours only.

8. Emergency Phone Numbers

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

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


Kansas 21/28 W0LM Fed #2H
Sec 21
KOP @ 8993'
SL: 2635' FNL & 360' FWL, Sec 21
FTP: 2341' FSL & 400' FWL, Sec 28
LP: 2229' FSL & 400' FWL, Sec 21
Hard Lines
Sec 28
BHL: 330' FSL & 400' FWL, Sec 28
West(-)/East(+) (2500 usft/in)


SL: 2635' FNL & 360' FWL, Sec 21
KOP @ 8993'
LP: 2229' FSL & 400' FWL, Sec 21
BHL: 330' FSL & 400' FWL, Sec 28
FTP: 2341' FSL & 400' FWL, Sec 28
Vertical Section at 179.28° (2500 usft/in)

Mewbourne Oil Company

Eddy County, New Mexico NAD 83
Kansas 21/28 W0LM Fed #2H
Sec 21, T24S, R28E
SL: 2635' FNL & 360' FWL, Sec 21
BHL: 330' FSL & 400' FWL, Sec 28

Plan: Design #1

Standard Planning Report

27 April, 2018

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Kansas 21/28 W0LM Fed #2H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3058.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3058.0usft (Original Well Elev)
Site:	Kansas 21/28 W0LM Fed #2H	**North Reference:**	Grid
Well:	Sec 21, T24S, R28E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 330' FSL & 400' FWL, Sec 28		
Design:	Design #1		

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 W0LM Fed #2H				
Site Position:		**Northing:**	437,785.00 usft	**Latitude:**	32.2033329
From:	Map	**Easting:**	613,495.00 usft	**Longitude:**	-104.1000422
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:**	32.2033329
	+E/-W	0.0 usft	**Easting:**	613,495.00 usft	**Longitude:**	-104.1000422
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	3,058.0 usft	**Ground Level:**	3,031.0 usft

Wellbore	BHL: 330' FSL & 400' FWL, Sec 28				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2010	4/26/2018	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	179.28	

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	
2,523.6	0.35	90.00	2,523.6	0.0	0.1	1.50	1.50	0.00	90.00	
8,969.0	0.35	90.00	8,968.9	0.0	39.9	0.00	0.00	0.00	0.00	
8,992.7	0.00	0.00	8,992.5	0.0	40.0	1.50	-1.50	0.00	180.00	KOP @ 8993'
9,743.5	90.10	179.58	9,470.0	-478.3	43.5	12.00	12.00	0.00	179.58	
16,987.4	90.10	179.58	9,457.0	-7,722.0	97.0	0.00	0.00	0.00	0.00	BHL: 330' FSL & 400'

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Kansas 21/28 W0LM Fed #2H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3058.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3058.0usft (Original Well Elev)
Site:	Kansas 21/28 W0LM Fed #2H	**North Reference:**	Grid
Well:	Sec 21, T24S, R28E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 330' FSL & 400' FWL, Sec 28		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
SL: 2635' FNL & 360' 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
2,523.6	0.35	90.00	2,523.6	0.0	0.1	0.0	1.50	1.50	0.00
2,600.0	0.35	90.00	2,600.0	0.0	0.5	0.0	0.00	0.00	0.00
2,700.0	0.35	90.00	2,700.0	0.0	1.2	0.0	0.00	0.00	0.00
2,800.0	0.35	90.00	2,800.0	0.0	1.8	0.0	0.00	0.00	0.00
2,900.0	0.35	90.00	2,900.0	0.0	2.4	0.0	0.00	0.00	0.00
3,000.0	0.35	90.00	3,000.0	0.0	3.0	0.0	0.00	0.00	0.00
3,100.0	0.35	90.00	3,100.0	0.0	3.6	0.0	0.00	0.00	0.00
3,200.0	0.35	90.00	3,200.0	0.0	4.3	0.1	0.00	0.00	0.00
3,300.0	0.35	90.00	3,300.0	0.0	4.9	0.1	0.00	0.00	0.00
3,400.0	0.35	90.00	3,400.0	0.0	5.5	0.1	0.00	0.00	0.00
3,500.0	0.35	90.00	3,500.0	0.0	6.1	0.1	0.00	0.00	0.00
3,600.0	0.35	90.00	3,600.0	0.0	6.7	0.1	0.00	0.00	0.00
3,700.0	0.35	90.00	3,700.0	0.0	7.3	0.1	0.00	0.00	0.00
3,800.0	0.35	90.00	3,800.0	0.0	8.0	0.1	0.00	0.00	0.00
3,900.0	0.35	90.00	3,900.0	0.0	8.6	0.1	0.00	0.00	0.00
4,000.0	0.35	90.00	4,000.0	0.0	9.2	0.1	0.00	0.00	0.00
4,100.0	0.35	90.00	4,100.0	0.0	9.8	0.1	0.00	0.00	0.00
4,200.0	0.35	90.00	4,200.0	0.0	10.4	0.1	0.00	0.00	0.00
4,300.0	0.35	90.00	4,300.0	0.0	11.1	0.1	0.00	0.00	0.00
4,400.0	0.35	90.00	4,400.0	0.0	11.7	0.1	0.00	0.00	0.00
4,500.0	0.35	90.00	4,500.0	0.0	12.3	0.2	0.00	0.00	0.00
4,600.0	0.35	90.00	4,600.0	0.0	12.9	0.2	0.00	0.00	0.00
4,700.0	0.35	90.00	4,700.0	0.0	13.5	0.2	0.00	0.00	0.00
4,800.0	0.35	90.00	4,800.0	0.0	14.1	0.2	0.00	0.00	0.00
4,900.0	0.35	90.00	4,900.0	0.0	14.8	0.2	0.00	0.00	0.00
5,000.0	0.35	90.00	5,000.0	0.0	15.4	0.2	0.00	0.00	0.00
5,100.0	0.35	90.00	5,100.0	0.0	16.0	0.2	0.00	0.00	0.00

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Kansas 21/28 W0LM Fed #2H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3058.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3058.0usft (Original Well Elev)
Site:	Kansas 21/28 W0LM Fed #2H	**North Reference:**	Grid
Well:	Sec 21, T24S, R28E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 330' FSL & 400' FWL, Sec 28		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,200.0	0.35	90.00	5,199.9	0.0	16.6	0.2	0.00	0.00	0.00
5,300.0	0.35	90.00	5,299.9	0.0	17.2	0.2	0.00	0.00	0.00
5,400.0	0.35	90.00	5,399.9	0.0	17.9	0.2	0.00	0.00	0.00
5,500.0	0.35	90.00	5,499.9	0.0	18.5	0.2	0.00	0.00	0.00
5,600.0	0.35	90.00	5,599.9	0.0	19.1	0.2	0.00	0.00	0.00
5,700.0	0.35	90.00	5,699.9	0.0	19.7	0.2	0.00	0.00	0.00
5,800.0	0.35	90.00	5,799.9	0.0	20.3	0.3	0.00	0.00	0.00
5,900.0	0.35	90.00	5,899.9	0.0	21.0	0.3	0.00	0.00	0.00
6,000.0	0.35	90.00	5,999.9	0.0	21.6	0.3	0.00	0.00	0.00
6,100.0	0.35	90.00	6,099.9	0.0	22.2	0.3	0.00	0.00	0.00
6,200.0	0.35	90.00	6,199.9	0.0	22.8	0.3	0.00	0.00	0.00
6,300.0	0.35	90.00	6,299.9	0.0	23.4	0.3	0.00	0.00	0.00
6,400.0	0.35	90.00	6,399.9	0.0	24.0	0.3	0.00	0.00	0.00
6,500.0	0.35	90.00	6,499.9	0.0	24.7	0.3	0.00	0.00	0.00
6,600.0	0.35	90.00	6,599.9	0.0	25.3	0.3	0.00	0.00	0.00
6,700.0	0.35	90.00	6,699.9	0.0	25.9	0.3	0.00	0.00	0.00
6,800.0	0.35	90.00	6,799.9	0.0	26.5	0.3	0.00	0.00	0.00
6,900.0	0.35	90.00	6,899.9	0.0	27.1	0.3	0.00	0.00	0.00
7,000.0	0.35	90.00	6,999.9	0.0	27.8	0.3	0.00	0.00	0.00
7,100.0	0.35	90.00	7,099.9	0.0	28.4	0.4	0.00	0.00	0.00
7,200.0	0.35	90.00	7,199.9	0.0	29.0	0.4	0.00	0.00	0.00
7,300.0	0.35	90.00	7,299.9	0.0	29.6	0.4	0.00	0.00	0.00
7,400.0	0.35	90.00	7,399.9	0.0	30.2	0.4	0.00	0.00	0.00
7,500.0	0.35	90.00	7,499.9	0.0	30.8	0.4	0.00	0.00	0.00
7,600.0	0.35	90.00	7,599.9	0.0	31.5	0.4	0.00	0.00	0.00
7,700.0	0.35	90.00	7,699.9	0.0	32.1	0.4	0.00	0.00	0.00
7,800.0	0.35	90.00	7,799.9	0.0	32.7	0.4	0.00	0.00	0.00
7,900.0	0.35	90.00	7,899.9	0.0	33.3	0.4	0.00	0.00	0.00
8,000.0	0.35	90.00	7,999.9	0.0	33.9	0.4	0.00	0.00	0.00
8,100.0	0.35	90.00	8,099.9	0.0	34.6	0.4	0.00	0.00	0.00
8,200.0	0.35	90.00	8,199.9	0.0	35.2	0.4	0.00	0.00	0.00
8,300.0	0.35	90.00	8,299.9	0.0	35.8	0.4	0.00	0.00	0.00
8,400.0	0.35	90.00	8,399.9	0.0	36.4	0.5	0.00	0.00	0.00
8,500.0	0.35	90.00	8,499.9	0.0	37.0	0.5	0.00	0.00	0.00
8,600.0	0.35	90.00	8,599.9	0.0	37.6	0.5	0.00	0.00	0.00
8,700.0	0.35	90.00	8,699.9	0.0	38.3	0.5	0.00	0.00	0.00
8,800.0	0.35	90.00	8,799.9	0.0	38.9	0.5	0.00	0.00	0.00
8,900.0	0.35	90.00	8,899.9	0.0	39.5	0.5	0.00	0.00	0.00
8,969.0	0.35	90.00	8,968.9	0.0	39.9	0.5	0.00	0.00	0.00
8,992.7	0.00	0.00	8,992.5	0.0	40.0	0.5	1.50	-1.50	0.00
KOP @ 8993'									
9,000.0	0.88	179.58	8,999.9	-0.1	40.0	0.6	12.00	12.00	0.00
9,100.0	12.88	179.58	9,099.0	-12.0	40.1	12.5	12.00	12.00	0.00
9,200.0	24.88	179.58	9,193.4	-44.3	40.3	44.8	12.00	12.00	0.00
9,300.0	36.88	179.58	9,279.1	-95.5	40.7	96.0	12.00	12.00	0.00
9,400.0	48.88	179.58	9,352.2	-163.5	41.2	164.0	12.00	12.00	0.00
9,500.0	60.88	179.58	9,409.7	-245.1	41.8	245.6	12.00	12.00	0.00
9,600.0	72.88	179.58	9,448.8	-336.9	42.5	337.4	12.00	12.00	0.00
9,630.1	76.50	179.58	9,456.8	-366.0	42.7	366.5	12.00	12.00	0.00
FTP: 2341' FSL & 400' FWL, Sec 28									
9,700.0	84.88	179.58	9,468.1	-434.8	43.2	435.4	12.00	12.00	0.00
9,743.5	90.10	179.58	9,470.0	-478.3	43.5	478.8	12.00	12.00	0.00
LP: 2229' FSL & 400' FWL, Sec 21									

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Kansas 21/28 W0LM Fed #2H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3058.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3058.0usft (Original Well Elev)
Site:	Kansas 21/28 W0LM Fed #2H	**North Reference:**	Grid
Well:	Sec 21, T24S, R28E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 330' FSL & 400' FWL, Sec 28		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,800.0	90.10	179.58	9,469.9	-534.8	43.9	535.3	0.00	0.00	0.00
9,900.0	90.10	179.58	9,469.7	-634.8	44.7	635.3	0.00	0.00	0.00
10,000.0	90.10	179.58	9,469.5	-734.8	45.4	735.3	0.00	0.00	0.00
10,100.0	90.10	179.58	9,469.4	-834.8	46.2	835.3	0.00	0.00	0.00
10,200.0	90.10	179.58	9,469.2	-934.8	46.9	935.3	0.00	0.00	0.00
10,300.0	90.10	179.58	9,469.0	-1,034.8	47.6	1,035.3	0.00	0.00	0.00
10,400.0	90.10	179.58	9,468.8	-1,134.8	48.4	1,135.3	0.00	0.00	0.00
10,500.0	90.10	179.58	9,468.6	-1,234.8	49.1	1,235.3	0.00	0.00	0.00
10,600.0	90.10	179.58	9,468.5	-1,334.8	49.9	1,335.3	0.00	0.00	0.00
10,700.0	90.10	179.58	9,468.3	-1,434.8	50.6	1,435.3	0.00	0.00	0.00
10,800.0	90.10	179.58	9,468.1	-1,534.8	51.3	1,535.3	0.00	0.00	0.00
10,900.0	90.10	179.58	9,467.9	-1,634.8	52.1	1,635.3	0.00	0.00	0.00
11,000.0	90.10	179.58	9,467.7	-1,734.8	52.8	1,735.3	0.00	0.00	0.00
11,100.0	90.10	179.58	9,467.6	-1,834.8	53.5	1,835.3	0.00	0.00	0.00
11,200.0	90.10	179.58	9,467.4	-1,934.7	54.3	1,935.3	0.00	0.00	0.00
11,300.0	90.10	179.58	9,467.2	-2,034.7	55.0	2,035.3	0.00	0.00	0.00
11,400.0	90.10	179.58	9,467.0	-2,134.7	55.8	2,135.3	0.00	0.00	0.00
11,500.0	90.10	179.58	9,466.8	-2,234.7	56.5	2,235.3	0.00	0.00	0.00
11,600.0	90.10	179.58	9,466.7	-2,334.7	57.2	2,335.3	0.00	0.00	0.00
11,700.0	90.10	179.58	9,466.5	-2,434.7	58.0	2,435.3	0.00	0.00	0.00
11,800.0	90.10	179.58	9,466.3	-2,534.7	58.7	2,535.3	0.00	0.00	0.00
11,900.0	90.10	179.58	9,466.1	-2,634.7	59.4	2,635.3	0.00	0.00	0.00
12,000.0	90.10	179.58	9,466.0	-2,734.7	60.2	2,735.3	0.00	0.00	0.00
12,100.0	90.10	179.58	9,465.8	-2,834.7	60.9	2,835.3	0.00	0.00	0.00
12,200.0	90.10	179.58	9,465.6	-2,934.7	61.7	2,935.3	0.00	0.00	0.00
12,300.0	90.10	179.58	9,465.4	-3,034.7	62.4	3,035.3	0.00	0.00	0.00
12,400.0	90.10	179.58	9,465.2	-3,134.7	63.1	3,135.3	0.00	0.00	0.00
12,500.0	90.10	179.58	9,465.1	-3,234.7	63.9	3,235.3	0.00	0.00	0.00
12,600.0	90.10	179.58	9,464.9	-3,334.7	64.6	3,335.3	0.00	0.00	0.00
12,700.0	90.10	179.58	9,464.7	-3,434.7	65.4	3,435.3	0.00	0.00	0.00
12,800.0	90.10	179.58	9,464.5	-3,534.7	66.1	3,535.3	0.00	0.00	0.00
12,900.0	90.10	179.58	9,464.3	-3,634.7	66.8	3,635.3	0.00	0.00	0.00
13,000.0	90.10	179.58	9,464.2	-3,734.7	67.6	3,735.3	0.00	0.00	0.00
13,100.0	90.10	179.58	9,464.0	-3,834.7	68.3	3,835.2	0.00	0.00	0.00
13,200.0	90.10	179.58	9,463.8	-3,934.7	69.0	3,935.2	0.00	0.00	0.00
13,300.0	90.10	179.58	9,463.6	-4,034.7	69.8	4,035.2	0.00	0.00	0.00
13,400.0	90.10	179.58	9,463.4	-4,134.7	70.5	4,135.2	0.00	0.00	0.00
13,500.0	90.10	179.58	9,463.3	-4,234.7	71.3	4,235.2	0.00	0.00	0.00
13,600.0	90.10	179.58	9,463.1	-4,334.7	72.0	4,335.2	0.00	0.00	0.00
13,700.0	90.10	179.58	9,462.9	-4,434.7	72.7	4,435.2	0.00	0.00	0.00
13,800.0	90.10	179.58	9,462.7	-4,534.7	73.5	4,535.2	0.00	0.00	0.00
13,900.0	90.10	179.58	9,462.5	-4,634.7	74.2	4,635.2	0.00	0.00	0.00
14,000.0	90.10	179.58	9,462.4	-4,734.7	74.9	4,735.2	0.00	0.00	0.00
14,100.0	90.10	179.58	9,462.2	-4,834.7	75.7	4,835.2	0.00	0.00	0.00
14,200.0	90.10	179.58	9,462.0	-4,934.7	76.4	4,935.2	0.00	0.00	0.00
14,300.0	90.10	179.58	9,461.8	-5,034.7	77.2	5,035.2	0.00	0.00	0.00
14,400.0	90.10	179.58	9,461.6	-5,134.7	77.9	5,135.2	0.00	0.00	0.00
14,500.0	90.10	179.58	9,461.5	-5,234.7	78.6	5,235.2	0.00	0.00	0.00
14,600.0	90.10	179.58	9,461.3	-5,334.7	79.4	5,335.2	0.00	0.00	0.00
14,700.0	90.10	179.58	9,461.1	-5,434.6	80.1	5,435.2	0.00	0.00	0.00
14,800.0	90.10	179.58	9,460.9	-5,534.6	80.9	5,535.2	0.00	0.00	0.00
14,900.0	90.10	179.58	9,460.7	-5,634.6	81.6	5,635.2	0.00	0.00	0.00
15,000.0	90.10	179.58	9,460.6	-5,734.6	82.3	5,735.2	0.00	0.00	0.00
15,100.0	90.10	179.58	9,460.4	-5,834.6	83.1	5,835.2	0.00	0.00	0.00

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Kansas 21/28 W0LM Fed #2H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3058.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3058.0usft (Original Well Elev)
Site:	Kansas 21/28 W0LM Fed #2H	**North Reference:**	Grid
Well:	Sec 21, T24S, R28E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 330' FSL & 400' FWL, Sec 28		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
15,200.0	90.10	179.58	9,460.2	-5,934.6	83.8	5,935.2	0.00	0.00	0.00
15,300.0	90.10	179.58	9,460.0	-6,034.6	84.5	6,035.2	0.00	0.00	0.00
15,400.0	90.10	179.58	9,459.8	-6,134.6	85.3	6,135.2	0.00	0.00	0.00
15,500.0	90.10	179.58	9,459.7	-6,234.6	86.0	6,235.2	0.00	0.00	0.00
15,600.0	90.10	179.58	9,459.5	-6,334.6	86.8	6,335.2	0.00	0.00	0.00
15,700.0	90.10	179.58	9,459.3	-6,434.6	87.5	6,435.2	0.00	0.00	0.00
15,800.0	90.10	179.58	9,459.1	-6,534.6	88.2	6,535.2	0.00	0.00	0.00
15,900.0	90.10	179.58	9,459.0	-6,634.6	89.0	6,635.2	0.00	0.00	0.00
16,000.0	90.10	179.58	9,458.8	-6,734.6	89.7	6,735.2	0.00	0.00	0.00
16,100.0	90.10	179.58	9,458.6	-6,834.6	90.4	6,835.2	0.00	0.00	0.00
16,200.0	90.10	179.58	9,458.4	-6,934.6	91.2	6,935.2	0.00	0.00	0.00
16,300.0	90.10	179.58	9,458.2	-7,034.6	91.9	7,035.2	0.00	0.00	0.00
16,400.0	90.10	179.58	9,458.1	-7,134.6	92.7	7,135.2	0.00	0.00	0.00
16,500.0	90.10	179.58	9,457.9	-7,234.6	93.4	7,235.2	0.00	0.00	0.00
16,600.0	90.10	179.58	9,457.7	-7,334.6	94.1	7,335.2	0.00	0.00	0.00
16,700.0	90.10	179.58	9,457.5	-7,434.6	94.9	7,435.2	0.00	0.00	0.00
16,800.0	90.10	179.58	9,457.3	-7,534.6	95.6	7,535.2	0.00	0.00	0.00
16,900.0	90.10	179.58	9,457.2	-7,634.6	96.4	7,635.2	0.00	0.00	0.00
16,987.4	90.10	179.58	9,457.0	-7,722.0	97.0	7,722.6	0.00	0.00	0.00
BHL: 330' FSL & 400' FWL, Sec 28									

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 & 360' FV - plan hits target center - Point	0.00	0.00	0.0	0.0	0.0	437,785.00	613,495.00	32.2033329	-104.1000422
KOP @ 8993' - plan hits target center - Point	0.00	0.00	8,992.5	0.0	40.0	437,785.00	613,535.00	32.2033326	-104.0999129
FTP: 2341' FSL & 400' F - plan hits target center - Point	0.00	0.00	9,456.8	-366.0	42.7	437,419.00	613,537.71	32.2023265	-104.0999067
BHL: 330' FSL & 400' FV - plan hits target center - Point	0.00	0.00	9,457.0	-7,722.0	97.0	430,063.00	613,592.00	32.1821053	-104.0997828
LP: 2229' FSL & 400' FV - plan hits target center - Point	0.00	0.00	9,470.0	-478.3	43.5	437,306.70	613,538.50	32.2020178	-104.0999049

Mewbourne Oil Company, Kansas 21/28 W0LM Fed #2H
Sec 21, T24S, R28E
SL: 2635' FSL & 360' FWL, Sec 21
BHL: 330' FSL & 400' FWL, Sec 28

1. Geologic Formations

TVD of target	9470'	Pilot hole depth	NA
MD at TD:	16,988'	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	
1st Bone Spring Sand	7090		
2nd Bone Spring Sand	7950		
3rd 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 W0LM Fed #2H
Sec 21, T24S, R28E
SL: 2635' FSL & 360' FWL, Sec 21
BHL: 330' FSL & 400' FWL, Sec 28

2. Casing Program

Hole Size	Casing Interval From	Casing Interval To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
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'	9580'	7"	26	HCP110	LTC	1.67	2.13	2.62	3.33
6.125"	8993'	16,988'	4.5"	13.5	P110	LTC	1.81	2.10	3.13	3.91
BLM Minimum Safety Factor			1.125		1		1.6 Dry 1.8 Wet		1.6 Dry 1.8 Wet	

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

Must have table for contingency casing

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

Mewbourne Oil Company, Kansas 21/28 W0LM Fed #2H
Sec 21, T24S, R28E
SL: 2635' FSL & 360' FWL, Sec 21
BHL: 330' FSL & 400' FWL, Sec 28

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

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H_20 gal/ sk	500# Comp. Strength (hours)	Slurry Description
Surf.	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	320	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	320	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	8993'	25%

4. Pressure Control Equipment

N	Variance: None

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

*Specify if additional ram is utilized.

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

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

X	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.

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

5. Mud Program

TVD		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	425'	FW Gel	8.6-8.8	28-34	N/C
425'	2440'	Saturated Brine	10.0	28-34	N/C
2440'	8993'	Cut Brine	8.6-9.5	28-34	N/C
8993'	9470'	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.

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 (8993') to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
	No Logs are planned based on well control or offset log information.
	Drill stem test? If yes, explain
	Coring? If yes, explain

Additional logs planned		Interval
X	Gamma Ray	8993' (KOP) to TD
	Density	

	CBL	
	Mud log	
	PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	5909 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 (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.	
	H2S is present
X	H2S Plan attached

8. Other facets of operation

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

Attachments

___ Directional Plan
___ Other, describe

APD ID: 10400008156
Submission Date: 12/07/2016

Operator Name: MEWBOURNE OIL COMPANY

Well Name: KANSAS 21/28 W0LM FED COM
Well Number: 2H

Well Type: CONVENTIONAL GAS WELL
Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

Kansas21_28W0LMFedCom2H_existingroadmap_20180510141928.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_28W0LMFedCom2H_existingwellmap_20180510142011.pdf

Operator Name: MEWBOURNE OIL COMPANY

Well Name: KANSAS 21/28 W0LM FED COM **Well Number:** 2H

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_28W0LMFedCom2H_productionfacilitymap_20180510142037.pdf

Section 5 - Location and Types of Water Supply

Water Source Table

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

Water source type: IRRIGATION

Describe type:

Source longitude: -104.04341

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 (acre-feet): 0.27737793

Source volume (gal): 90384

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

Water source type: IRRIGATION

Describe type:

Source longitude: -104.04341

Source latitude: 32.193806

Source datum: NAD83

Water source permit type: WATER WELL

Source land ownership: FEDERAL

Operator Name: MEWBOURNE OIL COMPANY

Well Name: KANSAS 21/28 W0LM FED COM **Well Number:** 2H

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_28W0LMFedCom2H_watersourceandtransmap_20180510142054.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_28W0LMFedCom2H_calichesourceandtransmap_20180510142119.pdf

Operator Name: MEWBOURNE OIL COMPANY

Well Name: KANSAS 21/28 W0LM FED COM **Well Number:** 2H

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 W0LM FED COM **Well Number:** 2H

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_28W0LMFedCom2H_wellsitelayout_20180510142140.pdf

Comments:

Operator Name: MEWBOURNE OIL COMPANY

Well Name: KANSAS 21/28 W0LM FED COM **Well Number:** 2H

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

Wellpad long term disturbance (acres): 5.92

Wellpad short term disturbance (acres): 1.53

Access road long term disturbance (acres): 4.39

Access road short term disturbance (acres): 0

Pipeline long term disturbance (acres): 0

Pipeline short term disturbance (acres): 0

Other long term disturbance (acres): 0

Other short term disturbance (acres): 0

Total long term disturbance: 10.31

Total short term disturbance: 1.53

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:

Non native seed used? NO

Operator Name: MEWBOURNE OIL COMPANY

Well Name: KANSAS 21/28 W0LM FED COM **Well Number:** 2H

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

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

Existing invasive species treatment description:

Operator Name: MEWBOURNE OIL COMPANY

Well Name: KANSAS 21/28 W0LM FED COM **Well Number:** 2H

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 W0LM FED COM **Well Number:** 2H

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 W0LM FED COM **Well Number:** 2H

Fee Owner: Pecos Valley Artesian Convservation 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

Well Name: KANSAS 21/28 W0LM FED COM **Well Number:** 2H

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 & 360' FWL, Sec 21 T24S R28E, Eddy Co NM. This appears to be a drillable location. Elevation @ 3037'. Kansas 21/28 W2LM Fed #1H staked 30' West, 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

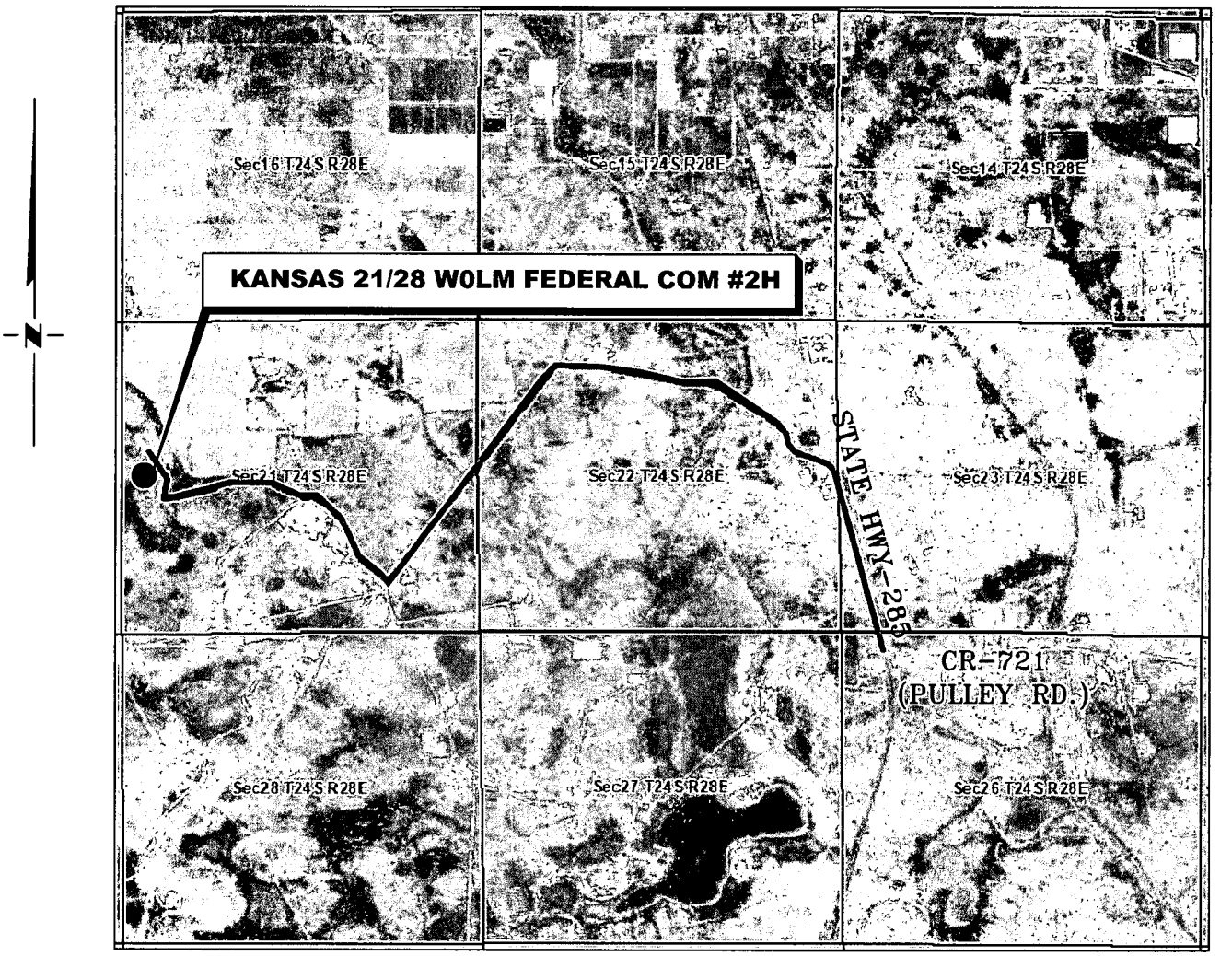
Other SUPO Attachment

Kansas21_28W0LMFedCom2H_gascaptureplan_20180510142505.pdf

Kansas21_28W0LMFedCom2H_interimreclamationdiagram_20180510142522.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 W0LM Federal Com
WELL NO.: 2H

LOCATION: 2635' FNL & 360' FWL
ELEVATION: 3031'

NO.	REVISION	DATE

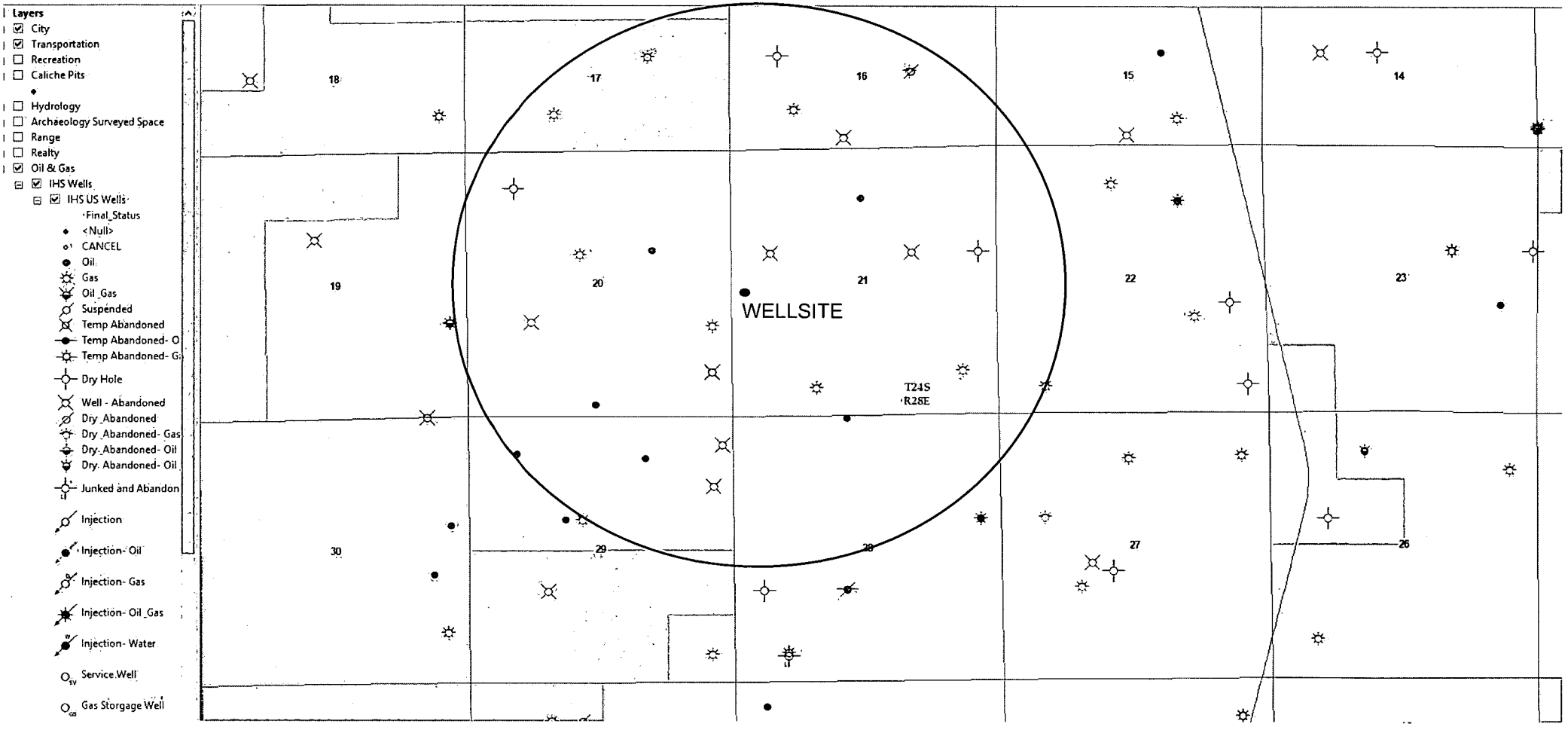
JOB NO.: LS1804444
DWG. NO.: 1804444VM

RRC

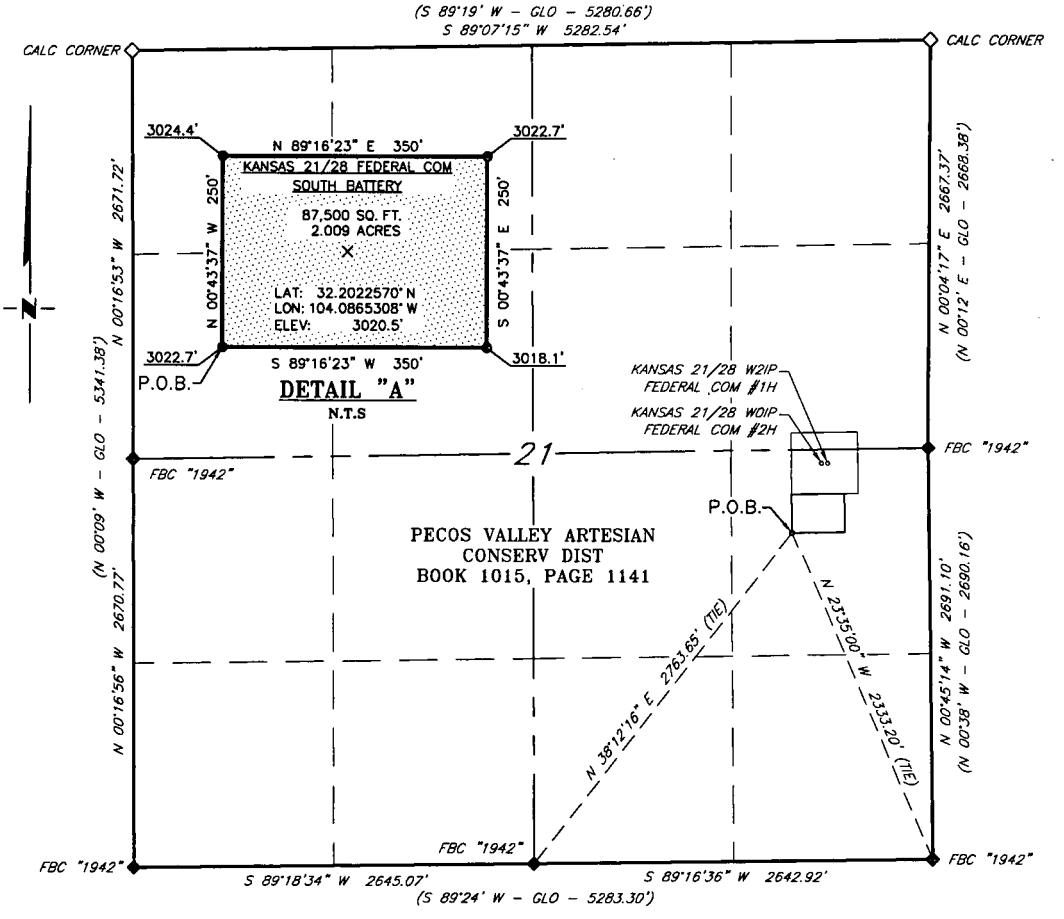
308 W. BROADWAY ST., HOBBS, NM 88240 (575) 964-8200

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 W0LM FEDERAL COM WELL #2H



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



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:

NE 1/4 SE 1/4 87,500 Sq. Ft. 2.009 Acres

SCALE: 1" = 1000'
0 500' 1000'

BEARINGS ARE GRID NAD 83 NM EAST
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

ROBERT M. HOWETT
NEW MEXICO
19680
3/7/18
PROFESSIONAL SURVEYOR

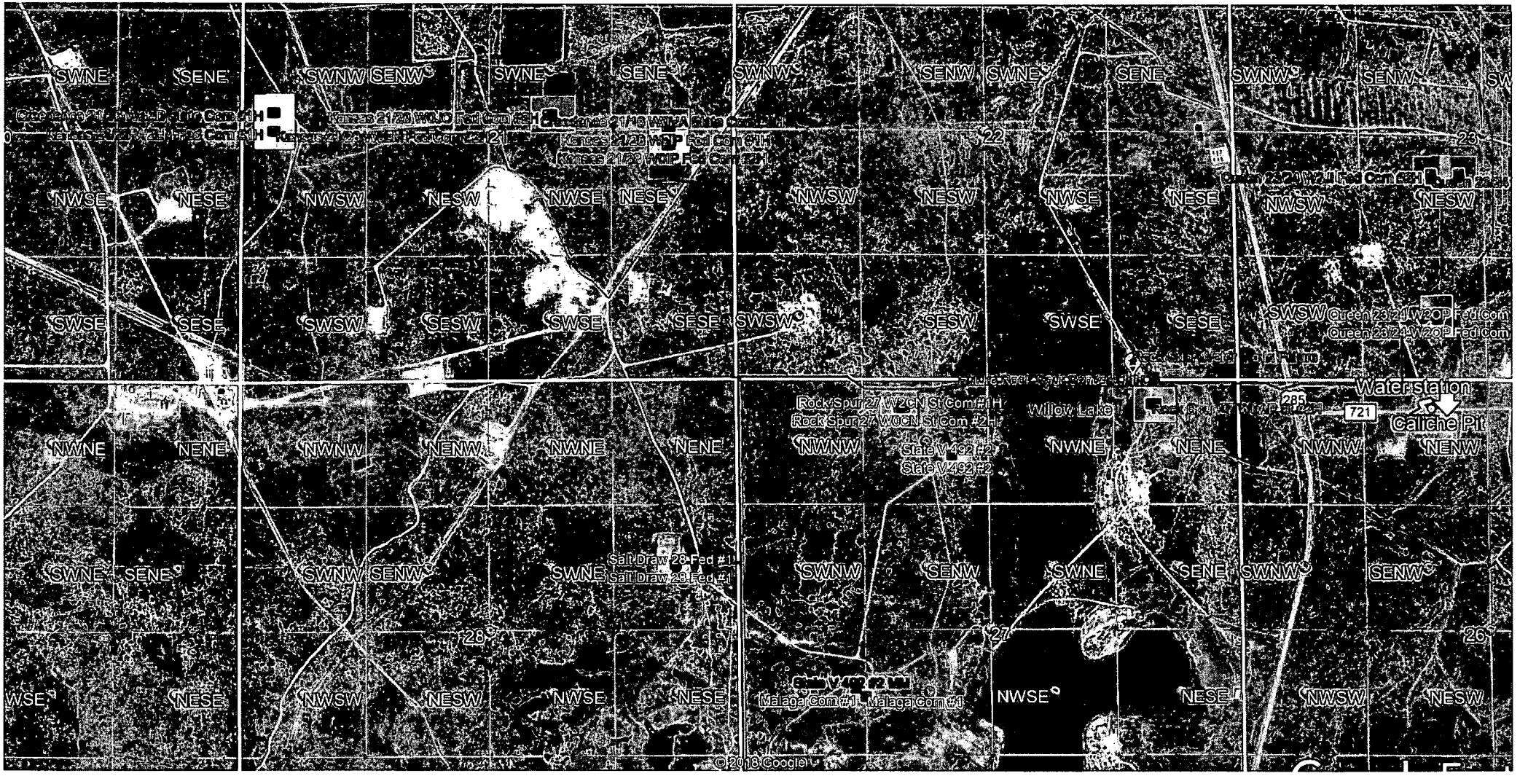
NO.	REVISION	DATE

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

RRC

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


Rock Spur 27 W2CN St Com #1H
Rock Spur 27 W0CN St Com #2H
Willow Lake
Water station
Caliche Pit
State V 492 #2
Salt Draw 28 Fed #1
Malaga Com #1
Queen 23/24 W2OP Fed Com
285
721
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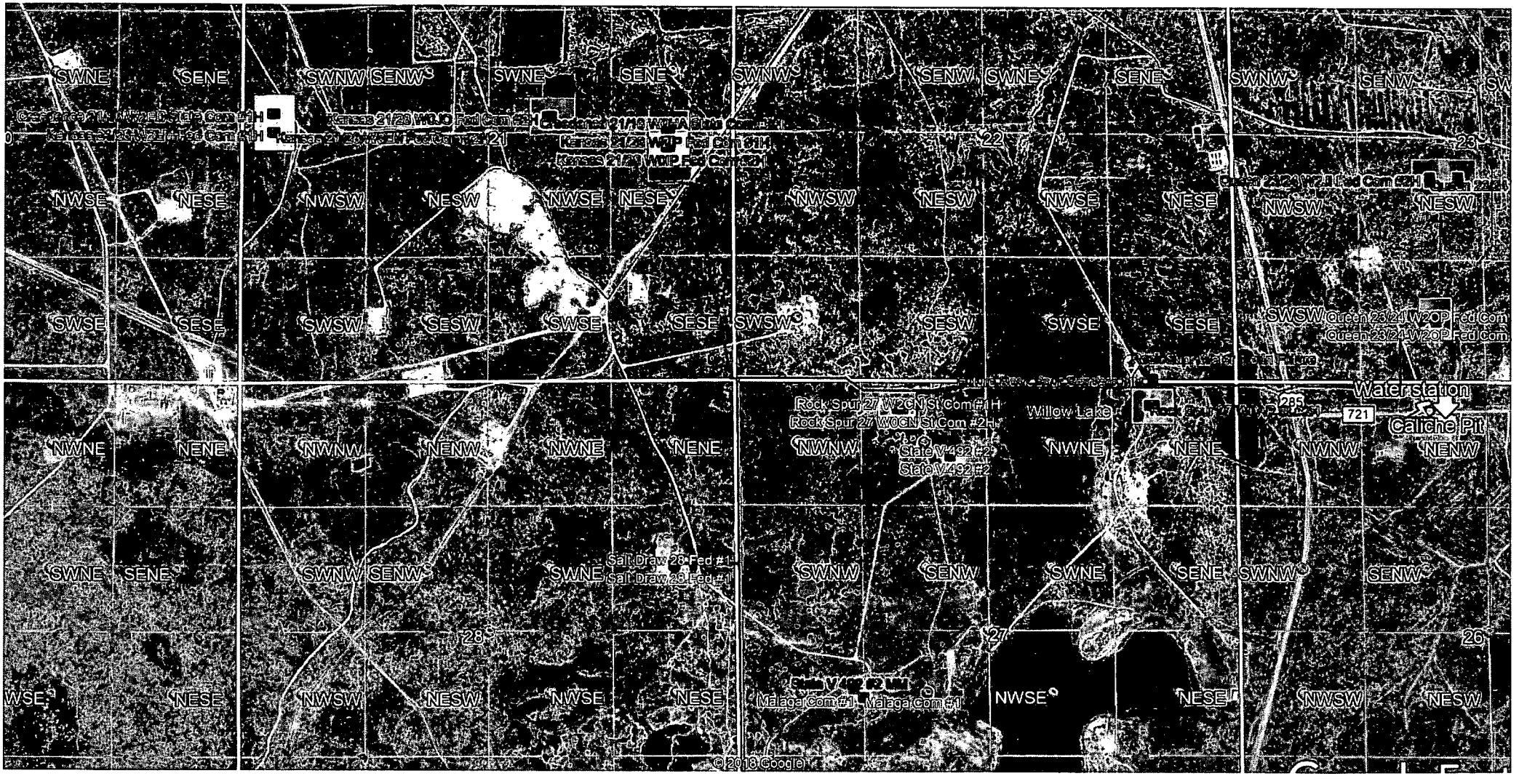
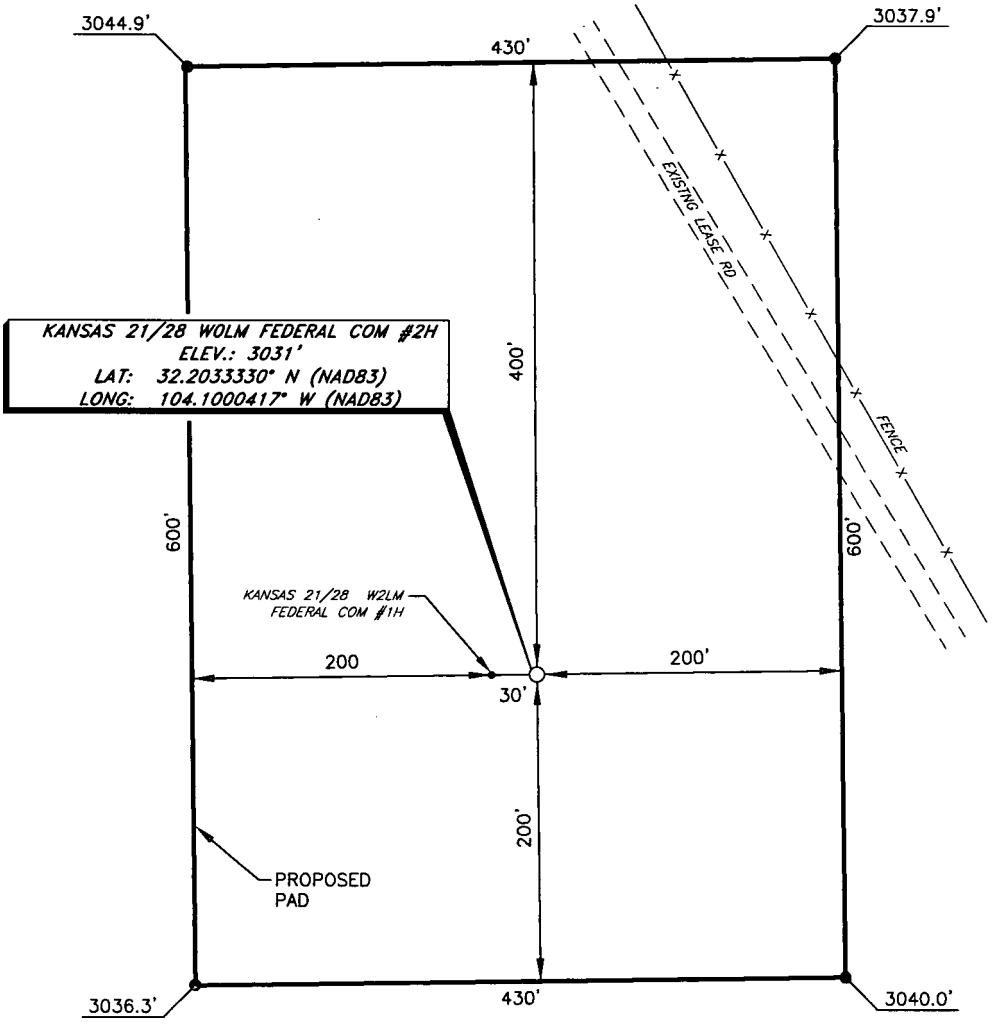

Kansas 21/28 W0JO Fed Com #1H
Kansas 21/28 W0JP Fed Com #1H
Kansas 21/28 W0JP Fed Com #2H
Queen 23/24 W2OP Fed Com
Rock Spur 27 W2CN St Com #1H
Rock Spur 27 W0CN St Com #2H
Willow Lake
State V 492 #2
Waterstation
Caliche Pit
Salt Draw 28 Fed #1
Malaga Com #1
721
285
© 2018 Google

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.

N

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

ROBERT M. HOWETT
NEW MEXICO
19680
4/16/18
PROFESSIONAL SURVEYOR

NO.	REVISION	DATE

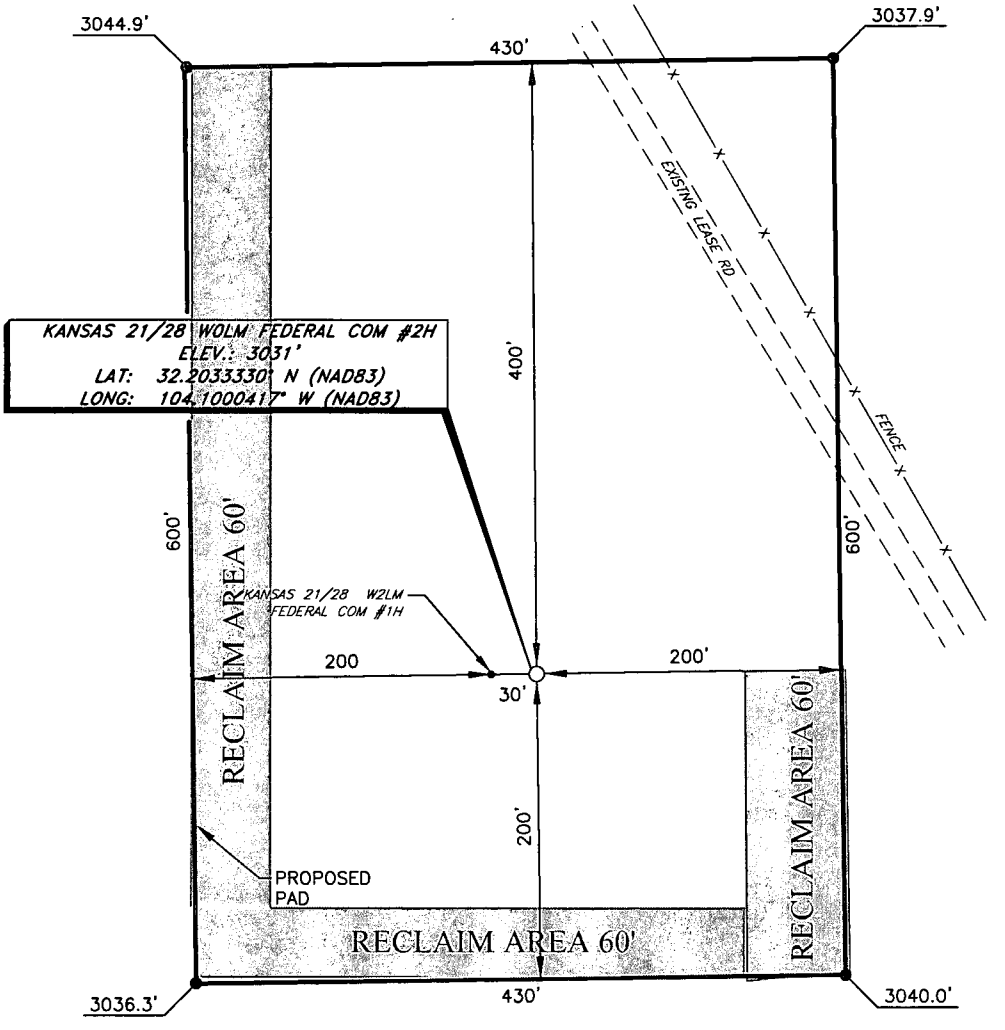
JOB NO.: LS1804444
DWG. NO.: 1804444PAD

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

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



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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.

N

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

ROBERT M. HOWETT
NEW MEXICO
19680
4/16/18
PROFESSIONAL SURVEYOR

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:

Decribe 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:

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:

Decribe 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 type:

Injection well number: **Injection well name:**

Assigned injection well API number? **Injection well API number:**

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection attachment:

Underground Injection Control (UIC) Permit?

UIC Permit attachment:

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:

AFMSS

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

Bond Info Data Report

05/20/2019

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: