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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.
NMNM086542

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.
LITTLEGIANTS 20/19 W0PM FEDCOM
1H 32604487

2. Name of Operator
MEWBOURNE OIL COMPANY

9. API Well No.
30-015-46236

3a. Address
PO Box 5270 Hobbs NM 88240

3b. Phone No. *(include area code)*
(575)393-5905

10. Field and Pool, or Exploratory 98220
~~PIERCE CROSSING BONE SPRING, EA~~ Purple SAGE WOLFCAMP

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface SWSW / 1280 FSL / 205 FWL / LAT 32.3745225 / LONG -104.1005271
At proposed prod. zone SWSW / 440 FSL / 330 FWL / LAT 32.3721463 / LONG -104.1335162

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 21 / T22S / R28E / NMP

14. Distance in miles and direction from nearest town or post office*
10 miles

12. County or Parish
EDDY

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)
210 feet

16. No of acres in lease
640

17. Spacing Unit dedicated to this well
640

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.
330 feet

19. Proposed Depth
9345 feet / 19510 feet

20. BLM/BIA Bond No. in file
FED: NM1693

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3062 feet

22. Approximate date work will start*
01/06/2019

23. Estimated duration
60 days

24. Attachments

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

1. Well plat certified by a registered surveyor.
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	11/07/2018

Title
Regulatory

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575)234-5959	08/15/2019

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

Approval Date: 08/15/2019

(Continued on page 2)

*(Instructions on page 2)

RWP 8-20-19

INSTRUCTIONS

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

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

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

ITEM 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on the reverse side, showing the roads to, and the surveyed location of, the 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: SWSW / 1280 FSL / 205 FWL / TWSP: 22S / RANGE: 28E / SECTION: 21 / LAT: 32.3745225 / LONG: -104.1005271 (TVD: 0 feet, MD: 0 feet)
   PPP: SESE / 440 FSL / 330 FEL / TWSP: 22S / RANGE: 28E / SECTION: 20 / LAT: 32.3722099 / LONG: -104.1022751 (TVD: 9480 feet, MD: 9864 feet)
   PPP: SESE / 440 FSL / 0 FEL / TWSP: 22S / RANGE: 28E / SECTION: 19 / LAT: 32.3721788 / LONG: -104.1179782 (TVD: 9412 feet, MD: 14713 feet)
   BHL: SWSW / 440 FSL / 330 FWL / TWSP: 22S / RANGE: 28E / SECTION: 19 / LAT: 32.3721463 / LONG: -104.1335162 (TVD: 9345 feet, MD: 19510 feet)

BLM Point of Contact

Name: Tenille Ortiz
Title: Legal Instruments Examiner
Phone: 5752342224
Email: tortiz@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.:	**NMNM086542**
WELL NAME & NO.:	**LITTLEGIANTS 20-19 W0PM FED COM 1H**
SURFACE HOLE FOOTAGE:	**1280' FSL & 205' FWL**
BOTTOM HOLE FOOTAGE	**440' FSL & 330' FWL**
LOCATION:	**Section 21, T. 22 S., R 28 E., NMPM**
COUNTY:	**Eddy County, New Mexico**

COA

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

A. HYDROGEN SULFIDE

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

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **500** feet (a minimum of **70 feet (Eddy County)** into the Rustler Anhydrite and above the salt) and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
    b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to

include the lead cement)

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

2. The 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. **Excess cement calculates to 18%, additional cement might be required. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.**

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

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

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

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

   b. Second stage above DV tool:

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

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

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

C. PRESSURE CONTROL

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

2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.

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

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

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

JJP08072019

GENERAL REQUIREMENTS

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

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

☒ Chaves and Roosevelt Counties
Call the Roswell Field Office, 2909 West Second St., Roswell NM 88201.
During office hours call (575) 627-0272.
After office hours call (575)

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

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

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

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

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

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

A. CASING

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

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

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

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

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

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

7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a

larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

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

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

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

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

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

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

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been

done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

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

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

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

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

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

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

h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test

does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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

AFMSS

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

Operator Certification Data Report

08/16/2019

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:** 11/07/2018

Title: Regulatory

Street Address: PO Box 5270

City: Hobbs **State:** NM **Zip:** 88240

Phone: (575)393-5905

Email address: bbishop@mewbourne.com

Field Representative

Representative Name:

Street Address:

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

Phone:

Email address:

AFMSS

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

Application Data Report
08/16/2019

APD ID: 10400036058
Submission Date: 11/07/2018
Operator Name: MEWBOURNE OIL COMPANY
Well Name: LITTLEGIANTS 20/19 W0PM FEDCOM
Well Number: 1H
Well Type: CONVENTIONAL GAS WELL
Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - General

APD ID: 10400036058
Tie to previous NOS?
Submission Date: 11/07/2018
BLM Office: CARLSBAD
User: Bradley Bishop
Title: Regulatory
Federal/Indian APD: FED
Is the first lease penetrated for production Federal or Indian? FED
Lease number: NMNM086542
Lease Acres: 640
Surface access agreement in place?
Allotted?
Reservation:
Agreement in place? NO
Federal or Indian agreement:
Agreement number:
Agreement name:
Keep application confidential? YES
Permitting Agent? NO
APD Operator: MEWBOURNE OIL COMPANY
Operator letter of designation:

Operator Info

Operator Organization Name: MEWBOURNE OIL COMPANY
Operator Address: PO Box 5270
Zip: 88240
Operator PO Box:
Operator City: Hobbs
State: NM
Operator Phone: (575)393-5905
Operator Internet Address:

Section 2 - Well Information

Well in Master Development Plan? NO
Master Development Plan name:
Well in Master SUPO? NO
Master SUPO name:
Well in Master Drilling Plan? NO
Master Drilling Plan name:
Well Name: LITTLEGIANTS 20/19 W0PM FEDCOM
Well Number: 1H
Well API Number:
Field/Pool or Exploratory? Field and Pool
Field Name: PIERCE CROSSING BONE SPRING, EAST
Pool Name: WOLFCAMP

Operator Name: MEWBOURNE OIL COMPANY

Well Name: LITTLEGIANTS 20/19 W0PM FEDCOM **Well Number:** 1H

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

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:** LITTLE GIANTS 20/19 PM & IL WELLS **Number:** 3

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

Well Work Type: Drill

Well Type: CONVENTIONAL GAS WELL

Describe Well Type:

Well sub-Type: APPRAISAL

Describe sub-type:

Distance to town: 10 Miles **Distance to nearest well:** 330 FT **Distance to lease line:** 210 FT

Reservoir well spacing assigned acres Measurement: 640 Acres

Well plat: LittleGiants20_19W0PMFedCom1H_wellplat_20181106145920.pdf

Well work start Date: 01/06/2019 **Duration:** 60 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number: 1 **Reference Datum:**

	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	1280	FSL	205	FWL	22S	28E	21	Aliquot SWSW	32.3745225	-104.1005271	EDDY	NEW MEXICO	NEW MEXICO	F	FEE	3062	0	0
KOP Leg #1	440	FSL	205	FWL	22S	28E	21	Aliquot SWSW	32.3722133	-104.1005098	EDDY	NEW MEXICO	NEW MEXICO	F	FEE	-5942	9047	9004
PPP Leg #1	440	FSL	0	FEL	22S	28E	19	Aliquot SESE	32.3721788	-104.1179782	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 0415461	-6350	14713	9412

Operator Name: MEWBOURNE OIL COMPANY

Well Name: LITTLEGIANTS 20/19 W0PM FEDCOM **Well Number:** 1H

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
PPP Leg #1	440	FSL	330	FEL	22S	28E	20	Aliquot SESE	32.3722099	-104.1022751	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 086542	-6418	9864	9480
EXIT Leg #1	440	FSL	330	FWL	22S	28E	19	Aliquot SWSW	32.3721463	-104.1335162	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 0415461	-6283	19510	9345
BHL Leg #1	440	FSL	330	FWL	22S	28E	19	Aliquot SWSW	32.3721463	-104.1335162	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 0415461	-6283	19510	9345

Operator Name: MEWBOURNE OIL COMPANY

Well Name: LITTLEGIANTS 20/19 W0PM FEDCOM **Well Number:** 1H

Pressure Rating (PSI): 5M **Rating Depth:** 19510

Equipment: Annular, Pipe Ram, Blind Ram

Requesting Variance? YES

Variance request: A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. Anchors aren't required by manufacturer. A multi-bowl wellhead is being used. See attached schematic
Testing Procedure: BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and 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. Test Annular to 2,500# Test BOPE to 5,000#

Choke Diagram Attachment:

Little_Giants_20_19_W0PM_Fed_Com_1H_5M_BOPE_Choke_Diagram_20190415152808.pdf

Little_Giants_20_19_W0PM_Fed_Com_1H_Flex_Line_Specs_20190415152809.pdf

BOP Diagram Attachment:

Little_Giants_20_19_W0PM_Fed_Com_1H_5M_BOPE_Schematic_20190415152821.pdf

Little_Giants_20_19_W0PM_Fed_Com_1H_Multi_Bowl_WH_20190415152822.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	500	0	500			500	H-40	48	ST&C	3.37	7.56	DRY	13.42	DRY	22.54
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	2430	0	2430			2430	J-55	36	LT&C	1.6	2.79	DRY	5.18	DRY	6.45
3	PRODUCTION	8.75	7.0	NEW	API	N	0	9800	0	9481			9800	P-110	26	LT&C	1.33	2.12	DRY	2.51	DRY	3.26
4	LINER	6.125	4.5	NEW	API	N	9047	19510	9004	9345			10463	P-110	13.5	LT&C	1.69	1.96	DRY	2.39	DRY	2.99

Casing Attachments

Operator Name: MEWBOURNE OIL COMPANY

Well Name: LITTLEGIANTS 20/19 W0PM FEDCOM **Well Number:** 1H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Little_Giants_20_19_W0PM_Fed_Com_1H_Csg_Assumptions_20181107101028.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Little_Giants_20_19_W0PM_Fed_Com_1H_Csg_Assumptions_20181107101114.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Little_Giants_20_19_W0PM_Fed_Com_1H_Csg_Assumptions_20181107101208.pdf

Operator Name: MEWBOURNE OIL COMPANY

Well Name: LITTLEGIANTS 20/19 W0PM FEDCOM **Well Number:** 1H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Little_Giants_20_19_W0PM_Fed_Com_1H_Csg_Assumptions_20181107101342.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	307	205	2.12	12.5	435	100	Class C	Salt, Gel, Extender, LCM
SURFACE	Tail		307	500	200	1.34	14.8	268	100	Class C	Retarder
INTERMEDIATE	Lead		0	1745	325	2.12	12.5	689	25	Class C	Salt, Gel, Extender, LCM
INTERMEDIATE	Tail		1745	2430	200	1.34	14.8	268	25	Class C	Retarder
PRODUCTION	Lead	3510	2230	2833	270	2.12	12.5	572	25	Class C	Gel, Retarder, Defoamer, Extender
PRODUCTION	Tail		2833	3510	100	1.34	14.8	134	25	Class C	Retarder
PRODUCTION	Lead	3510	3510	7288	340	2.12	12.5	721	25	Class C	Gel, Retarder, Defoamer, Extender
PRODUCTION	Tail		7288	9800	400	1.18	15.6	472	25	Class H	Retarder, Fluid Loss, Defoamer
LINER	Lead		9047	19510	415	2.97	11.2	1233	25	Class C	Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti-Settling Agent

Operator Name: MEWBOURNE OIL COMPANY

Well Name: LITTLEGIANTS 20/19 W0PM FEDCOM **Well Number:** 1H

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

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

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

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

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

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	500	SPUD MUD	8.6	8.8							
500	2430	SALT SATURATED	10	10							
2430	9481	WATER-BASED MUD	9.5	9.5							
9345	9481	OIL-BASED MUD	10	12							MW up to 13.0 ppg may be required for shale control. The highest MW needed to balance formation pressure is expected to be 12.0 ppg.

Operator Name: MEWBOURNE OIL COMPANY

Well Name: LITTLEGIANTS 20/19 W0PM FEDCOM **Well Number:** 1H

Section 6 - Test, Logging, Coring

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

Will run GR/CNL from KOP (9047') to surface

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

CNL,DS,GR,MWD,MUDLOG

Coring operation description for the well:

None

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 5916 **Anticipated Surface Pressure:** 3830.4

Anticipated Bottom Hole Temperature(F): 150

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

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

Little_Giants_20_19_W0PM_Fed_Com_1H_H2S_Plan_20181107101835.doc

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Little_Giants_20_19_W0PM_Fed_Com_1H_Dir_Plan_20181107101920.pdf

Little_Giants_20_19_W0PM_Fed_Com_1H_Dir_Plot_20181107101921.pdf

Other proposed operations facets description:

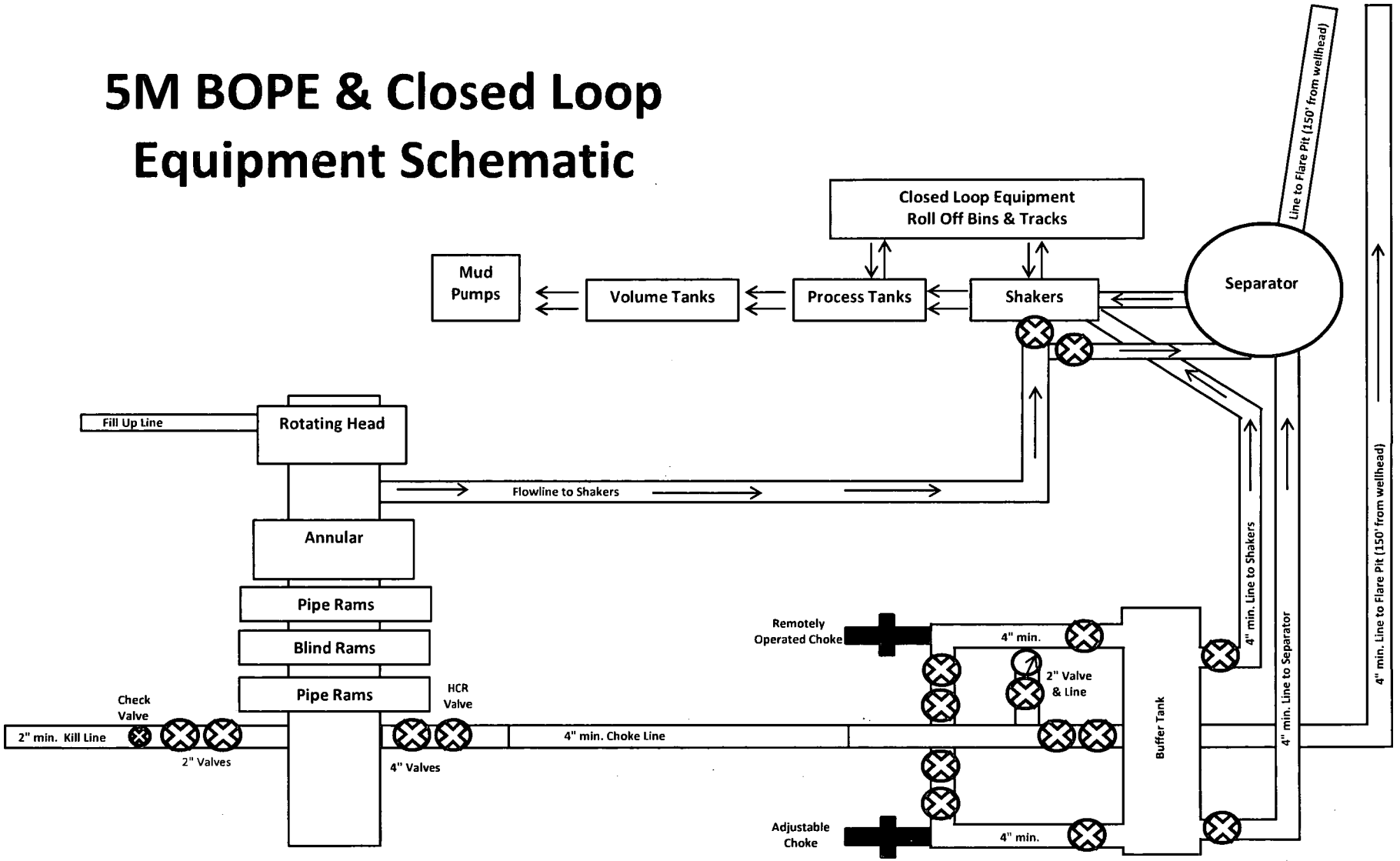
Other proposed operations facets attachment:

Little_Giants_20_19_W0PM_Fed_Com_1H_C101_20181107101941.pdf

Little_Giants_20_19_W0PM_Fed_Com_1H_Drilling_Program_20190422105249.pdf

Other Variance attachment:

5M BOPE & Closed Loop Equipment Schematic



Drawing not to scale

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

ENGINEERING & SERVICES

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

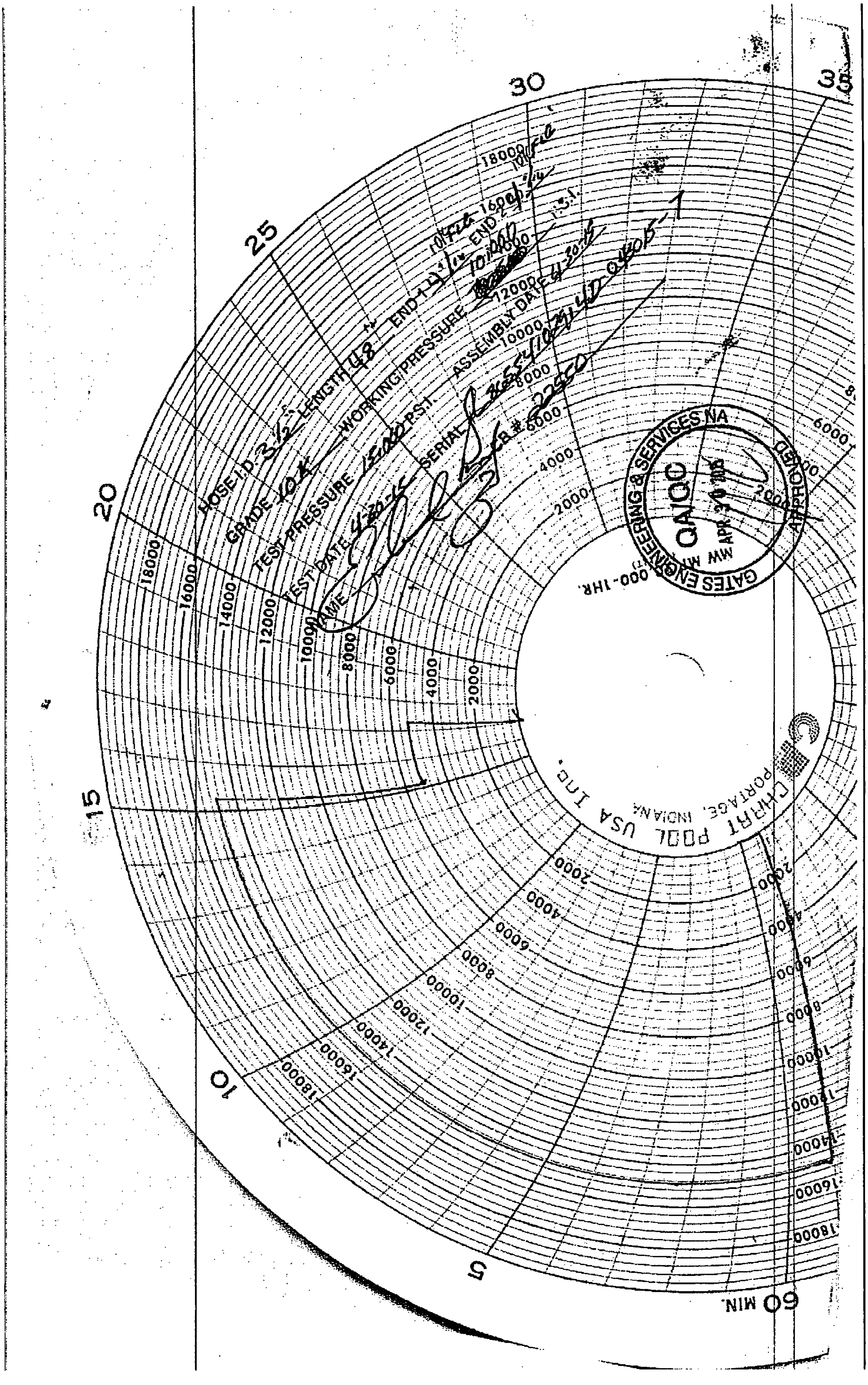
End Fitting 1 :	4 1/16 10K FLG	End Fitting 2 :	4 1/16 10K FLG
Gates Part No. :	4773-6290	Assembly Code :	L36554102914D-043015-7
Working Pressure :	10,000 PSI	Test Pressure :	15,000 PSI

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 :	

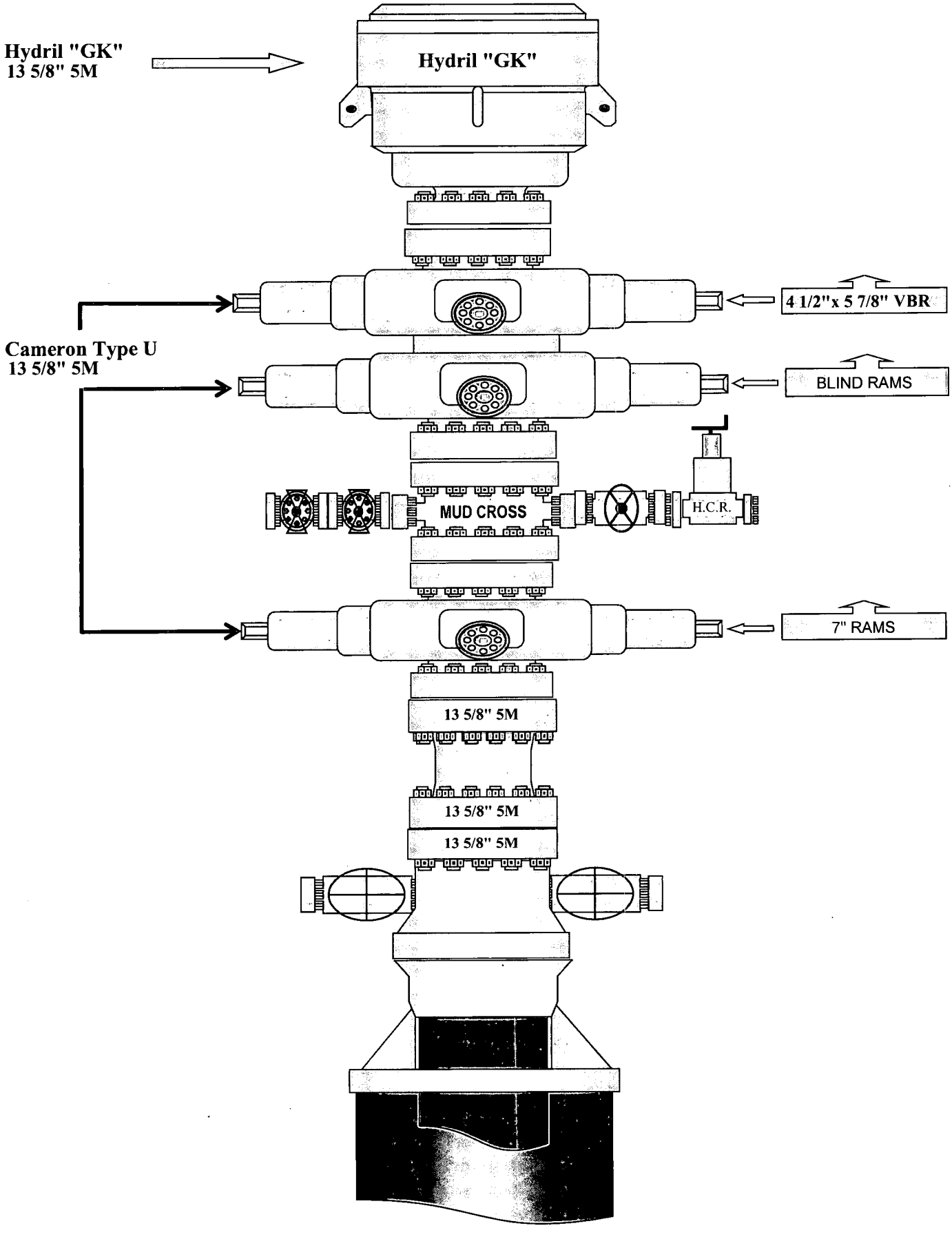
Form PTC - 01 Rev.0 2

Gates BLACK GOLD



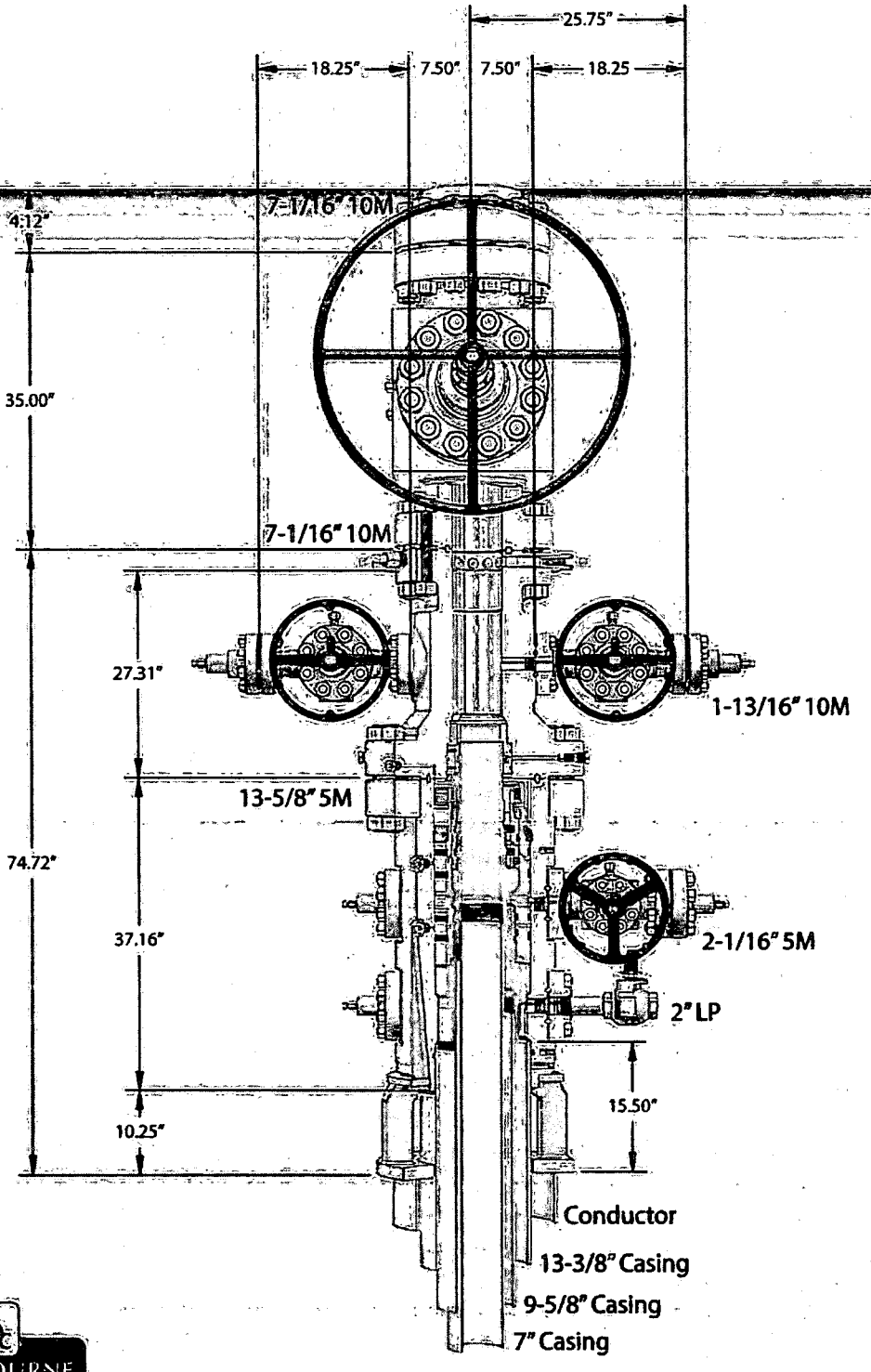
HOSE I.D.
LENGTH
END 1
END 2
GRADE
WORKING PRESSURE
P.S.I.
TEST PRESSURE
P.S.I.
SERIAL #
ASSEMBLY DATE
TEST DATE
NAME
GATES ENGINEERING & SERVICES NA
QA/QC
APPROVED
CHART POOL USA INC.
PORTAGE, INDIANA
60 MIN.

5M BOPE Schematic



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.

Cypress Hanger 57" conductor cut-off

79

Mewbourne Oil Company, Little Giants 20/19 W0PM Fed Com #1H
Sec 21, T22S, R28E
SL: 1280' FSL & 205' FWL
BHL: 440' FSL & 330' FWL

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'	500'	13.375"	48	H40	STC	3.37	7.56	13.42	22.54
12.25"	0'	2,430'	9.625"	36	J55	LTC	1.60	2.79	5.18	6.45
8.75"	0'	9,800'	7"	26	HCP110	LTC	1.33	2.12	2.51	3.26
6.125"	9,047'	19,510'	4.5"	13.5	P110	LTC	1.69	1.97	2.39	2.99
			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?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

Mewbourne Oil Company, Little Giants 20/19 W0PM Fed Com #1H
Sec 21, T22S, R28E
SL: 1280' FSL & 205' FWL
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Mewbourne Oil Company, Little Giants 20/19 W0PM Fed Com #1H
Sec 21, T22S, R28E
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Mewbourne Oil Company, Little Giants 20/19 W0PM Fed Com #1H
Sec 21, T22S, R28E
SL: 1280' FSL & 205' FWL
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Mewbourne Oil Company

Eddy County, New Mexico NAD 83
Little Giants 20/19 W0PM Fed Com #1H
SL: 1280 FSL & 205 FWL
Sec 21, T22S, R28E
BHL: 440 FSL & 330 FWL

Plan: Design #1

Standard Planning Report

05 November, 2018

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Little Giants 20/19 W0PM Fed Com #1H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3089.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3089.0usft (Original Well Elev)
Site:	Little Giants 20/19 W0PM Fed Com #1H	**North Reference:**	Grid
Well:	SL: 1280 FSL & 205 FWL	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 440 FSL & 330 FWL		
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	Little Giants 20/19 W0PM Fed Com #1H

Site Position:		**Northing:**	500,061.00 usft	**Latitude:**	32.3745223
From:	Map	**Easting:**	613,210.00 usft	**Longitude:**	-104.1005266
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.12 °

Well	SL: 1280 FSL & 205 FWL

Well Position	**+N/-S**	0.0 usft	**Northing:**	500,061.00 usft	**Latitude:**	32.3745223
	+E/-W	0.0 usft	**Easting:**	613,210.00 usft	**Longitude:**	-104.1005266
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	3,089.0 usft	**Ground Level:**	3,062.0 usft

Wellbore	BHL: 440 FSL & 330 FWL

Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2010	11/5/2018	6.93	60.05	47,916

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	265.03

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	
500.0	0.00	0.00	500.0	0.0	0.0	0.00	0.00	0.00	0.00	
894.3	5.91	179.52	893.6	-20.3	0.2	1.50	1.50	0.00	179.52	
8,652.4	5.91	179.52	8,610.4	-819.7	6.8	0.00	0.00	0.00	0.00	
9,046.7	0.00	0.00	9,004.0	-840.0	7.0	1.50	-1.50	0.00	180.00	KOP: 440 FSL & 205
9,802.7	90.80	269.75	9,481.0	-842.1	-476.7	12.01	12.01	0.00	-90.25	
19,510.0	90.80	269.75	9,345.0	-885.0	-10,183.0	0.00	0.00	0.00	0.00	BHL: 440 FSL & 330 F

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Little Giants 20/19 W0PM Fed Com #1H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3089.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3089.0usft (Original Well Elev)
Site:	Little Giants 20/19 W0PM Fed Com #1H	**North Reference:**	Grid
Well:	SL: 1280 FSL & 205 FWL	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 440 FSL & 330 FWL		
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: 1280 FSL & 205 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	1.50	179.52	600.0	-1.3	0.0	0.1	1.50	1.50	0.00
700.0	3.00	179.52	699.9	-5.2	0.0	0.4	1.50	1.50	0.00
800.0	4.50	179.52	799.7	-11.8	0.1	0.9	1.50	1.50	0.00
894.3	5.91	179.52	893.6	-20.3	0.2	1.6	1.50	1.50	0.00
900.0	5.91	179.52	899.3	-20.9	0.2	1.6	0.00	0.00	0.00
1,000.0	5.91	179.52	998.7	-31.2	0.3	2.4	0.00	0.00	0.00
1,100.0	5.91	179.52	1,098.2	-41.5	0.3	3.3	0.00	0.00	0.00
1,200.0	5.91	179.52	1,197.7	-51.8	0.4	4.1	0.00	0.00	0.00
1,300.0	5.91	179.52	1,297.1	-62.1	0.5	4.9	0.00	0.00	0.00
1,400.0	5.91	179.52	1,396.6	-72.4	0.6	5.7	0.00	0.00	0.00
1,500.0	5.91	179.52	1,496.1	-82.7	0.7	6.5	0.00	0.00	0.00
1,600.0	5.91	179.52	1,595.5	-93.0	0.8	7.3	0.00	0.00	0.00
1,700.0	5.91	179.52	1,695.0	-103.3	0.9	8.1	0.00	0.00	0.00
1,800.0	5.91	179.52	1,794.5	-113.6	0.9	8.9	0.00	0.00	0.00
1,900.0	5.91	179.52	1,893.9	-124.0	1.0	9.7	0.00	0.00	0.00
2,000.0	5.91	179.52	1,993.4	-134.3	1.1	10.5	0.00	0.00	0.00
2,100.0	5.91	179.52	2,092.9	-144.6	1.2	11.3	0.00	0.00	0.00
2,200.0	5.91	179.52	2,192.4	-154.9	1.3	12.1	0.00	0.00	0.00
2,300.0	5.91	179.52	2,291.8	-165.2	1.4	12.9	0.00	0.00	0.00
2,400.0	5.91	179.52	2,391.3	-175.5	1.5	13.7	0.00	0.00	0.00
2,500.0	5.91	179.52	2,490.8	-185.8	1.5	14.5	0.00	0.00	0.00
2,600.0	5.91	179.52	2,590.2	-196.1	1.6	15.3	0.00	0.00	0.00
2,700.0	5.91	179.52	2,689.7	-206.4	1.7	16.2	0.00	0.00	0.00
2,800.0	5.91	179.52	2,789.2	-216.7	1.8	17.0	0.00	0.00	0.00
2,900.0	5.91	179.52	2,888.6	-227.0	1.9	17.8	0.00	0.00	0.00
3,000.0	5.91	179.52	2,988.1	-237.3	2.0	18.6	0.00	0.00	0.00
3,100.0	5.91	179.52	3,087.6	-247.6	2.1	19.4	0.00	0.00	0.00
3,200.0	5.91	179.52	3,187.0	-257.9	2.1	20.2	0.00	0.00	0.00
3,300.0	5.91	179.52	3,286.5	-268.2	2.2	21.0	0.00	0.00	0.00
3,400.0	5.91	179.52	3,386.0	-278.5	2.3	21.8	0.00	0.00	0.00
3,500.0	5.91	179.52	3,485.4	-288.8	2.4	22.6	0.00	0.00	0.00
3,600.0	5.91	179.52	3,584.9	-299.1	2.5	23.4	0.00	0.00	0.00
3,700.0	5.91	179.52	3,684.4	-309.4	2.6	24.2	0.00	0.00	0.00
3,800.0	5.91	179.52	3,783.8	-319.7	2.7	25.0	0.00	0.00	0.00
3,900.0	5.91	179.52	3,883.3	-330.0	2.8	25.8	0.00	0.00	0.00
4,000.0	5.91	179.52	3,982.8	-340.3	2.8	26.6	0.00	0.00	0.00
4,100.0	5.91	179.52	4,082.2	-350.6	2.9	27.4	0.00	0.00	0.00
4,200.0	5.91	179.52	4,181.7	-360.9	3.0	28.3	0.00	0.00	0.00
4,300.0	5.91	179.52	4,281.2	-371.2	3.1	29.1	0.00	0.00	0.00
4,400.0	5.91	179.52	4,380.6	-381.5	3.2	29.9	0.00	0.00	0.00
4,500.0	5.91	179.52	4,480.1	-391.8	3.3	30.7	0.00	0.00	0.00
4,600.0	5.91	179.52	4,579.6	-402.1	3.4	31.5	0.00	0.00	0.00
4,700.0	5.91	179.52	4,679.0	-412.4	3.4	32.3	0.00	0.00	0.00
4,800.0	5.91	179.52	4,778.5	-422.7	3.5	33.1	0.00	0.00	0.00
4,900.0	5.91	179.52	4,878.0	-433.0	3.6	33.9	0.00	0.00	0.00
5,000.0	5.91	179.52	4,977.4	-443.4	3.7	34.7	0.00	0.00	0.00
5,100.0	5.91	179.52	5,076.9	-453.7	3.8	35.5	0.00	0.00	0.00

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Little Giants 20/19 W0PM Fed Com #1H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3089.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3089.0usft (Original Well Elev)
Site:	Little Giants 20/19 W0PM Fed Com #1H	**North Reference:**	Grid
Well:	SL: 1280 FSL & 205 FWL	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 440 FSL & 330 FWL		
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	5.91	179.52	5,176.4	-464.0	3.9	36.3	0.00	0.00	0.00
5,300.0	5.91	179.52	5,275.9	-474.3	4.0	37.1	0.00	0.00	0.00
5,400.0	5.91	179.52	5,375.3	-484.6	4.0	37.9	0.00	0.00	0.00
5,500.0	5.91	179.52	5,474.8	-494.9	4.1	38.7	0.00	0.00	0.00
5,600.0	5.91	179.52	5,574.3	-505.2	4.2	39.5	0.00	0.00	0.00
5,700.0	5.91	179.52	5,673.7	-515.5	4.3	40.4	0.00	0.00	0.00
5,800.0	5.91	179.52	5,773.2	-525.8	4.4	41.2	0.00	0.00	0.00
5,900.0	5.91	179.52	5,872.7	-536.1	4.5	42.0	0.00	0.00	0.00
6,000.0	5.91	179.52	5,972.1	-546.4	4.6	42.8	0.00	0.00	0.00
6,100.0	5.91	179.52	6,071.6	-556.7	4.6	43.6	0.00	0.00	0.00
6,200.0	5.91	179.52	6,171.1	-567.0	4.7	44.4	0.00	0.00	0.00
6,300.0	5.91	179.52	6,270.5	-577.3	4.8	45.2	0.00	0.00	0.00
6,400.0	5.91	179.52	6,370.0	-587.6	4.9	46.0	0.00	0.00	0.00
6,500.0	5.91	179.52	6,469.5	-597.9	5.0	46.8	0.00	0.00	0.00
6,600.0	5.91	179.52	6,568.9	-608.2	5.1	47.6	0.00	0.00	0.00
6,700.0	5.91	179.52	6,668.4	-618.5	5.2	48.4	0.00	0.00	0.00
6,800.0	5.91	179.52	6,767.9	-628.8	5.2	49.2	0.00	0.00	0.00
6,900.0	5.91	179.52	6,867.3	-639.1	5.3	50.0	0.00	0.00	0.00
7,000.0	5.91	179.52	6,966.8	-649.4	5.4	50.8	0.00	0.00	0.00
7,100.0	5.91	179.52	7,066.3	-659.7	5.5	51.6	0.00	0.00	0.00
7,200.0	5.91	179.52	7,165.7	-670.0	5.6	52.5	0.00	0.00	0.00
7,300.0	5.91	179.52	7,265.2	-680.3	5.7	53.3	0.00	0.00	0.00
7,400.0	5.91	179.52	7,364.7	-690.6	5.8	54.1	0.00	0.00	0.00
7,500.0	5.91	179.52	7,464.1	-700.9	5.8	54.9	0.00	0.00	0.00
7,600.0	5.91	179.52	7,563.6	-711.2	5.9	55.7	0.00	0.00	0.00
7,700.0	5.91	179.52	7,663.1	-721.5	6.0	56.5	0.00	0.00	0.00
7,800.0	5.91	179.52	7,762.5	-731.8	6.1	57.3	0.00	0.00	0.00
7,900.0	5.91	179.52	7,862.0	-742.1	6.2	58.1	0.00	0.00	0.00
8,000.0	5.91	179.52	7,961.5	-752.5	6.3	58.9	0.00	0.00	0.00
8,100.0	5.91	179.52	8,060.9	-762.8	6.4	59.7	0.00	0.00	0.00
8,200.0	5.91	179.52	8,160.4	-773.1	6.4	60.5	0.00	0.00	0.00
8,300.0	5.91	179.52	8,259.9	-783.4	6.5	61.3	0.00	0.00	0.00
8,400.0	5.91	179.52	8,359.4	-793.7	6.6	62.1	0.00	0.00	0.00
8,500.0	5.91	179.52	8,458.8	-804.0	6.7	62.9	0.00	0.00	0.00
8,600.0	5.91	179.52	8,558.3	-814.3	6.8	63.7	0.00	0.00	0.00
8,652.4	5.91	179.52	8,610.4	-819.7	6.8	64.2	0.00	0.00	0.00
8,700.0	5.20	179.52	8,657.8	-824.3	6.9	64.5	1.50	-1.50	0.00
8,800.0	3.70	179.52	8,757.5	-832.0	6.9	65.1	1.50	-1.50	0.00
8,900.0	2.20	179.52	8,857.3	-837.2	7.0	65.5	1.50	-1.50	0.00
9,000.0	0.70	179.52	8,957.3	-839.7	7.0	65.7	1.50	-1.50	0.00
9,046.7	0.00	0.00	9,004.0	-840.0	7.0	65.8	1.50	-1.50	0.00
KOP: 440 FSL & 205 FWL (Sec 21)									
9,100.0	6.40	269.75	9,057.2	-840.0	4.0	68.7	12.01	12.01	0.00
9,200.0	18.41	269.75	9,154.7	-840.1	-17.4	90.1	12.01	12.01	0.00
9,300.0	30.42	269.75	9,245.6	-840.3	-58.7	131.2	12.01	12.01	0.00
9,400.0	42.43	269.75	9,325.9	-840.6	-118.0	190.3	12.01	12.01	0.00
9,500.0	54.44	269.75	9,392.1	-840.9	-192.6	264.7	12.01	12.01	0.00
9,600.0	66.46	269.75	9,441.3	-841.3	-279.5	351.3	12.01	12.01	0.00
9,700.0	78.47	269.75	9,471.4	-841.7	-374.7	446.1	12.01	12.01	0.00
9,800.0	90.48	269.75	9,481.0	-842.1	-474.0	545.1	12.01	12.01	0.00
9,802.7	90.80	269.75	9,481.0	-842.1	-476.7	547.9	12.01	12.01	0.00
9,864.0	90.80	269.75	9,480.1	-842.4	-538.0	608.9	0.00	0.00	0.00
FTP: 440 FSL & 330 FEL (Sec 20)									
9,900.0	90.80	269.75	9,479.6	-842.6	-574.0	644.8	0.00	0.00	0.00

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Little Giants 20/19 W0PM Fed Com #1H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3089.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3089.0usft (Original Well Elev)
Site:	Little Giants 20/19 W0PM Fed Com #1H	**North Reference:**	Grid
Well:	SL: 1280 FSL & 205 FWL	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 440 FSL & 330 FWL		
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)
10,000.0	90.80	269.75	9,478.2	-843.0	-674.0	744.4	0.00	0.00	0.00
10,100.0	90.80	269.75	9,476.8	-843.4	-774.0	844.1	0.00	0.00	0.00
10,200.0	90.80	269.75	9,475.4	-843.9	-874.0	943.7	0.00	0.00	0.00
10,300.0	90.80	269.75	9,474.0	-844.3	-974.0	1,043.4	0.00	0.00	0.00
10,400.0	90.80	269.75	9,472.6	-844.8	-1,073.9	1,143.1	0.00	0.00	0.00
10,500.0	90.80	269.75	9,471.2	-845.2	-1,173.9	1,242.7	0.00	0.00	0.00
10,600.0	90.80	269.75	9,469.8	-845.7	-1,273.9	1,342.4	0.00	0.00	0.00
10,700.0	90.80	269.75	9,468.4	-846.1	-1,373.9	1,442.0	0.00	0.00	0.00
10,800.0	90.80	269.75	9,467.0	-846.5	-1,473.9	1,541.7	0.00	0.00	0.00
10,900.0	90.80	269.75	9,465.6	-847.0	-1,573.9	1,641.3	0.00	0.00	0.00
11,000.0	90.80	269.75	9,464.2	-847.4	-1,673.9	1,741.0	0.00	0.00	0.00
11,100.0	90.80	269.75	9,462.8	-847.9	-1,773.9	1,840.6	0.00	0.00	0.00
11,200.0	90.80	269.75	9,461.4	-848.3	-1,873.9	1,940.3	0.00	0.00	0.00
11,300.0	90.80	269.75	9,460.0	-848.7	-1,973.8	2,039.9	0.00	0.00	0.00
11,400.0	90.80	269.75	9,458.6	-849.2	-2,073.8	2,139.6	0.00	0.00	0.00
11,500.0	90.80	269.75	9,457.2	-849.6	-2,173.8	2,239.2	0.00	0.00	0.00
11,600.0	90.80	269.75	9,455.8	-850.1	-2,273.8	2,338.9	0.00	0.00	0.00
11,700.0	90.80	269.75	9,454.4	-850.5	-2,373.8	2,438.5	0.00	0.00	0.00
11,800.0	90.80	269.75	9,453.0	-851.0	-2,473.8	2,538.2	0.00	0.00	0.00
11,900.0	90.80	269.75	9,451.6	-851.4	-2,573.8	2,637.8	0.00	0.00	0.00
12,000.0	90.80	269.75	9,450.2	-851.8	-2,673.8	2,737.5	0.00	0.00	0.00
12,100.0	90.80	269.75	9,448.8	-852.3	-2,773.8	2,837.1	0.00	0.00	0.00
12,200.0	90.80	269.75	9,447.4	-852.7	-2,873.7	2,936.8	0.00	0.00	0.00
12,300.0	90.80	269.75	9,446.0	-853.2	-2,973.7	3,036.4	0.00	0.00	0.00
12,400.0	90.80	269.75	9,444.6	-853.6	-3,073.7	3,136.1	0.00	0.00	0.00
12,500.0	90.80	269.75	9,443.2	-854.0	-3,173.7	3,235.7	0.00	0.00	0.00
12,600.0	90.80	269.75	9,441.8	-854.5	-3,273.7	3,335.4	0.00	0.00	0.00
12,700.0	90.80	269.75	9,440.4	-854.9	-3,373.7	3,435.0	0.00	0.00	0.00
12,800.0	90.80	269.75	9,439.0	-855.4	-3,473.7	3,534.7	0.00	0.00	0.00
12,900.0	90.80	269.75	9,437.6	-855.8	-3,573.7	3,634.4	0.00	0.00	0.00
13,000.0	90.80	269.75	9,436.2	-856.3	-3,673.7	3,734.0	0.00	0.00	0.00
13,100.0	90.80	269.75	9,434.8	-856.7	-3,773.7	3,833.7	0.00	0.00	0.00
13,200.0	90.80	269.75	9,433.4	-857.1	-3,873.6	3,933.3	0.00	0.00	0.00
13,300.0	90.80	269.75	9,432.0	-857.6	-3,973.6	4,033.0	0.00	0.00	0.00
13,400.0	90.80	269.75	9,430.6	-858.0	-4,073.6	4,132.6	0.00	0.00	0.00
13,500.0	90.80	269.75	9,429.2	-858.5	-4,173.6	4,232.3	0.00	0.00	0.00
13,600.0	90.80	269.75	9,427.8	-858.9	-4,273.6	4,331.9	0.00	0.00	0.00
13,700.0	90.80	269.75	9,426.4	-859.3	-4,373.6	4,431.6	0.00	0.00	0.00
13,800.0	90.80	269.75	9,425.0	-859.8	-4,473.6	4,531.2	0.00	0.00	0.00
13,900.0	90.80	269.75	9,423.6	-860.2	-4,573.6	4,630.9	0.00	0.00	0.00
14,000.0	90.80	269.75	9,422.2	-860.7	-4,673.6	4,730.5	0.00	0.00	0.00
14,100.0	90.80	269.75	9,420.8	-861.1	-4,773.5	4,830.2	0.00	0.00	0.00
14,200.0	90.80	269.75	9,419.4	-861.6	-4,873.5	4,929.8	0.00	0.00	0.00
14,300.0	90.80	269.75	9,418.0	-862.0	-4,973.5	5,029.5	0.00	0.00	0.00
14,400.0	90.80	269.75	9,416.6	-862.4	-5,073.5	5,129.1	0.00	0.00	0.00
14,500.0	90.80	269.75	9,415.2	-862.9	-5,173.5	5,228.8	0.00	0.00	0.00
14,600.0	90.80	269.75	9,413.8	-863.3	-5,273.5	5,328.4	0.00	0.00	0.00
14,700.0	90.80	269.75	9,412.4	-863.8	-5,373.5	5,428.1	0.00	0.00	0.00
14,712.5	90.80	269.75	9,412.2	-863.8	-5,386.0	5,440.6	0.00	0.00	0.00
PPP2: 440 FSL & 0 FEL (Sec 19)									
14,800.0	90.80	269.75	9,411.0	-864.2	-5,473.5	5,527.7	0.00	0.00	0.00
14,900.0	90.80	269.75	9,409.6	-864.6	-5,573.5	5,627.4	0.00	0.00	0.00
15,000.0	90.80	269.75	9,408.2	-865.1	-5,673.4	5,727.0	0.00	0.00	0.00

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Little Giants 20/19 W0PM Fed Com #1H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3089.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3089.0usft (Original Well Elev)
Site:	Little Giants 20/19 W0PM Fed Com #1H	**North Reference:**	Grid
Well:	SL: 1280 FSL & 205 FWL	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 440 FSL & 330 FWL		
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)
15,100.0	90.80	269.75	9,406.8	-865.5	-5,773.4	5,826.7	0.00	0.00	0.00
15,200.0	90.80	269.75	9,405.4	-866.0	-5,873.4	5,926.3	0.00	0.00	0.00
15,300.0	90.80	269.75	9,404.0	-866.4	-5,973.4	6,026.0	0.00	0.00	0.00
15,400.0	90.80	269.75	9,402.6	-866.9	-6,073.4	6,125.7	0.00	0.00	0.00
15,500.0	90.80	269.75	9,401.2	-867.3	-6,173.4	6,225.3	0.00	0.00	0.00
15,600.0	90.80	269.75	9,399.8	-867.7	-6,273.4	6,325.0	0.00	0.00	0.00
15,700.0	90.80	269.75	9,398.4	-868.2	-6,373.4	6,424.6	0.00	0.00	0.00
15,800.0	90.80	269.75	9,397.0	-868.6	-6,473.4	6,524.3	0.00	0.00	0.00
15,900.0	90.80	269.75	9,395.6	-869.1	-6,573.3	6,623.9	0.00	0.00	0.00
16,000.0	90.80	269.75	9,394.2	-869.5	-6,673.3	6,723.6	0.00	0.00	0.00
16,100.0	90.80	269.75	9,392.8	-869.9	-6,773.3	6,823.2	0.00	0.00	0.00
16,200.0	90.80	269.75	9,391.4	-870.4	-6,873.3	6,922.9	0.00	0.00	0.00
16,300.0	90.80	269.75	9,390.0	-870.8	-6,973.3	7,022.5	0.00	0.00	0.00
16,400.0	90.80	269.75	9,388.6	-871.3	-7,073.3	7,122.2	0.00	0.00	0.00
16,500.0	90.80	269.75	9,387.2	-871.7	-7,173.3	7,221.8	0.00	0.00	0.00
16,600.0	90.80	269.75	9,385.8	-872.2	-7,273.3	7,321.5	0.00	0.00	0.00
16,700.0	90.80	269.75	9,384.4	-872.6	-7,373.3	7,421.1	0.00	0.00	0.00
16,800.0	90.80	269.75	9,383.0	-873.0	-7,473.3	7,520.8	0.00	0.00	0.00
16,900.0	90.80	269.75	9,381.6	-873.5	-7,573.2	7,620.4	0.00	0.00	0.00
17,000.0	90.80	269.75	9,380.2	-873.9	-7,673.2	7,720.1	0.00	0.00	0.00
17,100.0	90.80	269.75	9,378.8	-874.4	-7,773.2	7,819.7	0.00	0.00	0.00
17,200.0	90.80	269.75	9,377.4	-874.8	-7,873.2	7,919.4	0.00	0.00	0.00
17,300.0	90.80	269.75	9,376.0	-875.2	-7,973.2	8,019.0	0.00	0.00	0.00
17,400.0	90.80	269.75	9,374.6	-875.7	-8,073.2	8,118.7	0.00	0.00	0.00
17,500.0	90.80	269.75	9,373.2	-876.1	-8,173.2	8,218.3	0.00	0.00	0.00
17,600.0	90.80	269.75	9,371.8	-876.6	-8,273.2	8,318.0	0.00	0.00	0.00
17,700.0	90.80	269.75	9,370.4	-877.0	-8,373.2	8,417.6	0.00	0.00	0.00
17,800.0	90.80	269.75	9,369.0	-877.4	-8,473.1	8,517.3	0.00	0.00	0.00
17,900.0	90.80	269.75	9,367.6	-877.9	-8,573.1	8,616.9	0.00	0.00	0.00
18,000.0	90.80	269.75	9,366.2	-878.3	-8,673.1	8,716.6	0.00	0.00	0.00
18,100.0	90.80	269.75	9,364.8	-878.8	-8,773.1	8,816.3	0.00	0.00	0.00
18,200.0	90.80	269.75	9,363.4	-879.2	-8,873.1	8,915.9	0.00	0.00	0.00
18,300.0	90.80	269.75	9,362.0	-879.7	-8,973.1	9,015.6	0.00	0.00	0.00
18,400.0	90.80	269.75	9,360.6	-880.1	-9,073.1	9,115.2	0.00	0.00	0.00
18,500.0	90.80	269.75	9,359.2	-880.5	-9,173.1	9,214.9	0.00	0.00	0.00
18,600.0	90.80	269.75	9,357.7	-881.0	-9,273.1	9,314.5	0.00	0.00	0.00
18,700.0	90.80	269.75	9,356.3	-881.4	-9,373.0	9,414.2	0.00	0.00	0.00
18,800.0	90.80	269.75	9,354.9	-881.9	-9,473.0	9,513.8	0.00	0.00	0.00
18,900.0	90.80	269.75	9,353.5	-882.3	-9,573.0	9,613.5	0.00	0.00	0.00
19,000.0	90.80	269.75	9,352.1	-882.7	-9,673.0	9,713.1	0.00	0.00	0.00
19,100.0	90.80	269.75	9,350.7	-883.2	-9,773.0	9,812.8	0.00	0.00	0.00
19,200.0	90.80	269.75	9,349.3	-883.6	-9,873.0	9,912.4	0.00	0.00	0.00
19,300.0	90.80	269.75	9,347.9	-884.1	-9,973.0	10,012.1	0.00	0.00	0.00
19,400.0	90.80	269.75	9,346.5	-884.5	-10,073.0	10,111.7	0.00	0.00	0.00
19,500.0	90.80	269.75	9,345.1	-885.0	-10,173.0	10,211.4	0.00	0.00	0.00
19,510.0	90.80	269.75	9,345.0	-885.0	-10,183.0	10,221.4	0.00	0.00	0.00

BHL: 440 FSL & 330 FWL (Sec 19)

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Little Giants 20/19 W0PM Fed Com #1H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3089.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3089.0usft (Original Well Elev)
Site:	Little Giants 20/19 W0PM Fed Com #1H	**North Reference:**	Grid
Well:	SL: 1280 FSL & 205 FWL	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 440 FSL & 330 FWL		
Design:	Design #1		

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SL: 1280 FSL & 205 FW - plan hits target center - Point	0.00	0.00	0.0	0.0	0.0	500,061.00	613,210.00	32.3745223	-104.1005266
KOP: 440 FSL & 205 FW - plan hits target center - Point	0.00	0.00	9,004.0	-840.0	7.0	499,221.00	613,217.00	32.3722133	-104.1005098
BHL: 440 FSL & 330 FW - plan hits target center - Point	0.00	0.00	9,345.0	-885.0	-10,183.0	499,176.00	603,027.00	32.3721462	-104.1335162
PPP2: 440 FSL & 0 FEL - plan hits target center - Point	0.00	0.00	9,412.2	-863.8	-5,386.0	499,197.19	607,824.00	32.3721788	-104.1179782
FTP: 440 FSL & 330 FEI - plan hits target center - Point	0.00	0.00	9,480.1	-842.4	-538.0	499,218.59	612,672.00	32.3722099	-104.1022751

Mewbourne Oil Company, Little Giants 20/19 W0PM Fed Com #1H
Sec 21, T22S, R28E
SL: 1280' FSL & 205' FWL
BHL: 440' FSL & 330' FWL

1. Geologic Formations

TVD of target	9,345'	Pilot hole depth	NA
MD at TD:	19,510'	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	785		
Base of Salt	2255		
Lamar	2505	Oil	
Bell Canyon	2580		
Cherry Canyon	3350		
Manzanita Marker	3510		
Brushy Canyon	4615		
Bone Spring	5990	Oil/Gas	
1st Bone Spring Sand	7030		
2nd Bone Spring Sand	7760		
3rd Bone Spring Sand	9030		
Abo			
Wolfcamp	9345	Target Zone	
Devonian			
Fusselman			
Ellenburger			
Granite Wash			

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

Mewbourne Oil Company, Little Giants 20/19 W0PM Fed Com #1H
Sec 21, T22S, R28E
SL: 1280' FSL & 205' FWL
BHL: 440' FSL & 330' FWL

2. Casing Program

Hole Size	Casing Interval From	To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
17.5"	0'	500'	13.375"	48	H40	STC	3.37	7.56	13.42	22.54
12.25"	0'	2,430'	9.625"	36	J55	LTC	1.60	2.79	5.18	6.45
8.75"	0'	9,800'	7"	26	HCP110	LTC	1.33	2.12	2.51	3.26
6.125"	9,047'	19,510'	4.5"	13.5	P110	LTC	1.69	1.96	2.39	2.99
			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?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

Mewbourne Oil Company, Little Giants 20/19 W0PM Fed Com #1H
Sec 21, T22S, R28E
SL: 1280' FSL & 205' FWL
BHL: 440' FSL & 330' FWL

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H_20 gal/ sk	500# Comp. Strength (hours)	Slurry Description
Surf.	205	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.	325	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	340	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 @ 3510'						
Prod. Stg 2	270	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	415	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	2230'	25%
Liner	9,047	25%

Mewbourne Oil Company, Little Giants 20/19 W0PM Fed Com #1H
Sec 21, T22S, R28E
SL: 1280' FSL & 205' FWL
BHL: 440' FSL & 330' FWL

4. Pressure Control Equipment

BOP installed and tested before drilling which hole?	Size?	System Rated WP	Type	✓	Tested to:
12-1/4"	13-5/8"	5M	Annular	X	2,500#
			Blind Ram	X	5,000#
			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.

Mewbourne Oil Company, Little Giants 20/19 W0PM Fed Com #1H
Sec 21, T22S, R28E
SL: 1280' FSL & 205' FWL
BHL: 440' FSL & 330' FWL

5. Mud Program

TVD		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	500	FW Gel	8.6-8.8	28-34	N/C
500	2,430	Saturated Brine	10.0	28-34	N/C
2,430	9,481	Cut Brine	8.6-9.5	28-34	N/C
9,345	9,481	OBM	10.0-13.0	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 (9,047') 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	9,047' (KOP) to TD
	Density	
	CBL	
	Mud log	
	PEX	

Mewbourne Oil Company, Little Giants 20/19 W0PM Fed Com #1H
Sec 21, T22S, R28E
SL: 1280' FSL & 205' FWL
BHL: 440' FSL & 330' FWL

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	5916 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: 10400036058 **Submission Date:** 11/07/2018

Operator Name: MEWBOURNE OIL COMPANY

Well Name: LITTLEGIANTS 20/19 W0PM FEDCOM **Well Number:** 1H

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:

LittleGiants20_19W0PMFedCom1H_existingroadmap_20181106150002.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? YES

New Road Map:

LittleGiants20_19W0PMFedCom1H_newroadmap_20190503113752.pdf

New road type: RESOURCE

Length: 969.02 Feet **Width (ft.):** 25

Max slope (%): 3 **Max grade (%):** 3

Army Corp of Engineers (ACOE) permit required? NO

ACOE Permit Number(s):

New road travel width: 14

New road access erosion control: None

New road access plan or profile prepared? NO

New road access plan attachment:

Access road engineering design? NO

Access road engineering design attachment:

Operator Name: MEWBOURNE OIL COMPANY

Well Name: LITTLEGIANTS 20/19 W0PM FEDCOM **Well Number:** 1H

Turnout? N

Access surfacing type: OTHER

Access topsoil source: OFFSITE

Access surfacing type description: Caliche

Access onsite topsoil source depth:

Offsite topsoil source description: Private Pit

Onsite topsoil removal process:

Access other construction information:

Access miscellaneous information:

Number of access turnouts: **Access turnout map:**

Drainage Control

New road drainage crossing: OTHER

Drainage Control comments: None

Road Drainage Control Structures (DCS) description: None

Road Drainage Control Structures (DCS) attachment:

Access Additional Attachments

Additional Attachment(s):

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

LittleGiants20_19W0PMFedCom1H_existingwellmap_20181106150054.pdf

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: PRODUCTION FACILITY WILL BE ON THE EAST EDGE OF WELL PAD.

Production Facilities map:

LittleGiants20_19W0PMFedCom1H_productionfacilitymap_20181106150132.pdf

Section 5 - Location and Types of Water Supply

Water Source Table

Operator Name: MEWBOURNE OIL COMPANY

Well Name: LITTLEGIANTS 20/19 W0PM FEDCOM **Well Number:** 1H

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

Water source type: IRRIGATION

Describe type:

Source longitude: -104.91237

Source latitude: 32.245644

Source datum: NAD83

Water source permit type: WATER WELL

Source land ownership: PRIVATE

Water source transport method: TRUCKING

Source transportation land ownership: STATE

Water source volume (barrels): 1940

Source volume (acre-feet): 0.2500526

Source volume (gal): 81480

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

Water source type: IRRIGATION

Describe type:

Source longitude: -104.21917

Source latitude: 32.32698

Source datum: NAD83

Water source permit type: WATER WELL

Source land ownership: PRIVATE

Water source transport method: TRUCKING

Source transportation land ownership: FEDERAL

Water source volume (barrels): 1940

Source volume (acre-feet): 0.2500526

Source volume (gal): 81480

Water source and transportation map:

LittleGiants20_19W0PMFedCom1H_watersourceandtransmap_20181106150201.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:**

Operator Name: MEWBOURNE OIL COMPANY

Well Name: LITTLEGIANTS 20/19 W0PM FEDCOM **Well Number:** 1H

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

Using any construction materials: YES

Construction Materials description: Caliche

Construction Materials source location attachment:

LittleGiants20_19W0PMFedCom1H_calichesourceandtransmap_20181106150219.pdf

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

Operator Name: MEWBOURNE OIL COMPANY

Well Name: LITTLEGIANTS 20/19 W0PM FEDCOM **Well Number:** 1H

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

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

Operator Name: MEWBOURNE OIL COMPANY

Well Name: LITTLEGIANTS 20/19 W0PM FEDCOM **Well Number:** 1H

Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: NO

Ancillary Facilities attachment:

Comments:

Section 9 - Well Site Layout

Well Site Layout Diagram:

LittleGiants20_19W0PMFedCom1H_wellsitelayout_20181106150301.pdf

Comments:

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance

Multiple Well Pad Name: LITTLE GIANTS 20/19 PM & IL WELLS

Multiple Well Pad Number: 3

Recontouring attachment:

Drainage/Erosion control construction: None

Drainage/Erosion control reclamation: None

Wellpad long term disturbance (acres): 5.514

Wellpad short term disturbance (acres): 0.826

Access road long term disturbance (acres): 0.062

Access road short term disturbance (acres): 0.062

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: 5.576

Total short term disturbance: 0.888

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

Operator Name: MEWBOURNE OIL COMPANY

Well Name: LITTLEGIANTS 20/19 W0PM FEDCOM **Well Number:** 1H

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

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

Operator Name: MEWBOURNE OIL COMPANY

Well Name: LITTLEGIANTS 20/19 W0PM FEDCOM **Well Number:** 1H

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:

Existing invasive species treatment attachment:

Weed treatment plan description: NA

Weed treatment plan attachment:

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

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

Pit closure description: NA

Pit closure attachment:

Section 11 - Surface Ownership

Disturbance type: NEW ACCESS ROAD

Describe:

Surface Owner: PRIVATE OWNERSHIP

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Operator Name: MEWBOURNE OIL COMPANY

Well Name: LITTLEGIANTS 20/19 W0PM FEDCOM **Well Number:** 1H

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Fee Owner: Barnhart Family Trust **Fee Owner Address:**

Phone: (505)281-2626 **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: LITTLEGIANTS 20/19 W0PM FEDCOM **Well Number:** 1H

Fee Owner: Barnhart Family Trust **Fee Owner Address:**

Phone: (505)281-2626 **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

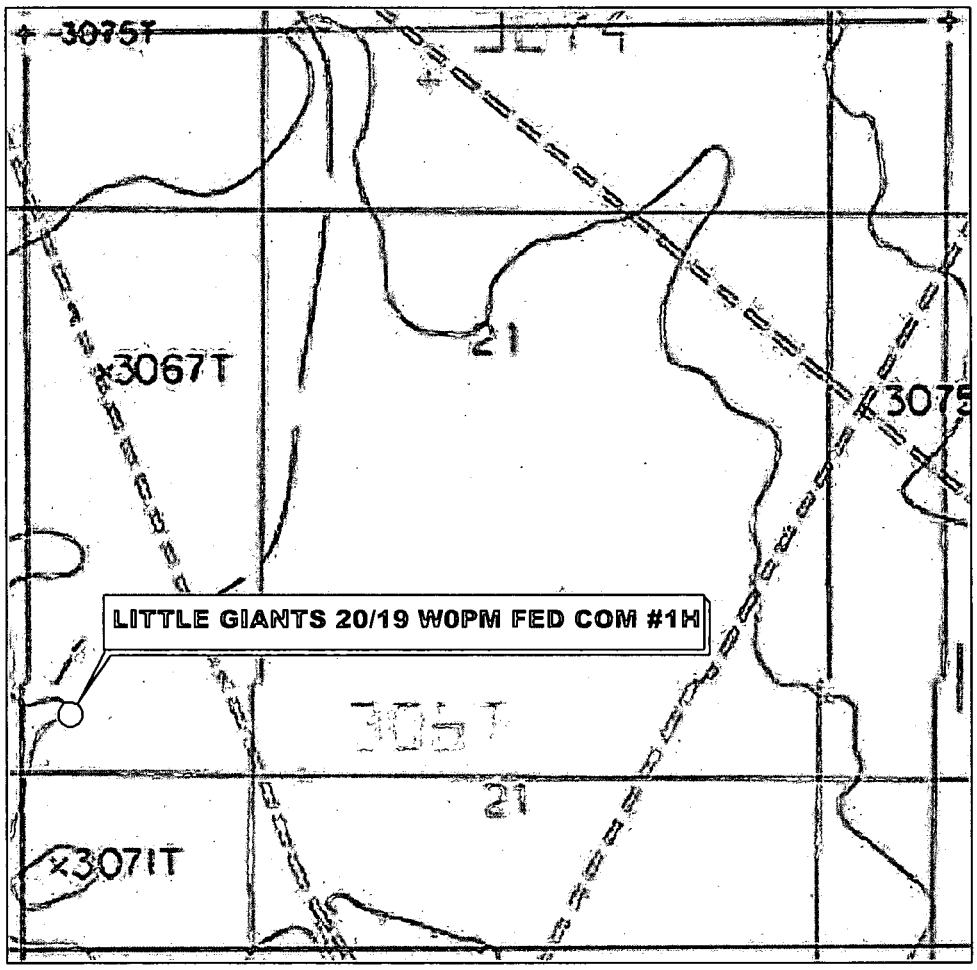
Previous Onsite information: OCT 19 2018 Met w/Paul Murphy (BLM) & RRC Surveying & staked location @ 1280' FSL & 205' FEL, Sec 20, T22S, R28E, Eddy Co., NM. This location was unacceptable due to BLM fence range stipulations & draw. Re-staked location @ 1280' FSL & 205' FWL, Sec 21, T22S, R28E, Eddy Co., NM. (Elevation @ 3062'). Pad is 460 x 600. Topsoil S. Road is off the NW corner to existing MOC road to W. Reclaim N & S 60'. Will require arch study. Per Paul Murphy BLM, onsite not required due to private surface & mineral ownership in Sec 21. Will need to relocate a portion of the fence on the E side of pad. SUA needed w/land owner Devon Energy. Lat. 32.37452253 N, Long -104.10052714 W NAD83

Other SUPO Attachment

LittleGiants20_19W0PMFedCom1H_gascaptureplan_20181106150455.pdf

LittleGiants20_19W0PMFedCom1H_interimreclamtiondiagram_20181106150510.pdf

LOCATION VERIFICATION MAP



SECTION 21, TWP. 22 SOUTH, RGE. 28 EAST,
N. M. P. M., EDDY CO., NEW MEXICO

OPERATOR: Mewbourne Oil Company
LEASE: Little Giants 20/19 W0PM Fed Com
WELL NO.: 1H
ELEVATION: 3062'

LOCATION: 1280' FSL & 205' FWL
CONTOUR INTERVAL: 10'
USGS TOPO. SOURCE MAP:
Loving, NM (P. E. 1985)

NO.	REVISION	DATE

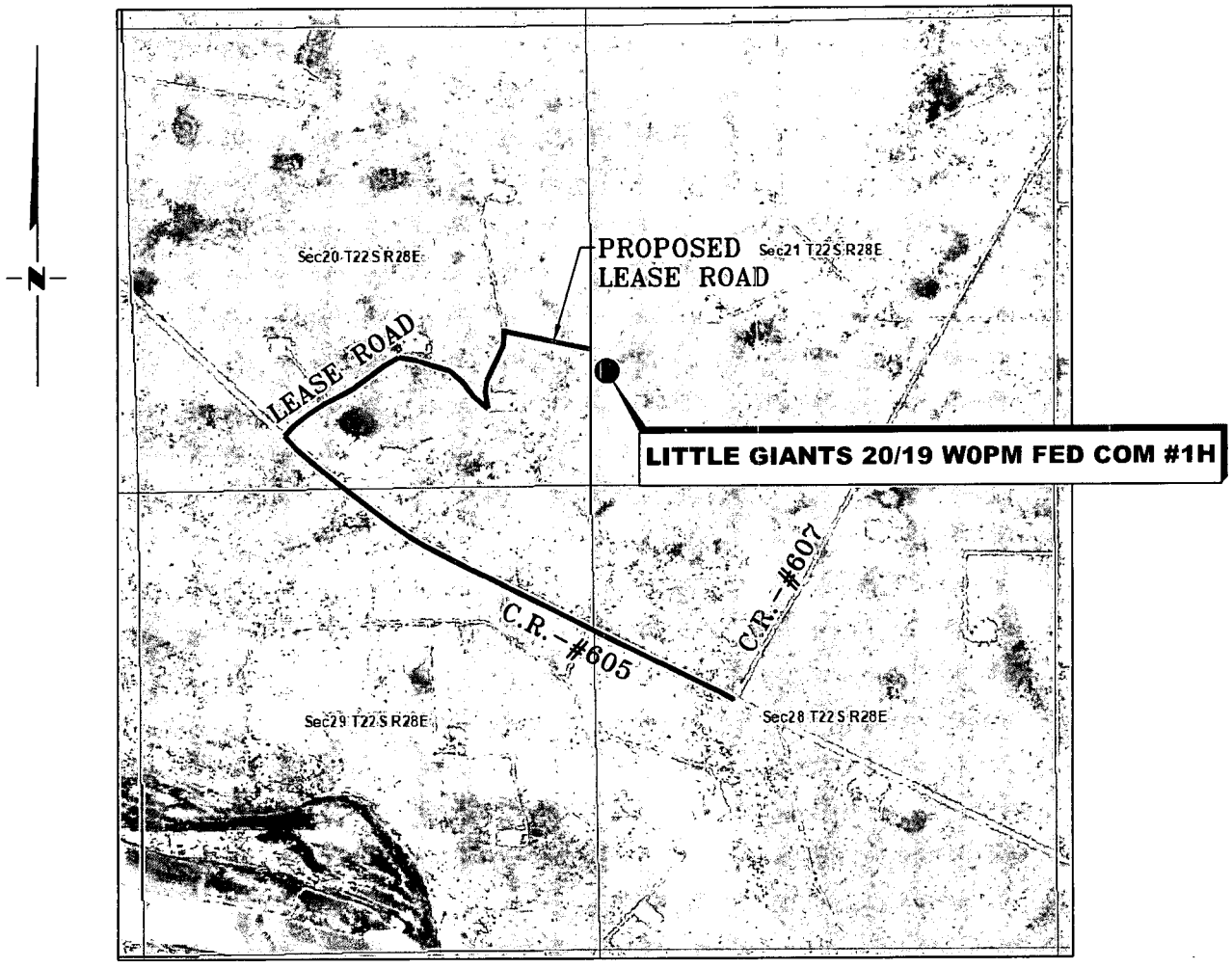
JOB NO.: LS18101194
DWG. NO.: 18101194-2

RRC

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

SCALE: 1" = 1000'
DATE: 10-15-2018
SURVEYED BY: ML/TF
DRAWN BY: KAKN
APPROVED BY: RMH
SHEET: 1 OF 1

VICINITY MAP



SECTION 21, TWP. 22 SOUTH, RGE. 28 EAST,
N. M. P. M., EDDY CO., NEW MEXICO

OPERATOR: Mewbourne Oil Company
LOCATION: 1280' FSL & 205' FWL
LEASE: Little Giants 20/19 W0PM Fed Com
ELEVATION: 3062'
WELL NO.: 1H

NO.	REVISION	DATE

JOB NO.: LS18101194
DWG. NO.: 18101194-3

RRC

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

SCALE: N. T. S.
DATE: 10-15-2018
SURVEYED BY: ML/TF
DRAWN BY: KAKN
APPROVED BY: RMH
SHEET: 1 OF 1

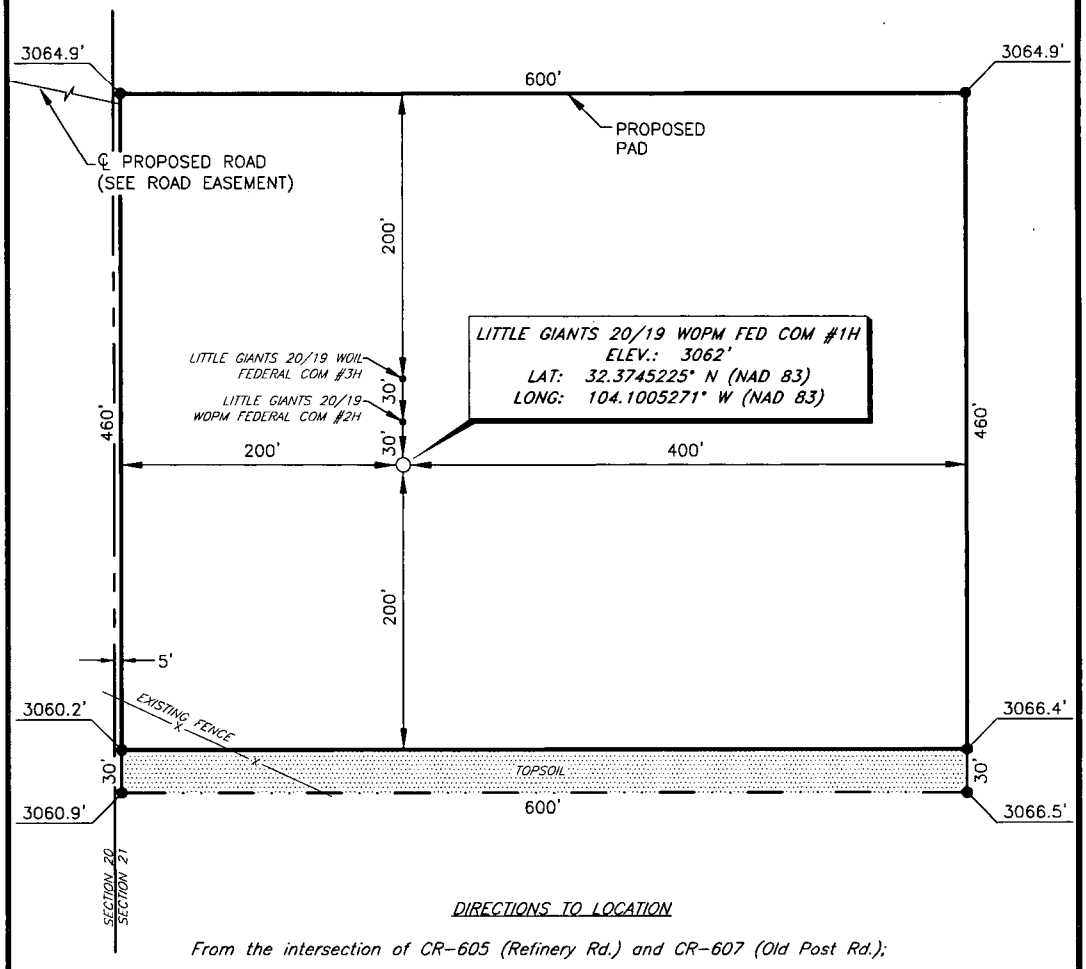
MEWBOURNE OIL COMPANY

LITTLE GIANTS 20/19 WOPM FED COM #1H

(1280' FSL & 205' FWL)

SECTION 21, T22S, R28E

N. M. P. M., EDDY COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

From the intersection of CR-605 (Refinery Rd.) and CR-607 (Old Post Rd.);

Go Northwest on CR-605 approx. 1.4 miles to a lease road on the right;

Turn right and go Northeast approx. 0.3 miles to a curve to the right;

Turn right at curve and go Southeast approx. 0.2 miles to a lease road on the left;

Turn left and go North approx. 0.2 miles to a proposed road on the right;

Turn right and go Southeast on proposed road approx. 0.2 miles to proposed location.

SCALE: 1" = 100'

0 50' 100'

BEARINGS ARE GRID NAD 83 NM EAST

DISTANCES ARE HORIZ. GROUND.

THIS IS NOT A BOUNDARY SURVEY, APPARENT PROPERTY CORNERS AND PROPERTY LINES ARE SHOWN FOR INFORMATION ONLY, BOUNDARY DATA IS SHOWN FROM A PREVIOUS SURVEY REFERENCED HEREON.

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 10/22/18 PROFESSIONAL SURVEYOR

NO.	REVISION	DATE

JOB NO.: LS18101194

DWG. NO.: 18101194-4

RRC

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

SCALE: 1" = 1000'

DATE: 10-15-2018

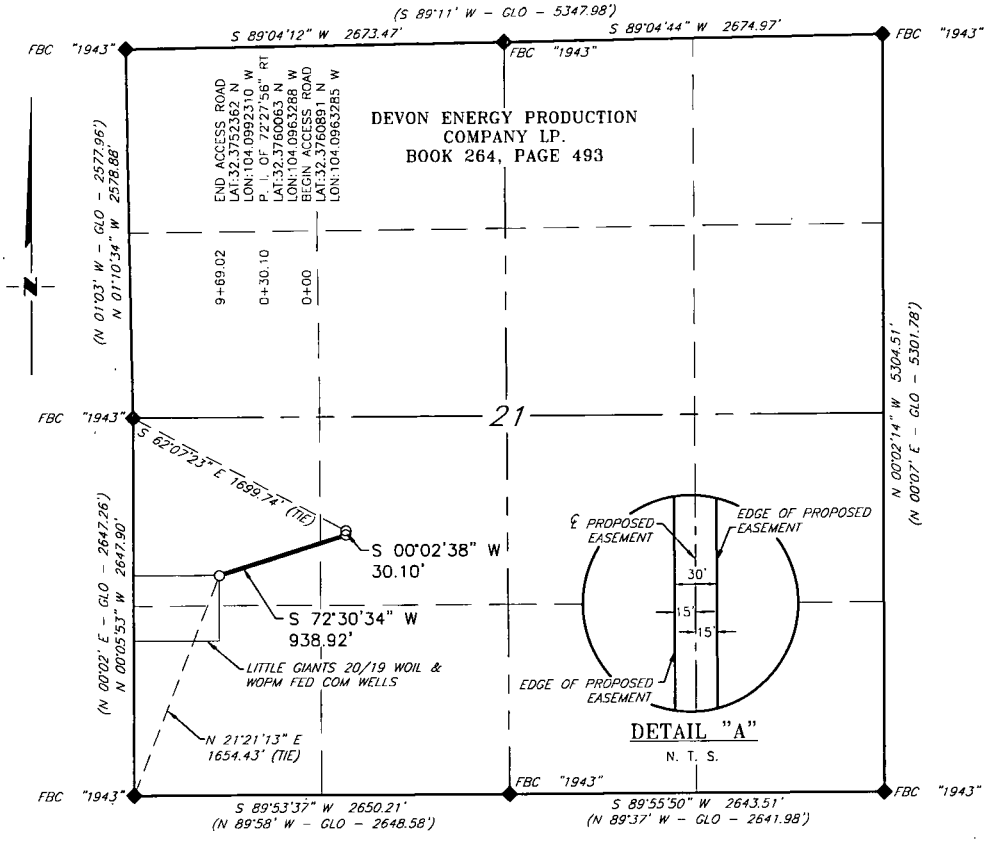
SURVEYED BY: ML/TF

DRAWN BY: KAKN

APPROVED BY: RMH

SHEET: 1 OF 1

MEWBOURNE OIL COMPANY
PROPOSED ACCESS ROAD FOR THE LITTLE GIANTS 20/19 WOIL & WOPM FED COM WELLS
SECTION 21, T22S, R28E,
N. M. P. M., EDDY CO., NEW MEXICO



DESCRIPTION

A strip of land 30 feet wide, being 969.02 feet or 58.728 rods in length, lying in Section 21, Township 22 South, Range 28 East, N. M. P. M., Eddy County, New Mexico, being 15 feet left and 15 feet right of the following described survey of a centerline across the lands of Devon Energy Production Company, LP., according to a deed filed for record in Book 264, Page 493, of the deed records of Eddy County, New Mexico:

BEGINNING at Engr. Sta. 0+00, a point in the Southwest quarter of Section 21, which bears, S 62°07'23" E, 1,699.74 feet from a brass cap, stamped "1943", found for the West quarter corner of Section 21;

Thence S 00°02'38" W, 30.10 feet, to Engr. Sta. 0+30.10, a P. I. of 72°27'56" right;

Thence S 72°30'34" W, 938.92 feet, to Engr. Sta. 9+69.02, the End of Survey, a point in the Southwest quarter of Section 21, which bears, N 21°21'13" E, 1,654.43 feet from a brass cap, stamped "1943", found for the Southwest corner of Section 21.

Said strip of land contains 0.667 acres, more or less, and is allocated by forties as follows:

NE 1/4 SW 1/4	13.270 Rods	0.151 Acres
NW 1/4 SW 1/4	45.458 Rods	0.516 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
PROPOSED ACCESS ROAD

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 04/24/19 PROFESSIONAL SURVEYOR

NO.	REVISION	DATE

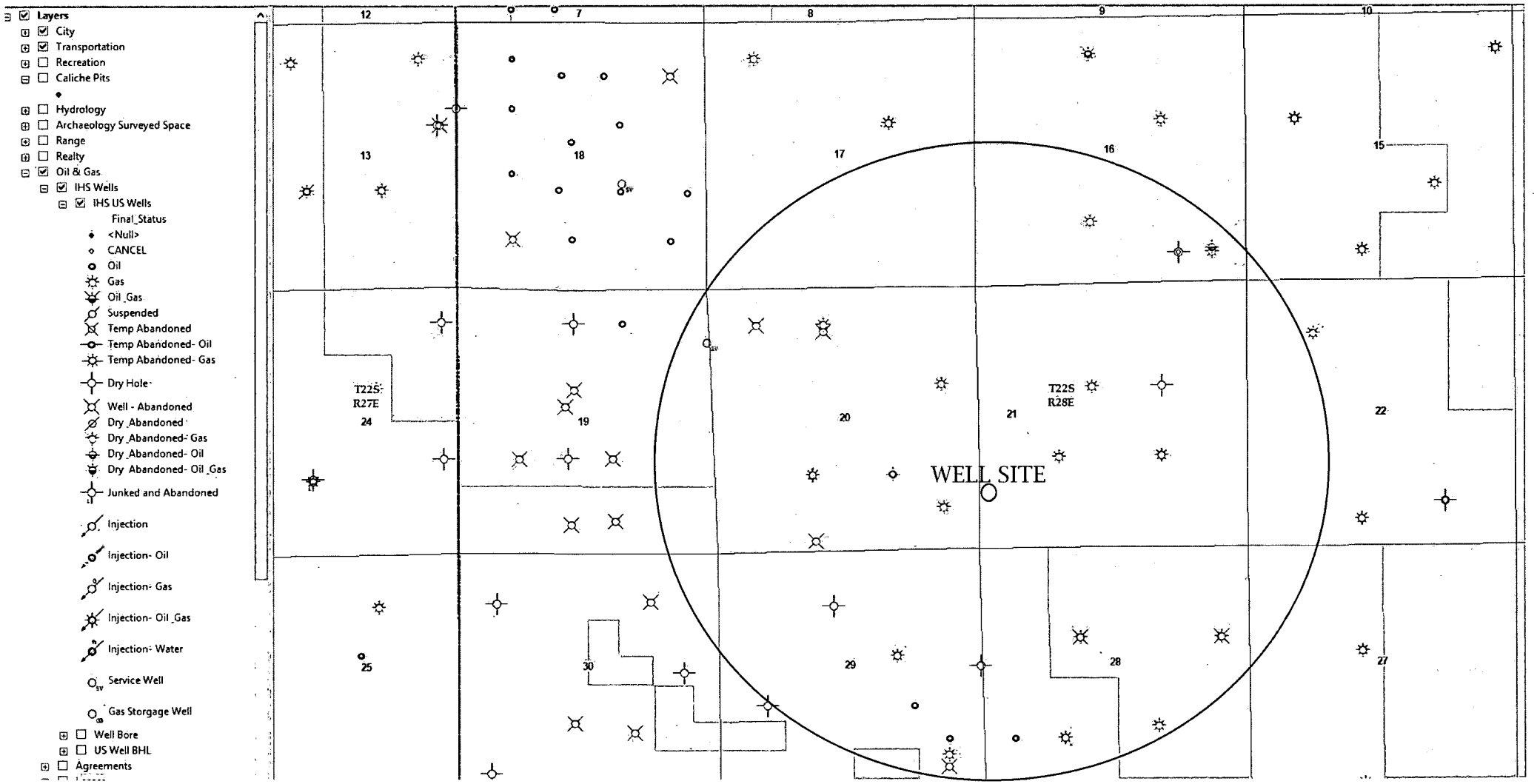
JOB NO.: LS18101192R
DWG. NO.: 18101192R-5

RRC

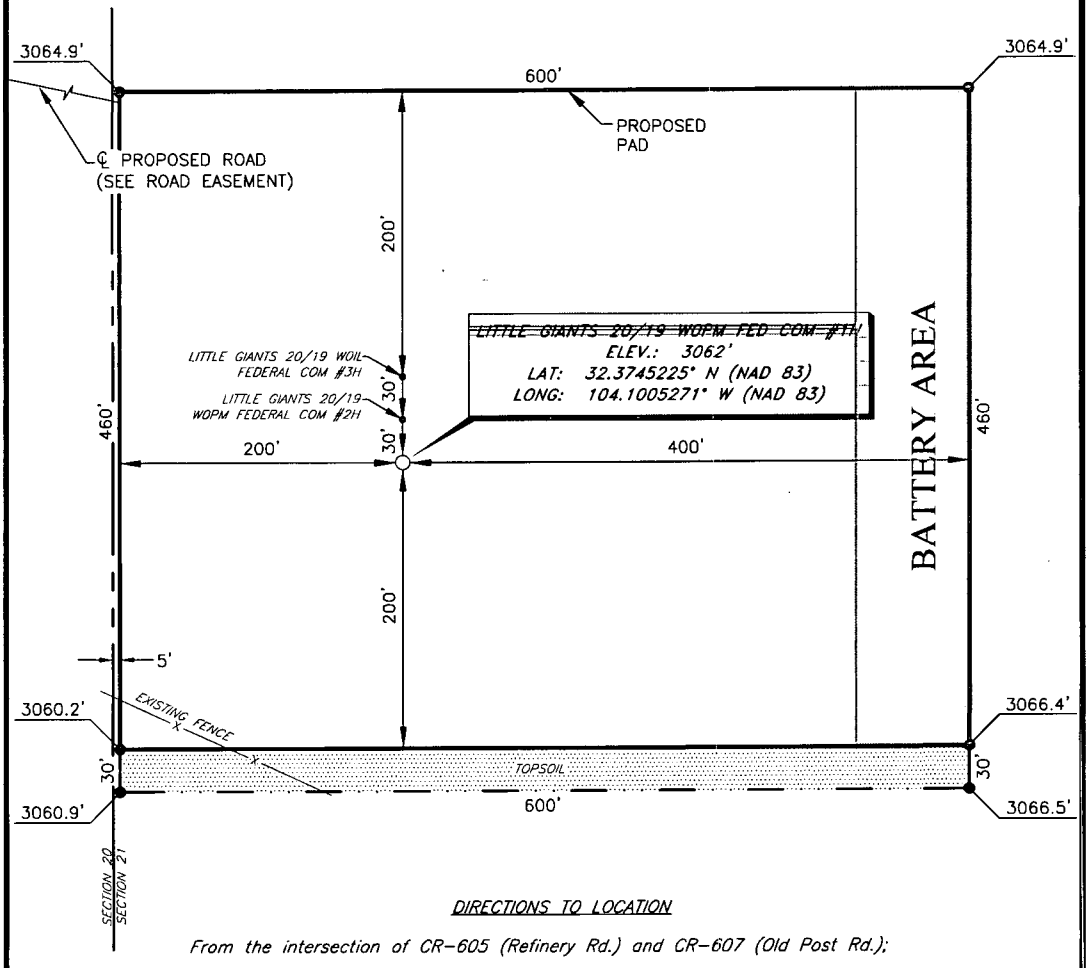
701 S. CECIL ST., HOBBS, NM 88240 (575) 964-8200

SCALE:	1" = 1000'
DATE:	04-22-2019
SURVEYED BY:	ML/JC
DRAWN BY:	KAKN
APPROVED BY:	RMH
SHEET:	1 OF 1

EXISTING WELL MAP
LITTLE GIANTS 20/19 W0PM FED COM #1H



MEWBOURNE OIL COMPANY
LITTLE GIANTS 20/19 WOPM FED COM #1H
(1280' FSL & 205' FWL)
SECTION 21, T22S, R28E
N. M. P. M., EDDY COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

From the intersection of CR-605 (Refinery Rd.) and CR-607 (Old Post Rd.);

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Turn right and go Southeast on proposed road approx. 0.2 miles to proposed location.

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Robert M. Howett

Robert M. Howett NM PS 19680

ROBERT M. HOWETT NEW MEXICO 19680 10/22/18 PROFESSIONAL SURVEYOR

SCALE: 1" = 100'
0 50' 100'

BEARINGS ARE GRID NAD 83 NM EAST
DISTANCES ARE HORIZ. GROUND.

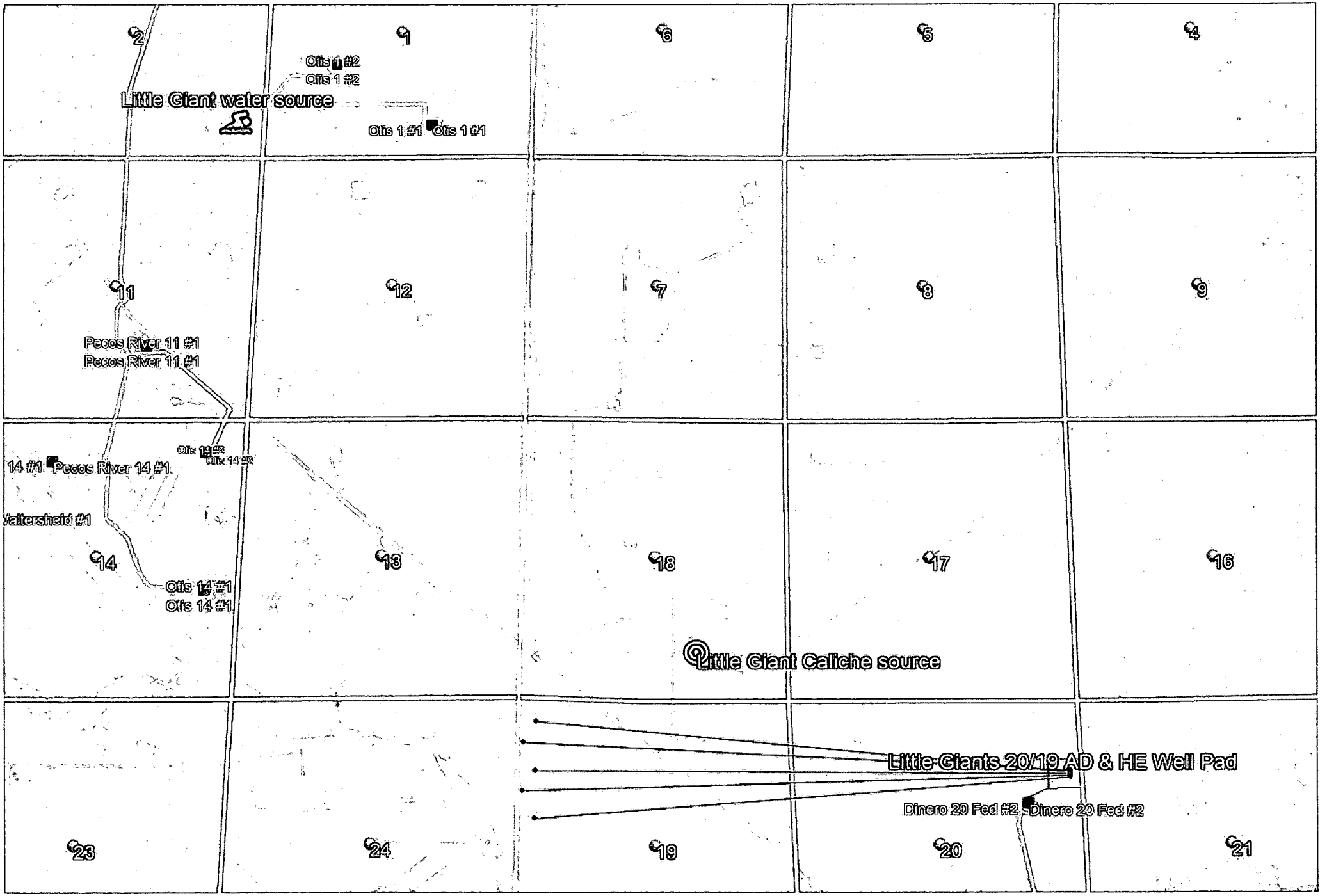
NO.	REVISION	DATE

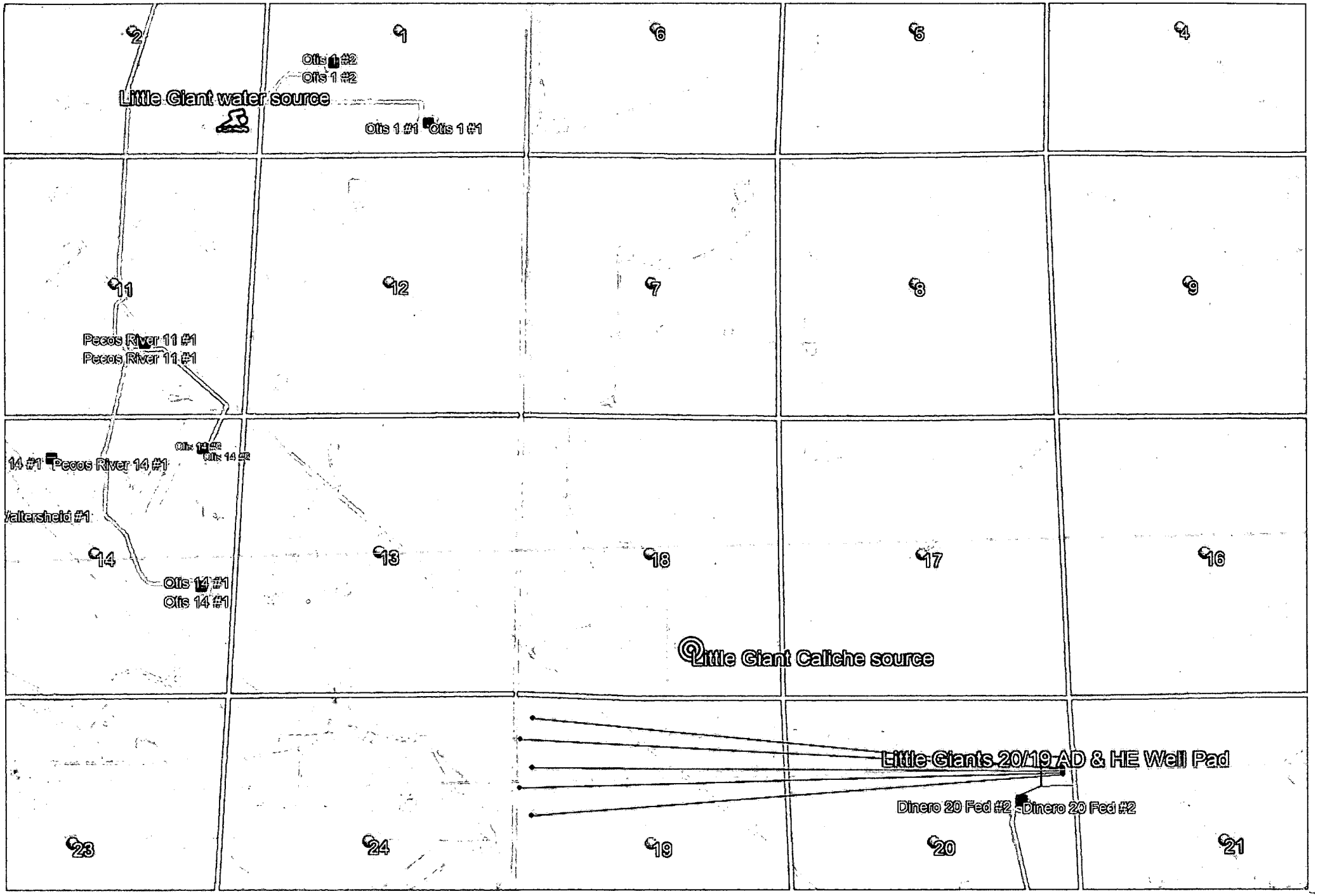
JOB NO.: LS18101194
DWG. NO.: 18101194-4

RRC

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

SCALE: 1" = 1000'
DATE: 10-15-2018
SURVEYED BY: ML/TF
DRAWN BY: KAKN
APPROVED BY: RMH
SHEET: 1 OF 1


2
1
6
5
4
Otis 1 #2
Otis 1 #2
Little Giant water source
Otis 1 #1
Otis 1 #1
11
12
7
8
9
Pecos River 11 #1
Pecos River 11 #1
Otis 14 #2
Otis 14 #2
14 #1
Pecos River 14 #1
Valtersheid #1
14
13
18
17
16
Otis 14 #1
Otis 14 #1
Little Giant Caliche source
Little Giants 20/19 AD & HE Well Pad
Dinero 20 Fed #2
Dinero 20 Fed #2
23
24
19
20
21


2
1
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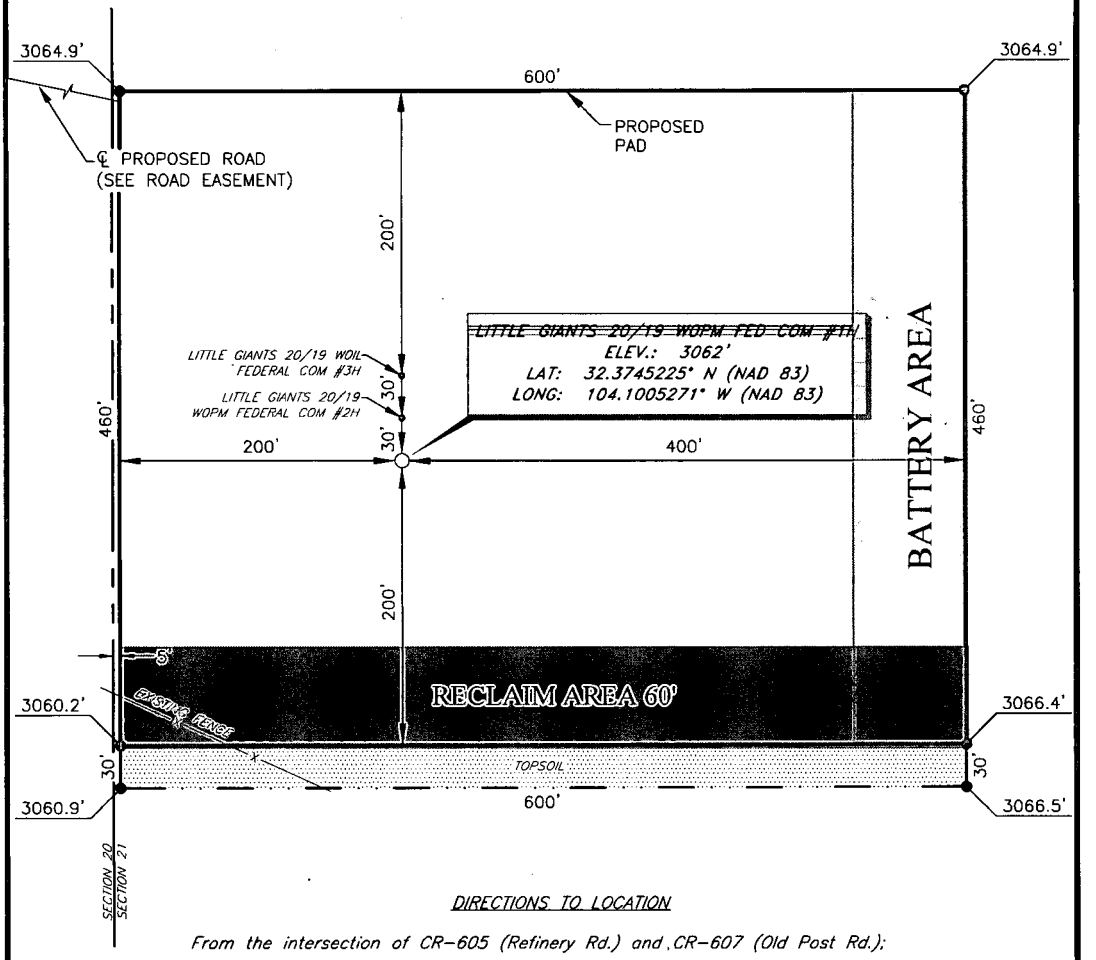
Little Giant water source
Otis 1 #2
Otis 1 #2
Otis 1 #1
Otis 1 #1
11
12
7
8
9
Pecos River 11 #1
Pecos River 11 #1
Otis 14 #2
Otis 14 #2
14 #1
Pecos River 14 #1
Waltersheid #1
14
13
18
17
16
Otis 14 #1
Otis 14 #1
Little Giant Caliche source
Little Giants 20/19 AD & HE Well Pad
Dinero 20 Fed #2
Dinero 20 Fed #2
23
24
19
20
21

MEWBOURNE OIL COMPANY
LITTLE GIANTS 20/19 WOPM FED COM #1H
(1280' FSL & 205' FWL)
SECTION 21, T22S, R28E
N. M. P. M., EDDY COUNTY, NEW MEXICO



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0 50' 100'

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Robert M. Howett
Robert M. Howett NM PS 19680

ROBERT M. HOWETT
NEW MEXICO
19680
10/22/18
PROFESSIONAL SURVEYOR

NO.	REVISION	DATE

JOB NO.: LS18101194
DWG. NO.: 18101194-4

RRC

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

SCALE: 1" = 1000'
DATE: 10-15-2018
SURVEYED BY: ML/TF
DRAWN BY: KAKN
APPROVED BY: RMH
SHEET: 1 OF 1

AFMSS

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

PWD Data Report

08/16/2019

APD ID: 10400036058 **Submission Date:** 11/07/2018

Operator Name: MEWBOURNE OIL COMPANY

Well Name: LITTLEGIANTS 20/19 W0PM FEDCOM **Well Number:** 1H

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

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:

Operator Name: MEWBOURNE OIL COMPANY

Well Name: LITTLEGIANTS 20/19 W0PM FEDCOM **Well Number:** 1H

Lined pit Monitor description:

Lined pit Monitor attachment:

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

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD disturbance (acres): **PWD surface owner:**

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?

Operator Name: MEWBOURNE OIL COMPANY

Well Name: LITTLEGIANTS 20/19 W0PM FEDCOM **Well Number:** 1H

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

Section 4 - Injection

Would you like to utilize Injection PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

Injection well number: **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):

Operator Name: MEWBOURNE OIL COMPANY

Well Name: LITTLEGIANTS 20/19 W0PM FEDCOM **Well Number:** 1H

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

08/16/2019

APD ID: 10400036058

Submission Date: 11/07/2018

Operator Name: MEWBOURNE OIL COMPANY

Well Name: LITTLEGIANTS 20/19 W0PM FEDCOM

Well Number: 1H

Well Type: CONVENTIONAL GAS WELL

Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

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: