

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
**APPLICATION FOR PERMIT TO DRILL OR REENTER**

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NMNM016348
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		6. If Indian, Allottee or Tribe Name
1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone		7. If Unit or CA Agreement, Name and No.
2. Name of Operator MEWBOURNE OIL COMPANY		8. Lease Name and Well No. ARMSTRONG 26/23 W1FC FED COM 1H 3261371
3a. Address PO Box 5270 Hobbs NM 88240	3b. Phone No. (include area code) (575)393-5905	9. API Well No. 30-015-46305
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface SENW / 2500 FNL / 1980 FWL / LAT 32.1016798 / LONG -103.7509955 At proposed prod. zone NENW / 330 FNL / 2310 FWL / LAT 32.1221497 / LONG -103.7498703		10. Field and Pool, or Exploratory WILDCAT WOLF CAMP / LOWER 3RD B
11. Sec., T. R. M. or Blk. and Survey or Area SEC 26 / T25S / R31E / NMP		
14. Distance in miles and direction from nearest town or post office* 25 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) 330 feet	16. No of acres in lease 840	17. Spacing Unit dedicated to this well 240
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 50 feet	19. Proposed Depth 12135 feet / 19399 feet	20. BLM/BIA Bond No. in file FED: NM1693
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3332 feet	22. Approximate date work will start* 02/21/2019	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 (Electronic Submission)	Name (Printed/Typed) Bradley Bishop / Ph: (575)393-5905	Date 01/16/2019
Title Regulatory		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) Cody Layton / Ph: (575)234-5959	Date 09/25/2019
Title Assistant Field Manager Lands & Minerals		
Office CARLSBAD		
Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon. Conditions of approval, if any, are attached.		
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.		

**APPROVED WITH CONDITIONS**  
Approval Date: 09/25/2019

RUP-01-19

## INSTRUCTIONS

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

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

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

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

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

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

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

## NOTICES

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

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

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

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

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

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

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

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

## PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

<b>OPERATOR'S NAME:</b>	<b>Mewbourne Oil Company</b>
<b>LEASE NO.:</b>	<b>NMNM016348</b>
<b>WELL NAME &amp; NO.:</b>	<b>Armstrong 26/23 W1FC Fed Com 1H</b>
<b>SURFACE HOLE FOOTAGE:</b>	<b>2500'/N &amp; 1980'/W</b>
<b>BOTTOM HOLE FOOTAGE:</b>	<b>330'/N &amp; 2310'/W</b>
<b>LOCATION:</b>	<b>Section 26, T.25 S., R.31 E., NMPM</b>
<b>COUNTY:</b>	<b>Eddy County, New Mexico</b>

COA

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

### A. HYDROGEN SULFIDE

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

### B. CASING

1. The 13-3/8 inch surface casing shall be set at approximately 975 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. **Additional cement maybe required. Excess calculated to -61%.**
- 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.
  - Second stage above DV tool: Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification.
4. The minimum required fill of cement behind the **4-1/2** inch production liner is:
- Cement should tie-back **100 feet** into the previous casing. Operator shall provide method of verification.

### **C. PRESSURE CONTROL**

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).
2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.
  - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.

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

#### **D. SPECIAL REQUIREMENT (S)**

##### **Communitization Agreement**

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

### **GENERAL REQUIREMENTS**

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

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

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

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

☒ Lea County

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575)  
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 2<sup>nd</sup> Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
    - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the

following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log.

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

#### B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
  - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
  - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
  - c. Manufacturer representative shall install the test plug for the initial BOP test.
  - d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
  - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
  - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
  - b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time.
  - c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water



basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

- d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- e. The results of the test shall be reported to the appropriate BLM office.
- f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

#### C. DRILLING MUD

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

#### D. WASTE MATERIAL AND FLUIDS

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

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

**ZS 052019**

**PECOS DISTRICT  
SURFACE USE  
CONDITIONS OF APPROVAL**

OPERATOR'S NAME:	Mewbourne Oil Company
WELL NAME & NO.:	Armstrong 26/23 W1FC Fed Com 1H
SURFACE HOLE FOOTAGE:	2500'/N & 1980'/W
BOTTOM HOLE FOOTAGE:	330'/N & 2310'/W
LOCATION:	Section 26, T.25 S., R.31 E., NMPM
COUNTY:	Eddy County, New Mexico

**TABLE OF CONTENTS**

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

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
  - Lesser Prairie-Chicken Timing Stipulations
  - Ground-level Abandoned Well Marker
  - Cave/Karst
  - Hydrology
- ☐ **Construction**
  - Notification
  - Topsoil
  - Closed Loop System
  - Federal Mineral Material Pits
  - Well Pads
  - Roads
- ☐ **Road Section Diagram**
- ☒ **Production (Post Drilling)**
  - Well Structures & Facilities
  - Pipelines
- ☐ **Interim Reclamation**
- ☐ **Final Abandonment & Reclamation**

## **I. GENERAL PROVISIONS**

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

## **II. PERMIT EXPIRATION**

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

## **III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES**

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

## **IV. NOXIOUS WEEDS**

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

## **V. SPECIAL REQUIREMENT(S)**

### **Timing Limitation Stipulation / Condition of Approval for lesser prairie-chicken:**

Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 feet from the source of the noise.

**Ground-level Abandoned Well Marker to avoid raptor perching:** Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Carlsbad Field Office at 575-234-5972.

### **Timing Limitation Exceptions:**

The Carlsbad Field Office will publish an annual map of where the LPC timing and noise stipulations and conditions of approval (Limitations) will apply for the identified year (between March 1 and June 15) based on the latest survey information. The LPC Timing Area map will identify areas which are Habitat Areas (HA), Isolated Population Area (IPA), and Primary Population Area (PPA). The LPC Timing Area map will also have an area in red crosshatch. The red crosshatch area is the only area where an operator is required to submit a request for exception to the LPC Limitations. If an operator is operating outside the red crosshatch area, the LPC Limitations do not apply for that year and an exception to LPC Limitations is not required.

### **Cave/Karst Surface Mitigation**

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

#### **Construction:**

##### **General Construction:**

- No blasting
- The BLM, Carlsbad Field Office, will be informed immediately if any subsurface drainage channels, cave passages, or voids are penetrated during construction, and no additional construction shall occur until clearance has been issued by the Authorized Officer.

- All linear surface disturbance activities will avoid sinkholes and other karst features to lessen the possibility of encountering near surface voids during construction, minimize changes to runoff, and prevent untimely leaks and spills from entering the karst drainage system.
- All spills or leaks will be reported to the BLM immediately for their immediate and proper treatment.

**Pad Construction:**

- The pad will be constructed and leveled by adding the necessary fill and caliche – no blasting.
- The entire perimeter of the well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad.
- The compacted berm shall be constructed at a minimum of 12 inches high with impermeable mineral material (e.g., caliche).
- No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad.
- The topsoil stockpile shall be located outside the bermed well pad.
- Topsoil, either from the well pad or surrounding area, shall not be used to construct the berm.
- No storm drains, tubing or openings shall be placed in the berm.
- If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.
- The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed.
- Any access road entering the well pad shall be constructed so that the integrity of the berm height surrounding the well pad is not compromised (i.e. an access road crossing the berm cannot be lower than the berm height).
- Following a rain event, all fluids will vacuumed off of the pad and hauled off-site and disposed at a proper disposal facility.

**Tank Battery Construction:**

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

**Road Construction:**

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

**Buried Pipeline/Cable Construction:**

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

**Powerline Construction:**

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

**Surface Flowlines Installation:**

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

**Leak Detection System:**

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

**Automatic Shut-off Systems:**

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

**Cave/Karst Subsurface Mitigation**

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

**Closed Loop System:**

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

**Rotary Drilling with Fresh Water:**

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

**Directional Drilling:**

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

**Lost Circulation:**

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

**Abandonment Cementing:**

- Additional plugging conditions of approval may be required upon well abandonment in high and medium karst potential occurrence zones.
- The BLM will assess the situation and work with the operator to ensure proper plugging of the wellbore.

**Pressure Testing:**

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

**Hydrology**

The entire well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. The compacted berm shall be constructed at a minimum of 12 inches with impermeable mineral material (e.g. caliche). Topsoil shall not be used to construct the berm. No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad. The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed. Any water erosion that may occur due to the construction of the well pad during the life of the well will be quickly corrected and proper measures will be taken to prevent future erosion. Stockpiling of topsoil is required. The top soil shall be stockpiled in an appropriate location to prevent loss of soil due to water or wind erosion and not used for berming or erosion control. If fluid collects within the bermed area, the

fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.

When crossing ephemeral drainages the pipeline will be buried to a minimum depth of 48 inches from the top of pipe to ground level. Erosion control methods such as gabions and/or rock aprons should be placed on both up and downstream sides of the pipeline crossing. In addition, curled (weed free) wood/straw fiber wattles/logs and/or silt fences should be placed on the downstream side for sediment control during construction and maintained until soils and vegetation have stabilized. Water bars should be placed within the ROW to divert and dissipate surface runoff. A pipeline access road is not permitted to cross these ephemeral drainages. Traffic should be diverted to a preexisting route. Additional seeding may be required in floodplains and drainages to restore energy dissipating vegetation.

Tank battery locations will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank or 24 hour production, whichever is greater. Automatic shut off, check valves, or similar systems will be installed for tanks to minimize the effects of catastrophic line failures used in production or drilling.

A leak detection plan will be submitted to the BLM Carlsbad Field Office for approval prior to pipeline installation. The method could incorporate gauges to detect pressure drops, situating valves and lines so they can be visually inspected periodically or installing electronic sensors to alarm when a leak is present. The leak detection plan will incorporate an automatic shut off system that will be installed for proposed pipelines to minimize the effects of an undesirable event.



## **VI. CONSTRUCTION**

### **A. NOTIFICATION**

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

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

### **B. TOPSOIL**

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

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

### **C. CLOSED LOOP SYSTEM**

Tanks are required for drilling operations: No Pits.

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

### **D. FEDERAL MINERAL MATERIALS PIT**

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

### **E. WELL PAD SURFACING**

Surfacing of the well pad is not required.

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

### **F. EXCLOSURE FENCING (CELLARS & PITS)**

**Exclosure Fencing**

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

**G. ON LEASE ACCESS ROADS****Road Width**

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

**Surfacing**

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

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

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

**Crowning**

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

**Ditching**

Ditching shall be required on both sides of the road.

**Turnouts**

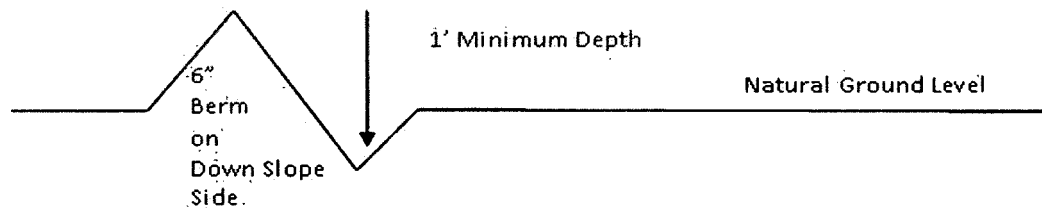
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

**Drainage**

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

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

#### **Cross Section of a Typical Lead-off Ditch**



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

#### **Formula for Spacing Interval of Lead-off Ditches**

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

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

#### **Cattle guards**

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

#### **Fence Requirement**

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

#### **Public Access**

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

### Construction Steps

1. Salvage topsoil
2. Construct road

3. Redistribute topsoil
4. Revegetate slopes

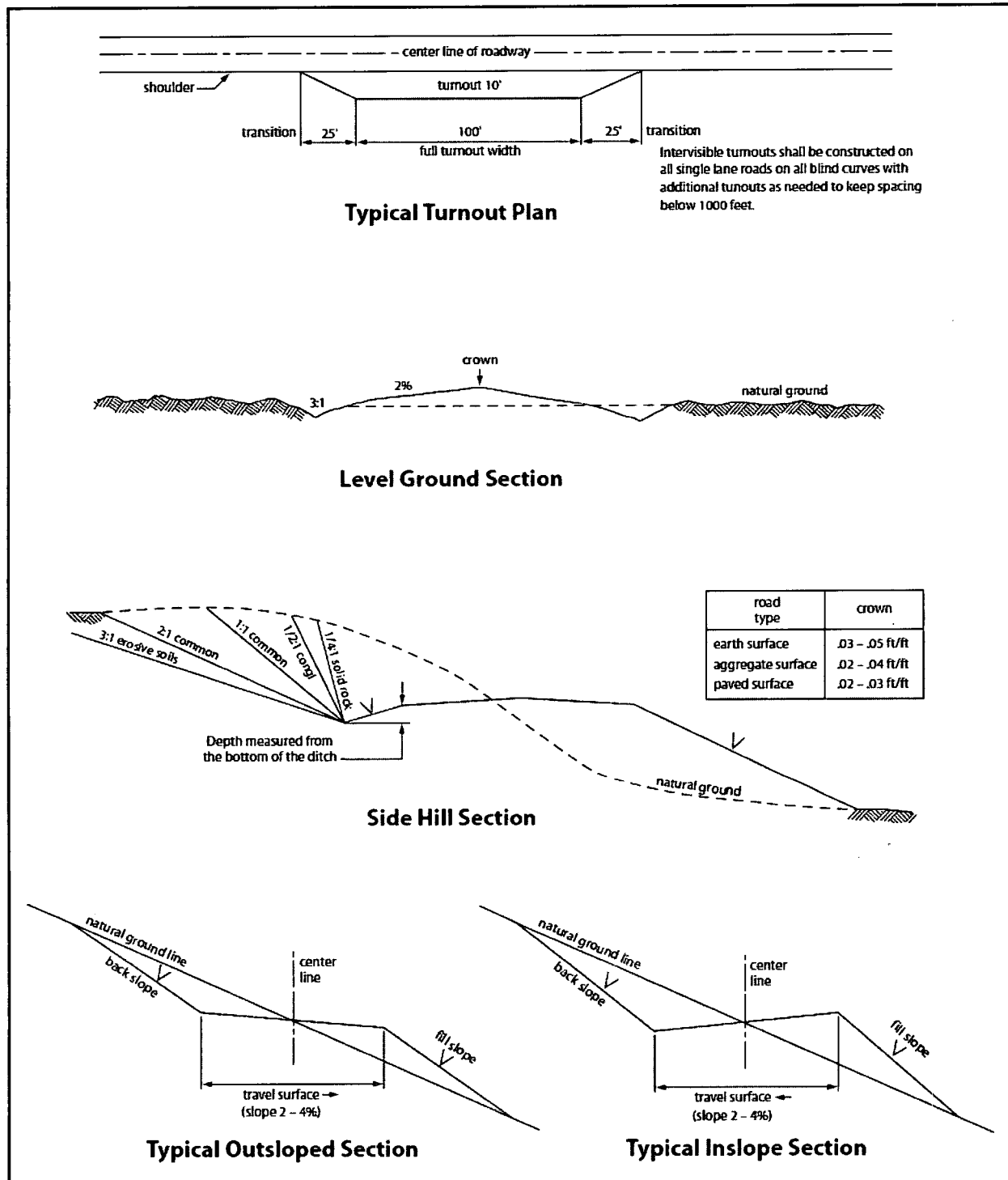


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

## **VII. PRODUCTION (POST DRILLING)**

### **A. WELL STRUCTURES & FACILITIES**

#### **Placement of Production Facilities**

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

#### **Exclosure Netting (Open-top Tanks)**

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

#### **Chemical and Fuel Secondary Containment and Exclosure Screening**

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

#### **Open-Vent Exhaust Stack Exclosures**

The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone.*) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

#### **Containment Structures**

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

#### **Painting Requirement**

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

### **B. PIPELINES**

#### **STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES**

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

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

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.
2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.
3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to activity of the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

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

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

The maximum limitation for such strict liability damages shall not exceed one million dollars (\$1,000,000) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

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

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

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

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

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

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

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

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

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

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

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

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



be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.

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

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

18. Special Stipulations:

- a. **Lesser Prairie-Chicken:** Oil and gas activities will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Normal vehicle use on existing roads will not be restricted.

## **VIII. INTERIM RECLAMATION**

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

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

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

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

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

## **IX. FINAL ABANDONMENT & RECLAMATION**

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

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

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

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

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well.

## Seed Mixture for LPC Sand/Shinnery Sites

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

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

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

<u>Species</u>	<u>lb/acre</u>
Plains Bristlegrass	5lbs/A
Sand Bluestem	5lbs/A
Little Bluestem	3lbs/A
Big Bluestem	6lbs/A
Plains Coreopsis	2lbs/A
Sand Dropseed	1lbs/A

\*Pounds of pure live seed:

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



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

## Operator Certification Data Report

09/26/2019

### 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:** 01/16/2019

**Title:** Regulatory

**Street Address:**

**City:**

**State:**

**Zip:**

**Phone:** (575)393-5905

**Email address:** bbishop@mewbourne.com

### Field Representative

**Representative Name:**

**Street Address:**

**City:**

**State:**

**Zip:**

**Phone:**

**Email address:**



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

## Application Data Report

09/26/2019

APD ID: 10400037514

Submission Date: 01/16/2019

Highlighted data  
reflects the most  
recent changes

Operator Name: MEWBOURNE OIL COMPANY

Well Name: ARMSTRONG 26/23 W1FC FED COM

Well Number: 1H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

### Section 1 - General

APD ID: 10400037514

Tie to previous NOS?

Submission Date: 01/16/2019

BLM Office: CARLSBAD

User: Bradley Bishop

Title: Regulatory

Federal/Indian APD: FED

Is the first lease penetrated for production Federal or Indian? FED

Lease number: NMNM016348

Lease Acres: 840

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: ARMSTRONG 26/23 W1FC FED COM

Well Number: 1H

Well API Number:

Field/Pool or Exploratory? Field and Pool

Field Name: WILDCAT  
WOLFCAMP

Pool Name: LOWER 3RD  
BONE SPRING (HARKY)  
SHALE

**Operator Name:** MEWBOURNE OIL COMPANY

**Well Name:** ARMSTRONG 26/23 W1FC FED COM

**Well Number:** 1H

**Is the proposed well in an area containing other mineral resources?** USEABLE WATER

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

**Type of Well Pad:** MULTIPLE WELL

**Multiple Well Pad Name:** **Number:** 2

ARMSTRONG 26/23 FC WELLS

**Well Class:** HORIZONTAL

**Number of Legs:**

**Well Work Type:** Drill

**Well Type:** OIL WELL

**Describe Well Type:**

**Well sub-Type:** APPRAISAL

**Describe sub-type:**

**Distance to town:** 25 Miles

**Distance to nearest well:** 50 FT

**Distance to lease line:** 330 FT

**Reservoir well spacing assigned acres Measurement:** 240 Acres

**Well plat:** Armstrong26\_23W1FCFedCom1H\_wellplat\_20181221121931.pdf

**Well work start Date:** 02/21/2019

**Duration:** 60 DAYS

### Section 3 - Well Location Table

**Survey Type:** RECTANGULAR

**Describe Survey Type:**

**Datum:** NAD83

**Vertical Datum:** NAVD88

**Survey number:**

**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	250 0	FNL	198 0	FWL	25S	31E	26	Aliquot SENW	32.10167 98	- 103.7509 955	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 016348	333 2	0	0
KOP Leg #1	254 4	FNL	231 0	FWL	25S	31E	26	Aliquot SENW	32.10155 49	- 103.7499 31	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 016348	- 824 0	115 80	115 72
PPP Leg #1	264 6	FNL	231 0	FWL	25S	31E	23	Aliquot SENW	32.11578 29	- 103.7498 896	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMLC0 061862	- 880 6	170 83	121 38



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

## Drilling Plan Data Report

09/26/2019

APD ID: 10400037514

Submission Date: 01/16/2019

Highlighted data  
reflects the most  
recent changes

Operator Name: MEWBOURNE OIL COMPANY

Well Name: ARMSTRONG 26/23 W1FC FED COM

Well Number: 1H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

### Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1	UNKNOWN	3332	27	27		NONE	N
2	RUSTLER	2431	899	899	ANHYDRITE, DOLOMITE	USEABLE WATER	N
3	TOP SALT	2041	1289	1289	SALT	NONE	N
4	BASE OF SALT	-714	4044	4044	SALT	NONE	N
5	LAMAR	-963	4293	4293	LIMESTONE	NATURAL GAS, OIL	N
6	BELL CANYON	-1002	4332	4332	SANDSTONE	NATURAL GAS, OIL	N
7	CHERRY CANYON	-2024	5354	5354	SANDSTONE	NATURAL GAS, OIL	N
8	MANZANITA	-2156	5486	5486		NONE	N
9	BRUSHY CANYON	-3507	6837	6837	SANDSTONE	NATURAL GAS, OIL	Y
10	BONE SPRING	-4939	8269	8269	LIMESTONE, SHALE	NATURAL GAS, OIL	N
11	BONE SPRING 1ST	-5980	9310	9310	SANDSTONE	NATURAL GAS, OIL	N
12	BONE SPRING 2ND	-6598	9928	9928	SANDSTONE	NATURAL GAS, OIL	N
13	BONE SPRING 3RD	-7864	11194	11194	SANDSTONE	NATURAL GAS, OIL	N
14	WOLFCAMP	-8310	11640	11640	LIMESTONE, SHALE, SANDSTONE	NATURAL GAS, OIL	Y

### Section 2 - Blowout Prevention

Operator Name: MEWBOURNE OIL COMPANY

Well Name: ARMSTRONG 26/23 W1FC FED COM

Well Number: 1H

Pressure Rating (PSI): 5M

Rating Depth: 19399

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 are not required by manufacturer. A multibowl 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.

**Choke Diagram Attachment:**

Armstrong\_26\_23\_W1FC\_Fed\_Com\_1H\_5M\_BOPE\_Choke\_Diagram\_20190114115925.pdf

Armstrong\_26\_23\_W1FC\_Fed\_Com\_1H\_Flex\_Line\_Specs\_20190114115925.pdf

**BOP Diagram Attachment:**

Armstrong\_26\_23\_W1FC\_Fed\_Com\_1H\_5M\_BOPE\_Schematic\_20190114115942.pdf

Armstrong\_26\_23\_W1FC\_Fed\_Com\_1H\_Multi\_Bowl\_WH\_20190114115943.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	975	0	975	3359		975	H-40	48	ST&C	1.69	3.79	DRY	6.88	DRY	11.56
2	INTERMEDIATE	12.25	9.625	NEW	API	Y	0	4218	0	4218	3359		4218	J-55	36	LT&C	1.13	1.96	DRY	2.92	DRY	3.64
3	PRODUCTION	8.75	7.0	NEW	API	N	0	12300	0	12117	3359		12300	P-110	26	LT&C	1.24	1.66	DRY	2.06	DRY	2.61
4	LINER	6.125	4.5	NEW	API	N	11580	19399	11572	12145			7819	P-110	13.5	LT&C	1.69	1.97	DRY	3.16	DRY	3.95

Casing Attachments



**Operator Name:** MEWBOURNE OIL COMPANY

**Well Name:** ARMSTRONG 26/23 W1FC FED COM

**Well Number:** 1H

#### Casing Attachments

---

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

Armstrong\_26\_23\_W1FC\_Fed\_Com\_1H\_Csg\_Assumptions\_20190114121703.pdf

---

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

Armstrong\_26\_23\_W1FC\_Fed\_Com\_1H\_TaperedInter\_20190114120218.pdf

**Casing Design Assumptions and Worksheet(s):**

Armstrong\_26\_23\_W1FC\_Fed\_Com\_1H\_Csg\_Assumptions\_20190114121733.pdf

---

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

Armstrong\_26\_23\_W1FC\_Fed\_Com\_1H\_Csg\_Assumptions\_20190114121836.pdf

---

Operator Name: MEWBOURNE OIL COMPANY

Well Name: ARMSTRONG 26/23 W1FC FED COM

Well Number: 1H

#### Casing Attachments

Casing ID: 4 String Type: LINER

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Armstrong\_26\_23\_W1FC\_Fed\_Com\_1H\_Csg\_Assumptions\_20190114121843.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	783	515	2.12	12.5	1092	100	Class C	Salt, Gel, Extender, LCM
SURFACE	Tail		783	975	200	1.34	14.8	268	100	Class C	Retarder
INTERMEDIATE	Lead		0	3569	695	2.12	12.5	1473	25	Class C	Salt, Gel, Extender, LCM
INTERMEDIATE	Tail		3569	4218	200	1.34	14.8	268	25	Class C	Retarder
PRODUCTION	Lead	5486	4018	4815	75	2.12	12.5	159	25	Class C	Gel, Retarder, Defoamer, Extender
PRODUCTION	Tail		4815	5486	100	1.34	14.8	134	25	Class C	Retarder
PRODUCTION	Lead	5486	5486	9625	385	2.12	12.5	816	25	Class C	Gel, Retarder, Defoamer, Extender
PRODUCTION	Tail		9625	12300	400	1.18	15.6	472	25	Class H	Retarder, Fluid Loss, Defoamer
LINER	Lead		11580	19399	320	2.97	11.2	950	25	Class H	Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti-Settling Agent

Operator Name: MEWBOURNE OIL COMPANY

Well Name: ARMSTRONG 26/23 W1FC FED COM

Well Number: 1H

### Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

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

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

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

Describe the mud monitoring system utilized: Pason, PVT, visual monitoring

### Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
975	4218	SALT SATURATED	10	10							
4218	1211 7	WATER-BASED MUD	8.6	10							
1211 7	1214 5	OIL-BASED MUD	10	12							Mud wieght up to 13.0 ppg may be required for shale control. The highest mud weight needed to balance formation is expected to be 12.0 ppg.
0	975	SPUD MUD	8.6	8.8							

**Operator Name:** MEWBOURNE OIL COMPANY

**Well Name:** ARMSTRONG 26/23 W1FC FED COM

**Well Number:** 1H

### Section 6 - Test, Logging, Coring

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

GR/CNL will be run from KOP (11,580') to surface.

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

DS,GR,MWD,MUDLOG

**Coring operation description for the well:**

None

### Section 7 - Pressure

**Anticipated Bottom Hole Pressure:** 7578

**Anticipated Surface Pressure:** 4907.63

**Anticipated Bottom Hole Temperature(F):** 165

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

**Describe:**

**Contingency Plans geohazards description:**

**Contingency Plans geohazards attachment:**

**Hydrogen Sulfide drilling operations plan required?** YES

**Hydrogen sulfide drilling operations plan:**

Armstrong\_26\_23\_W1FC\_Fed\_Com\_1H\_H2S\_Plan\_20190114142350.pdf

### Section 8 - Other Information

**Proposed horizontal/directional/multi-lateral plan submission:**

Armstrong\_26\_23\_W1FC\_Fed\_Com\_1H\_Dir\_Plan\_20190114142423.pdf

Armstrong\_26\_23\_W1FC\_Fed\_Com\_1H\_Dir\_Plot\_20190114142423.pdf

**Other proposed operations facets description:**

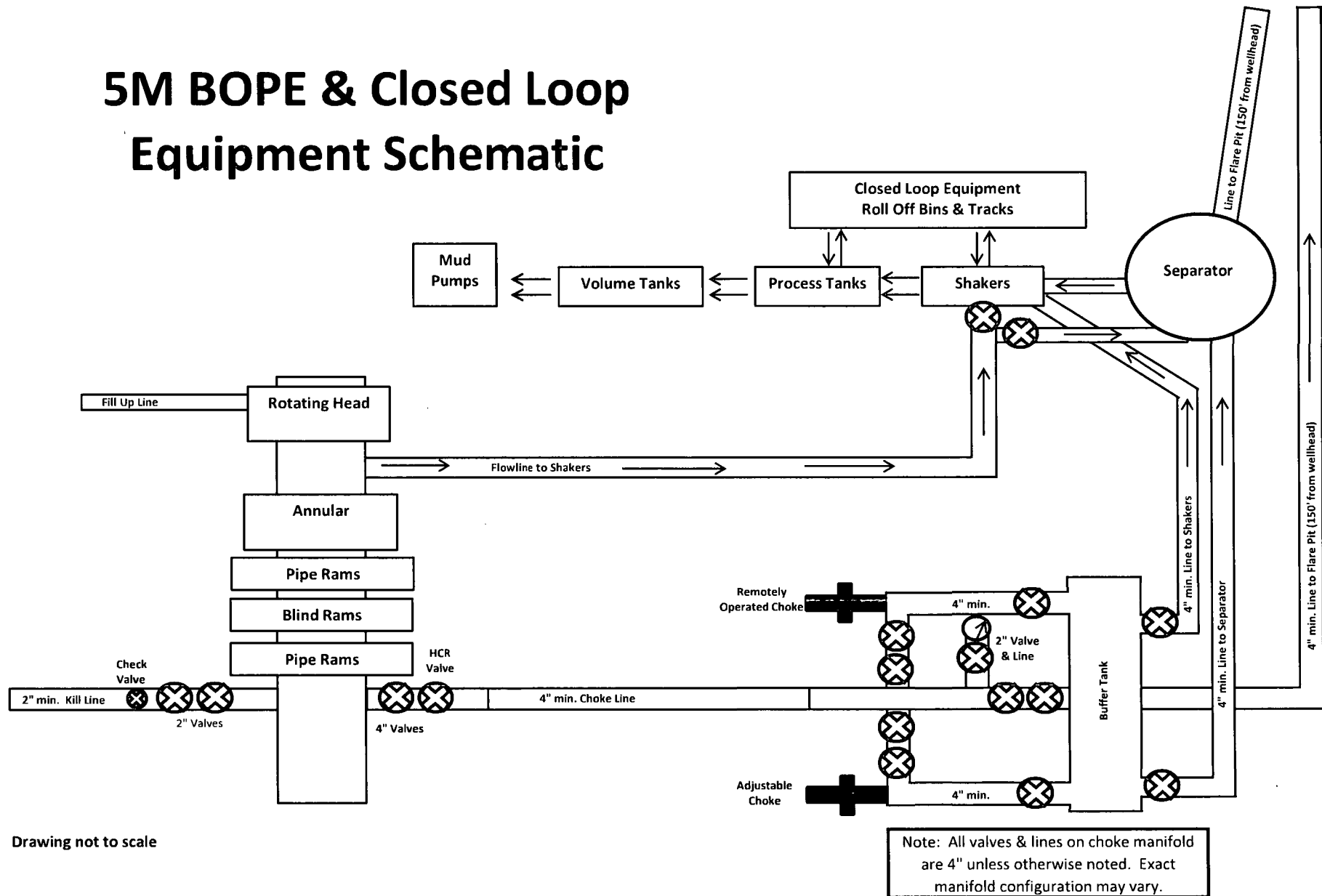
**Other proposed operations facets attachment:**

Armstrong\_26\_23\_W1FC\_Fed\_Com\_1H\_Drlg\_Program\_20190114142437.doc

Armstrong\_26\_23\_W1FC\_Fed\_Com\_1H\_Add\_Info\_20190114164039.pdf

**Other Variance attachment:**

# 5M BOPE & Closed Loop Equipment Schematic



Drawing not to scale



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

PHONE: 361-887-9807  
FAX: 361-887-0812  
EMAIL: [Tim.Cantu@gates.com](mailto:Tim.Cantu@gates.com)  
WEB: [www.gates.com](http://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 :  
Date :  
Signature :

QUALITY
4/30/2015
<i>Justin Cropper</i>

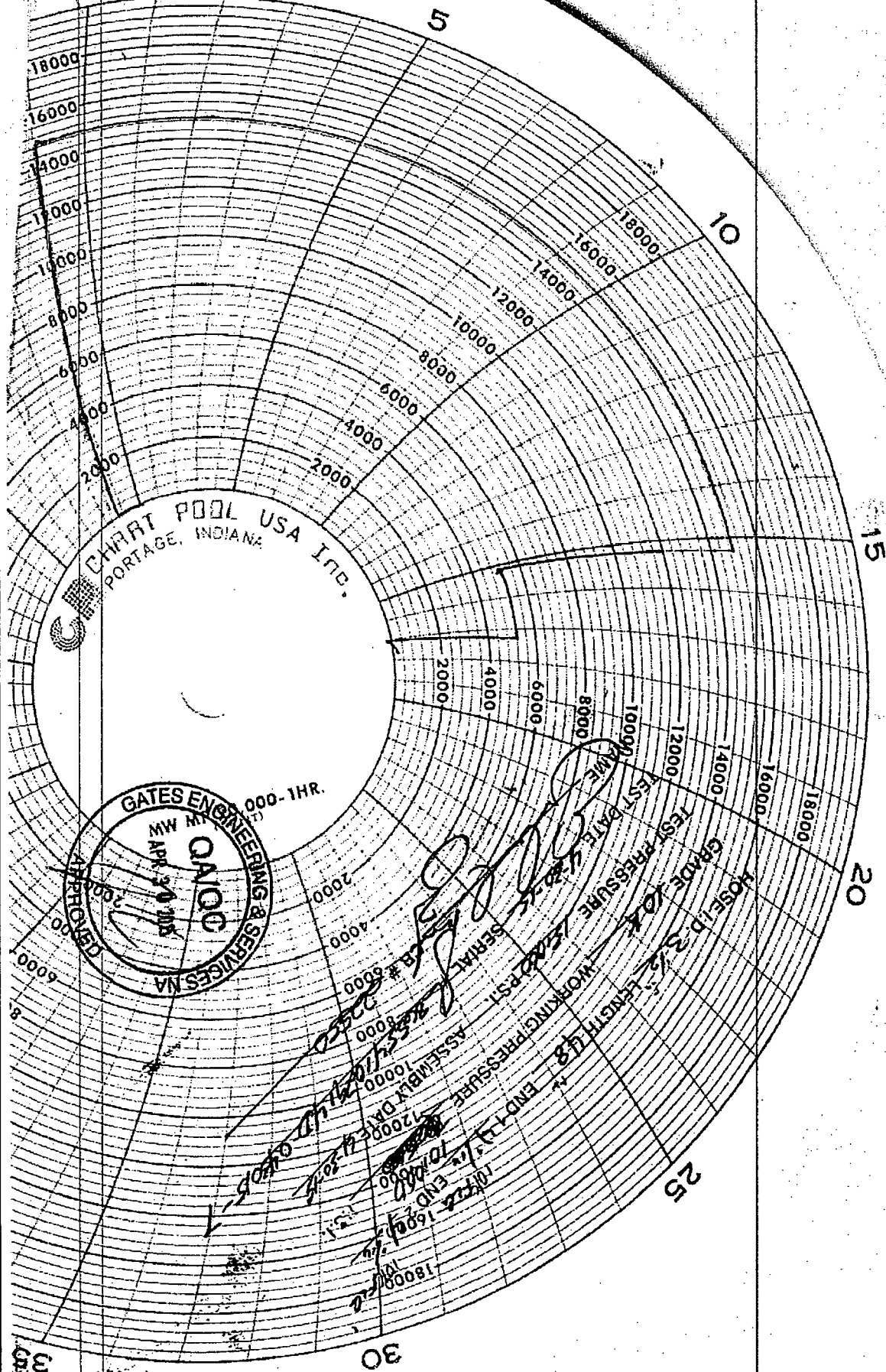
Production:  
Date :  
Signature :

PRODUCTION
4/30/2015
<i>Justin Cropper</i>

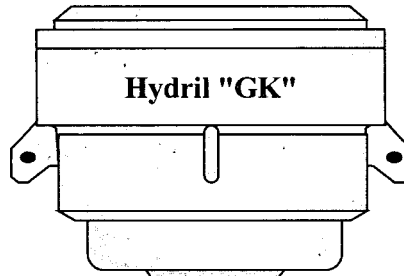
Form PTC - 01 Rev.02



60 MIN.



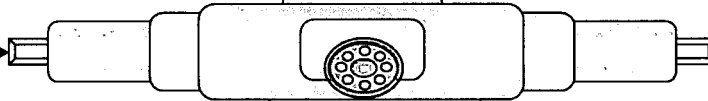
Hydril "GK"  
13 5/8" 5M



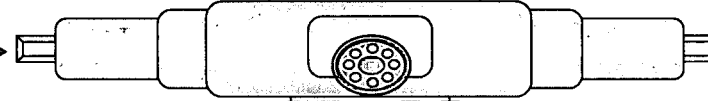
Hydril "GK"



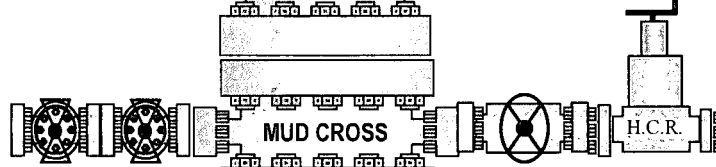
Cameron Type U  
13 5/8" 5M



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



BLIND RAMS



MUD CROSS

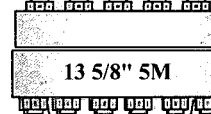


H.C.R.

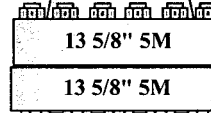


7" RAMS

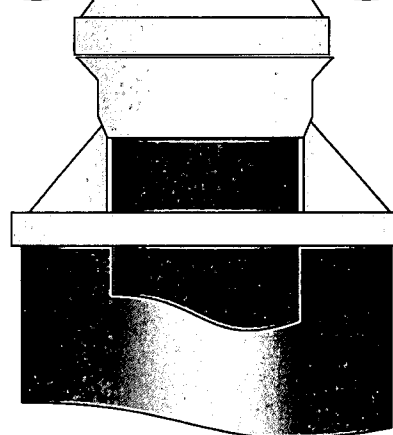
13 5/8" 5M



13 5/8" 5M



13 5/8" 5M







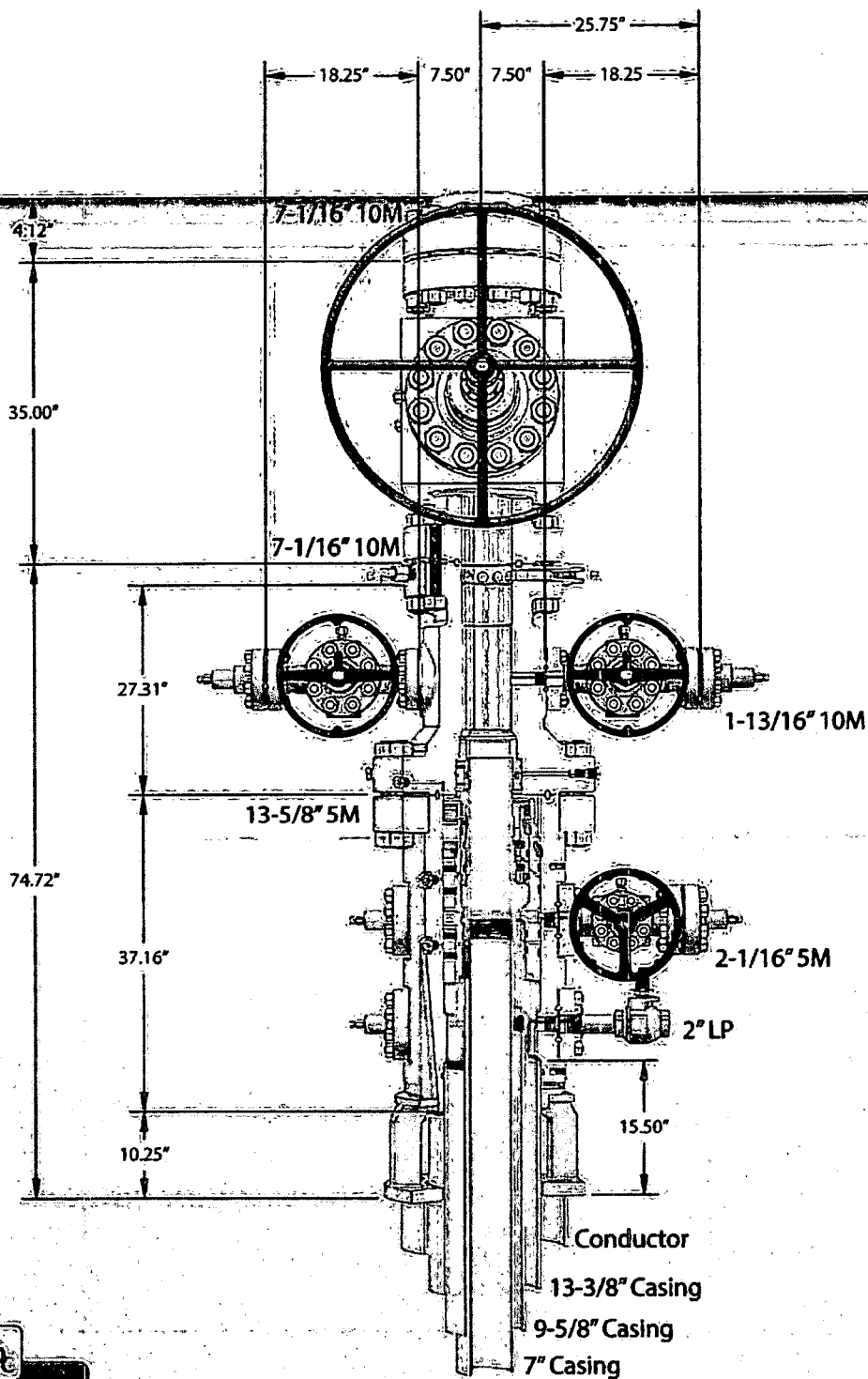
# CAMERON

A Schlumberger Company

## 13-5/8" MN-DS Wellhead System

Ground Level

Ground Level

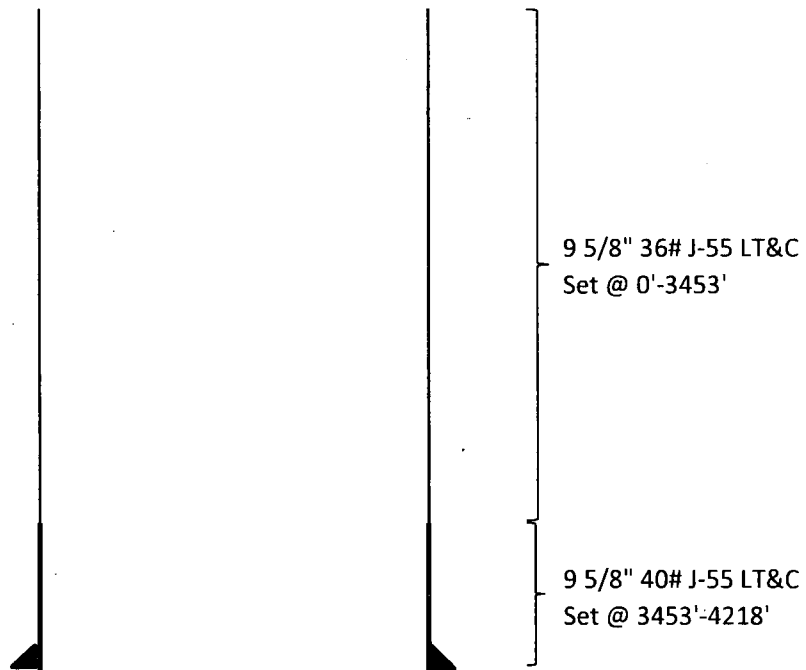


*641118 Kameya 57" conductor cut-off*  
*79*

C7585  
Rev. 02

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

Armstrong 26/23 W1FC Fed Com #1H  
Intermediate Casing



Casing	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
36# J-55	1.13	1.96	2.92	3.64
40# J-55	1.17	1.80	16.99	20.59

**Mewbourne Oil Company, Armstrong 26/23 W1FC Fed Com #1H**  
**Sec 26, T25S, R31E**  
**SL: 2500' FNL & 1980' FWL, Sec 26**  
**BHL: 330' FNL & 2310' FWL, Sec 23**

**Casing Program**

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
	From	To								
17.5"	0'	975'	13.375"	48	H40	STC	1.69	3.79	6.88	11.56
12.25"	0'	3453'	9.625"	36	J55	LTC	1.13	1.96	2.92	3.64
12.25"	3453'	4218'	9.625"	40	J55	LTC	1.17	1.80	16.99	20.59
8.75"	0'	12,300'	7"	26	HCP110	LTC	1.24	1.66	2.06	2.61
6.125"	11,580'	19,399'	4.5"	13.5	P110	LTC	1.69	1.97	3.16	3.95
BLM Minimum Safety Factor							1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet

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

Must have table for contingency casing

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Is casing API approved? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3 <sup>rd</sup> string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2 <sup>nd</sup> 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, Armstrong 26/23 W1FC Fed Com #1H**  
**Sec 26, T25S, R31E**  
**SL: 2500' FNL & 1980' FWL, Sec 26**  
**BHL: 330' FNL & 2310' FWL, Sec 23**

**Casing Program**

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
	From	To								
17.5"	0'	975'	13.375"	48	H40	STC	1.69	3.79	6.88	11.56
12.25"	0'	3453'	9.625"	36	J55	LTC	1.13	1.96	2.92	3.64
12.25"	3453'	4218'	9.625"	40	J55	LTC	1.17	1.80	16.99	20.59
8.75"	0'	12,300'	7"	26	HCP110	LTC	1.24	1.66	2.06	2.61
6.125"	11,580'	19,399'	4.5"	13.5	P110	LTC	1.69	1.97	3.16	3.95
BLM Minimum Safety Factor							1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet

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

Must have table for contingency casing

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Is casing API approved? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3 <sup>rd</sup> string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2 <sup>nd</sup> 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, Armstrong 26/23 W1FC Fed Com #1H**  
**Sec 26, T25S, R31E**  
**SL: 2500' FNL & 1980' FWL, Sec 26**  
**BHL: 330' FNL & 2310' FWL, Sec 23**

**Casing Program**

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
	From	To								
17.5"	0'	975'	13.375"	48	H40	STC	1.69	3.79	6.88	11.56
12.25"	0'	3453'	9.625"	36	J55	LTC	1.13	1.96	2.92	3.64
12.25"	3453'	4218'	9.625"	40	J55	LTC	1.17	1.80	16.99	20.59
8.75"	0'	12,300'	7"	26	HCP110	LTC	1.24	1.66	2.06	2.61
6.125"	11,580'	19,399'	4.5"	13.5	P110	LTC	1.69	1.97	3.16	3.95
BLM Minimum Safety Factor							1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet

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

Must have table for contingency casing

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Is casing API approved? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3 <sup>rd</sup> string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2 <sup>nd</sup> 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, Armstrong 26/23 W1FC Fed Com #1H**  
**Sec 26, T25S, R31E**  
**SL: 2500' FNL & 1980' FWL, Sec 26**  
**BHL: 330' FNL & 2310' FWL, Sec 23**

**Casing Program**

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
	From	To								
17.5"	0'	975'	13.375"	48	H40	STC	1.69	3.79	6.88	11.56
12.25"	0'	3453'	9.625"	36	J55	LTC	1.13	1.96	2.92	3.64
12.25"	3453'	4218'	9.625"	40	J55	LTC	1.17	1.80	16.99	20.59
8.75"	0'	12,300'	7"	26	HCP110	LTC	1.24	1.66	2.06	2.61
6.125"	11,580'	19,399'	4.5"	13.5	P110	LTC	1.69	1.97	3.16	3.95
BLM Minimum Safety Factor							1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet

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

Must have table for contingency casing

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

Hydrogen Sulfide Drilling Operations Plan  
**Mewbourne Oil Company**

**1. General Requirements**

Rule 118 does not apply to this well because MOC has researched this area and no high concentrations of H<sub>2</sub>S were found. MOC will have on location and working all H<sub>2</sub>S safety equipment before the Delaware formation for purposes of safety and insurance requirements.

**2. Hydrogen Sulfide Training**

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

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

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

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

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

**3. Hydrogen Sulfide Safety Equipment and Systems**

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

1. Well Control Equipment
  - A. Choke manifold with minimum of one adjustable choke/remote choke.
  - B. Blowout preventers equipped with blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit
  - C. Auxiliary equipment including annular type blowout preventer.
2. Protective Equipment for Essential Personnel

Thirty minute self contained work unit located in the dog house and at briefing areas.

Additionally: If H<sub>2</sub>S is encountered in concentrations less than 10 ppm, fans will be placed in work areas to prevent the accumulation of hazardous amounts of poisonous gas. If higher concentrations of H<sub>2</sub>S are detected the well will be shut in and a rotating head, mud/gas separator, remote choke and flare line with igniter will be installed.

3. Hydrogen Sulfide Protection and Monitoring Equipment  
Two portable hydrogen sulfide monitors positioned on location for optimum coverage and detection. The units shall have audible sirens to notify personnel when hydrogen sulfide levels exceed 20 PPM.
4. Visual Warning Systems
  - A. Wind direction indicators as indicated on the wellsite diagram.
  - B. Caution signs shall be posted on roads providing access to location. Signs shall be painted a high visibility color with lettering of sufficient size to be readable at reasonable distances from potentially contaminated areas.

#### 4. **Mud Program**

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

#### 5. **Metallurgy**

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

#### 6. **Communications**

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

#### 7. **Well Testing**

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

#### 8. **Emergency Phone Numbers**

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

<b>Mewbourne Oil Company</b>	<b>Hobbs District Office</b>	<b>575-393-5905</b>
	<b>Fax</b>	<b>575-397-6252</b>
	<b>2<sup>nd</sup> Fax</b>	<b>575-393-7259</b>

<b>District Manager</b>	<b>Robin Terrell</b>	<b>575-390-4816</b>
<b>Drilling Superintendent</b>	<b>Frosty Lathan</b>	<b>575-390-4103</b>
	<b>Bradley Bishop</b>	<b>575-390-6838</b>
<b>Drilling Foreman</b>	<b>Wesley Noseff</b>	<b>575-441-0729</b>



# **Mewbourne Oil Company**

**Eddy County, New Mexico NAD 83**

**Armstrong 26/23 W1FC Fed Com #1H**

**Sec 26, T25S, R31E**

**SL: 2500' FNL & 1980' FWL, Sec 26**

**BHL: 330' FNL & 2310' FWL, Sec 23**

**Plan: Design #1**

## **Standard Planning Report**

**14 January, 2019**

# Planning Report

<b>Database:</b>	Hobbs	<b>Local Co-ordinate Reference:</b>	Site Armstrong 26/23 W1FC Fed Com #1H
<b>Company:</b>	Mewbourne Oil Company	<b>TVD Reference:</b>	WELL @ 3359.0usft (Original Well Elev)
<b>Project:</b>	Eddy County, New Mexico NAD 83	<b>MD Reference:</b>	WELL @ 3359.0usft (Original Well Elev)
<b>Site:</b>	Armstrong 26/23 W1FC Fed Com #1H	<b>North Reference:</b>	Grid
<b>Well:</b>	Sec 26, T25S, R31E	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BHL: 330' FNL & 2310' FWL, Sec 23		
<b>Design:</b>	Design #1		

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

<b>Site</b>	Armstrong 26/23 W1FC Fed Com #1H			
<b>Site Position:</b>		<b>Northing:</b>	401,215.00 usft	<b>Latitude:</b> 32.1016807
<b>From:</b> Map		<b>Easting:</b>	721,657.00 usft	<b>Longitude:</b> -103.7509959
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b> 0.31 °

<b>Well</b>	Sec 26, T25S, R31E			
<b>Well Position</b>	<b>+N/-S</b>	0.0 usft	<b>Northing:</b>	401,215.00 usft
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b>	721,657.00 usft
<b>Position Uncertainty</b>	0.0 usft		<b>Wellhead Elevation:</b>	3,359.0 usft
			<b>Ground Level:</b>	3,332.0 usft

<b>Wellbore</b>	BHL: 330' FNL & 2310' FWL, Sec 23				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	1/11/2019	6.72	59.85	47,769

<b>Design</b>	Design #1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	2.37

<b>Plan Sections</b>										
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	
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.00	0.00	0.00	0.00	
4,479.2	2.69	97.59	4,479.1	-0.6	4.2	1.50	1.50	0.00	97.59	
11,400.6	2.69	97.59	11,392.9	-43.4	325.8	0.00	0.00	0.00	0.00	
11,579.8	0.00	0.00	11,572.0	-44.0	330.0	1.50	-1.50	0.00	180.00	KOP: 2544' FNL & 23
12,480.6	90.08	359.83	12,145.0	529.8	328.3	10.00	10.00	0.00	-0.17	
19,398.9	90.08	359.83	12,135.0	7,448.0	308.0	0.00	0.00	0.00	0.00	BHL: 330' FNL & 2310'

# Planning Report

<b>Database:</b>	Hobbs	<b>Local Co-ordinate Reference:</b>	Site Armstrong 26/23 W1FC Fed Com #1H
<b>Company:</b>	Mewbourne Oil Company	<b>TVD Reference:</b>	WELL @ 3359.0usft (Original Well Elev)
<b>Project:</b>	Eddy County, New Mexico NAD 83	<b>MD Reference:</b>	WELL @ 3359.0usft (Original Well Elev)
<b>Site:</b>	Armstrong 26/23 W1FC Fed Com #1H	<b>North Reference:</b>	Grid
<b>Well:</b>	Sec 26, T25S, R31E	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BHL: 330' FNL & 2310' FWL, Sec 23		
<b>Design:</b>	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: 2500' FNL & 1980' FWL (26)									
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	1.50	97.59	4,400.0	-0.2	1.3	-0.1	1.50	1.50	0.00
4,479.2	2.69	97.59	4,479.1	-0.6	4.2	-0.4	1.50	1.50	0.00
4,500.0	2.69	97.59	4,499.9	-0.7	5.1	-0.5	0.00	0.00	0.00
4,600.0	2.69	97.59	4,599.8	-1.3	9.8	-0.9	0.00	0.00	0.00
4,700.0	2.69	97.59	4,699.7	-1.9	14.4	-1.3	0.00	0.00	0.00
4,800.0	2.69	97.59	4,799.6	-2.5	19.1	-1.8	0.00	0.00	0.00
4,900.0	2.69	97.59	4,899.5	-3.2	23.7	-2.2	0.00	0.00	0.00
5,000.0	2.69	97.59	4,999.4	-3.8	28.4	-2.6	0.00	0.00	0.00
5,100.0	2.69	97.59	5,099.3	-4.4	33.0	-3.0	0.00	0.00	0.00

# Planning Report

<b>Database:</b>	Hobbs	<b>Local Co-ordinate Reference:</b>	Site Armstrong 26/23 W1FC Fed Com #1H
<b>Company:</b>	Mewbourne Oil Company	<b>TVD Reference:</b>	WELL @ 3359.0usft (Original Well Elev)
<b>Project:</b>	Eddy County, New Mexico NAD 83	<b>MD Reference:</b>	WELL @ 3359.0usft (Original Well Elev)
<b>Site:</b>	Armstrong 26/23 W1FC Fed Com #1H	<b>North Reference:</b>	Grid
<b>Well:</b>	Sec 26, T25S, R31E	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BHL: 330' FNL & 2310' FWL, Sec 23		
<b>Design:</b>	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	2.69	97.59	5,199.1	-5.0	37.7	-3.5	0.00	0.00	0.00
5,300.0	2.69	97.59	5,299.0	-5.6	42.3	-3.9	0.00	0.00	0.00
5,400.0	2.69	97.59	5,398.9	-6.3	47.0	-4.3	0.00	0.00	0.00
5,500.0	2.69	97.59	5,498.8	-6.9	51.6	-4.7	0.00	0.00	0.00
5,600.0	2.69	97.59	5,598.7	-7.5	56.3	-5.2	0.00	0.00	0.00
5,700.0	2.69	97.59	5,698.6	-8.1	60.9	-5.6	0.00	0.00	0.00
5,800.0	2.69	97.59	5,798.5	-8.7	65.5	-6.0	0.00	0.00	0.00
5,900.0	2.69	97.59	5,898.4	-9.4	70.2	-6.5	0.00	0.00	0.00
6,000.0	2.69	97.59	5,998.3	-10.0	74.8	-6.9	0.00	0.00	0.00
6,100.0	2.69	97.59	6,098.2	-10.6	79.5	-7.3	0.00	0.00	0.00
6,200.0	2.69	97.59	6,198.0	-11.2	84.1	-7.7	0.00	0.00	0.00
6,300.0	2.69	97.59	6,297.9	-11.8	88.8	-8.2	0.00	0.00	0.00
6,400.0	2.69	97.59	6,397.8	-12.5	93.4	-8.6	0.00	0.00	0.00
6,500.0	2.69	97.59	6,497.7	-13.1	98.1	-9.0	0.00	0.00	0.00
6,600.0	2.69	97.59	6,597.6	-13.7	102.7	-9.4	0.00	0.00	0.00
6,700.0	2.69	97.59	6,697.5	-14.3	107.4	-9.9	0.00	0.00	0.00
6,800.0	2.69	97.59	6,797.4	-14.9	112.0	-10.3	0.00	0.00	0.00
6,900.0	2.69	97.59	6,897.3	-15.6	116.7	-10.7	0.00	0.00	0.00
7,000.0	2.69	97.59	6,997.2	-16.2	121.3	-11.1	0.00	0.00	0.00
7,100.0	2.69	97.59	7,097.1	-16.8	126.0	-11.6	0.00	0.00	0.00
7,200.0	2.69	97.59	7,196.9	-17.4	130.6	-12.0	0.00	0.00	0.00
7,300.0	2.69	97.59	7,296.8	-18.0	135.3	-12.4	0.00	0.00	0.00
7,400.0	2.69	97.59	7,396.7	-18.7	139.9	-12.9	0.00	0.00	0.00
7,500.0	2.69	97.59	7,496.6	-19.3	144.6	-13.3	0.00	0.00	0.00
7,600.0	2.69	97.59	7,596.5	-19.9	149.2	-13.7	0.00	0.00	0.00
7,700.0	2.69	97.59	7,696.4	-20.5	153.9	-14.1	0.00	0.00	0.00
7,800.0	2.69	97.59	7,796.3	-21.1	158.5	-14.6	0.00	0.00	0.00
7,900.0	2.69	97.59	7,896.2	-21.8	163.1	-15.0	0.00	0.00	0.00
8,000.0	2.69	97.59	7,996.1	-22.4	167.8	-15.4	0.00	0.00	0.00
8,100.0	2.69	97.59	8,096.0	-23.0	172.4	-15.8	0.00	0.00	0.00
8,200.0	2.69	97.59	8,195.8	-23.6	177.1	-16.3	0.00	0.00	0.00
8,300.0	2.69	97.59	8,295.7	-24.2	181.7	-16.7	0.00	0.00	0.00
8,400.0	2.69	97.59	8,395.6	-24.9	186.4	-17.1	0.00	0.00	0.00
8,500.0	2.69	97.59	8,495.5	-25.5	191.0	-17.6	0.00	0.00	0.00
8,600.0	2.69	97.59	8,595.4	-26.1	195.7	-18.0	0.00	0.00	0.00
8,700.0	2.69	97.59	8,695.3	-26.7	200.3	-18.4	0.00	0.00	0.00
8,800.0	2.69	97.59	8,795.2	-27.3	205.0	-18.8	0.00	0.00	0.00
8,900.0	2.69	97.59	8,895.1	-27.9	209.6	-19.3	0.00	0.00	0.00
9,000.0	2.69	97.59	8,995.0	-28.6	214.3	-19.7	0.00	0.00	0.00
9,100.0	2.69	97.59	9,094.9	-29.2	218.9	-20.1	0.00	0.00	0.00
9,200.0	2.69	97.59	9,194.7	-29.8	223.6	-20.5	0.00	0.00	0.00
9,300.0	2.69	97.59	9,294.6	-30.4	228.2	-21.0	0.00	0.00	0.00
9,400.0	2.69	97.59	9,394.5	-31.0	232.9	-21.4	0.00	0.00	0.00
9,500.0	2.69	97.59	9,494.4	-31.7	237.5	-21.8	0.00	0.00	0.00
9,600.0	2.69	97.59	9,594.3	-32.3	242.2	-22.3	0.00	0.00	0.00
9,700.0	2.69	97.59	9,694.2	-32.9	246.8	-22.7	0.00	0.00	0.00
9,800.0	2.69	97.59	9,794.1	-33.5	251.4	-23.1	0.00	0.00	0.00
9,900.0	2.69	97.59	9,894.0	-34.1	256.1	-23.5	0.00	0.00	0.00
10,000.0	2.69	97.59	9,993.9	-34.8	260.7	-24.0	0.00	0.00	0.00
10,100.0	2.69	97.59	10,093.8	-35.4	265.4	-24.4	0.00	0.00	0.00
10,200.0	2.69	97.59	10,193.6	-36.0	270.0	-24.8	0.00	0.00	0.00
10,300.0	2.69	97.59	10,293.5	-36.6	274.7	-25.2	0.00	0.00	0.00
10,400.0	2.69	97.59	10,393.4	-37.2	279.3	-25.7	0.00	0.00	0.00
10,500.0	2.69	97.59	10,493.3	-37.9	284.0	-26.1	0.00	0.00	0.00

# Planning Report

<b>Database:</b>	Hobbs	<b>Local Co-ordinate Reference:</b>	Site Armstrong 26/23 W1FC Fed Com #1H
<b>Company:</b>	Mewbourne Oil Company	<b>TVD Reference:</b>	WELL @ 3359.0usft (Original Well Elev)
<b>Project:</b>	Eddy County, New Mexico NAD 83	<b>MD Reference:</b>	WELL @ 3359.0usft (Original Well Elev)
<b>Site:</b>	Armstrong 26/23 W1FC Fed Com #1H	<b>North Reference:</b>	Grid
<b>Well:</b>	Sec 26, T25S, R31E	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BHL: 330' FNL & 2310' FWL, Sec 23		
<b>Design:</b>	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)	
10,600.0	2.69	97.59	10,593.2	-38.5	288.6	-26.5	0.00	0.00	0.00	
10,700.0	2.69	97.59	10,693.1	-39.1	293.3	-27.0	0.00	0.00	0.00	
10,800.0	2.69	97.59	10,793.0	-39.7	297.9	-27.4	0.00	0.00	0.00	
10,900.0	2.69	97.59	10,892.9	-40.3	302.6	-27.8	0.00	0.00	0.00	
11,000.0	2.69	97.59	10,992.8	-41.0	307.2	-28.2	0.00	0.00	0.00	
11,100.0	2.69	97.59	11,092.7	-41.6	311.9	-28.7	0.00	0.00	0.00	
11,200.0	2.69	97.59	11,192.5	-42.2	316.5	-29.1	0.00	0.00	0.00	
11,300.0	2.69	97.59	11,292.4	-42.8	321.2	-29.5	0.00	0.00	0.00	
11,400.0	2.69	97.59	11,392.3	-43.4	325.8	-29.9	0.00	0.00	0.00	
11,400.6	2.69	97.59	11,392.9	-43.4	325.8	-29.9	0.00	0.00	0.00	
11,500.0	1.20	97.59	11,492.3	-43.9	329.2	-30.3	1.50	-1.50	0.00	
11,579.8	0.00	0.00	11,572.0	-44.0	330.0	-30.3	1.50	-1.50	0.00	
<b>KOP: 2544' FNL &amp; 2310' FWL (26)</b>										
11,600.0	2.02	359.83	11,592.3	-43.6	330.0	-30.0	10.00	10.00	0.00	
11,700.0	12.02	359.83	11,691.4	-31.4	330.0	-17.8	10.00	10.00	0.00	
11,800.0	22.02	359.83	11,786.9	-2.2	329.9	11.4	10.00	10.00	0.00	
11,900.0	32.02	359.83	11,875.8	43.2	329.7	56.8	10.00	10.00	0.00	
12,000.0	42.02	359.83	11,955.6	103.3	329.6	116.8	10.00	10.00	0.00	
12,100.0	52.02	359.83	12,023.7	176.4	329.4	189.8	10.00	10.00	0.00	
12,112.1	53.23	359.83	12,031.0	186.0	329.3	199.4	10.00	10.00	0.00	
<b>FTP: 2314' FNL &amp; 2310' FWL (26)</b>										
12,200.0	62.02	359.83	12,078.0	260.2	329.1	273.5	10.00	10.00	0.00	
12,300.0	72.02	359.83	12,117.0	352.1	328.8	365.4	10.00	10.00	0.00	
12,400.0	82.02	359.83	12,139.5	449.4	328.6	462.6	10.00	10.00	0.00	
12,480.6	90.08	359.83	12,145.0	529.8	328.3	542.9	10.00	10.00	0.00	
<b>LP: 1970' FNL &amp; 2310' FWL (26)</b>										
12,500.0	90.08	359.83	12,145.0	549.2	328.3	562.3	0.00	0.00	0.00	
12,600.0	90.08	359.83	12,144.8	649.2	328.0	662.2	0.00	0.00	0.00	
12,700.0	90.08	359.83	12,144.7	749.2	327.7	762.1	0.00	0.00	0.00	
12,800.0	90.08	359.83	12,144.5	849.2	327.4	862.0	0.00	0.00	0.00	
12,900.0	90.08	359.83	12,144.4	949.2	327.1	961.9	0.00	0.00	0.00	
13,000.0	90.08	359.83	12,144.2	1,049.2	326.8	1,061.8	0.00	0.00	0.00	
13,100.0	90.08	359.83	12,144.1	1,149.2	326.5	1,161.7	0.00	0.00	0.00	
13,200.0	90.08	359.83	12,144.0	1,249.2	326.2	1,261.6	0.00	0.00	0.00	
13,300.0	90.08	359.83	12,143.8	1,349.2	325.9	1,361.5	0.00	0.00	0.00	
13,400.0	90.08	359.83	12,143.7	1,449.2	325.6	1,461.4	0.00	0.00	0.00	
13,500.0	90.08	359.83	12,143.5	1,549.2	325.3	1,561.3	0.00	0.00	0.00	
13,600.0	90.08	359.83	12,143.4	1,649.2	325.0	1,661.2	0.00	0.00	0.00	
13,700.0	90.08	359.83	12,143.2	1,749.2	324.7	1,761.1	0.00	0.00	0.00	
13,800.0	90.08	359.83	12,143.1	1,849.2	324.4	1,861.0	0.00	0.00	0.00	
13,900.0	90.08	359.83	12,142.9	1,949.2	324.1	1,960.9	0.00	0.00	0.00	
14,000.0	90.08	359.83	12,142.8	2,049.2	323.9	2,060.8	0.00	0.00	0.00	
14,100.0	90.08	359.83	12,142.7	2,149.2	323.6	2,160.7	0.00	0.00	0.00	
14,200.0	90.08	359.83	12,142.5	2,249.2	323.3	2,260.6	0.00	0.00	0.00	
14,300.0	90.08	359.83	12,142.4	2,349.2	323.0	2,360.5	0.00	0.00	0.00	
14,400.0	90.08	359.83	12,142.2	2,449.2	322.7	2,460.4	0.00	0.00	0.00	
14,500.0	90.08	359.83	12,142.1	2,549.2	322.4	2,560.3	0.00	0.00	0.00	
14,600.0	90.08	359.83	12,141.9	2,649.2	322.1	2,660.2	0.00	0.00	0.00	
14,700.0	90.08	359.83	12,141.8	2,749.2	321.8	2,760.1	0.00	0.00	0.00	
14,800.0	90.08	359.83	12,141.6	2,849.2	321.5	2,860.0	0.00	0.00	0.00	
14,900.0	90.08	359.83	12,141.5	2,949.2	321.2	2,959.9	0.00	0.00	0.00	
15,000.0	90.08	359.83	12,141.4	3,049.2	320.9	3,059.8	0.00	0.00	0.00	
15,100.0	90.08	359.83	12,141.2	3,149.2	320.6	3,159.7	0.00	0.00	0.00	

# Planning Report

<b>Database:</b>	Hobbs	<b>Local Co-ordinate Reference:</b>	Site Armstrong 26/23 W1FC Fed Com #1H
<b>Company:</b>	Mewbourne Oil Company	<b>TVD Reference:</b>	WELL @ 3359.0usft (Original Well Elev)
<b>Project:</b>	Eddy County, New Mexico NAD 83	<b>MD Reference:</b>	WELL @ 3359.0usft (Original Well Elev)
<b>Site:</b>	Armstrong 26/23 W1FC Fed Com #1H	<b>North Reference:</b>	Grid
<b>Well:</b>	Sec 26, T25S, R31E	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BHL: 330' FNL & 2310' FWL, Sec 23		
<b>Design:</b>	Design #1		

## Planned Survey

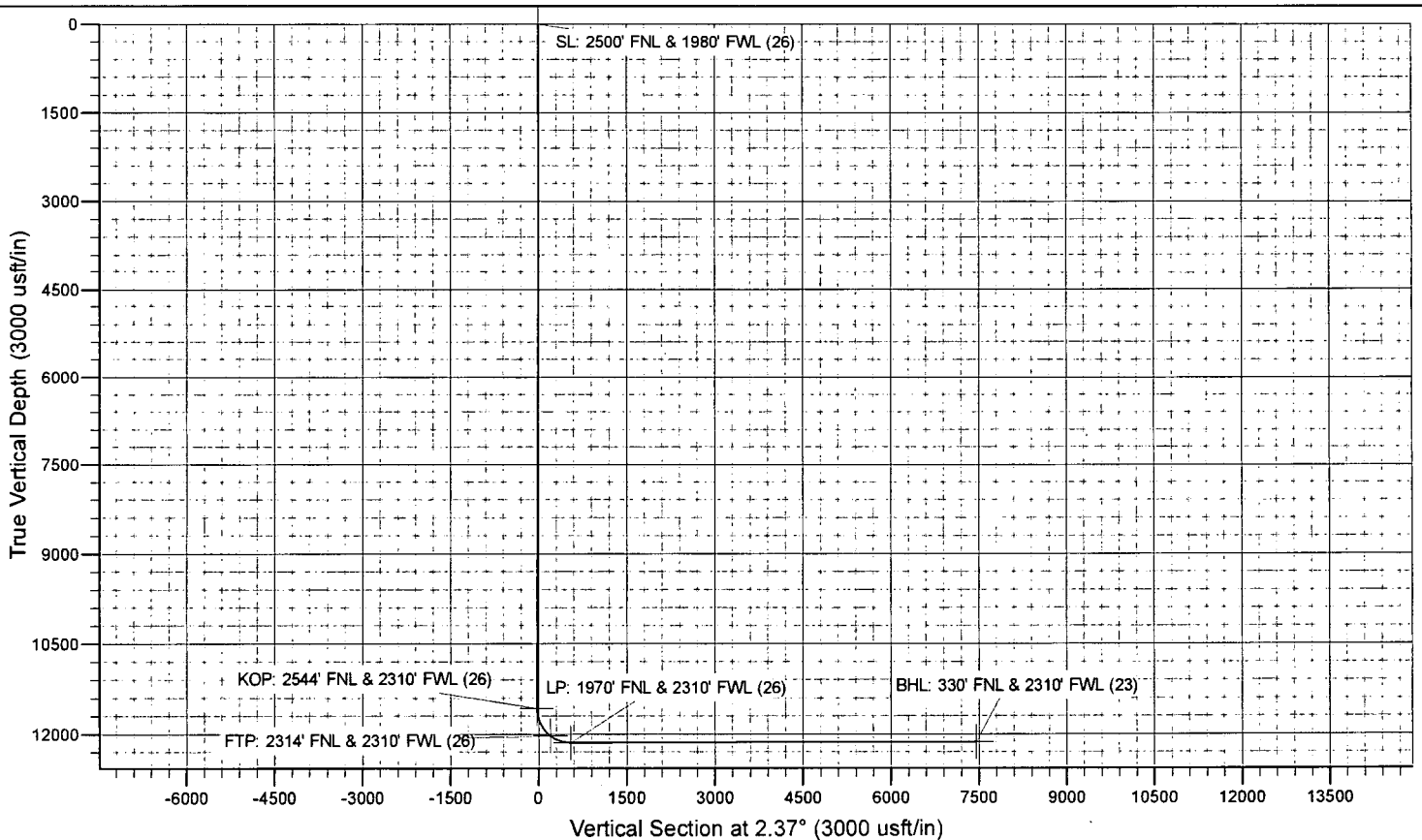
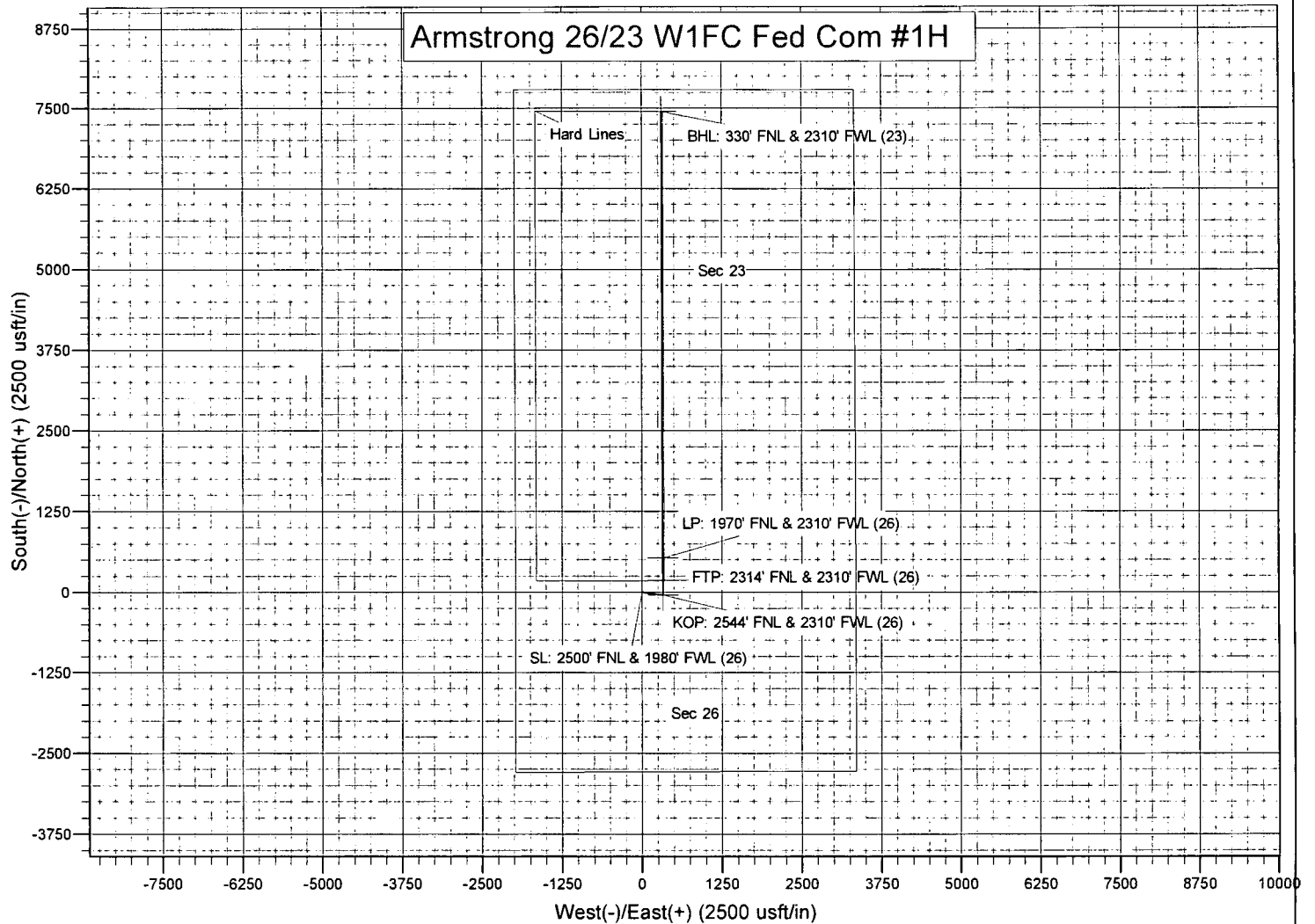
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
15,200.0	90.08	359.83	12,141.1	3,249.2	320.3	3,259.6	0.00	0.00	0.00
15,300.0	90.08	359.83	12,140.9	3,349.2	320.0	3,359.5	0.00	0.00	0.00
15,400.0	90.08	359.83	12,140.8	3,449.2	319.7	3,459.4	0.00	0.00	0.00
15,500.0	90.08	359.83	12,140.6	3,549.2	319.4	3,559.3	0.00	0.00	0.00
15,600.0	90.08	359.83	12,140.5	3,649.2	319.2	3,659.2	0.00	0.00	0.00
15,700.0	90.08	359.83	12,140.3	3,749.2	318.9	3,759.1	0.00	0.00	0.00
15,800.0	90.08	359.83	12,140.2	3,849.2	318.6	3,859.0	0.00	0.00	0.00
15,900.0	90.08	359.83	12,140.1	3,949.2	318.3	3,958.9	0.00	0.00	0.00
16,000.0	90.08	359.83	12,139.9	4,049.2	318.0	4,058.8	0.00	0.00	0.00
16,100.0	90.08	359.83	12,139.8	4,149.2	317.7	4,158.7	0.00	0.00	0.00
16,200.0	90.08	359.83	12,139.6	4,249.2	317.4	4,258.6	0.00	0.00	0.00
16,300.0	90.08	359.83	12,139.5	4,349.1	317.1	4,358.5	0.00	0.00	0.00
16,400.0	90.08	359.83	12,139.3	4,449.1	316.8	4,458.4	0.00	0.00	0.00
16,500.0	90.08	359.83	12,139.2	4,549.1	316.5	4,558.3	0.00	0.00	0.00
16,600.0	90.08	359.83	12,139.0	4,649.1	316.2	4,658.2	0.00	0.00	0.00
16,700.0	90.08	359.83	12,138.9	4,749.1	315.9	4,758.1	0.00	0.00	0.00
16,800.0	90.08	359.83	12,138.8	4,849.1	315.6	4,858.0	0.00	0.00	0.00
16,900.0	90.08	359.83	12,138.6	4,949.1	315.3	4,957.9	0.00	0.00	0.00
17,000.0	90.08	359.83	12,138.5	5,049.1	315.0	5,057.9	0.00	0.00	0.00
17,082.9	90.08	359.83	12,138.3	5,132.0	314.8	5,140.6	0.00	0.00	0.00
PPP2: 2646' FNL & 2310' FWL (23)									
17,100.0	90.08	359.83	12,138.3	5,149.1	314.8	5,157.8	0.00	0.00	0.00
17,200.0	90.08	359.83	12,138.2	5,249.1	314.5	5,257.7	0.00	0.00	0.00
17,300.0	90.08	359.83	12,138.0	5,349.1	314.2	5,357.6	0.00	0.00	0.00
17,400.0	90.08	359.83	12,137.9	5,449.1	313.9	5,457.5	0.00	0.00	0.00
17,500.0	90.08	359.83	12,137.7	5,549.1	313.6	5,557.4	0.00	0.00	0.00
17,600.0	90.08	359.83	12,137.6	5,649.1	313.3	5,657.3	0.00	0.00	0.00
17,700.0	90.08	359.83	12,137.5	5,749.1	313.0	5,757.2	0.00	0.00	0.00
17,800.0	90.08	359.83	12,137.3	5,849.1	312.7	5,857.1	0.00	0.00	0.00
17,900.0	90.08	359.83	12,137.2	5,949.1	312.4	5,957.0	0.00	0.00	0.00
18,000.0	90.08	359.83	12,137.0	6,049.1	312.1	6,056.9	0.00	0.00	0.00
18,100.0	90.08	359.83	12,136.9	6,149.1	311.8	6,156.8	0.00	0.00	0.00
18,200.0	90.08	359.83	12,136.7	6,249.1	311.5	6,256.7	0.00	0.00	0.00
18,300.0	90.08	359.83	12,136.6	6,349.1	311.2	6,356.6	0.00	0.00	0.00
18,400.0	90.08	359.83	12,136.4	6,449.1	310.9	6,456.5	0.00	0.00	0.00
18,500.0	90.08	359.83	12,136.3	6,549.1	310.6	6,556.4	0.00	0.00	0.00
18,600.0	90.08	359.83	12,136.2	6,649.1	310.3	6,656.3	0.00	0.00	0.00
18,700.0	90.08	359.83	12,136.0	6,749.1	310.1	6,756.2	0.00	0.00	0.00
18,800.0	90.08	359.83	12,135.9	6,849.1	309.8	6,856.1	0.00	0.00	0.00
18,900.0	90.08	359.83	12,135.7	6,949.1	309.5	6,956.0	0.00	0.00	0.00
19,000.0	90.08	359.83	12,135.6	7,049.1	309.2	7,055.9	0.00	0.00	0.00
19,100.0	90.08	359.83	12,135.4	7,149.1	308.9	7,155.8	0.00	0.00	0.00
19,200.0	90.08	359.83	12,135.3	7,249.1	308.6	7,255.7	0.00	0.00	0.00
19,300.0	90.08	359.83	12,135.1	7,349.1	308.3	7,355.6	0.00	0.00	0.00
19,398.9	90.08	359.83	12,135.0	7,448.0	308.0	7,454.4	0.00	0.00	0.00
BHL: 330' FNL & 2310' FWL (23)									

# Planning Report

<b>Database:</b>	Hobbs	<b>Local Co-ordinate Reference:</b>	Site Armstrong 26/23 W1FC Fed Com #1H
<b>Company:</b>	Mewbourne Oil Company	<b>TVD Reference:</b>	WELL @ 3359.0usft (Original Well Elev)
<b>Project:</b>	Eddy County, New Mexico NAD 83	<b>MD Reference:</b>	WELL @ 3359.0usft (Original Well Elev)
<b>Site:</b>	Armstrong 26/23 W1FC Fed Com #1H	<b>North Reference:</b>	Grid
<b>Well:</b>	Sec 26, T25S, R31E	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BHL: 330' FNL & 2310' FWL, Sec 23		
<b>Design:</b>	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: 2500' FNL & 1980' F - plan hits target center - Point	0.00	0.00	0.0	0.0	0.0	401,215.00	721,657.00	32.1016807	-103.7509959
KOP: 2544' FNL & 2310' - plan hits target center - Point	0.00	0.00	11,572.0	-44.0	330.0	401,171.00	721,987.00	32.1015549	-103.7499310
FTP: 2314' FNL & 2310' - plan hits target center - Point	0.00	0.00	12,031.0	186.0	329.3	401,401.00	721,986.32	32.1021871	-103.7499292
BHL: 330' FNL & 2310' F - plan hits target center - Point	0.00	0.00	12,135.0	7,448.0	308.0	408,663.00	721,965.00	32.1221493	-103.7498711
PPP2: 2646' FNL & 2310' - plan hits target center - Point	0.00	0.00	12,138.3	5,132.0	314.8	406,347.00	721,971.80	32.1157829	-103.7498896
LP: 1970' FNL & 2310' F - plan hits target center - Point	0.00	0.00	12,145.0	529.8	328.3	401,744.80	721,985.30	32.1031322	-103.7499265

# Armstrong 26/23 W1FC Fed Com #1H





**Mewbourne Oil Company, Armstrong 26/23 W1FC Fed Com #1H**  
**Sec 26, T25S, R31E**  
**SL: 2500' FNL & 1980' FWL, Sec 26**  
**BHL: 330' FNL & 2310' FWL, Sec 23**

**1. Geologic Formations**

TVD of target	12,145'	Pilot hole depth	NA
MD at TD:	19,399'	Deepest expected fresh water:	325'

**Basin**

<b>Formation</b>	<b>Depth (TVD) from KB</b>	<b>Water/Mineral Bearing/ Target Zone?</b>	<b>Hazards*</b>
Quaternary Fill	Surface		
Rustler	899		
Top of Salt	1289		
Castile			
Base of Salt	4044		
Yates			
Capitan			
Lamar	4293	Oil	
Bell Canyon	4332		
Cherry Canyon	5354		
Manzanita Marker	5486		
Brushy Canyon	6837		
Bone Spring	8269	Oil/Gas	
1 <sup>st</sup> Bone Spring Sand	9310		
2 <sup>nd</sup> Bone Spring Sand	9928		
3 <sup>rd</sup> Bone Spring Sand	11,194		
Abo			
Wolfcamp	11,640	Target Zone	
Devonian			
Ellenburger			
Granite Wash			

\*H<sub>2</sub>S, water flows, loss of circulation, abnormal pressures, etc.

**Mewbourne Oil Company, Armstrong 26/23 W1FC Fed Com #1H**  
**Sec 26, T25S, R31E**  
**SL: 2500' FNL & 1980' FWL, Sec 26**  
**BHL: 330' FNL & 2310' FWL, Sec 23**

## 2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
	From	To								
17.5"	0'	975'	13.375"	48	H40	STC	1.69	3.79	6.88	11.56
12.25"	0'	3453'	9.625"	36	J55	LTC	1.13	1.96	2.92	3.64
12.25"	3453'	4218'	9.625"	40	J55	LTC	1.17	1.80	16.99	20.59
8.75"	0'	12,300'	7"	26	HCP110	LTC	1.24	1.66	2.06	2.61
6.125"	11,580'	19,399'	4.5"	13.5	P110	LTC	1.69	1.97	3.16	3.95
BLM Minimum Safety Factor				1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet			

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

Must have table for contingency casing

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

**Mewbourne Oil Company, Armstrong 26/23 W1FC Fed Com #1H**  
**Sec 26, T25S, R31E**  
**SL: 2500' FNL & 1980' FWL, Sec 26**  
**BHL: 330' FNL & 2310' FWL, Sec 23**

(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?	

### 3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H <sub>2</sub> O gal/ sk	500# Comp. Strength (hours)	Slurry Description
Surf.	515	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.	695	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	385	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 @ 5486'						
Prod. Stg 2	75	12.5	2.12	11	10	Lead: Class C + Salt + Gel + Extender + LCM
	100	14.8	1.34	6.3	8	Tail: Class C + Retarder
Liner	320	11.2	2.97	18	16	Class C + Salt + Gel + Fluid Loss + Retarder + Dispersant + Defoamer + Anti-Settling Agent

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

Casing String	TOC	% Excess
Surface	0'	100%
Intermediate	0'	25%
Production	4018'	25%
Liner	11,580'	25%

**Mewbourne Oil Company, Armstrong 26/23 W1FC Fed Com #1H**  
**Sec 26, T25S, R31E**  
**SL: 2500' FNL & 1980' FWL, Sec 26**  
**BHL: 330' FNL & 2310' FWL, Sec 23**

**4. Pressure Control Equipment**

N	Variance: None
---	----------------

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

\*Specify if additional ram is utilized.

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

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

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

**Mewbourne Oil Company, Armstrong 26/23 W1FC Fed Com #1H**  
**Sec 26, T25S, R31E**  
**SL: 2500' FNL & 1980' FWL, Sec 26**  
**BHL: 330' FNL & 2310' FWL, Sec 23**

Y	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.	
	N	Are anchors required by manufacturer?
Y	A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested.  <ul style="list-style-type: none"><li>• Provide description here: See attached schematic.</li></ul>	

## 5. Mud Program

TVD		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	975'	FW Gel	8.6-8.8	28-34	N/C
975'	4218'	Saturated Brine	10.0	28-34	N/C
4218'	12,117'	Cut Brine	8.6-10	28-34	N/C
12,117'	12,145'	OBM	10.0-12.0	30-40	<10cc

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

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

## 6. Logging and Testing Procedures

Logging, Coring and Testing.	
X	Will run GR/CNL from KOP (11,580') 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
-------------------------	----------

**Mewbourne Oil Company, Armstrong 26/23 W1FC Fed Com #1H**

**Sec 26, T25S, R31E**

**SL: 2500' FNL & 1980' FWL, Sec 26**

**BHL: 330' FNL & 2310' FWL, Sec 23**

X	Gamma Ray	11,580' (KOP) to TD
	Density	
	CBL	
	Mud log	
	PEX	

**7. Drilling Conditions**

Condition	Specify what type and where?
BH Pressure at deepest TVD	7578 psi
Abnormal Temperature	No

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

Hydrogen Sulfide (H<sub>2</sub>S) monitors will be installed prior to drilling out the surface shoe. If H<sub>2</sub>S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.

	H <sub>2</sub> S is present
X	H <sub>2</sub> S Plan attached

**8. Other facets of operation**

Is this a walking operation? If yes, describe.

Will be pre-setting casing? If yes, describe.

Attachments

**Mewbourne Oil Company, Armstrong 26/23 W1FC Fed Com #1H**

**Sec 26, T25S, R31E**

**SL: 2500' FNL & 1980' FWL, Sec 26**

**BHL: 330' FNL & 2310' FWL, Sec 23**

☐ Directional Plan

☐ Other, describe

**Operator Name:** MEWBOURNE OIL COMPANY

**Well Name:** ARMSTRONG 26/23 W1FC FED COM

**Well Number:** 1H

**Turnout?** Y

**Access surfacing type:** OTHER

**Access topsoil source:** OFFSITE

**Access surfacing type description:** Caliche

**Access onsite topsoil source depth:**

**Offsite topsoil source description:** Topsoil will be on edge of lease road.

**Onsite topsoil removal process:**

**Access other construction information:** None

**Access miscellaneous information:** None

**Number of access turnouts:** 3

**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

### Section 3 - Location of Existing Wells

**Existing Wells Map?** YES

**Attach Well map:**

Armstrong26\_23W1FCFedCom1H\_existingwellmap\_20181221122057.pdf

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

**Submit or defer a Proposed Production Facilities plan?** SUBMIT

**Production Facilities description:** Battery is offsite to the southeast of the well pad. A surface 2-7/8" steel flowline with a working pressure of 125# will be installed from well pad to production facility within 5' of lease road.

**Production Facilities map:**

Armstrong26\_23W1FCFedCom1H\_flowlinemap\_20181221122125.pdf

Armstrong26\_23W1FCFedCom1H\_productionfacilitymap\_20190516103319.pdf

### Section 5 - Location and Types of Water Supply

#### Water Source Table



**Operator Name:** MEWBOURNE OIL COMPANY

**Well Name:** ARMSTRONG 26/23 W1FC FED COM

**Well Number:** 1H

**Water source type:** IRRIGATION

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

**Source latitude:** 32.53542

**Source longitude:** -103.44969

**Source datum:** NAD83

**Water source permit type:** WATER WELL

**Water source transport method:** TRUCKING

**Source land ownership:** PRIVATE

**Source transportation land ownership:** COMMERCIAL

**Water source volume (barrels):** 2014

**Source volume (acre-feet):** 0.2595907

**Source volume (gal):** 84588

**Water source and transportation map:**

Armstrong26\_23W1FCFedCom1H\_watersourceandtransmap\_20181221122149.pdf

**Water source comments:**

**New water well?** NO

### New Water Well Info

**Well latitude:**

**Well Longitude:**

**Well datum:**

**Well target aquifer:**

**Est. depth to top of aquifer(ft):**

**Est thickness of aquifer:**

**Aquifer comments:**

**Aquifer documentation:**

**Well depth (ft):**

**Well casing type:**

**Well casing outside diameter (in.):**

**Well casing inside diameter (in.):**

**New water well casing?**

**Used casing source:**

**Drilling method:**

**Drill material:**

**Grout material:**

**Grout depth:**

**Casing length (ft.):**

**Casing top depth (ft.):**

**Operator Name:** MEWBOURNE OIL COMPANY

**Well Name:** ARMSTRONG 26/23 W1FC FED COM

**Well Number:** 1H

**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:**

Armstrong26\_23W1FCFedCom1H\_calichesourceandtransmap\_20181221122201.pdf

### Section 7 - Methods for Handling Waste

**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.

**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

**Operator Name:** MEWBOURNE OIL COMPANY

**Well Name:** ARMSTRONG 26/23 W1FC FED COM

**Well Number:** 1H

**Waste type:** GARBAGE

**Waste content description:** Garbage & trash

**Amount of waste:** 1500 pounds

**Waste disposal frequency :** One Time Only

**Safe containment description:** Enclosed trash trailer

**Safe containmant attachment:**

**Waste disposal type:** HAUL TO COMMERCIAL FACILITY

**Disposal location ownership:** PRIVATE

**Disposal type description:**

**Disposal location description:** Waste Management facility in Carlsbad.

### 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: ARMSTRONG 26/23 W1FC FED COM

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:

Armstrong26\_23W1FCFedCom1H\_wellsitelayout\_20181221122225.pdf

Comments:

## Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance

Multiple Well Pad Name: ARMSTRONG 26/23 FC WELLS

Multiple Well Pad Number: 2

Recontouring attachment:

Drainage/Erosion control construction: None

Drainage/Erosion control reclamation: None

Well pad proposed disturbance (acres): 3.95	Well pad interim reclamation (acres): 2.024	Well pad long term disturbance (acres): 1.926
Road proposed disturbance (acres): 0.16	Road interim reclamation (acres): 0	Road long term disturbance (acres): 0
Powerline proposed disturbance (acres): 1.025	Powerline interim reclamation (acres): 0	Powerline long term disturbance (acres): 0
Pipeline proposed disturbance (acres): 0	Pipeline interim reclamation (acres): 0	Pipeline long term disturbance (acres): 0
Other proposed disturbance (acres): 1.205	Other interim reclamation (acres): 1.205	Other long term disturbance (acres): 1.205
Total proposed disturbance: 6.34	Total interim reclamation: 3.229	Total long term disturbance: 3.131

**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

**Operator Name:** MEWBOURNE OIL COMPANY

**Well Name:** ARMSTRONG 26/23 W1FC FED COM

**Well Number:** 1H

weeds, will be used.

**Soil treatment:** NA

**Existing Vegetation at the well pad:** Various brush & grasses

**Existing Vegetation at the well pad attachment:**

**Existing Vegetation Community at the road:** Various brush & grasses

**Existing Vegetation Community at the road attachment:**

**Existing Vegetation Community at the pipeline:** NA

**Existing Vegetation Community at the pipeline attachment:**

**Existing Vegetation Community at other disturbances:** NA

**Existing Vegetation Community at other disturbances attachment:**

**Non native seed used?** NO

**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:**

**Operator Name:** MEWBOURNE OIL COMPANY

**Well Name:** ARMSTRONG 26/23 W1FC FED COM

**Well Number:** 1H

Seed Summary	
Seed Type	Pounds/Acre

**Total pounds/Acre:**

**Seed reclamation attachment:**

**Operator Contact/Responsible Official Contact Info**

**First Name:** Bradley

**Last Name:** Bishop

**Phone:** (575)393-5905

**Email:** bbishop@mewbourne.com

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

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

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

**Existing invasive species?** NO

**Existing invasive species treatment description:**

**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:** EXISTING ACCESS ROAD

**Describe:**

**Surface Owner:** BUREAU OF LAND MANAGEMENT

**Other surface owner description:**

**BIA Local Office:**

**BOR Local Office:**

**COE Local Office:**

**DOD Local Office:**

**NPS Local Office:**

**State Local Office:**

**Operator Name:** MEWBOURNE OIL COMPANY

**Well Name:** ARMSTRONG 26/23 W1FC FED COM

**Well Number:** 1H

**Military Local Office:**

**USFWS Local Office:**

**Other Local Office:**

**USFS Region:**

**USFS Forest/Grassland:**

**USFS Ranger District:**

**Fee Owner:** Pecos Valley Artesian Conservation  
District

**Phone:** (575)622-7000

**Fee Owner Address:**

**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:** BUREAU OF LAND MANAGEMENT

**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:** ARMSTRONG 26/23 W1FC FED COM

**Well Number:** 1H

**Fee Owner:** Pecos Valley Artesian Conservation  
District

**Phone:** (575)622-7000

**Fee Owner Address:**

**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:** NEW ACCESS ROAD

**Describe:**

**Surface Owner:** BUREAU OF LAND MANAGEMENT

**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:** ARMSTRONG 26/23 W1FC FED COM

**Well Number:** 1H

**Disturbance type:** OTHER

**Describe:** Production Facility

**Surface Owner:** BUREAU OF LAND MANAGEMENT

**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:**

## 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:** DEC 14 2018 Met w/RRC Surveying & staked location @ 2500' FNL & 1980' FWL, Sec 26, T25S, R31E, Eddy Co., NM. (Elevation @ 3332'). Topsoil E. Reclaim all sides 60'. Offsite battery to the S. Approx. 250 of new road to the N to lease road. Location is in MOA/PA. Will require BLM onsite. Lat.: 32.10167984 N, Long.: -103.75099546 W NAD83. (BPS) DEC 19 2018 Met w/Paul Murphy (BLM-NRS) & Kyle Rybacki (BLM-Cave/Karst). Location approved. (BPS)

## Other SUPO Attachment

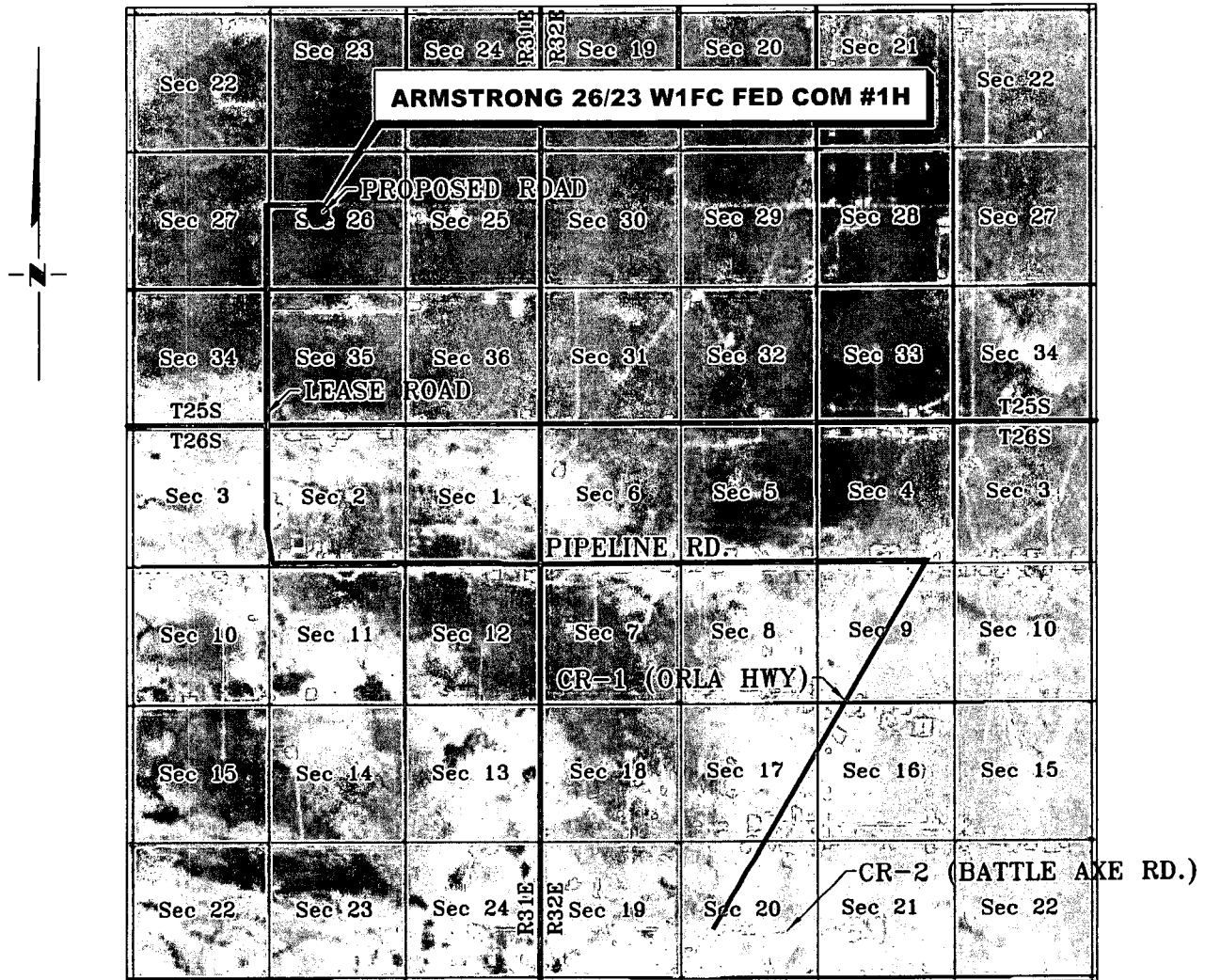
Armstrong26\_23W1FCFedCom1H\_gascaptureplan\_20181221122323.pdf

Armstrong26\_23W1FCFedCom1H\_interimreclamationdiagrampdf\_20181221122336.pdf



# VICINITY MAP

NOT TO SCALE



SECTION 26, TWP. 25 SOUTH, RGE. 31 EAST,  
N. M. P. M., EDDY COUNTY, NEW MEXICO

OPERATOR: Mewbourne Oil Company  
LEASE: Armstrong 26/23 W1FC Fed Com  
WELL NO.: 1H

LOCATION: 2500' FNL & 1980' FWL  
ELEVATION: 3332'

Copyright 2016 - All Rights Reserved

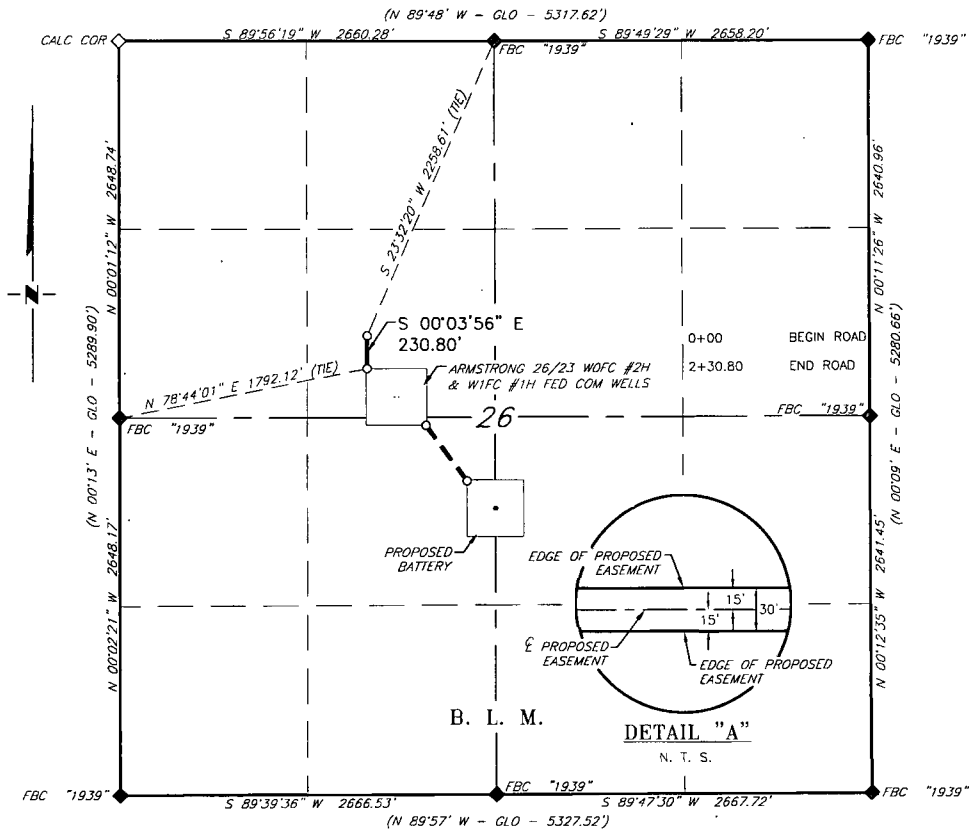
NO.	REVISION	DATE
JOB NO.:	LS18121329	
DWG. NO.:	18121329-3	

# RRC

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

SCALE: N. T. S.
DATE: 12-05-18
SURVEYED BY: ML/TF
DRAWN BY: GA
APPROVED BY: RMH
SHEET: 1 OF 1

**MEWBOURNE OIL COMPANY  
PROPOSED ACCESS ROAD FOR THE  
ARMSTRONG 26/23 WOFC #2H & W1FC #1H FED COM WELL LOCATIONS  
SECTION 26, T25S, R31E  
N. M. P. M., EDDY COUNTY, NEW MEXICO**



**DESCRIPTION**

A strip of land 30 feet wide, being 230.80 feet or 13.988 rods in length, lying in Section 26, Township 25, South, Range 31 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 B. L. M. land:

BEGINNING at Engr. Sta. 0+00, a point in the Northwest quarter of Section 26, which bears, S 23°32'20" W, 2,258.61 feet from a brass cap, stamped "1939", found for the North quarter corner of Section 26;

Thence S 00°03'56" E, 230.80 feet, to Engr. Sta. 2+30.80, the End of Survey, a point in the Northwest quarter of Section 26, which bears, N 78°44'01" E, 1,792.12 feet from a brass cap, stamped "1939", found for the West quarter corner of Section 26.

Said strip of land contains 0.159 acres, more or less, and is allocated by forties as follows:

SE 1/4 NW 1/4      13.988 Rods      0.159 Acres

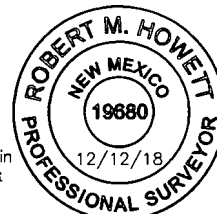
SCALE: 1" = 1000'  
0      500'      1000'

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

LEGEND  
( ) RECORD DATA - GLO  
CALCULATED CORNER  
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



Copyright 2016 - All Rights Reserved

NO.	REVISION	DATE
JOB NO.:	LS18121328	
DWG. NO.:	18121328-5	

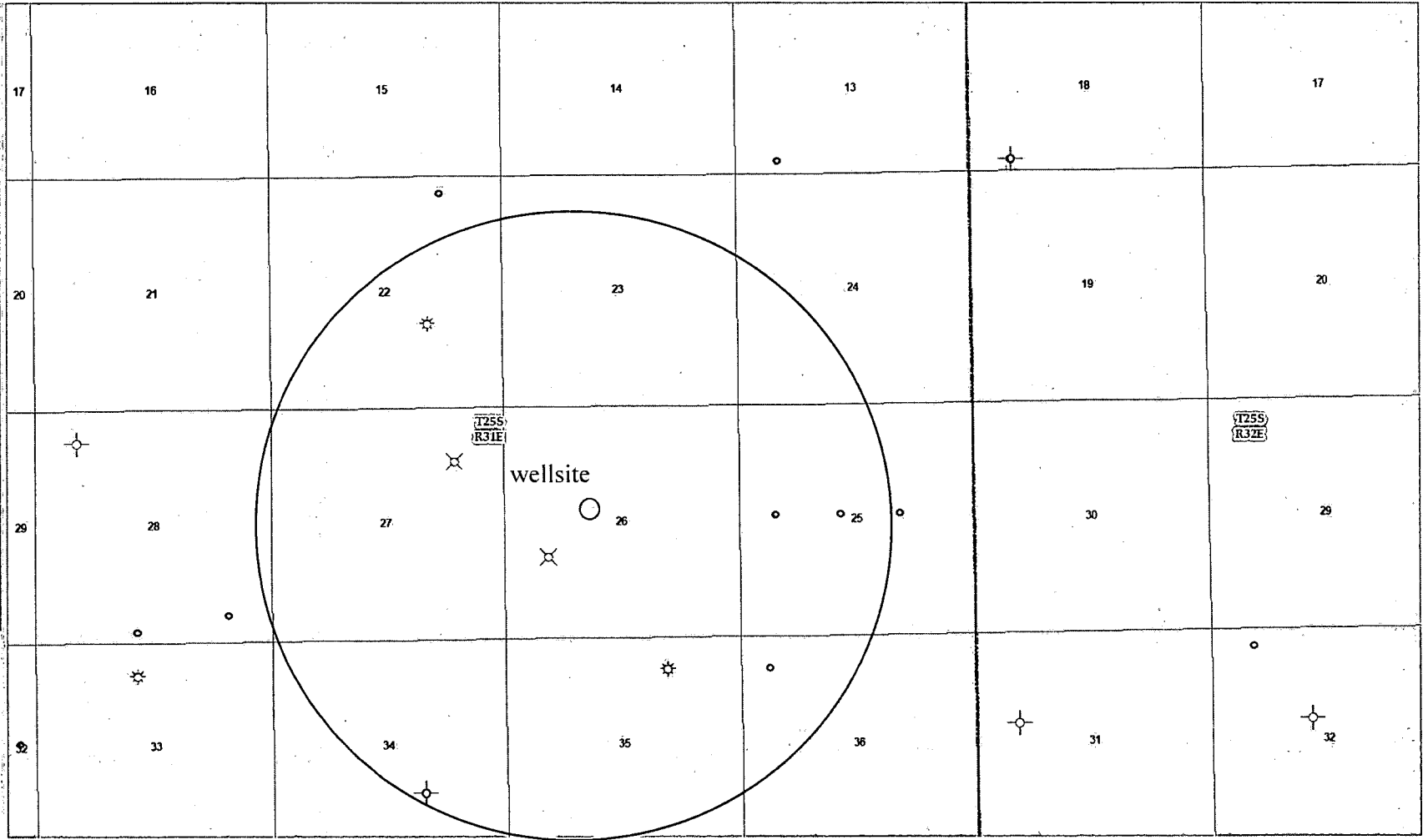
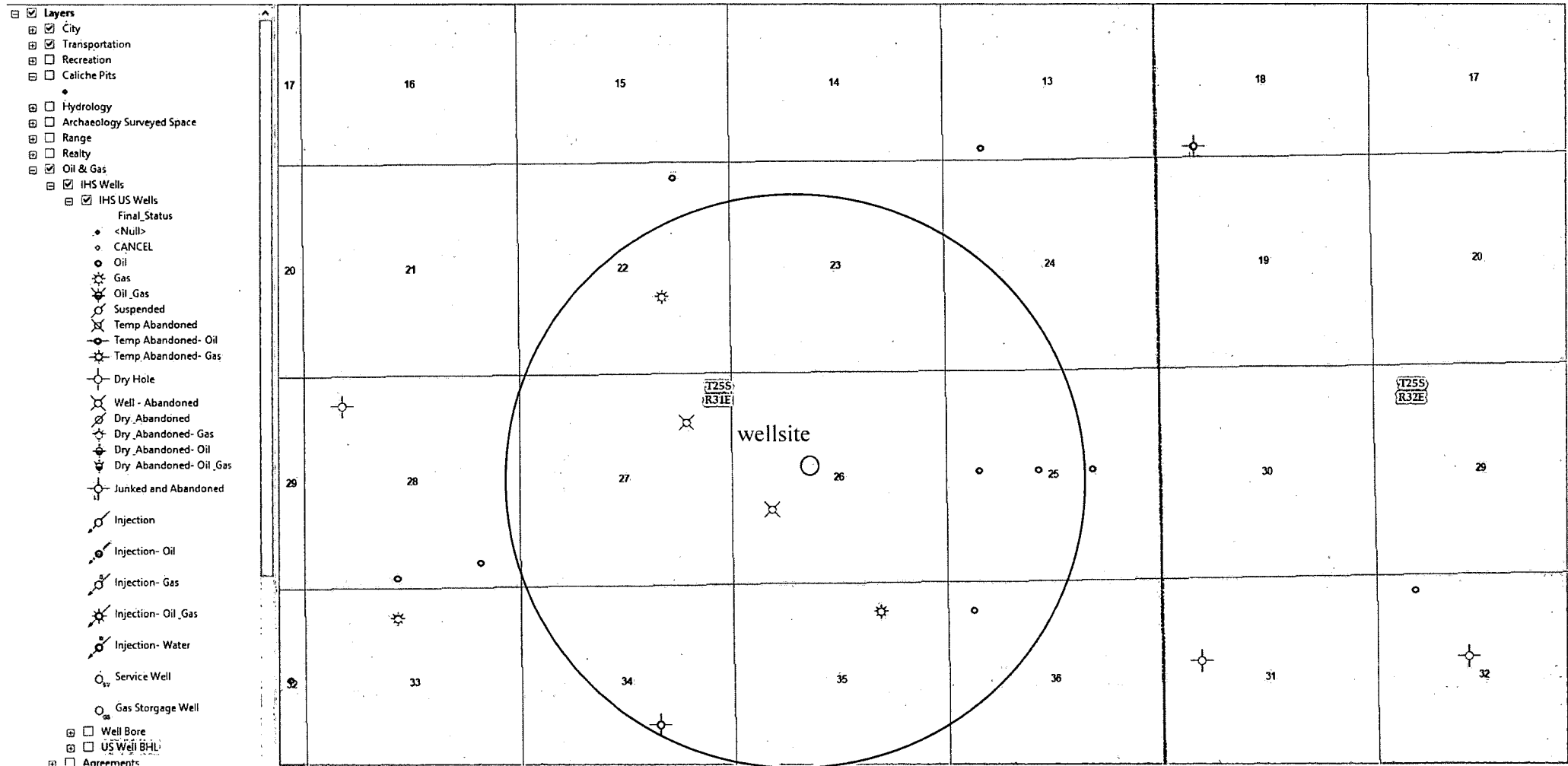
**RRC**

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

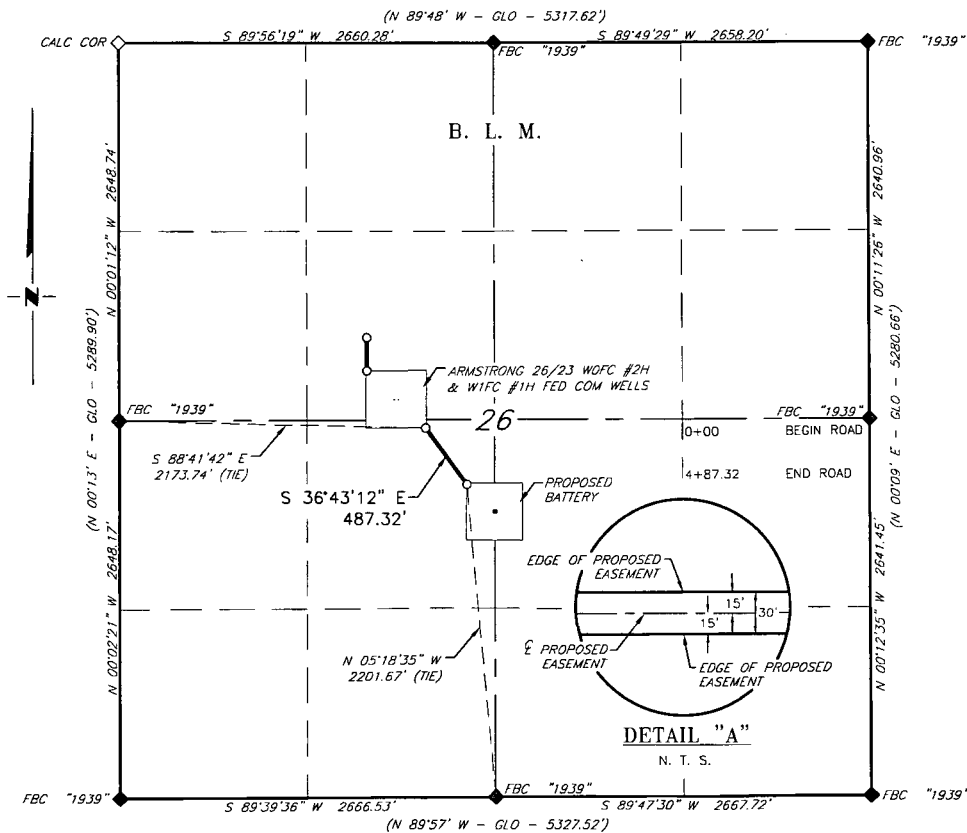
SCALE: 1" = 1000'  
DATE: 12-03-18  
SURVEYED BY: ML/TF  
DRAWN BY: GA  
APPROVED BY: RMH  
SHEET: 1 OF 1

# EXISTING WELL MAP

## ARMSTRONG 26/23 WIFC FED COM #1H



**MEWBOURNE OIL COMPANY**  
**PROPOSED FLOWLINE FOR THE**  
**ARMSTRONG 26/23 WOFC #2H & W1FC #1H FED COM BATTERY**  
**SECTION 26, T25S, R31E**  
**N. M. P. M., EDDY COUNTY, NEW MEXICO**



**DESCRIPTION**

A strip of land 30 feet wide, being 487.32 feet or 29.534 rods in length, lying in Section 26, Township 25, South, Range 31 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 B. L. M. land:

BEGINNING at Engr. Sta. 0+00, a point in the Southwest quarter of Section 26, which bears, S 88°41'42" E, 2,173.74 feet from a brass cap, stamped "1939", found for the West quarter corner of Section 26;

Thence S 36°43'12" E, 487.32 feet, to Engr. Sta. 4+87.32, the End of Survey, a point in the Southwest quarter of Section 26, which bears, N 05°18'35" W, 2,201.67 feet from a brass cap, stamped "1939", found for the South quarter corner of Section 26.

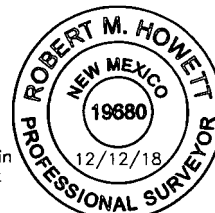
Said strip of land contains 0.335 acres, more or less, and is allocated by forties as follows:

NE 1/4 SW 1/4      29.534 Rods      0.335 Acres

SCALE: 1" = 1000'  
 0      500'      1000'  
 BEARINGS ARE GRID NAD 83  
 NW EAST  
 DISTANCES ARE HORIZ. GROUND.  
 LEGEND  
 ( ) RECORD DATA - GLO  
 NW EAST  
 CALCULATED CORNER  
 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



Copyright 2016 - All Rights Reserved

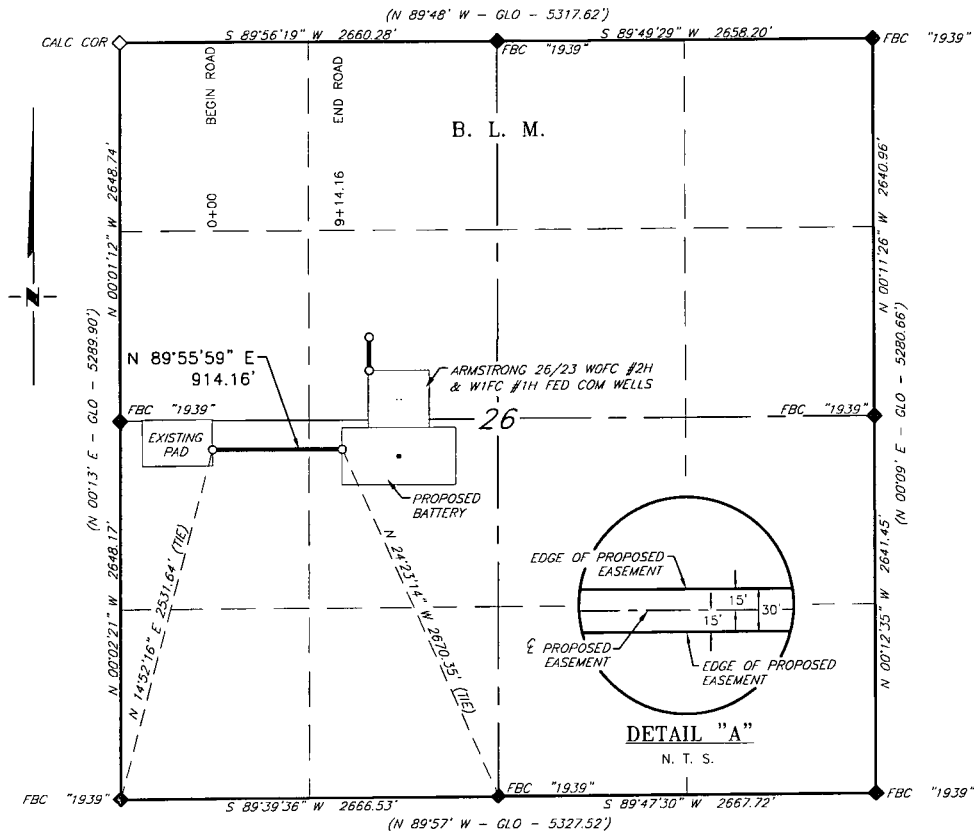
NO.	REVISION	DATE
JOB NO.:	LS18121328	
DWG. NO.:	18121328-6	

**RRC**

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

SCALE: 1" = 1000'  
 DATE: 12-03-18  
 SURVEYED BY: ML/TF  
 DRAWN BY: GA  
 APPROVED BY: RMH  
 SHEET: 1 OF 1

**MEWBOURNE OIL COMPANY  
PROPOSED ACCESS ROAD FOR THE  
ARMSTRONG 26/23 BATTERY  
SECTION 26, T25S, R31E  
N. M. P. M., EDDY COUNTY, NEW MEXICO**



**DESCRIPTION**

A strip of land 30 feet wide, being 914.16 feet or 55.404 rods in length, lying in Section 26, Township 25, South, Range 31 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 B. L. M. land:

BEGINNING at Engr. Sta. 0+00, a point in the Southwest quarter of Section 26, which bears, N 14°52'16" E, 2,531.64 feet from a brass cap, stamped "1939", found for the Southwest corner of Section 26;

Thence N 89°55'59" E, 914.16 feet, to Engr. Sta. 9+14.16, the End of Survey, a point in the Southwest quarter of Section 26, which bears, N 24°23'14" W, 2,670.35 feet from a brass cap, stamped "1939", found for the South quarter corner of Section 26.

Said strip of land contains 0.630 acres, more or less, and is allocated by forties as follows:

NW 1/4 SW 1/4	41.249 Rods	0.469 Acres
NE 1/4 SW 1/4	14.155 Rods	0.161 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



Copyright 2016 - All Rights Reserved

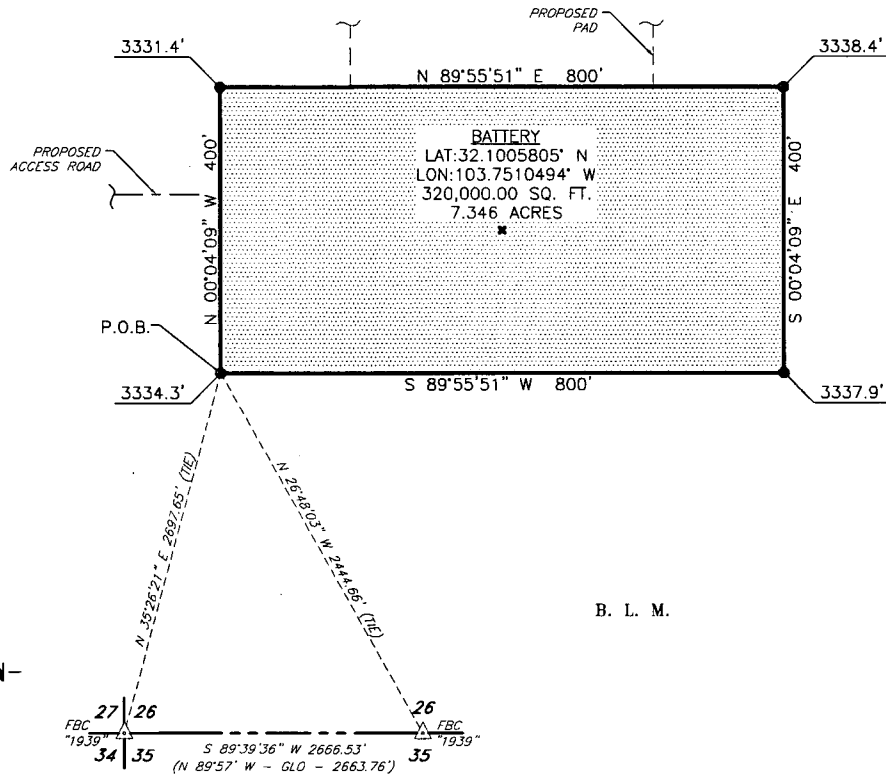
NO.	REVISION	DATE
JOB NO.:	LS18121328	
DWG. NO.:	18121328-6	

**RRC**

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

SCALE: 1" = 1000'
DATE: 12-03-18
SURVEYED BY: ML/TF
DRAWN BY: GA
APPROVED BY: RMH
SHEET: 1 OF 1

**MEWBOURNE OIL COMPANY**  
**SURVEY OF THE PROPOSED ARMSTRONG BATTERY**  
 SECTION 26, T25S, R31E  
 N. M. P. M., EDDY COUNTY, NEW MEXICO



SCALE: 1" = 200'  
 0 100' 200'

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

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



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

*Robert M. Howett*  
 Robert M. Howett NM PS 19680

**DESCRIPTION**

A tract of land situated within the North half of Section 26, Township 25 South, Range 31 East, N. M. P. M. Eddy County, New Mexico, across B. L. M. land, and being more particularly described by metes and bounds as follows:

BEGINNING at a point which bears, N 35°26'21" E, 2,697.65 feet from a brass cap, stamped "1939", found for the Southwest corner of Section 26 and being N 26°48'03" W, 2,444.66 feet from a brass cap, stamped "1939", found for the South quarter corner of Section 26;

Thence N 00°04'09" W, 400.00 feet, to a point;

Thence N 89°55'51" E, 800.00 feet, to a point;

Thence S 00°04'09" E, 400.00 feet, to a point;

Thence S 89°55'51" W, 800.00 feet, to the Point of Beginning.

Said tract of land contains 320,000 square feet or 7.346 acres, more or less, and is allocated by forties as follows:

NE 1/4 SW 1/4 32,000.00 Sq. Ft. 7.346 Acres

Copyright 2016 -- All Rights Reserved

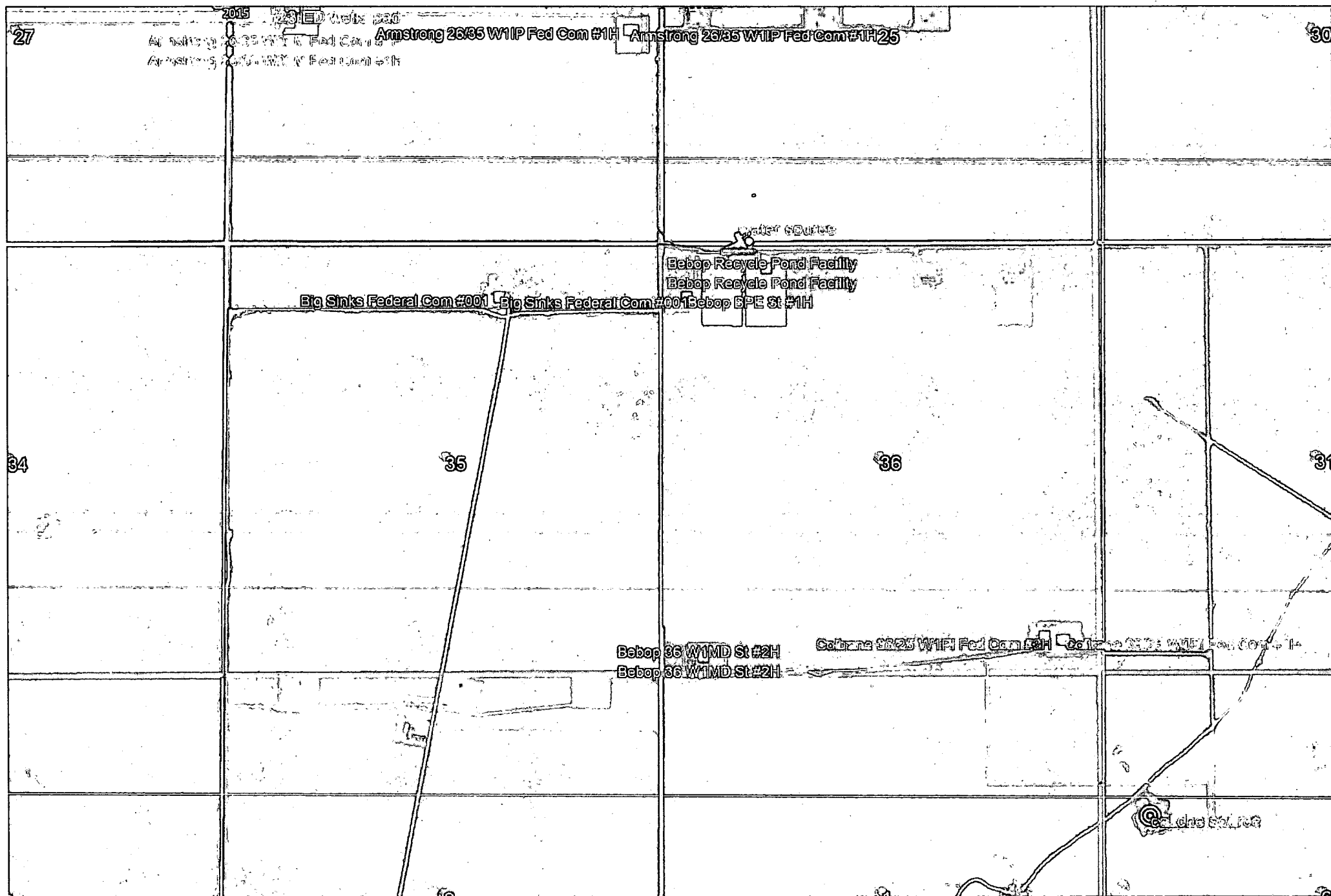
NO.	REVISION	DATE
JOB NO.:	LS18121328	
DWG. NO.:	18121328-7	

**RRC**

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

SCALE: 1" = 200'
DATE: 12-03-18
SURVEYED BY: ML/TF
DRAWN BY: GA
APPROVED BY: RMH
SHEET: 1 OF 1







27

30

34

35

36

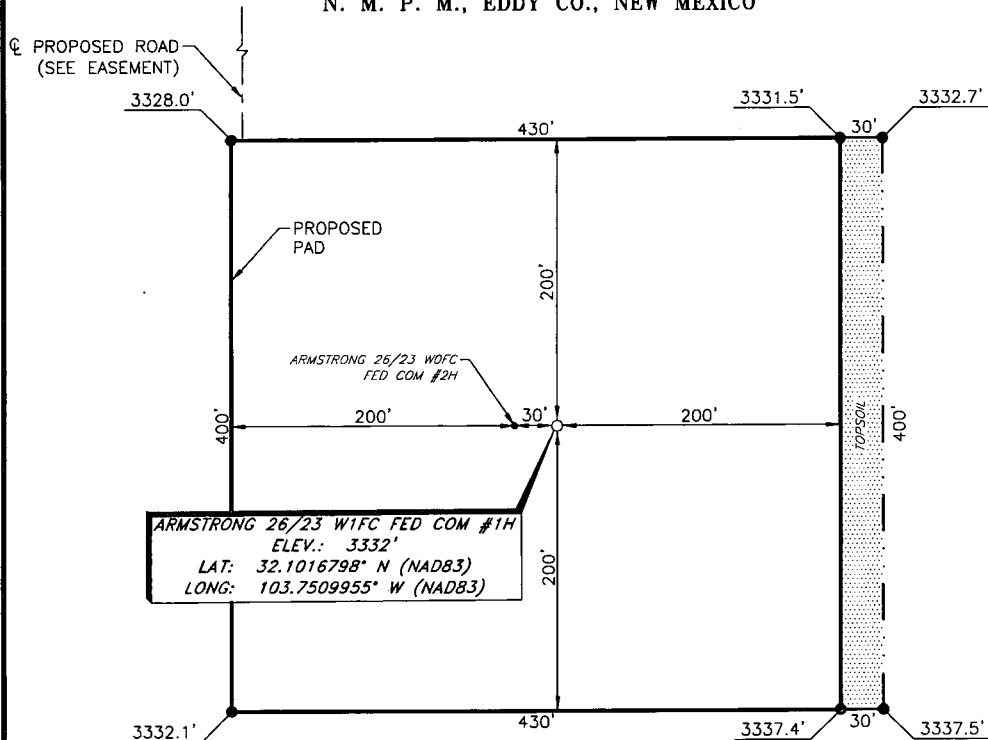
31

Bebop 36 W1MD St #2H  
Bebop 36 W1MD St #2H

Edwards 36/25 W1PI Fed Com #2H  
Edwards 36/25 W1PI Fed Com #2H

the Source

**MEWBOURNE OIL COMPANY**  
**ARMSTRONG 26/23 W1FC FED COM #1H**  
**(2500' FNL & 1980' FWL)**  
**SECTION 26, T25S, R31E**  
**N. M. P. M., EDDY CO., NEW MEXICO**



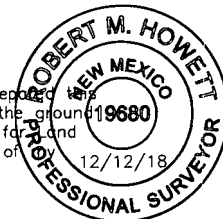
DIRECTIONS TO LOCATION

From the intersection of CR-2 (Battle Axe Rd.) and CR-1 (Orla Hwy.);  
 Go Northeast on CR-1 approx. 3.1 miles to Pipeline Rd. on the left;  
 Turn left and go West approx. 4.8 miles to a lease road on the right;  
 Turn right and go North approx. 2.6 miles to a lease road on the right;  
 Turn right and go East approx. 0.3 miles to a proposed road on the right;  
 Turn right on proposed road and go South approx. 430 feet, to location on the left.

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

I, R. M. Howett, a N. M. Professional Surveyor, hereby certify that I prepared this unclassified survey of a well location from an actual survey made on the ground under my direct supervision, said survey and plat meet the Min. Stds. for and 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



Copyright 2016 - All Rights Reserved

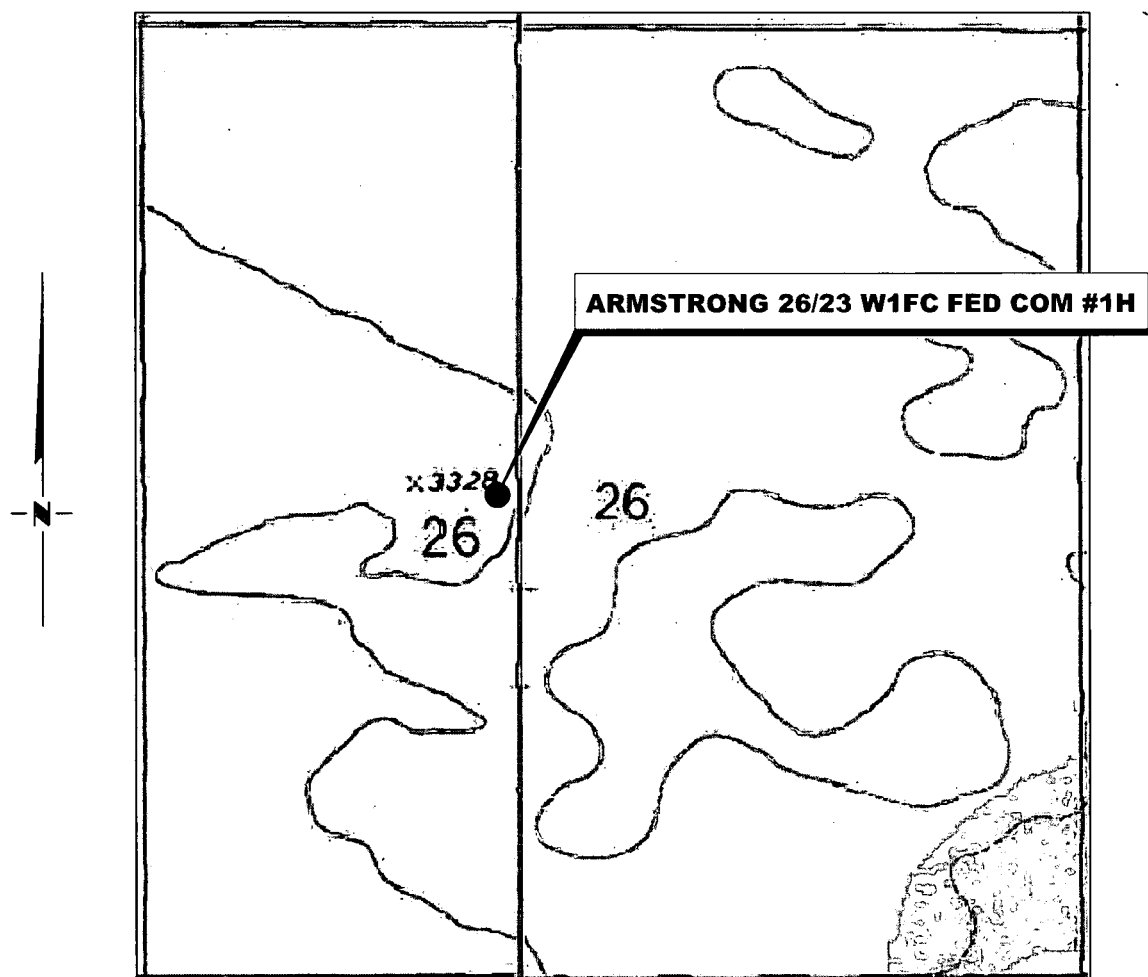
NO.	REVISION	DATE
JOB NO.:	LS18121329	
DWG. NO.:	18121329-4	

**RRC**

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

SCALE:	1" = 100'
DATE:	12-05-18
SURVEYED BY:	ML/TF
DRAWN BY:	GA
APPROVED BY:	RMH
SHEET:	1 OF 1

# LOCATION VERIFICATION MAP



*SECTION 26, TWP. 25 SOUTH, RGE. 31 EAST,  
N. M. P. M., EDDY COUNTY, NEW MEXICO*

OPERATOR: Mewbourne Oil Company  
 LEASE: Armstrong 26/23 W1FC Fed Com  
 WELL NO.: 1H  
 ELEVATION: 3332'

LOCATION: 2500' FNL & 1980' FWL  
 CONTOUR INTERVAL: 10'  
 USGS TOPO. SOURCE MAP:  
Phantom Banks, NM (1968)

Copyright 2016 - All Rights Reserved

NO.	REVISION	DATE
JOB NO.:	LS18121329	
DWG. NO.:	18121329-2	

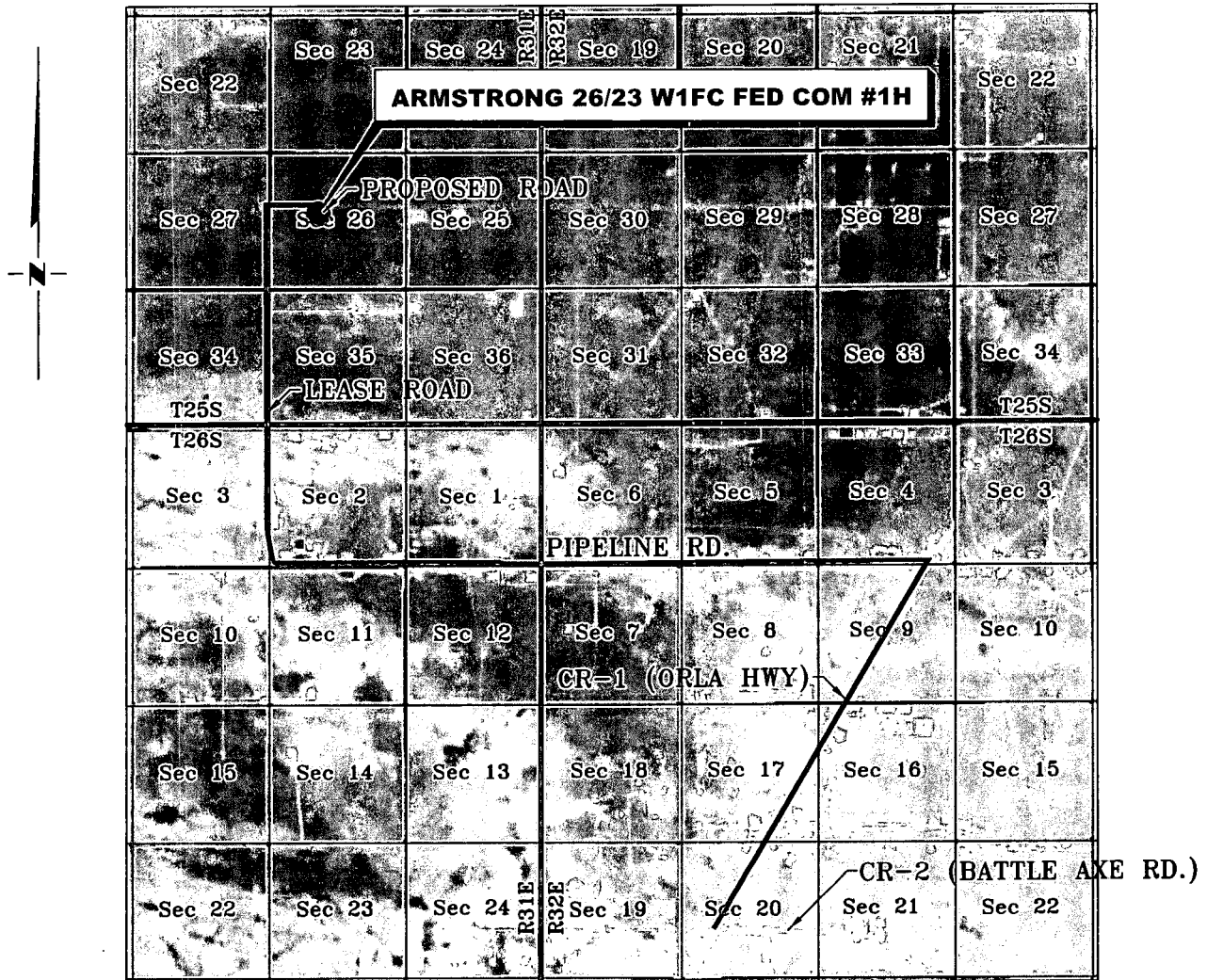
## RRC

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

SCALE: 1" = 1000'
DATE: 12-05-18
SURVEYED BY: ML/TF
DRAWN BY: GA
APPROVED BY: RMH
SHEET: 1 OF 1

# VICINITY MAP

NOT TO SCALE



*SECTION 26, TWP. 25 SOUTH, RGE. 31 EAST,  
N. M. P. M., EDDY COUNTY, NEW MEXICO*

OPERATOR: Mewbourne Oil Company  
LEASE: Armstrong 26/23 W1FC Fed Com  
WELL NO.: 1H

LOCATION: 2500' FNL & 1980' FWL  
ELEVATION: 3332'

Copyright 2016 - All Rights Reserved

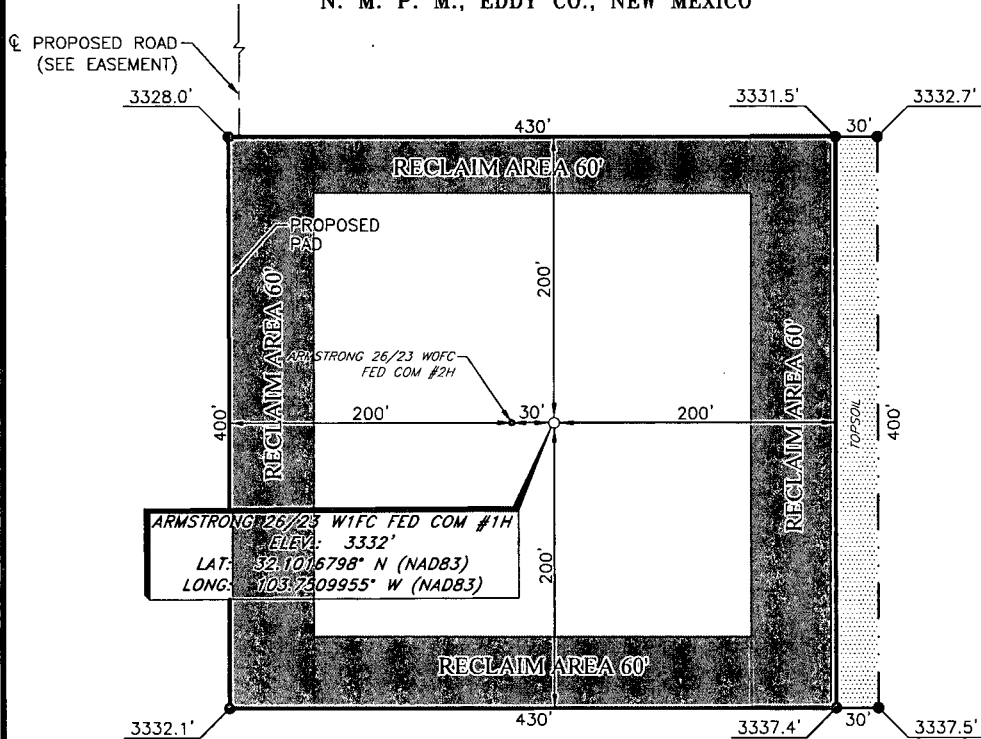
NO.	REVISION	DATE
JOB NO.:	LS18121329	
DWG. NO.:	18121329-3	

# RRC

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

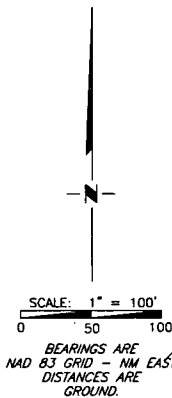
SCALE: N. T. S.
DATE: 12-05-18
SURVEYED BY: ML/TF
DRAWN BY: GA
APPROVED BY: RMH
SHEET: 1 OF 1

MEWBOURNE OIL COMPANY  
 ARMSTRONG 26/23 W1FC FED COM #1H  
 (2500' FNL & 1980' FWL)  
 SECTION 26, T25S, R31E  
 N. M. P. M., EDDY CO., NEW MEXICO



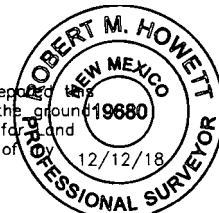
DIRECTIONS TO LOCATION

From the intersection of CR-2 (Battle Axe Rd.) and CR-1 (Orla Hwy.);  
 Go Northeast on CR-1 approx. 3.1 miles to Pipeline Rd. on the left;  
 Turn left and go West approx. 4.8 miles to a lease road on the right;  
 Turn right and go North approx. 2.6 miles to a lease road on the right;  
 Turn right and go East approx. 0.3 miles to a proposed road on the right;  
 Turn right on proposed road and go South approx. 430 feet, to location on the left.



I, R. M. Howett, a N. M. Professional Surveyor, hereby certify that I prepared this unclassified survey of a well location from an actual survey made on the ground under my direct supervision, said survey and plat meet the Min. Stds. for and 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



Copyright 2016 - All Rights Reserved

NO.	REVISION	DATE
JOB NO.:	LS18121329	
DWG. NO.:	18121329-4	

**RRC**

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

SCALE: 1" = 100'
DATE: 12-05-18
SURVEYED BY: ML/TF
DRAWN BY: GA
APPROVED BY: RMH
SHEET: 1 OF 1



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

## PWD Data Report

09/26/2019

APD ID: 10400037514

Submission Date: 01/16/2019

Operator Name: MEWBOURNE OIL COMPANY

Well Name: ARMSTRONG 26/23 W1FC FED COM

Well Number: 1H

Well Type: OIL 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:

Describe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

**Operator Name:** MEWBOURNE OIL COMPANY

**Well Name:** ARMSTRONG 26/23 W1FC FED COM

**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:**

**Describe precipitated solids disposal:**

**Precipitated solids disposal permit:**

**Unlined pit precipitated solids disposal schedule:**

**Unlined pit precipitated solids disposal schedule attachment:**

**Unlined pit reclamation description:**

**Unlined pit reclamation attachment:**

**Unlined pit Monitor description:**

**Unlined pit Monitor attachment:**

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

**Beneficial use user confirmation:**

**Estimated depth of the shallowest aquifer (feet):**

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

**TDS lab results:**

**Geologic and hydrologic evidence:**

**State authorization:**

**Unlined Produced Water Pit Estimated percolation:**

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



**Operator Name:** MEWBOURNE OIL COMPANY

**Well Name:** ARMSTRONG 26/23 W1FC FED COM

**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:** ARMSTRONG 26/23 W1FC FED COM

**Well Number:** 1H

**Other PWD type description:**

**Other PWD type attachment:**

**Have other regulatory requirements been met?**

**Other regulatory requirements attachment:**



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

## Bond Info Data Report

09/26/2019

APD ID: 10400037514

Submission Date: 01/16/2019

Highlighted data  
reflects the most  
recent changes

Operator Name: MEWBOURNE OIL COMPANY

Well Name: ARMSTRONG 26/23 W1FC FED COM

Well Number: 1H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

### 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: