#### NM OIL CONSERVATION

ARYESIA DISTRICT

Form 3160-3 (June 2015)

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SEP 3 0 2019

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

## **UNITED STATES**

DEPARTMENT OF THE INTERIOR RECEIVED **BUREAU OF LAND MANAGEMENT** 

5. Lease Serial No. NMNM016348

APPLICATION I	FOR PERMIT	TO DRILL O	R REENTER

APPLICATION FOR PERMIT TO DR	ILL OR REENTER	6. If Indian, Allotee or Tribe Name					
1b. Type of Well: ✓ Oil Well ☐ Gas Well ☐ Other	ENTER er gle Zone 🕡 Multiple Zone	7. If Unit or CA Agreement, Name and No.  8. Lease Name and Well No.  ARMSTRONG 26/23, W1ED FED COM 3H					
2. Name of Operator MEWBOURNE OIL COMPANY	Λ	9/API-Well No. 30-015-146307					
	b. Phone No. (include area code) 575)393-5905	VILLE ON THE PROPERTY OF WOLLD					
4. Location of Well (Report location clearly and in accordance win  At surface SWNW / 2500 FNL / 900 FWL / LAT 32.10169  At proposed prod. zone NWNW / 330 FNL / 990 FWL / LAT	927 / LONG -103.7544837	11. Sec. T. R. M. of Bik, and Survey or Area SEC 26 / T255 / R31E / NMP					
14. Distance in miles and direction from nearest town or post office 25 miles	*	12. Čounty or Parish 13. State NM					
location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)  18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.  21. Elevations (Show whether DF, KDB, RT, GL, etc.)	19. Proposed Depth 20/BLM. 12108 feet./ 19479 feet FED: NM 12108 feet./ 19479 feet FED: NM 122 Approximate date work will start* 124. Attachments 125. Onshore Oil and Gas Order No. 1, and the Feet Feet Polymer Start Feet P	23. Estimated duration 60 days					
25. Signature (Electronic Submission)	BLM.   Name (Printed/Typed)   Bradley Bishop / Ph: (575)393-590	Date 12/21/2018					
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 applicant to conduct operations thereon.  Conditions of approval, if any, are attached.	holds legal or equitable title to those rights	in the subject lease which would entitle the					

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.



\*(Instructions on page 2)

Ref 10-01-19

(Continued on page 2)

## INSTRUCTIONS

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

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

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

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

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

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

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

## NOTICES

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

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

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

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

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

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

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

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

#### **Additional Operator Remarks**

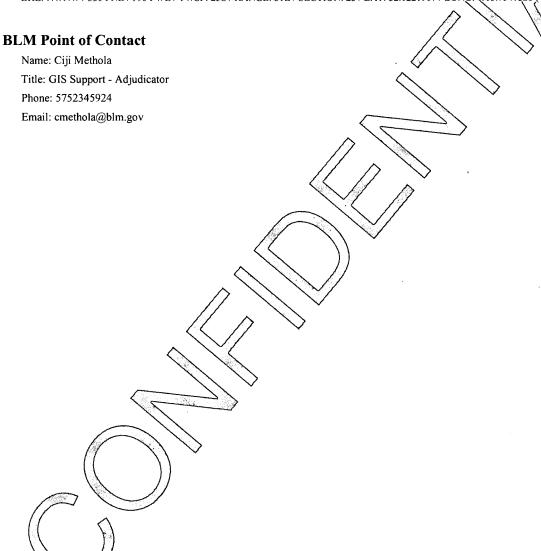
#### Location of Well

1. SHL: SWNW / 2500 FNL / 900 FWL / TWSP: 25S / RANGE: 31E / SECTION: 26 / LAT: 32.1016927 / LONG: -103.7544837 (TVD: 0 feet, MD: 0 feet )

PPP: SWNW / 2319 FNL / 990 FWL / TWSP: 25S / RANGE: 31E / SECTION: 26 / LAT: 32.1021902 / LONG: -103.7541927 (TVD: 12069 feet, MD: 12194 feet )

PPP: SWNW / 2647 FNL / 990 FWL / TWSP: 25S / RANGE: 31E / SECTION: 23 / LAT: 32.1158218 / LONG: -103.7541509 (TVD: 12115 feet, MD: 17162 feet )

BHL: NWNW / 330 FNL / 990 FWL / TWSP: 25S / RANGE: 31E / SECTION: 23 / LAT: 32.1221907 / LONG: -103.7541328 (TVD: 12108 feet, MD: 19479 feet )



## **Review and Appeal Rights**

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



# PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:
LEASE NO.:
NMNM016348
WELL NAME & NO.:
SURFACE HOLE FOOTAGE:
BOTTOM HOLE FOOTAGE
LOCATION:
COUNTY:
Mewbourne Oil Company
NMNM016348
Armstrong 26/23 W1ED Fed Com 3H
2500'/N & 900'/W
330'/N & 900'/W
Section 26, T.25 S., R.31 E., NMPM
Eddy County, New Mexico

COA

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

#### A. HYDROGEN SULFIDE

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

#### **B. CASING**

1

- 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 -58%.

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.

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- 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 CountyCall the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

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- 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  $\underline{24}$  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

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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 easing 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 042619

## PECOS DISTRICT SURFACE USE CONDITIONS OF APPROVAL

OPERATOR'S NAME: Mewbourne Oil Company
WELL NAME & NO.: Armstrong 26/23 W1ED Fed Com 3H
SURFACE HOLE FOOTAGE: 2500'/N & 900'/W
BOTTOM HOLE FOOTAGE 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
<b>☐</b> 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
<b>☐</b> 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.

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## 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.

<u>Ground-level Abandoned Well Marker to avoid raptor perching</u>: 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.

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- 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 offsite and disposed at a proper disposal facility.

#### **Tank Battery Construction:**

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

#### **Road Construction:**

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

#### **Buried Pipeline/Cable Construction:**

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

#### **Powerline Construction:**

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

#### **Surface Flowlines Installation:**

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

## **Leak Detection System:**

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

#### **Automatic Shut-off Systems:**

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

## Cave/Karst Subsurface Mitigation

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

#### **Closed Loop System:**

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

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#### **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)

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### **Exclosure Fencing**

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

#### G. ON LEASE ACCESS ROADS

#### Road Width

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

#### Surfacing

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

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

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

#### Crowning

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

#### Ditching

Ditching shall be required on both sides of the road.

#### **Turnouts**

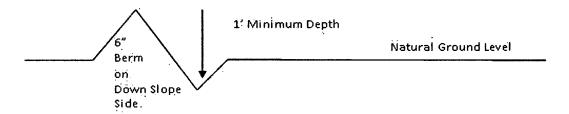
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

#### **Drainage**

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

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

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



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

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

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

400 foot road with 4% road slope: 
$$\frac{400'}{40\%}$$
 + 100' = 200' 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
- 3. Redistribute topsoil
- 2. Construct road
- 4. Revegetate slopes

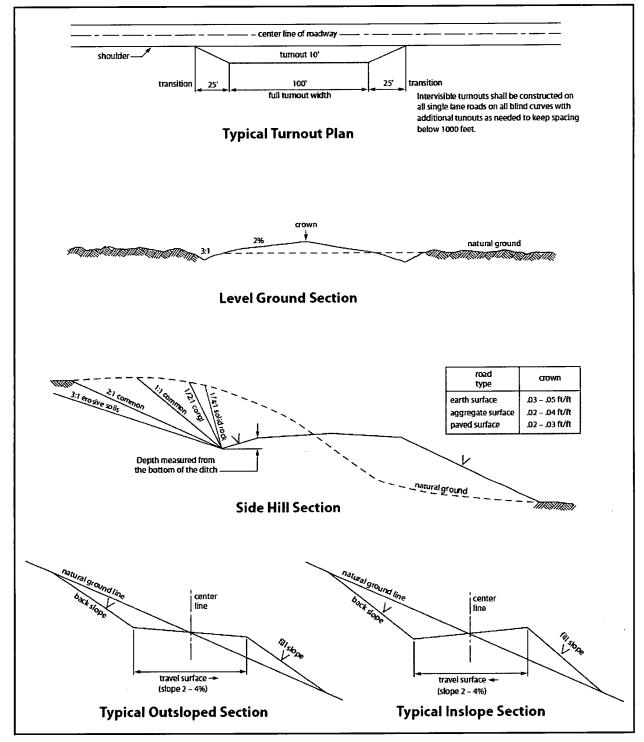


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

## 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**

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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.

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- 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 \_\_\_\_\_\_\_ 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.

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- 8. The holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky of duney areas, the pipeline will be "snaked" around hummocks and dunes rather then suspended across these features.
- 9. The pipeline shall be buried with a minimum of <u>24</u> 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. <u>Lesser Prairie-Chicken:</u> 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.

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#### 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 <u>no</u> 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:

Species	<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

<sup>\*</sup>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

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.



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

## Application Data Report 09/26/2019

APD ID: 10400037448

Submission Date: 12/21/2018

Highlighted data reflects the most

Operator Name: MEWBOURNE OIL COMPANY Well Name: ARMSTRONG 26/23 W1ED FED COM

Well Number: 3H

recent changes **Show Final Text** 

Well Type: OIL WELL

Well Work Type: Drill

#### Section 1 - General

APD ID: 10400037448 Tie to previous NOS?

**Submission Date: 12/21/2018** 

**BLM Office: CARLSBAD** 

User: Bradley Bishop

Title: Regulatory

Federal/Indian APD: FED

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

Lease number: NMNM016348

Lease Acres: 840

Reservation

Surface access agreement in place?

Allotted?

Federal or Indian agreement:

Agreement in place? NO

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 W1ED FED COM

Well Number: 3H

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 W1ED FED COM

Well Number: 3H

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: ARMSTRONG 26/23 ED WELLS

Number: 2

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\_23W1EDFedCom3H\_wellplat\_20181219122253.pdf

Well work start Date: 02/19/2019

**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	900	FWL	25\$	31E	26	Aliquot SWN W	32.10169 27	- 103.7544 837	EDD Y	NEW MEXI CO	NEW MEXI CO	ı	NMNM 016348	332 9	0	0
KOP Leg #1	263 8	FNL	990	FWL	258	31E	26	Aliquot SWN W	32.10131 33	- 103.7541 954	EDD Y	NEW MEXI CO	NEW MEXI CO	ı	NMNM 016348	- 822 6	115 57	115 55
PPP Leg #1	264 7	FNL	990	FWL	25S	31E	23	Aliquot SWN W	32.11582 18	- 103.7541 509	EDD Y	NEW MEXI CO	NEW MEXI CO		NMLC0 061862	- 878 6	171 62	121 15



Drilling Plan Data Report

09/26/2019

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

Submission Date: 12/21/2018

Highlighted data reflects the most

Operator Name: MEWBOURNE OIL COMPANY

recent changes

Well Name: ARMSTRONG 26/23 W1ED FED COM

Well Number: 3H

**Show Final Text** 

Well Type: OIL WELL

APD ID: 10400037448

Well Work Type: Drill

## Section 1 - Geologic Formations

Formation		N 1	True Vertical	Measured			Producing
ID	Formation Name	Elevation	Depth	Depth	Lithologies	Mineral Resources	Formation
1	UNKNOWN	3329	27	27	100	NONE	N
2	RUSTLER	2354	975	975	ANHYDRITE;DOLOMIT E	USEABLE WATER	N /
3	TOP SALT	2040	1289	1289	SALT	NONE	N
4	BASE OF SALT	-715	4044	4044	SALT	NONE	N
5	LAMAR	-964	.4293	4293	LIMESTONE	NATURAL GAS,OIL	N
6	BELL CANYON	-1003	4332	4332	SANDSTONE	NATURAL GAS,OIL	N
7	CHERRY CANYON	-2025	5354	5354,	SANDSTONE	NATURAL GAS,OIL	N
8	MANZANITA	-2157	5486	5486		NONE	N
9	BRUSHY CANYON	-3508	6837	6837	SANDSTONE	NATURAL GAS,OIL	Y
10	BONE SPRING	-4940	8269	8269	LIMESTONE,SHALE	NATURAL GAS,OIL	N
11	BONE SPRING 1ST	-5981	9310	9310	SANDSTONE	NATURAL GAS,OIL	N
12	BONE SPRING 2ND	-6599	9928	9928	SANDSTONE	NATURAL GAS,OIL	N
'13	BONE SPRING 3RD	-7865	11194	11194	SANDSTONE	NATURAL GAS,OIL	N
14	WOLFCAMP	-8311	11640	11640	LIMESTONE,SHALE,SA NDSTONE	NATURAL GAS,OIL	Y

#### **Section 2 - Blowout Prevention**

Operator Name: MEWBOURNE OIL COMPANY

Well Name: ARMSTRONG 26/23 W1ED FED COM Well Number: 3H

Pressure Rating (PSI): 5M

Rating Depth: 19479

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\_W1ED\_Fed\_Com\_3H\_5M\_BOPE\_Choke\_Diagram\_20181219165124.pdf

Armstrong\_26\_23\_W1ED\_Fed\_Com\_3H\_Flex\_Line\_Specs\_20181219165124.pdf

#### **BOP Diagram Attachment:**

Armstrong\_26\_23\_W1ED\_Fed\_Com\_3H\_5M\_BOPE\_Schematic\_20181219165136.pdf
Armstrong\_26\_23\_W1ED\_Fed\_Com\_3H\_Multi\_Bowl\_WH\_20181219165137.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	7	0	975	0 .	975	3356		975	H-40	48	ST&C	1.69	3.79	DRY	6.88	DRY	11.5 6
	INTERMED IATE	12.2 5`	9.625	NEW	API	Y	0	4218	0	4218	3356		4218	<b>J-</b> 55	36	LT&C	1.13	1.96	DRY	2.92	DRY	3.64
	PRODUCTI ON	8.75	7.0	NEW	API	7	0	12250	0	12089	3356		12250	P- 110	26	LT&C	1.24	1.66	DRY	2.06	DRY	2.61
4		6.12 5	4.5	NEW	API	N	11557	19479	11555	12128			1	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 W1ED FED COM Well Number: 3H **Casing Attachments** Casing ID: 1 String Type:SURFACE Inspection Document: Spec Document: **Tapered String Spec:** Casing Design Assumptions and Worksheet(s): Armstrong\_26\_23\_W1ED\_Fed\_Com\_3H\_TaperedInter\_20181219165547.pdf Casing ID: 2 String Type: INTERMEDIATE Inspection Document: Spec Document: **Tapered String Spec:** Armstrong\_26\_23\_W1ED\_Fed\_Com\_3H\_TaperedInter\_20181219165247.pdf Casing Design Assumptions and Worksheet(s):  $Arm strong\_26\_23\_W1ED\_Fed\_Com\_3H\_TaperedInter\_20181219165557.pdf$ Casing ID: 3 String Type:PRODUCTION Inspection Document: Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

 $Armstrong\_26\_23\_W1ED\_Fed\_Com\_3H\_TaperedInter\_20181219165606.pdf$ 

Page 3 of 7

Operator Name: MEWBOURNE OIL COMPANY

Well Name: ARMSTRONG 26/23 W1ED FED COM

Well Number: 3H

#### **Casing Attachments**

Casing ID: 4

String Type:LINER

Inspection Document:

Spec Document:

**Tapered String Spec:** 

Casing Design Assumptions and Worksheet(s):

Armstrong\_26\_23\_W1ED\_Fed\_Com\_3H\_TaperedInter\_20181219165619.pdf

#### Section 4 - Cement Cement type Quantity(sx) Stage Tool Depth String Type Bottom MD Additives Lead/Tail Excess% Top MD Density Cù/Ft Class C Salt, Gel, Extender, SURFACE 0 783 515 2.12 12.5 1092 100 Lead LCM 100 Class C Retarder 783 975 200 1.34 14.8 268 SURFACE Tail Salt, Gel, Extender, INTERMEDIATE 3569 695 2.12 12.5 1473 25 Class C Lead LCM INTERMEDIATE Tail 3569 4218 200 1.34 14.8 268 25 Class C Retarder PRODUCTION 5486 4018 4815 75 2.12 12.5 159 25 Class C Gel, Retarder, Lead Defoamer, Extender Retarder PRÓDUCTION Tail 4815 5486 100 1.34 14.8 134 25 Class C PRODUCTION 5486 5486 9751 380 2.12 12.5 806 Class C Gel, Retarder, Lead Defoamer, Extender PRODUCTION 15.6 472 Retarder, Fluid Loss, 1225 400 25 Class H Tail 9751 1.18 Defoamer 0 LINER 1947 320 2.97 11.2 950 Class C Salt, Gel, Fluid Loss, Lead 1155 Retarder, Dispersant, 9 Defoamer, Anti-Settling Agent

Well Name: ARMSTRONG 26/23 W1ED FED COM

Well Number: 3H

## **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**

						- / N	· · · · · ·		\ `	-	
Top Depth	Bottom Depth	Mud Type	Min Weight (ibs/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		1					
4218	1210 8	WATER-BASED MUD	8.6	10							
1210 8	1212 8	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.
/ or	975	SPUD MUD	8.6	8.8							

Well Name: ARMSTRONG 26/23 W1ED FED COM

Well Number: 3H

## Section 6 - Test, Logging, Coring

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

Will run GR/CNL from KOP (11,557') to surface

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

CNL,DS,GR,MWD,MUDLOG

Coring operation description for the well:

None

#### Section 7 - Pressure

**Anticipated Bottom Hole Pressure: 7568** 

Anticipated Surface Pressure: 4902.7

Anticipated Bottom Hole Temperature(F): 165

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

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

Armstrong\_26\_23\_W1ED\_Fed\_Com\_3H\_H2S\_Plan\_20181219170108.pdf

## **Section 8 - Other Information**

Proposed horizontal/directional/multi-lateral plan submission:

Armstrong\_26\_23\_W1ED\_Fed\_Com\_3H\_Dir\_Plan\_20181219170136.pdf Armstrong\_26\_23\_W1ED\_Fed\_Com\_3H\_Dir\_Plot\_20181219170136.pdf

Other proposed operations facets description:

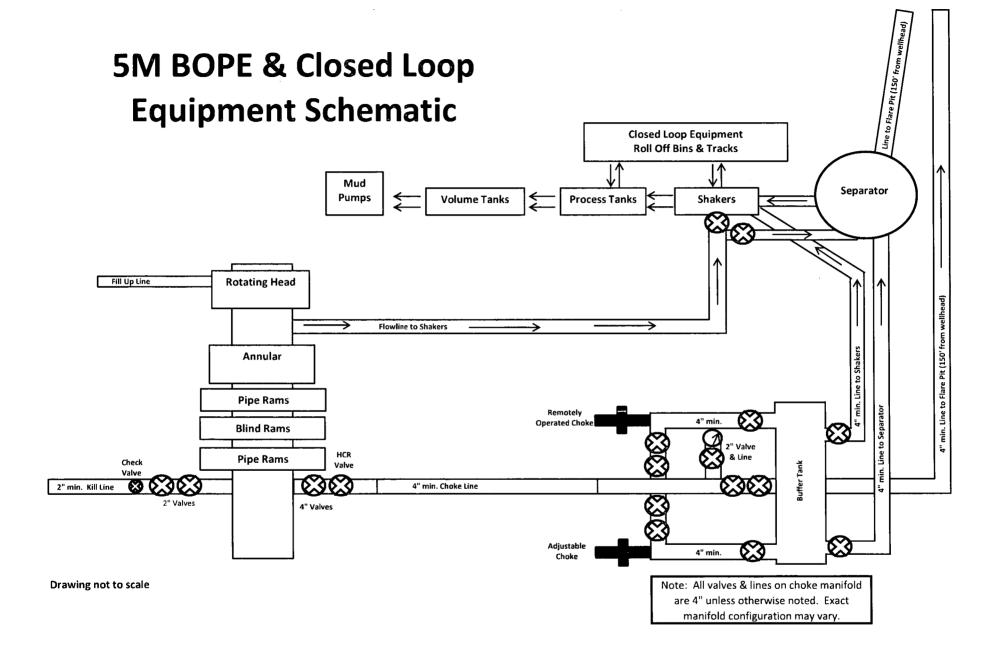
Other proposed operations facets attachment:

Armstrong\_26\_23\_W1ED\_Fed\_Com\_3H\_Drlg\_Program\_20181219170148.doc

Armstrong\_26\_23\_W1ED\_Fed\_Com\_3H\_C\_101\_20181219170339.pdf

Other Variance attachment:

.





GATES E & S NORTH AMERICA, INC. 134 44TH STREET CORPUS CHRISTI, TEXAS 78405 PHONE: 361-887-9807 FAX: 361-887-0812

EMAIL: Tim.Cantu@gates.com

WEB: www.gates.com

## **10K CEMENTING ASSEMBLY PRESSURE TEST CERTIFICATE**

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

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:

OHAUTY

4/30/2015

Produciton:

Date :

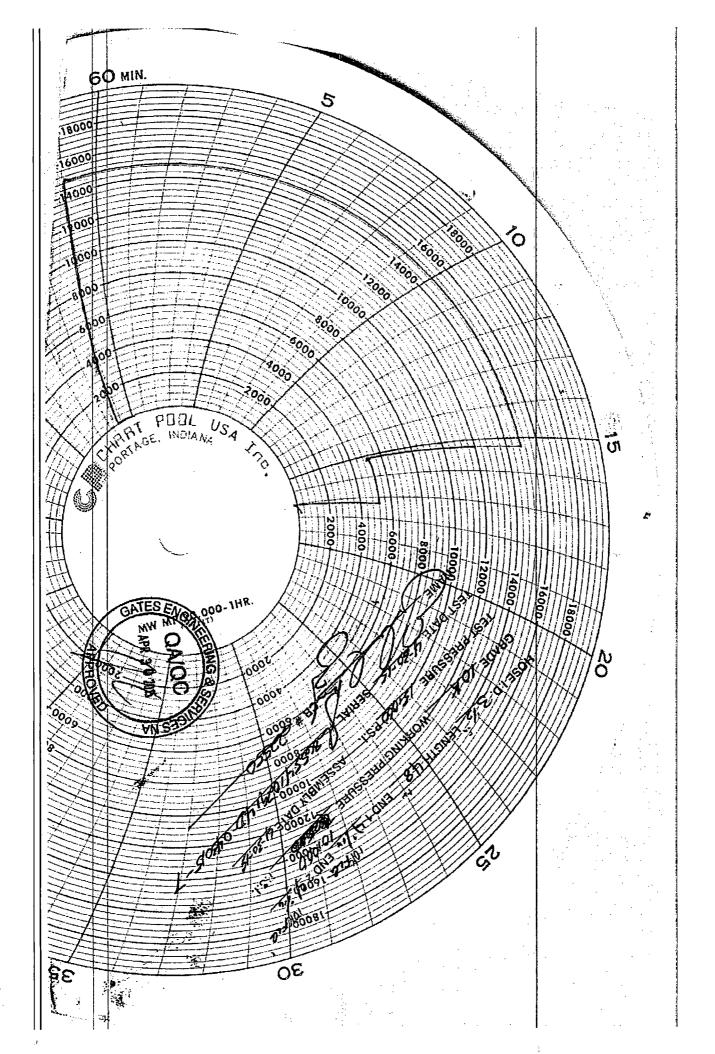
Signature :

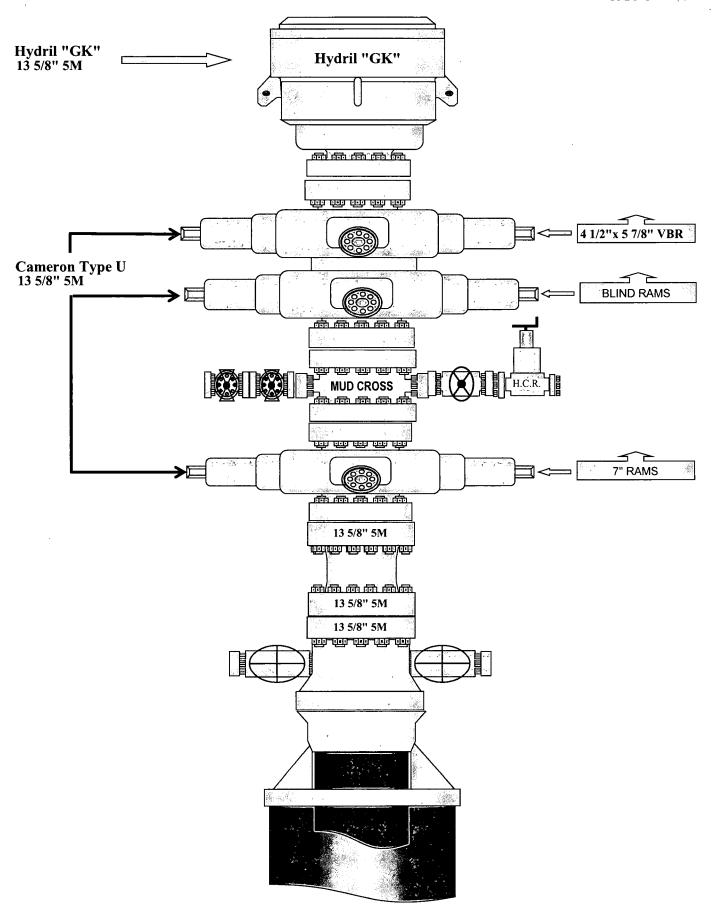
**PRODUCTION** 

4/30/2015

Forn PTC - 01 Rev.0 2

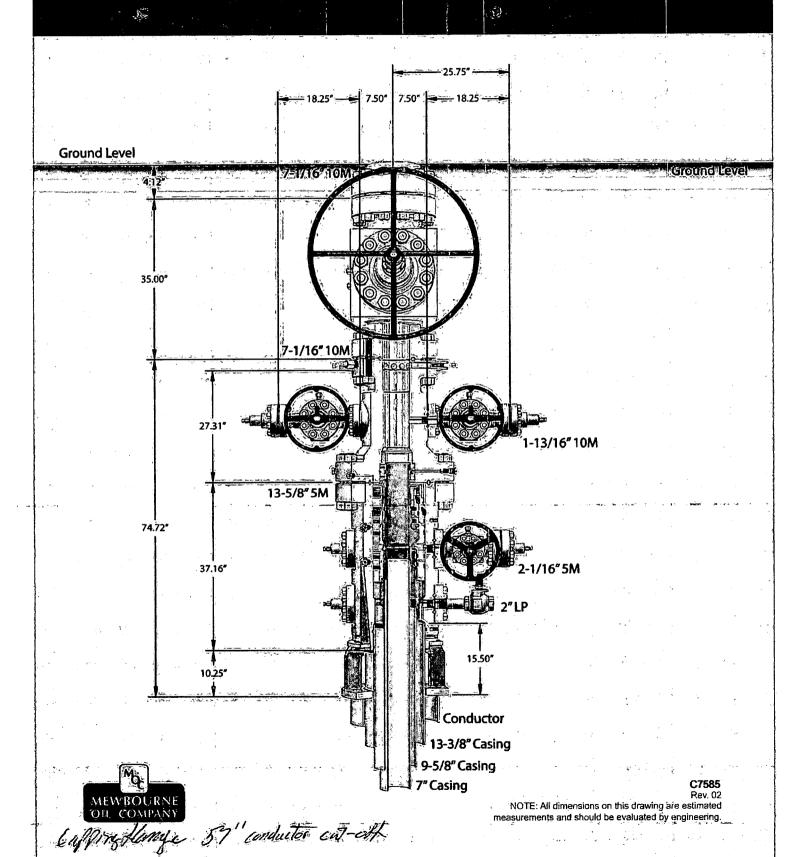


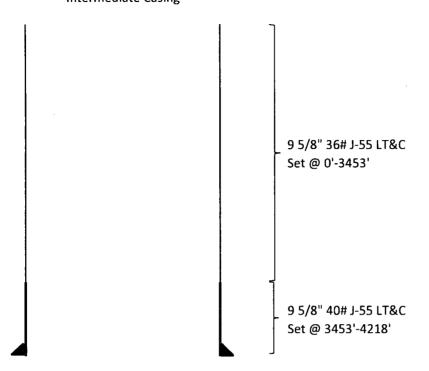




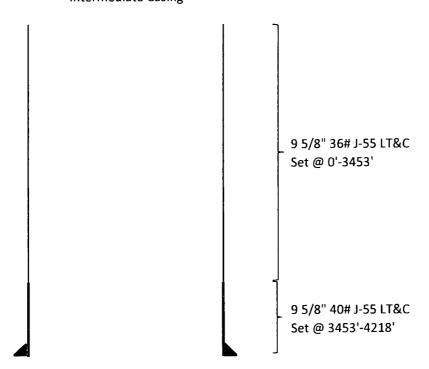


# 13-5/8" MN-DS Wellhead System

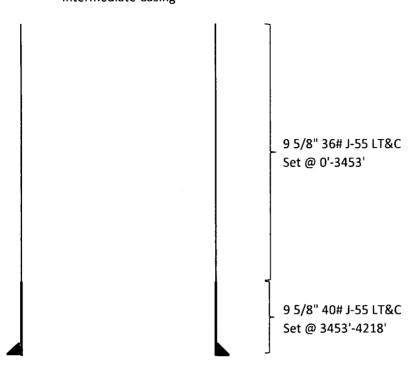




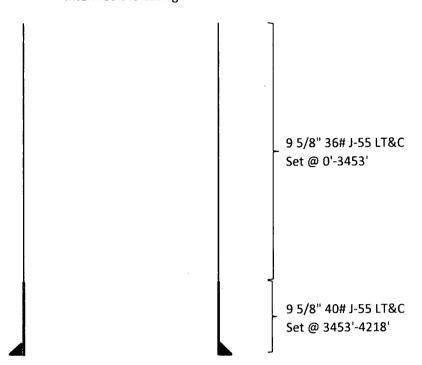
	SF	SF	SF Jt	SF Body
Casing	Collapse	Burst	Tension	Tension
36# J-55	1.13	1.96	2.92	3.64
40# J-55	1.17	1.80	16.99	20.59



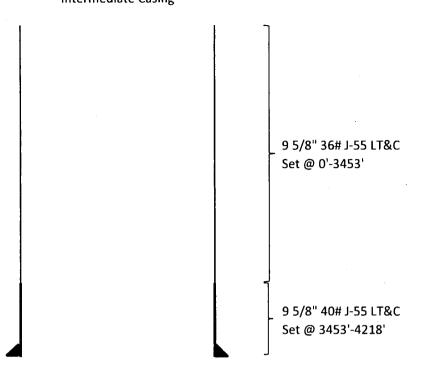
	SF	SF	SF Jt	SF Body
Casing	Collapse	Burst	Tension	Tension
36# J-55	1.13	1.96	2.92	3.64
40# J-55	1.17	1.80	16.99	20.59



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



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



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

# Hydrogen Sulfide Drilling Operations Plan Mewbourne Oil Company

#### 1. General Requirements

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

#### 2. Hydrogen Sulfide Training

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

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

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

- 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.
- The contents of the Hydrogen Sulfide Drilling Operations Plan.

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

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

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

## 1. Well Control Equipment

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

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

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

## 3. Hydrogen Sulfide Protection and Monitoring Equipment

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

#### 4. Visual Warning Systems

- A. Wind direction indicators as indicated on the wellsite diagram.
- B. Caution signs shall be posted on roads providing access to location. Signs shall be painted a high visibility color with lettering of sufficient size to be readable at reasonable distances from potentially contaminated areas.

## 4. Mud Program

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

#### 5. Metallurgy

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

#### 6. Communications

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

## 7. Well Testing

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

## 8. Emergency Phone Numbers

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

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

# **Mewbourne Oil Company**

Eddy County, New Mexico NAD 83 Armstrong 26/23 W1ED Fed Com #3H Sec 26, T25S, R31E

SL: 2500' FNL & 900' FWL, Sec 26 BHL: 330' FNL & 990' FWL, Sec 23

Plan: Design #1

# **Standard Planning Report**

14 December, 2018

Database: Company:

Site:

Hobbs

Mewbourne Oil Company Project:

Eddy County, New Mexico NAD 83 Armstrong 26/23 W1ED Fed Com #3H

Well: Wellbore: Sec 26, T25S, R31E

Design: Design #1

BHL: 330' FNL & 990' FWL, Sec 23

**Local Co-ordinate Reference:** 

TVD Reference: MD Reference:

North Reference:

**Survey Calculation Method:** 

Site Armstrong 26/23 W1ED Fed Com #3H WELL @ 3356.0usft (Original Well Elev)

WELL @ 3356,0usft (Original Well Elev) Grid

Minimum Curvature

Project

Eddy County, New Mexico NAD 83

Map System:

US State Plane 1983

North American Datum 1983

System Datum:

Mean Sea Level

Geo Datum: Map Zone:

Site

New Mexico Eastern Zone

Armstrong 26/23 W1ED Fed Com #3H

Site Position: From:

Мар

Northing: Easting:

401,214.00 usft 720,577.00 usft

Latitude:

Longitude:

32.1016940

**Position Uncertainty:** 

0.0 usft Slot Radius:

13-3/16 "

**Grid Convergence:** 

-103.7544836

0.31°

Well

Sec 26, T25S, R31E

Well Position

+N/-S +E/-W 0.0 usft 0.0 usft Northing: Easting:

401,214.00 usft 720,577.00 usft Latitude: Longitude:

32,1016940 -103.7544836

**Position Uncertainty** 

0.0 usft

Wellhead Elevation:

3,356.0 usft

**Ground Level:** 

3,329.0 usft

1			-
Wellbore	BHL: 330' FNL	. & 990' FWL, Sec 2	3
	 ······································		_

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)	
	IGRF2010	12/14/2018	6.73	59.85	47,776	

Design	Design #1					ikanangangangan kanan menjalan kelangan kelangan kelangan kelangan kelangan kelangan kelangan kelangan kelanga Kelangan persembangan kelangan kelangan kelangan kelangan kelangan kelangan kelangan kelangan kelangan kelanga
Audit Notes:						
Version:		Phase:	PROTOTYPE	Tie On Depth:	0.0	
Vertical Section:		Depth From (TVD)	+N/-S	+E/-W	Direction	
		(usft)	(usft)	(usft)	(°),,,,,	
		0.0	0.0	0.0	0.53	

Measured Depth	Inclination	Inclination Azimuth		Vertical muth Depth +N/-S +E/-		Dogleg +E/-W Rate	Build Rate	Turn Rate	TFO	
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)	(°)	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	
4,387.8	1.32	146.89	4,387.8	-0.8	0.6	1.50	1.50	0.00	146.89	
11,469.1	1.32	146.89	11,467.3	-137.2	89.4	0.00	0.00	0.00	0.00	
11,556.9	0.00	0.00	11,555.0	-138.0	90.0	1.50	-1.50	0.00	180.00	KOP: 2638' FNL & 9
12,458.6	90.16	359.84	12,128.0	436.6	88.4	10.00	10.00	0.00	-0.16	
19,479.0	90.16	359.84	12,108.0	7,457.0	69.0	0.00	0.00	0.00	0.00	BHL: 330' FNL & 99

Database: Company: Project:

Site:

Well:

Wellbore:

Hobbs

Mewbourne Oil Company

Eddy County, New Mexico NAD 83 Armstrong 26/23 W1ED Fed Com #3H

Sec 26, T25S, R31E

BHL: 330' FNL & 990' FWL, Sec 23

Design: Design #1

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

**Survey Calculation Method:** 

Site Armstrong 26/23 W1ED Fed Com #3H WELL @ 3356.0usft (Original Well Elev) WELL @ 3356.0usft (Original Well Elev)

Grid

N	Measured		* * ± ±	Vertical			Vertical	Dogleg	Build	Turn
	Depth (usft)	Inclination (°)	Azimuth (°)	Depth (usft)	+N/-S (usft)	+E/-W (usft)	Section (usft)	Rate (°/100usft)	Rate (°/100usft)	Rate (°/100usft)
	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
9		L & 900' 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
	1,100.0	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
		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	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
	2,300.0 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
	4,000.0	0.00	0.00	4,100.0	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
	4,387.8	1.32	146.89	4,387.8	-0.8	0.6	-0.8	1.50	1.50	0.00
	4,400.0	1.32	146.89	4,400.0	-1.1	0.7	-1.1	0.00	0.00	0.00
	4, <del>4</del> 00.0 4,500.0	1.32	146.89	4,500.0	-3.0	2.0	-3.0	0.00	0.00	0.00
			146.89	4,599.9	-3.0 -4.9	3.2	-3.0 -4.9	0.00	0.00	0.00
	4,600.0 4,700.0	1.32 1.32	146.89	4,599.9	-4. <del>9</del> -6.9	4.5	-6.8	0.00	0.00	0.00
	4,700.0 4,800.0	1.32	146.89	4,799.9	-8.8	5.7	-8.7	0.00	0.00	0.00
	4,900.0	1.32	146.89	4,899.9	-10.7	7.0	-10.6 -12.6	0.00 0.00	0.00 0.00	0.00 0.00
	5,000.0 5.100.0	1.32 1.32	146.89 146.89	4,999.8 5,099.8	-12.6 -14.6	8,2 9,5	-12.6 -14.5	0.00	0.00	0.00

Database: Company: Project:

Site:

Well:

Wellbore:

Hobbs

Mewbourne Oil Company

Eddy County, New Mexico NAD 83 Armstrong 26/23 W1ED Fed Com #3H

Sec 26, T25S, R31E

BHL: 330' FNL & 990' FWL, Sec 23

Design: Design #1

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

Survey Calculation Method:

Site Armstrong 26/23 W1ED Fed Com #3H WELL @ 3356.0usft (Original Well Elev) WELL @ 3356.0usft (Original Well Elev)

Grid

Minimum Curvature

Measured			Vertical			Vertical	Dogleg	Build	Turn
Depth	Inclination	Azimuth	Depth	+N/-S	+E/-W	Section	Rate	Rate	Rate
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)
5,200.0	1.32	146.89	5,199.8	-16.5	10.7	-16.4	0.00	0.00	0.00
5,300.0	1,32	146.89	5,299.8	-18.4	12.0	-18.3	0.00	0.00	0.00
5,400.0	1,32	146.89	5,399.7	-20.3	13.3	-20,2	0.00	0.00	0.00
5,500.0	1.32	146.89	5,499.7	-22.3	14.5	-22.1	0.00	0.00	0.00
5,600.0	1.32	146.89	5,599.7	-24.2	15.8	-24.0	0.00	0.00	0.00
5,700.0	1.32	146.89	5,699.6	-26.1	17.0	-25.9	0.00	0.00	0.00
5,800.0	1.32	146.89	5,799.6	-28.0	18.3	-27.9	0.00	0.00	0.00
5,900.0	1.32	146.89	5,899.6	-30.0	19.5	-29.8	0.00	0.00	0.00
6,000.0	1.32	146.89	5,999.6	-31.9	20.8	-31.7	0.00	0.00	0.00
6,100.0	1.32	146.89	6,099.5	-33.8	22.0	-33.6	0.00	0.00	0.00
6,200.0	1.32	146.89	6,199.5	-35.7	23.3	-35.5	0.00	0.00	0.00
6,300.0	1.32	146.89	6,299.5	-37.7	24.6	-37.4	0.00	0.00	0.00
6,400.0	1.32	146.89	6,399.5	-39.6	25.8	-39.3	0.00	0.00	0.00
6,500.0	1.32	146.89	6,499.4	-41.5	27.1	-41.3	0.00	0.00	0.00
6,600.0	1.32	146.89	6,599.4	-43.4	28.3	-43.2	0.00	0.00	0.00
6,700.0	1.32	146.89	6,699,4	-45,4	29.6	-45.1	0.00	0.00	0.00
6,800.0	1.32	146.89	6,799.4	-47.3	30.8	<b>-47.0</b>	0.00	0.00	0.00
6.900.0	1.32	146.89	6.899.3	-49.2	32.1	-48.9	0.00	0.00	0.00
7,000.0	1.32	146.89	6,999.3	-49.2 -51.1	33.3	-40.9 -50.8		0.00	0.00
•			•				0.00		
7,100.0	1.32	146.89	7,099.3	-53.1	34.6	-52.7	0.00	0.00	0.00
7,200.0	1.32	146.89	7,199.2	-55.0	35.9	-54.6	0.00	0.00	0.00
7,300.0	1.32	146.89	7,299.2	-56.9	37.1	-56.6	0.00	0.00	0.00
7,400.0	1.32	146.89	7,399.2	-58.8	38.4	-58.5	0.00	0.00	0.00
7,500.0	1.32	146.89	7,499.2	-60.8	39.6	-60.4	0.00	0.00	0.00
7,600.0	1,32	146.89	7,599.1	-62.7	40.9	-62,3	0.00	0.00	0.00
7,700.0	1.32	146.89	7,699.1	-64.6	42.1	-64.2	0.00	0.00	0.00
7,800.0	1.32	146.89	7,799.1	-66.5	43.4	-66.1	0.00	0.00	0.00
7,900.0	1,32	146,89	7,899,1	-68.5	44.6	-68.0	0.00	0.00	0.00
8,000.0	1.32	146.89	7,999.0	-70.4	45.9	-69.9	0.00	0.00	0.00
8,100.0	1.32	146.89	8,099.0	-72.3	47.2	-71.9	0.00	0.00	0.00
8,200.0	1.32	146.89	8,199.0	-74.2	48.4	-73.8	0.00	0.00	0.00
8,300.0	1.32	146.89	8,299:0	-76.2	49.7	-75.7	0.00	0.00	0.00
								0.00	0.00
8,400.0	1.32	146.89	8,398.9	-78.1 -80.0	50.9	-77.6	0.00 0.00	0.00 0.00	
8,500.0	1.32	146.89	8,498.9		52.2	-79.5			0.00
8,600.0	1.32	146.89	8,598.9	-81.9	53.4	-81.4	0.00	0.00 0.00	0.00
8,700.0	1.32	146.89	8,698.9	-83.9	54.7 55.0	-83.3	0.00		0.00 0.00
8,800.0	1.32	146.89	8,798.8	-85.8	55.9	-85.3	0.00	0.00	
8,900.0	1.32	146.89	8,898.8	-87.7	57.2	-87.2	0.00	0.00	0.00
9,000.0	1.32	146.89	8,998.8	-89.6	58.5	-89.1	0.00	0.00	0.00
9,100.0	1.32	146.89	9,098.7	-91.6	59.7	-91.0	0.00	0.00	0.00
9,200.0	1.32	146.89	9,198.7	-93.5	61.0	-92.9	0.00	0.00	0.00
9,300.0	1.32	146.89	9,298.7	-95.4	62.2	-94.8	0.00	0.00	0.00
9,400.0	1.32	146.89	9,398.7	-97.3	63,5	-96.7	0.00	0.00	0.00
9,500.0	1.32	146.89	9,498.6	-99.3	64.7	-98.6	0.00	0.00	0.00
9,600.0	1.32	146,89	9,598.6	-101.2	66.0	-100.6	0.00	0.00	0.00
9,700.0	1.32	146.89	9,698.6	-103.1	67.2	-102.5	0.00	0.00	0.00
9,800.0	1.32	146.89	9,798.6	-105.0	68.5	-104.4	0.00	0.00	0.00
9,900.0	1.32	146.89	9,898.5	-107.0	69.8	-106.3	0.00	0.00	0.00

10,000.0

10,100.0

10,200.0

10,300.0

10,400.0

10,500.0

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-110.8

-112.7

-114.7

-116.6

-108.2

-110.1

-112.0

-114.0

-115.9

-117.8

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10,198.5

10,298.4

10,398.4

10,498.4

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0.00

Database: Company: Project: Hobbs

Mewbourne Oil Company

Eddy County, New Mexico NAD 83

Armstrong 26/23 W1ED Fed Com #3H

Well: Wellbore:

Site:

Sec 26, T25S, R31E BHL: 330' FNL & 990' FWL, Sec 23

Design: Design #1

Local Co-ordinate Reference:

TVD Reference:
MD Reference:

North Reference: Survey Calculation Method: Site Armstrong 26/23 W1ED Fed Com #3H WELL @ 3356.0usft (Original Well Elev) WELL @ 3356.0usft (Original Well Elev)

Grid

	Measured	30 S		Vertical	- A - 3		Vertical	Dogleg	Build	Turn	,
	Depth (usft)	Inclination (°)	Azimuth (°)	Depth (usft)	+N/-S (usft)	+E/-W (usft)	Section (usft)	Rate (°/100usft)	Rate (°/100usft)	Rate (°/100usft)	
					-120.4	78.5	-119.7	0.00	0.00	0.00	
	10,600.0	1.32	146.89	10,598.4		78.5 79.8	-121.6	0.00	0.00	0.00	
	10,700.0	1.32	146.89	10,698.3	-122.3				0.00	0.00	
	10,800.0	1.32	146.89	10,798.3	-124.3	81.0	-123.5	0.00			
	10,900.0	1.32	146.89	10,898.3	-126.2	82.3	-125.4	0.00	0.00	0.00	
	11,000.0	1.32	146.89	10,998.2	-128.1	83.6	-127.3	0.00	0.00	0.00	
	11,100.0	1.32	146.89	11,098.2	-130.0	84.8	-129.3	0.00	0.00	0.00	
	11,200.0	1.32	146.89	11,198.2	-132.0	86.1	-131.2	0.00	0.00	0.00	
	11,300.0	1.32	146.89	11,298.2	-133.9	87.3	-133.1	0.00	0.00	0.00	
					-135.8	88.6	-135.0	0.00	0.00	0.00	
	11,400.0	1.32	146.89	11,398.1		89.4	-136.3	0.00	0.00	0.00	
	11,469.1	1.32	146.89	11,467.3	-137.2				-1.50	0.00	
	11,500.0	0.85	146.89	11,498.1	-137.6	89.8	-136.8	1.50			
	11,556.9	0.00	0.00	11,555.0	-138.0	90.0	-137.2	1.50	-1.50	0.00	
1		FNL & 990' FWL					* *			1 22	
	11,600.0	4.31	359.84	11,598.1	-136.4	90.0	-135.5	10.00	10.00	0.00	
	11,700.0	14.31	359.84	11,696.6	-120.2	90.0	-119.4	10.00	10.00	0.00	
	11,800.0	24.31	359.84	11,790.9	-87.2	89.9	-86.4	10.00	10.00	0.00	
	11,800.0	34.31	359.84	11,878.0	-38.3	89.7	-37.5	10.00	10.00	0.00	
			359.84	11,955.3	24.9	89.5	25.8	10.00	10.00	0.00	
	12,000.0	44.31			100.7	89.3	101.5	10.00	10.00	0.00	
	12,100.0	54.31	359.84	12,020.4							
	12,193.8	63.69	359.84	12,068.7	181.0	89.1	181.8	10.00	10.00	0.00	
	FTP: 2319' F	NL & 990' FWL (	26)								
	12,200.0	64.31	359.84	12,071.4	186.6	89.1	187.4	10.00	10.00	0.00	
	12,300.0	74.31	359.84	12,106.6	280.0	88.8	280.8	10.00	10.00	0.00	
	12,400.0	84.31	359.84	12,125.2	378.1	88.6	378.9	10.00	10.00	0.00	
	12,458.6	90.16	359.84	12,128.0	436.6	88.4	437.4	10.00	10.00	0.00	
		IL & 990' FWL (2	and the second second	12,120.0							
	ĻF. 2003 FR		•								
	12,500.0	90.16	359.84	12,127.9	478.0	88.3	478.8	0.00	0.00	0.00	
	12,600.0	90.16	359.84	12,127.6	578.0	88.0	578.8	0.00	0.00	0.00	
	12,700.0	90.16	359.84	12,127.3	678.0	87.7	678.8	0.00	0.00	0.00	
	12,800.0	90.16	359.84	12,127.0	778.0	87.5	778.8	0.00	0.00	0.00	
	12,900.0	90.16	359.84	12,126.7	878.0	87.2	878.8	0.00	0.00	0.00	
	13,000.0	90.16	359.84	12,126.5	978.0	86.9	978.8	0.00	0.00	0.00	
			359.84	12,126.2	1,078.0	86.6	1,078.8	0.00	0.00	0,00	
	13,100.0	90.16						0.00	0.00	0.00	
	13,200.0	90.16	359.84	12,125.9	1,178.0	86.4	1,178.8			0.00	
	13,300.0	90,16	359.84	12,125.6	1,278.0	86.1	1,278.8 1,378.8	0.00 0.00	0.00 0.00	0.00	
	13,400.0	90.16	359.84	12,125.3	1,378.0	85.8					
	13,500.0	90.16	359.84	12,125.0	1,478.0	85.5	1,478.7	0.00	0.00	0.00	
	13,600.0	90,16	359.84	12,124.7	1,578.0	85.3	1,578.7	0.00	0.00	0.00	
	13,700.0	90.16	359.84	12,124.5	1,678.0	85.0	1,678.7	0.00	0.00	0.00	
	13,800.0	90.16	359.84	12,124.2	1,778.0	84.7	1,778.7	0.00	0.00	0.00	
	13,900.0	90.16	359.84	12,123.9	1,878.0	84.4	1,878.7	0.00	0.00	0.00	
	,										
	14,000.0	90.16	359.84	12,123.6	1,978.0	84.1	1,978.7	0.00	0.00	0.00	
	14,100.0	90.16	359.84	12,123.3	2,078.0	83.9	2,078.7	0.00	0.00	0.00	
	14,200.0	90.16	359.84	12,123.0	2,178.0	83.6	2,178.7	0.00	0.00	0.00	
	14,300.0	90.16	359.84	12,122.8	2,278.0	83.3	2,278.7	0.00	0.00	0.00	
	14,400.0	90.16	359.84	12,122.5	2,378.0	83.0	2,378.7	0.00	0.00	0.00	
	14,500.0	90.16	359.84	12,122.2	2,478.0	82.8	2,478.7	0.00	0.00	0.00	
	14,500.0	90.16	359.84	12,121.9	2,578.0	82.5	2,578.7	0.00	0.00	0.00	
							2,578.7	0.00	0.00	0.00	
	14,700.0	90.16	359.84	12,121.6	2,678.0	82.2				0.00	
	14,800.0	90.16	359.84	12,121.3	2,778.0	81.9	2,778.6	0.00	0.00		
	14,900.0	90.16	359.84	12,121.0	2,878.0	81.7	2,878.6	0.00	0.00	0.00	
	15,000.0	90.16	359.84	12,120.8	2,978.0	81.4	2,978.6	0.00	0.00	0.00	
	15,100.0	90,16	359.84	12,120.5	3,078.0	81.1	3,078.6	0.00	0.00	0.00	

Database: Company: Project:

Site:

Well:

Hobbs

Mewbourne Oil Company

Eddy County, New Mexico NAD 83 Armstrong 26/23 W1ED Fed Com #3H

Sec 26, T25S, R31E

BHL: 330' FNL & 990' FWL, Sec 23 Wellbore: Design:

Design #1

Local Co-ordinate Reference:

TVD Reference: MD Reference:

North Reference:

**Survey Calculation Method:** 

Site Armstrong 26/23 W1ED Fed Com #3H WELL @ 3356.0usft (Original Well Elev) WELL @ 3356.0usft (Original Well Elev)

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	90.16	359.84	12,120.2	3,178.0	80.8	3,178.6	0.00	0.00	0.00
15,300.0	90.16	359.84	12,119.9	3,278.0	80.6	3,278.6	0.00	0.00	0.00
15,400.0	90.16	359.84	12,119.6	3,378.0	80.3	3,378.6	0.00	0.00	0.00
15,500.0	90.16	359.84	12,119.3	3,478.0	80.0	3,478.6	0.00	0.00	0.00
15,600.0	90.16	359.84	12,119.1	3,578.0	79.7	3,578.6	0.00	0.00	0.00
15,700.0	90.16	359.84	12,118.8	3,678.0	79.4	3,678.6	0.00	0.00	0.00
15,800.0	90.16	359.84	12,118.5	3,778.0	79.2	3,778,6	0.00	0.00	0.00
15,900.0	90.16	359.84	12,118.2	3,878.0	78.9	3,878.6	0.00	0.00	0.00
16,000.0	90.16	359.84	12,117.9	3,978.0	78.6	3,978.6	0.00	0.00	0.00
16,100.0	90.16	359.84	12,117.6	4,078.0	78.3	4,078.5	0.00	0.00	0.00
	90.16	359.84 359.84		•				0.00	0.00
16,200.0	90.16		12,117.3	4,178.0	78.1	4,178.5	0.00 0.00	0.00	0.00
16,300.0 16,400.0	90.16	359.84 359.84	12,117.1 12,116.8	4,278.0 4,378.0	77.8 77.5	4,278.5 4,378.5	0.00	0.00	0.00
·			·						
16,500.0	90.16	359.84	12,116.5	4,478.0	77.2	4,478.5	0.00	0.00	0.00
16,600.0	90.16	359.84	12,116.2	4,578.0	77.0	4,578.5	0.00	0.00	0.00
16,700.0	90.16	359.84	12,115.9	4,678.0	76.7	4,678.5	0.00	0.00	0.00
16,800.0	90.16	359.84	12,115.6	4,778.0	76. <del>4</del>	4,778.5	0.00	0.00	0.00
16,900.0	90.16	359.84	12,115.3	4,878.0	76.1	4,878.5	0.00	0.00	0.00
17,000.0	90.16	359.84	12,115.1	4,978.0	75.9	4,978.5	0.00	0.00	0.00
17,100.0	90.16	359.84	12,114.8	5,078.0	75.6	5,078.5	0.00	0.00	0.00
17,162.0	90.16	359.84	12,114.6	5,140.0	75.4	5,140.5	0.00	0.00	0.00
	FNL & 990' FW	L (23)							
17,200.0	90.16	359,84	12,114.5	5,178.0	75.3	5,178.5	0.00	0.00	0.00
17,300.0	90.16	359.84	12,114.2	5,278.0	75.0	5,278.5	0.00	0.00	0.00
17,400.0	90.16	359.84	12,113.9	5,378.0	74.7	5,378.4	0.00	0.00	0.00
17,500.0	90.16	359.84	12,113.6	5,478.0	74.5	5,478.4	0.00	0.00	0.00
17,600.0	90.16	359.84	12,113.4	5,578.0	74.2	5,578.4	0.00	0.00	0.00
17,700.0	90.16	359.84	12,113.1	5,678.0	73.9	5,678.4	0.00	0.00	0.00
17,800.0	90.16	359.84	12,112.8	5,778.0	73.6	5,778.4	0.00	0.00	0.00
17,900.0	90.16	359.84	12,112.5	5,878.0	73.4	5,878.4	0.00	0.00	0.00
18,000.0	90.16	359.84	12,112.2	5,978.0	73.1	5,978.4	0.00	0.00	0.00
18,100.0	90.16	359.84	12,111.9	6,078.0	72.8	6,078.4	0.00	0.00	0.00
18,200.0	90.16	359.84	12,111.6	6,178.0	72.5	6,178.4	0.00	0.00	0.00
18,300.0	90.16	359.84	12,111.4	6,278.0	72.3	6,278.4	0.00	0.00	0.00
18,400.0	90.16	359,84	12,111.1	6,378.0	72.0	6,378.4	0.00	0.00	0.00
18,500.0	90.16	359.84	12,111.1	6,478.0	71.7	6,478.4	0.00	0.00	0.00
18,600.0	90.16	359.84	12,110.5	6,578.0	71.7	6,578.4	0.00	0.00	0.00
18,700.0	90.16	359.84	12,110.5		71.4	6,678.4	0.00	0.00	0.00
18,700.0	90.16	359.84 359.84	12,110.2	6,678.0 6,778.0	71.2	6,678. <del>4</del> 6,778.3	0.00	0.00	0.00
18,900.0	90.16	359.84	12,109.6	6,878.0	70.6	6,878.3	0.00	0.00	0.00
19,000.0	90.16	359.84	12,109.4	6,978.0	70.3	6,978.3	0.00	0.00	0.00
19,100.0	90.16	359.84	12,109.1	7,078.0	70.0	7,078.3	0.00	0.00	0.00
19,200.0	90.16	359.84	12,108.8	7,178.0	69.8	7,178.3	0.00	0.00	0.00
19,300.0	90.16	359.84	12,108.5	7,278.0	69.5	7,278.3	0.00	0.00	0.00
19,400.0	90.16	359.84	12,108.2	7,378.0	69.2	7,378.3	0.00	0.00	0.00
19,479.0	90.16	359.84	12,108.0	7,457.0	69.0	7,457.3	0.00	0.00	0.00

Database: Company: Project:

Site:

Hobbs

Mewbourne Oil Company

Eddy County, New Mexico NAD 83 Armstrong 26/23 W1ED Fed Com #3H

Well:

Sec 26, T25S, R31E

Wellbore: Design:

BHL: 330' FNL & 990' FWL, Sec 23

Design #1

Local Co-ordinate Reference:

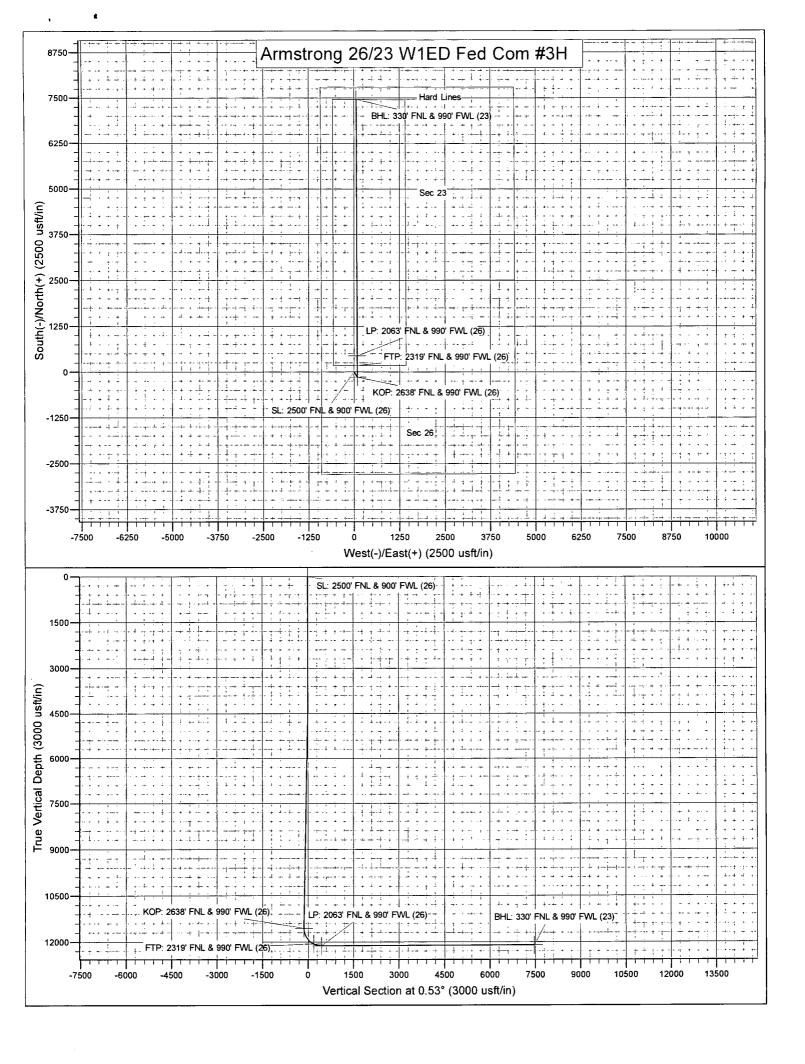
TVD Reference: MD Reference:

North Reference:

**Survey Calculation Method:** 

Site Armstrong 26/23 W1ED Fed Com #3H WELL @ 3356.0usft (Original Well Elev) WELL @ 3356.0usft (Original Well Elev)

Design Targets			ngan dipakanakan dipakan dan						
	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SL: 2500' FNL & 900' FV - plan hits target cente - Point	0.00 er	0.00	0.0	0.0	0.0	401,214.00	720,577.00	32.1016940	-103,7544836
KOP: 2638' FNL & 990' f - plan hits target cente - Point	0.00 er	0.00	11,555.0	-138.0	90.0	401,076.00	720,667.00	32.1013133	-103.7541954
FTP: 2319' FNL & 990' F - plan hits target cente - Point	0.00 er	0.00	12,068.6	181.0	89.1	401,395.00	720,666.11	32.1021902	-103.7541927
BHL: 330' FNL & 990' F\ - plan hits target cente - Point	0.00 er	0.00	12,108.0	7,457.0	69.0	408,671.00	720,646.00	32.1221908	-103.7541314
PPP2: 2647' FNL & 990' - plan hits target cente - Point	0.00 er	0.00	12,114.6	5,140.0	75.4	406,354.00	720,652.40	32.1158218	-103.7541509
LP: 2063' FNL & 990' FV - plan hits target cente - Point	0.00 er	0.00	12,128.0	436.6	88.4	401,650.60	720,665.40	32.1028928	-103.7541906



SL: 2500' FNL & 900' FWL, Sec 26 BHL: 330' FNL & 990' FWL, Sec 23

# 1. Geologic Formations

TVD of target	12,128'	Pilot hole depth	NA
MD at TD:	19,479'	Deepest expected fresh water:	325'

## Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
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			

<sup>\*</sup>H2S, water flows, loss of circulation, abnormal pressures, etc.

SL: 2500' FNL & 900' FWL, Sec 26 BHL: 330' FNL & 990' FWL, Sec 23

# 2. Casing Program

Hole	Casing	Interval	Csg	<b>.</b>	Weight	t	Grad	e	Conn.	•	SF	SF	SF Jt	SF Body
Size	From	То	Siz	е	(lbs)						Collapse	Burst	Tension	Tension
17.5"	0'	975'	13.37	'5"	48		H40		STC		1.69	3.79	6.88	11.56
12.25"	0'	3453'	9.625	11	36		J55		LTC		1.13	1.96	2.92	3.64
12.25"	3453'	4218'	9.625	111	40		J55		LTC		1.17	1.80	16.99	20.59
8.75"	0'	12,250'	7"		26		HCP1	0	LTC		1.24	1.66	2.06	2.61
6.125"	11,557'	19,479'	4.5"		13.5	Ī	P110		LTC		1.69	1.97	3.16	3.95
	BLM Mini	mum Safety F	actor	1.1	25	1		1.0	5 Dry	1.0	6 Dry			
								1.8	3 Wet	1.3	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	Y
justification (loading assumptions, casing design criteria).	
Will the pipe be kept at a minimum 1/3 fluid filled to avoid approaching the	Y
collapse pressure rating of the casing?	
	-
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	<del>                                     </del>
500' into previous casing?	
Is well located in R-111-P and SOPA?	l N
	11
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?	,

SL: 2500' FNL & 900' FWL, Sec 26 BHL: 330' FNL & 990' 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> 0 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.	380	12.5	2.12	11	9	Lead: Class C + Gel + Retarder + Defoamer +
Stg 1						Extender
	400	15.6	1.18	5.2	1.0	Tail: Class H + Retarder + Fluid Loss + Defoamer
	1				ECP/DV T	'ool @ 5486'
Prod.	75	12.5	2.12	11	10	Lead: Class C + Salt + Gel + Extender + LCM
Stg 2	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 +
			<u> </u>			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	11,557'	25%

SL: 2500' FNL & 900' FWL, Sec 26 BHL: 330' FNL & 990' FWL, Sec 23

## 4. Pressure Control Equipment

N	Variance: None	

BOP installed and tested before drilling which hole?	Size?	System Rated WP		Гуре		Tested to:
			Aı	nnular	X	2500#
			Blind Ran		X	
12-1/4"	13-5/8"	13-5/8" 5M	Pipe Ram		X	5000#
			Double Ram			3000#
	•		Other*			•

<sup>\*</sup>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.

SL: 2500' FNL & 900' FWL, Sec 26 BHL: 330' FNL & 990' FWL, Sec 23

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

## 5. Mud Program

TVD		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	975'	FW Gel	8.6-8.8	28-34	N/C
975'	4218'	Saturated Brine	10.0	28-34	N/C
4218'	12,108'	Cut Brine	8.6-10	28-34	N/C
12,108'	12,128'	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	Pacon/PVT/Visual Monitoring
	1 asolul v 17 v Isual Wollitoring
of fluid?	

## 6. Logging and Testing Procedures

Logg	ing, Coring and Testing.					
X	Will run GR/CNL from KOP (11,557') 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 p	lanned	Interval	
	Tiger interested to the	71 - 1 2W W 1	

# Mewbourne Oil Company, Armstrong 26/23 W1ED Fed Com #3H

## Sec 26, T25S, R31E

SL: 2500' FNL & 900' FWL, Sec 26 BHL: 330' FNL & 990' FWL, Sec 23

X	Gamma Ray	11,557' (KOP) to TD
	Density	
	CBL	
	Mud log	
	PEX	

## 7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	7568 psi
Abnormal Temperature	No

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

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.

	H2S is present	
X	H2S Plan attached	

## 8. Other facets of operation

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

Attachments

SL: 2500' FNL & 900' FWL, Sec 26 BHL: 330' FNL & 990' FWL, Sec 23

 Directi	ional	Plan
Other.	desc	ribe

Well Name: ARMSTRONG 26/23 W1ED FED COM

Well Number: 3H

**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\_23W1EDFedCom3H\_existingwellmap\_20181219122507.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\_23W1EDFedCom3H\_productionfacilitymap\_20181219144231.pdf Armstrong26\_23W1EDFedCom3H\_flowlinemap\_20181219144242.pdf

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

**Water Source Table** 

Well Name: ARMSTRONG 26/23 W1ED FED COM

Well Number: 3H

Water source type: IRRIGATION

Water source use type:

SURFACE CASING

INTERMEDIATE/PRODUCTION

**CASING** 

STIMULATION

DUST CONTROL

Source latitude: 32.53542

Water source permit type:

. 02.00042

Source datum: NAD83

WATER WELL

Water source transport method:

**TRUCKING** 

Source land ownership: PRIVATE

Source transportation land ownership: COMMERCIAL

Water source volume (barrels): 2014

Source volume (gal): 84588

Source volume (acre-feet): 0.2595907

Source longitude: -103.44969

Water source and transportation map:

Armstrong26\_23W1EDFedCom3H\_watersourceandtransmap\_20181219122620.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.):

Well Name: ARMSTRONG 26/23 W1ED FED COM Well Number: 3H

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\_23W1EDFedCom3H\_calichesourceandtransmap\_20181219122851.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 containment attachment:

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

**FACILITY** 

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 containment attachment:

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

FACILITY

Disposal type description:

Disposal location description: City of Carlsbad Water Treatment facility

Well Name: ARMSTRONG 26/23 W1ED FED COM

Well Number: 3H

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 Disposal location ownership: PRIVATE

**FACILITY** 

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

Well Name: ARMSTRONG 26/23 W1ED FED COM Well Number: 3H

## **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 23W1EDFedCom3H wellsitelayout 20181219122912.pdf

Comments:

Section 10 - Plans for Surface Reclamation

Multiple Well Pad Name: ARMSTRONG 26/23 ED WELLS Type of disturbance: New Surface Disturbance

Multiple Well Pad Number: 2

Recontouring attachment:

Drainage/Erosion control construction: None

Drainage/Erosion control reclamation: None

Well pad proposed disturbance

(acres): 3.95

Road proposed disturbance (acres):

0.158

Powerline proposed disturbance

(acres): 1.025

Pipeline proposed disturbance

(acres): 0

Other proposed disturbance (acres):

1 205

Total proposed disturbance: 6.338

Well pad interim reclamation (acres):

Road interim reclamation (acres): 0

Powerline interim reclamation (acres): Powerline long term disturbance

Other interim reclamation (acres):

Total interim reclamation: 3.229

Well pad long term disturbance

(acres): 1.926

Road long term disturbance (acres): 0

(acres): 0

Pipeline interim reclamation (acres): 0 Pipeline long term disturbance

(acres): 0

Other long term disturbance (acres):

1.205

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 W1ED FED COM

Well Number: 3H

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:

Well Name: ARMSTRONG 26/23 W1ED FED COM

Well Number: 3H

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:

We	II Name: ARMSTRONG 26/23 W1ED FED COM	Well Number: 3H	
_			
Mili	tary Local Office:		
USF	FWS Local Office:		
Oth	er Local Office:		
USF	FS Region:		
USF	S Forest/Grassland:	USFS Ranger District:	
	Fee Owner: Pecos Valley Artesian Convservation	Fee Owner Address:	
	District	Email:	
	Phone: (575)622-7000		
	Surface use plan certification: NO Surface use plan certification document:		
			v.
	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:		
Dist	turbance type: WELL PAD		
Des	cribe:		
	face Owner: BUREAU OF LAND MANAGEMENT		
Oth	er surface owner description:		
BIA	Local Office:		
BOI	R Local Office:		
COI	E Local Office:		
DOI	D Local Office:		
NPS	S Local Office:		
Stat	te Local Office:		
Mili	tary Local Office:		
USF	FWS Local Office:		
Oth	er Local Office:		
USF	S Region:		
USF	FS Forest/Grassland:	USFS Ranger District:	

Well Name: ARMSTRONG 26/23 W1ED FED COM

Well Number: 3H

Fee Owner: Pecos Valley Artesian Conservation

Fee Owner Address:

District

Phone: (575)622-7000

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:** 

Well Name: ARMSTRONG 26/23 W1ED FED COM

Well Number: 3H

**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 & 380' FWL, Sec 26, T25S, R31E, Eddy Co., NM. Location was unacceptable due to MOC battery & multiple buried pipelines. Re-staked location @ 2500' FNL & 900' FNL & 900' FWL, Sec 26, T25S, R31E, Eddy Co., NM. (Elevation @ 3329'). Pad is 400 x 430. Topsoil E. Reclaim all sides 60'. Offsite battery to the SE. Approx. 250 of new road to the N to lease road. Location is in MOA/PA. Will require BLM onsite.

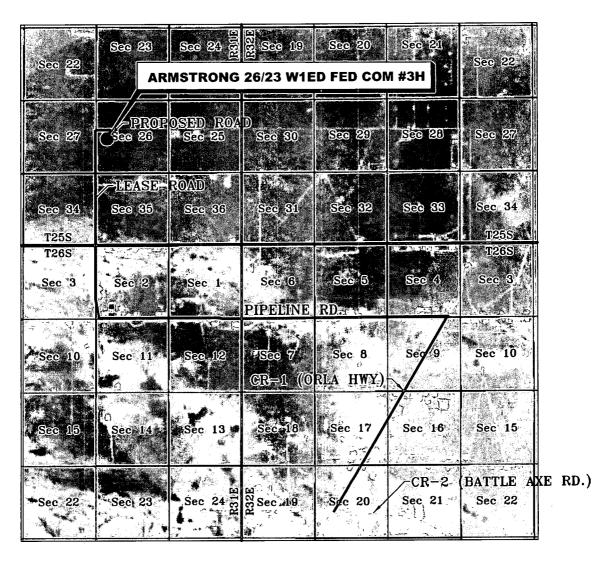
**Other SUPO Attachment** 

Armstrong26\_23W1EDFedCom3H\_gascaptureplan\_20181219123950.pdf Armstrong26\_23W1EDFedCom3H\_interimreclamationdiagram\_20181219124004.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 LOCATION: 2500' FNL & 900' FWL LEASE: Armstrong 26/23 W1ED Fed Com

WELL NO.: 3H

ELEVATION: 3329'

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NO. REVISION DATE JOB NO.: LS181<u>21327</u>F DWG. NO.: 18121327-

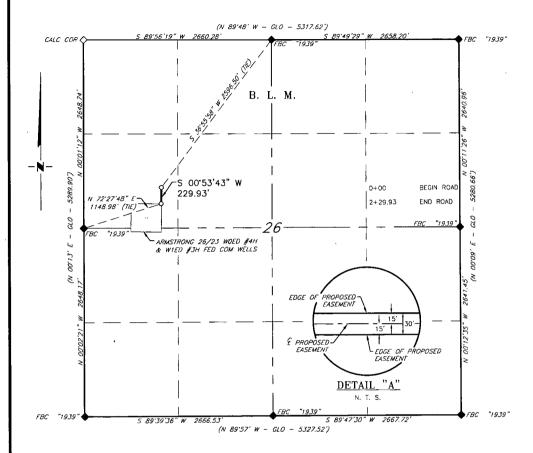


308 W. BROADWAY ST., HOBBS, NM 88240 (575) 964-8200

SCALE: N. T. S. DATE: 12-11-18 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 WOED #4H & W1ED #3H 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 229.93 feet or 13.935 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  $36^{\circ}55^{\circ}58^{\circ}$  W, 2,596.50 feet from a brass cap, stamped "1939", found for the North quarter corner of Section 26;

Thence S 00°53′43″ W, 229.93 feet, to Engr. Sta. 2+29.93, the End of Survey, a point in the Northwest quarter of Section 26, which bears, N 72°27′48″ E, 1,148.98 feet from a brass cap, stamped "1939", found for the West quarter corner of Section 26.

Said strip of land contains 0.158 acres, more or less, and is allocated by forties as follows:

SW 1/4 NW 1/4

13.935 Rods

0.158 Acres



i 10 1

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

LEGEND RECORD DATA - GLO FOUND MONUMENT AS NOTED

PROPOSED ACCESS ROAD

ON PAT 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. Howell Robert M. Howett

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SCALE: 1" = 1000' DATE: 12-11-18 SURVEYED BY: ML/TF

M. HOUR SEW MELIC

DRAWN BY: GA APPROVED BY: RMH 1 OF 1 SHEET:

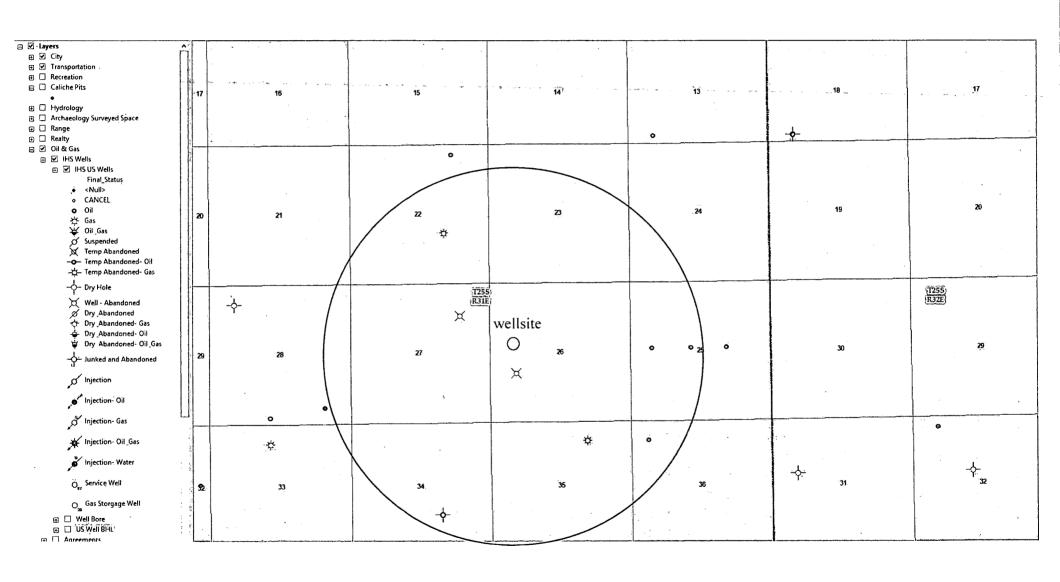
REVISION DATE



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

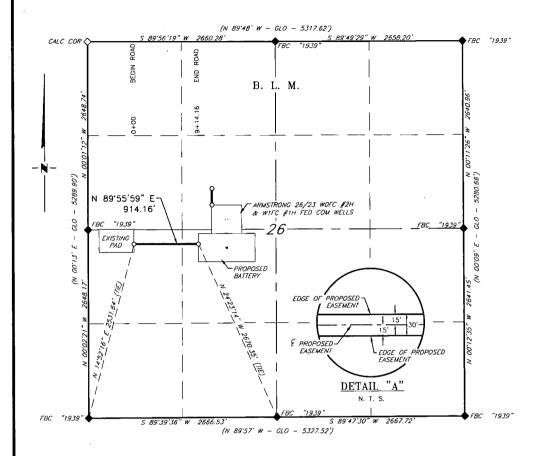
JOB NO.: LS181213268 DWG. NO.: 18121326-5

# EXISTING WELL MAP ARMSTRONG 26/23 W1ED FED COM #3H



#### 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 NE 1/4 SW 1/4

41.249 Rods 14.155 Rods

0.469 Acres 0.161 Acres



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

LEGEND RECORD DATA - GLO

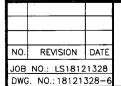
FOUND MONUMENT PROPOSED ACCESS ROAD

ON ON THE PROPERTY OF THE PROP 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. Howell

Robert M. Howett NM PS 19680

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

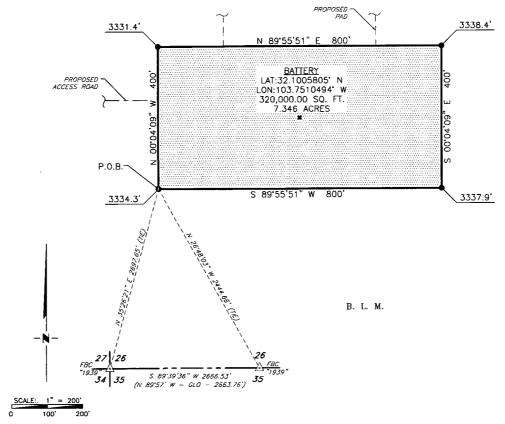
-	
	SCALE: 1" = 1000'
	DATE: 12-03-18
	SURVEYED BY: ML/TF
	DRAWN BY: GA
	APPROVED BY: RMH
	SHEET: 1 OF 1

M. HOUR

FEW METIC

#### MEWBOURNE OIL COMPANY SURVEY OF THE PROPOSED ARMSTRONG BATTERY SECTION 26, T25S, R31E

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



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

RECORD DATA - GLO

◬

FOUND MONUMENT AS NOTED

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.

Hobert M. Howell NM PS 19680 Robert M. Howett

#### 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

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

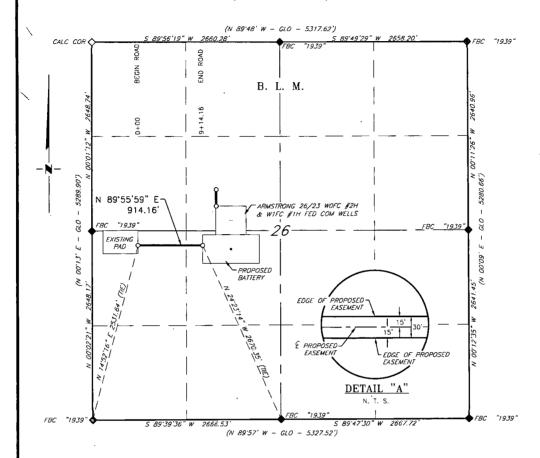


308 W. BROADWAY ST., HOBBS, NM 88240 (575) 964-8200

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

#### MEWBOURNE OIL COMPANY PROPOSED FLOWLINE 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 NE 1/4 SW 1/4 41.249 Rods 14.155 Rods

0.469 Acres 0.161 Acres

1" = 1000

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

LEGEND RECORD DATA - GLO FOUND MONUMENT AS NOTED PROPOSED ACCESS ROAD

ON PART I, R. M. Howett, a N. M. Professional Surveyor, hereby PROPERTY 12/ 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. Stas. for Land Surveying in the State of N. M. and are true and correct to the best of my knowledge and belief.

Hobert M. Howell

Robert M. Howett NM PS 19680

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NO. REVISION DATE JOB NO.: LS18121328

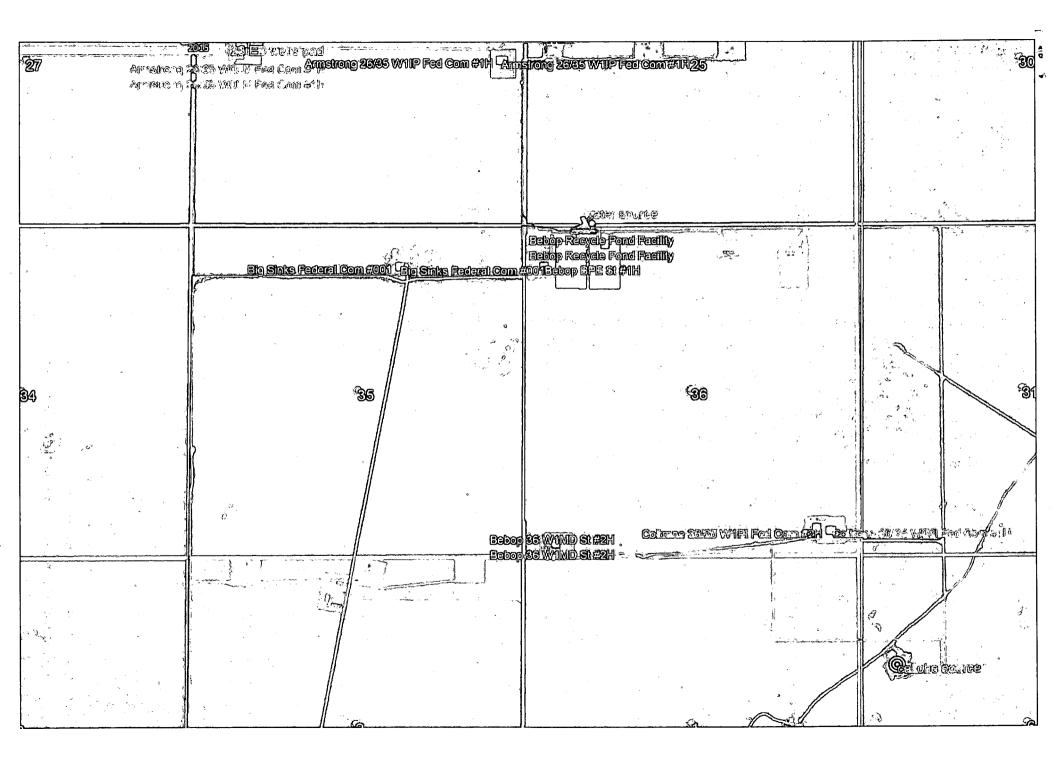
DWG. NO.: 18121328-6

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

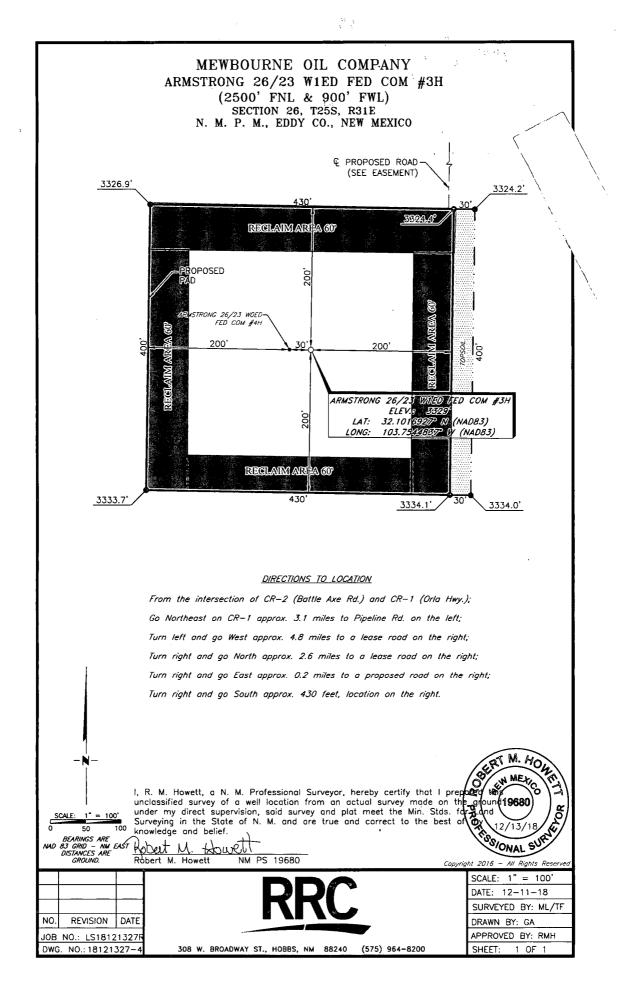
M. HOW

SEW METIC

#### MEWBOURNE OIL COMPANY SURVEY OF THE PROPOSED ARMSTRONG BATTERY SECTION 26, T25S, R31E N. M. P. M., EDDY COUNTY, NEW MEXICO PROPOSED PAD 3338.4 3331.4 N 89'55'51" E 800 <u>BATTERY</u> LAT:32.1005805° N LON:103.7510494° V PROPOSED ACCESS ROAD 320,000.00 SQ. FT. 7.346 ACRES P.O.B. S 89\*55'51" W 800 3334.3 3337.9 B. L. M. \*1939" 34 35 S 89°39'36" W 2666.53 (N 89°57' W - GLO - 2663.76') = 200' BEARINGS ARE GRID NAD 83 NM EAST DISTANCES ARE HORIZ. GROUND. LEGEND RECORD DATA - GLO DESCRIPTION FOUND MONUMENT AS NOTED 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 ◬ POINT OF BEGINNING M. Hon 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 ALM METIC from a brass cap, stamped "1939", found for the South quarter corner of Section 26; TO 12-10-18 19680 Thence N 00°04'09" W, 400.00 feet, to a point; Thence N 89'55'51" E, 800.00 feet, to a point; I, R. M. Howett, a N. M. Professional Surveyor, hereby certify that I prepared this plat from an actual survey made on Thence S 00'04'09" E, 400.00 feet, to a point; this plot from an action survey made on the ground under my direct supervision, said survey and plot 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. 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 Robert M. Howell NM PS 19680 Robert M. Howett Copyright 2016 - All Rights Reser SCALE: 1" = 200 DATE: 12-03-18 SURVEYED BY: ML/TF NO. REVISION DRAWN BY: GA APPROVED BY: RMH JOB NO.: LS18121328 308 W. BROADWAY ST., HOBBS, NM 88240 (575) 964-8200 SHEET: 1 OF 1 DWG. NO.: 18121328-7



27 Armationg 2 Armationg 2	615 Wells pad 6/35 World Fed Com Amstrong 26/35 W1IP Fed Com #1H Cam 6/35 W01 K Fed Com #1H	Strong 26/35 W1JP Fed com #1H25	%30
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	Big Sinks Federal Com #00 Lejosinks Federal Com	Bebop Regale Fondificatily Bebop Recycle Fondificatily  Golbebop BPE St fill	
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U.S. Department of the Interior BUREAU OF LAND MANAGEMENT

## Bond Info Data Report

09/26/2019

APD ID: 10400037448

Operator Name: MEWBOURNE OIL COMPANY

Well Name: ARMSTRONG 26/23 W1ED FED COM

Well Type: OIL WELL

Submission Date: 12/21/2018

Well Number: 3H

Well Work Type: Drill

Highlighted data reflects the most

recent changes

**Show Final Text** 

### **Bond Information**

Federal/Indian APD: FED

**BLM Bond number: NM1693** 

**BIA Bond number:** 

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

**BLM** reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond attachment:

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment: