BCB

Form 3160-3
(June 2015)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

**APPLICATION FOR PERMIT TO DRILL OR REENTER**

HOBBS OCD
DEC 18 2018
RECEIVED

5. Lease Serial No.: NMNM027507

6. If Indian, Allotee or Tribe Name:

1a. Type of work: [✓] DRILL [ ] REENTER

1b. Type of Well: [ ] Oil Well [✓] Gas Well [ ] Other

1c. Type of Completion: [ ] Hydraulic Fracturing [✓] Single Zone [ ] Multiple Zone

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

8. Lease Name and Well No.: RED HILLS WEST 21 W1BO FED COM 3H (322021)

2. Name of Operator: MEWBOURNE OIL COMPANY (14744)

9. API Well No.: 30-025-45444

3a. Address: PO Box 5270 Hobbs NM 88240

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

10. Field and Pool, or Exploratory: RED HILLS WOLFCAMP GAS / WILDCAT

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

At surface: NWNE / 205 FNL / 1950 FEL / LAT 32.0350026 / LONG -103.6776862

At proposed prod. zone: SWSE / 330 FSL / 1650 FEL / LAT 32.0217696 / LONG -103.6766866

11. Sec., T. R. M. or Blk. and Survey or Area: SEC 21 / T26S / R32E / NMP

14. Distance in miles and direction from nearest town or post office*: 30 miles

12. County or Parish: LEA

13. State: NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any): 185 feet

16. No of acres in lease: 640

17. Spacing Unit dedicated to this well: 320

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: 50 feet

19. Proposed Depth: 12102 feet / 16849 feet

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

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 3185 feet

22. Approximate date work will start*: 09/24/2018

23. Estimated duration: 60 days

24. Attachments

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

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be requested by the BLM.

| 25. Signature | Name *(Printed/Typed)* | Date |
|---|---|---|
| (Electronic Submission) | Bradley Bishop / Ph: (575)393-5905 | 06/26/2018 |

Title: Regulatory

| Approved by *(Signature)* | Name *(Printed/Typed)* | Date |
|---|---|---|
| (Electronic Submission) | Cody Layton / Ph: (575)234-5959 | 12/07/2018 |

| Title | Office |
|---|---|
| Assistant Field Manager Lands & Minerals | CARLSBAD |

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

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

GCP Rec 12/18/18

KZ 12/24/18

APPROVED WITH CONDITIONS

Approval Date: 12/07/2018

(Continued on page 2)

*(Instructions 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 or tribal regulatory agencies and from local BLM offices.

## NOTICES

The Privacy Act of 1974 and regulation in 43 CFR 2.48( d) provide that you be furnished the following information in connection with information required by this application.
AUTHORITY: 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR 3160
PRINCIPAL PURPOSES: The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service wen or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.
ROUTINE USE: Information from the record and/or the record win be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.
EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:
The BLM conects this information to anow evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

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



(Continued on page 3)

## Additional Operator Remarks

### Location of Well

1. SHL: NWNE / 205 FNL / 1950 FEL / TWSP: 26S / RANGE: 32E / SECTION: 21 / LAT: 32.0350026 / LONG: -103.6776862 ( TVD: 0 feet, MD: 0 feet )
   PPP: NWSE / 2676 FNL / 1650 FEL / TWSP: 26S / RANGE: 32E / SECTION: 21 / LAT: 32.0282049 / LONG: -103.676701 ( TVD: 12089 feet, MD: 14508 feet )
   PPP: NWNE / 330 FNL / 1650 FEL / TWSP: 26S / RANGE: 32E / SECTION: 21 / LAT: 32.0346539 / LONG: -103.6767155 ( TVD: 12019 feet, MD: 12153 feet )
   BHL: SWSE / 330 FSL / 1650 FEL / TWSP: 26S / RANGE: 32E / SECTION: 21 / LAT: 32.0217696 / LONG: -103.6766866 ( TVD: 12102 feet, MD: 16849 feet )

## BLM Point of Contact

Name: Priscilla Perez
Title: Legal Instruments Examiner
Phone: 5752345934
Email: pperez@blm.gov

## Review and Appeal Rights

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

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

# Operator Certification Data Report

12/07/2018

## Operator Certification

*I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.*

**NAME:** Bradley Bishop **Signed on:** 06/26/2018

**Title:** Regulatory

**Street Address:** PO Box 5270

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

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

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

## Field Representative

**Representative Name:**

**Street Address:**

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

**Phone:**

**Email address:**

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

# Application Data Report

12/07/2018

**APD ID:** 10400031519 **Submission Date:** 06/26/2018

**Operator Name:** MEWBOURNE OIL COMPANY

**Well Name:** RED HILLS WEST 21 W1BO FED COM **Well Number:** 3H

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

Highlighted data reflects the most recent changes

Show Final Text

## Section 1 - General

**APD ID:** 10400031519 **Tie to previous NOS?** **Submission Date:** 06/26/2018

**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:** NMNM027507 **Lease Acres:** 640

**Surface access agreement in place?** **Allotted?** **Reservation:**

**Agreement in place?** NO **Federal or Indian agreement:**

**Agreement number:**

**Agreement name:**

**Keep application confidential?** YES

**Permitting Agent?** NO **APD Operator:** MEWBOURNE OIL COMPANY

**Operator letter of designation:** RedHillsWest21_W1BOFedCom3H_operatorletterofdesignation_20180622111413.pdf

## Operator Info

**Operator Organization Name:** MEWBOURNE OIL COMPANY

**Operator Address:** PO Box 5270

**Zip:** 88240

**Operator PO Box:**

**Operator City:** Hobbs **State:** NM

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

**Operator Internet Address:**

## Section 2 - Well Information

**Well in Master Development Plan?** NO **Mater Development Plan name:**

**Well in Master SUPO?** NO **Master SUPO name:**

**Well in Master Drilling Plan?** NO **Master Drilling Plan name:**

**Well Name:** RED HILLS WEST 21 W1BO FED COM **Well Number:** 3H **Well API Number:**

**Field/Pool or Exploratory?** Field and Pool **Field Name:** RED HILLS WOLFCAMP GAS **Pool Name:** WILDCAT WOLFCAMP

**Operator Name:** MEWBOURNE OIL COMPANY

**Well Name:** RED HILLS WEST 21 W1BO FED COM **Well Number:** 3H

**Describe other minerals:**

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

**Type of Well Pad:** MULTIPLE WELL **Multiple Well Pad Name:** RED HILLS WEST 21 BO **Number:** 2

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

**Well Work Type:** Drill

**Well Type:** CONVENTIONAL GAS WELL

**Describe Well Type:**

**Well sub-Type:** APPRAISAL

**Describe sub-type:**

**Distance to town:** 30 Miles **Distance to nearest well:** 50 FT **Distance to lease line:** 185 FT

**Reservoir well spacing assigned acres Measurement:** 320 Acres

**Well plat:** RedHillsWest21_W1BOFedCom3H_wellplat_20180622111840.pdf

**Well work start Date:** 09/24/2018 **Duration:** 60 DAYS

## Section 3 - Well Location Table

**Survey Type:** RECTANGULAR

**Describe Survey Type:**

**Datum:** NAD83 **Vertical Datum:** NAVD88

**Survey number:**

| | NS-Foot | NS Indicator | EW-Foot | EW Indicator | Twsp | Range | Section | Aliquot/Lot/Tract | Latitude | Longitude | County | State | Meridian | Lease Type | Lease Number | Elevation | MD | TVD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SHL Leg #1 | 205 | FNL | 1950 | FEL | 26S | 32E | 21 | Aliquot NWNE | 32.035002626 | -103.6776862 | LEA | NEW MEXICO | NEW MEXICO | F | NMNM 027507 | 3185 | 0 | 0 |
| KOP Leg #1 | 10 | FNL | 1650 | FEL | 26S | 32E | 21 | Aliquot NWNE | 32.035539191 | -103.6767174 | LEA | NEW MEXICO | NEW MEXICO | F | NMNM 027507 | -8319 | 11513 | 11504 |
| PPP Leg #1 | 330 | FNL | 1650 | FEL | 26S | 32E | 21 | Aliquot NWNE | 32.034653939 | -103.6767155 | LEA | NEW MEXICO | NEW MEXICO | F | NMNM 027507 | -8834 | 12153 | 12019 |

**Operator Name:** MEWBOURNE OIL COMPANY

**Well Name:** RED HILLS WEST 21 W1BO FED COM **Well Number:** 3H

| | NS-Foot | NS Indicator | EW-Foot | EW Indicator | Twsp | Range | Section | Aliquot/Lot/Tract | Latitude | Longitude | County | State | Meridian | Lease Type | Lease Number | Elevation | MD | TVD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PPP Leg #1 | 2676 | FNL | 1650 | FEL | 26S | 32E | 21 | Aliquot NWSE | 32.0282049 | -103.676701 | LEA | NEW MEXICO | NEW MEXICO | F | NMNM 107393 | -8904 | 14508 | 12089 |
| EXIT Leg #1 | 330 | FSL | 1650 | FEL | 26S | 32E | 21 | Aliquot SWSE | 32.0217696 | -103.6766866 | LEA | NEW MEXICO | NEW MEXICO | F | NMNM 107393 | -8917 | 16849 | 12102 |
| BHL Leg #1 | 330 | FSL | 1650 | FEL | 26S | 32E | 21 | Aliquot SWSE | 32.0217696 | -103.6766866 | LEA | NEW MEXICO | NEW MEXICO | F | NMNM 107393 | -8917 | 16849 | 12102 |

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

Statement Accepting Responsibility for Operations

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

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

| | |
|---|---|
| Lease Number: | NMNM 027507, NMNM 107393 |
| Legal Description of Land: | Section 21, T26S, R32E, Lea County, New Mexico. Location @ 205 FNL & 1950 FEL |
| Formation (if applicable): | Wolfcamp |
| Bond Coverage: | $150,000 |
| BLM Bond File: | NM1693 nationwide, NMB000919 |

Authorized Signature: Bradley C Bishop

Name: Bradley Bishop
Title: Regulatory Manager
Date: 6-21-18

AFMSS

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

# Drilling Plan Data Report

12/07/2018

**APD ID:** 10400031519

**Submission Date:** 06/26/2018

Highlighted data reflects the most recent changes

Show Final Text

**Operator Name:** MEWBOURNE OIL COMPANY

**Well Name:** RED HILLS WEST 21 W1BO FED COM

**Well Number:** 3H

**Well Type:** CONVENTIONAL GAS WELL

**Well Work Type:** Drill

## Section 1 - Geologic Formations

| Formation ID | Formation Name | Elevation | True Vertical Depth | Measured Depth | Lithologies | Mineral Resources | Producing Formation |
|---|---|---|---|---|---|---|---|
| 1 | UNKNOWN | 3158 | 27 | 27 | | NONE | No |
| 2 | RUSTLER | 2610 | 551 | 551 | DOLOMITE,ANHYDRITE | USEABLE WATER | No |
| 3 | TOP SALT | 2243 | 918 | 918 | SALT | NONE | No |
| 4 | BOTTOM SALT | -1055 | 4216 | 4216 | SALT | NONE | No |
| 5 | LAMAR | -1274 | 4435 | 4435 | LIMESTONE | NATURAL GAS,OIL | No |
| 6 | BELL CANYON | -1306 | 4467 | 4467 | SANDSTONE | NATURAL GAS,OIL | No |
| 7 | CHERRY CANYON | -2256 | 5417 | 5417 | SANDSTONE | NATURAL GAS,OIL | No |
| 8 | MANZANITA | -2494 | 5655 | 5655 | LIMESTONE | NATURAL GAS,OIL | No |
| 9 | BRUSHY CANYON | -3854 | 7015 | 7015 | SANDSTONE | NATURAL GAS,OIL | No |
| 10 | BONE SPRING | -5405 | 8566 | 8566 | LIMESTONE,SHALE | NATURAL GAS,OIL | No |
| 11 | BONE SPRING 1ST | -6326 | 9487 | 9487 | SANDSTONE | NATURAL GAS,OIL | No |
| 12 | BONE SPRING 2ND | -6951 | 10112 | 10112 | SANDSTONE | NATURAL GAS,OIL | No |
| 13 | BONE SPRING 3RD | -8179 | 11340 | 11350 | SANDSTONE | NATURAL GAS,OIL | No |
| 14 | WOLFCAMP | -8533 | 11694 | 11704 | LIMESTONE,SHALE,SANDSTONE | NATURAL GAS,OIL | Yes |

## Section 2 - Blowout Prevention

**Operator Name:** MEWBOURNE OIL COMPANY

**Well Name:** RED HILLS WEST 21 W1BO FED COM **Well Number:** 3H

**ressure Rating (PSI):** 10M **Rating Depth:** 16849

**quipment:** Annular, Pipe Rams, Blind Rams

**equesting Variance?** YES

**ariance request:** A variance is requested for use of a 5000 psi annular BOP with the 10,000 psi BOP stack. Request ariance for the use of a flexible choke line from the BOP to Choke Manifold. Anchors not required by manufacturer. A multi-owl wellhead will be used. See attached schematic.

**esting Procedure:** BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure ıdicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the orking pressure listed in the table above. If the system is upgraded all the components installed will be functional and ested. Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out f the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly ock and floor safety valve (inside BOP) and choke lines and choke manifold.

**Choke Diagram Attachment:**

Red_Hills_West_21_W1BO_Fed_Com_3H_10M_BOPE_Choke_Diagram_20180625105036.pdf

Red_Hills_West_21_W1BO_Fed_Com_3H_Flex_Line_Specs_20180625105046.pdf

**BOP Diagram Attachment:**

Red_Hills_West_21_W1BO_Fed_Com_3H_10M_BOPE_Schematic_20180625105059.pdf

Red_Hills_West_21_W1BO_Fed_Com_3H_10M_Multi_Bowl_WH_20180625105110.pdf

Red_Hills_West_21_W1BO_Fed_Com_3H_10M_Annular_BOP_Variance_20180625105120.pdf

## Section 3 - Casing

| Casing ID | String Type | Hole Size | Csg Size | Condition | Standard | Tapered String | Top Set MD | Bottom Set MD | Top Set TVD | Bottom Set TVD | Top Set MSL | Bottom Set MSL | Calculated casing length MD | Grade | Weight | Joint Type | Collapse SF | Burst SF | Joint SF Type | Joint SF | Body SF Type | Body SF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SURFACE | 17.5 | 13.375 | NEW | API | N | 0 | 626 | 0 | 626 | 3185 | 2559 | 626 | H-40 | 48 | STC | 2.69 | 6.04 | DRY | 10.72 | DRY | 18 |
| 2 | INTERMEDIATE | 12.25 | 9.625 | NEW | API | Y | 0 | 4360 | 0 | 4360 | 3185 | -1175 | 4360 | J-55 | 36 | LTC | 1.13 | 1.96 | DRY | 2.82 | DRY | 3.51 |
| 3 | PRODUCTION | 8.75 | 7.0 | NEW | API | N | 0 | 12410 | 0 | 12077 | 3185 | -8892 | 12410 | P-110 | 26 | LTC | 1.37 | 1.75 | DRY | 2 | DRY | 2.57 |
| 4 | LINER | 6.125 | 4.5 | NEW | API | N | 11513 | 16849 | 11504 | 12102 | -8319 | -8917 | 5336 | P-110 | 13.5 | LTC | 1.3 | 1.52 | DRY | 4.69 | DRY | 5.86 |

**Casing Attachments**

**Operator Name:** MEWBOURNE OIL COMPANY

**Well Name:** RED HILLS WEST 21 W1BO 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):**

Red_Hills_West_21_W1BO_Fed_Com_3H_Csg_Assumptions_20180625113334.pdf

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

Red_Hills_West_21_W1BO_Fed_Com_3H_Inter_Tapered_String_Diagram_20180625105657.pdf

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

Red_Hills_West_21_W1BO_Fed_Com_3H_Csg_Assumptions_20180625113343.pdf

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

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

Red_Hills_West_21_W1BO_Fed_Com_3H_Csg_Assumptions_20180625113352.pdf

**Operator Name:** MEWBOURNE OIL COMPANY

**Well Name:** RED HILLS WEST 21 W1BO 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):**

Red_Hills_West_21_W1BO_Fed_Com_3H_Csg_Assumptions_20180625113401.pdf

## Section 4 - Cement

| String Type | Lead/Tail | Stage Tool Depth | Top MD | Bottom MD | Quantity(sx) | Yield | Density | Cu Ft | Excess% | Cement type | Additives |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SURFACE | Lead | | 0 | 436 | 290 | 2.12 | 12.5 | 615 | 100 | Class C | Salt, Gel, Extender, LCM |
| SURFACE | Tail | | 436 | 626 | 200 | 1.34 | 14.8 | 268 | 100 | Class C | Retarder |
| NTERMEDIATE | Lead | | 0 | 3701 | 710 | 2.12 | 12.5 | 1505 | 25 | Class C | Salt, Gel, Extender, LCM |
| NTERMEDIATE | Tail | | 3701 | 4360 | 200 | 1.34 | 14.8 | 268 | 25 | Class C | Retarder |
| PRODUCTION | Lead | 5650 | 4160 | 4818 | 50 | 2.12 | 12.5 | 106 | 25 | Class C | Gel, Retarder, Defoamer, Extender |
| PRODUCTION | Tail | | 4818 | 5650 | 100 | 1.34 | 14.8 | 134 | 25 | Class C | Retarder |
| PRODUCTION | Lead | 5650 | 5650 | 9932 | 385 | 2.12 | 12.5 | 816 | 25 | Class C | Gel, Retarder, Defoamer, Extender |
| PRODUCTION | Tail | | 9932 | 12410 | 400 | 1.18 | 15.6 | 472 | 25 | Class H | Retarder, Fluid Loss, Defoamer |
| LINER | Lead | | 11513 | 16849 | 225 | 2.97 | 11.2 | 668 | 25 | Class C | Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti-Settling Agent |

**Operator Name:** MEWBOURNE OIL COMPANY

**Well Name:** RED HILLS WEST 21 W1BO FED COM **Well Number:** 3H

## Section 5 - Circulating Medium

**lud System Type:** Closed

**/ill an air or gas system be Used?** NO

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

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

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

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

## Circulating Medium Table

| Top Depth | Bottom Depth | Mud Type | Min Weight (lbs/gal) | Max Weight (lbs/gal) | Density (lbs/cu ft) | Gel Strength (lbs/100 sqft) | PH | Viscosity (CP) | Salinity (ppm) | Filtration (cc) | Additional Characteristics |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 626 | SPUD MUD | 8.6 | 8.8 | | | | | | | |
| 626 | 4360 | SALT SATURATED | 10 | 10 | | | | | | | |
| 4360 | 11504 | WATER-BASED MUD | 8.6 | 9.5 | | | | | | | |
| 11504 | 12102 | OIL-BASED MUD | 10 | 13 | | | | | | | |

## Section 6 - Test, Logging, Coring

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

/ill run GR/CNL from KOP (11513') to surface.
/ill run MWD GR from KOP (11513') to TD.

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

:NL,DS,GR,MWD,MUDLOG

**:oring operation description for the well:**

lone

**Operator Name:** MEWBOURNE OIL COMPANY

**Well Name:** RED HILLS WEST 21 W1BO FED COM **Well Number:** 3H

## Section 7 - Pressure

**nticipated Bottom Hole Pressure:** 8181 **Anticipated Surface Pressure:** 5510.2

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

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

**escribe:**

**ontingency Plans geoharzards description:**

**ontingency Plans geohazards attachment:**

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

**ydrogen sulfide drilling operations plan:**

Red_Hills_West_21_W1BO_Fed_Com_3H_H2S_Plan_20180625113734.pdf

## Section 8 - Other Information

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

Red_Hills_West_21_W1BO_Fed_Com_3H_Dir_Plan_20180625113835.pdf

Red_Hills_West_21_W1BO_Fed_Com_3H_Dir_Pl_20180625113844.pdf

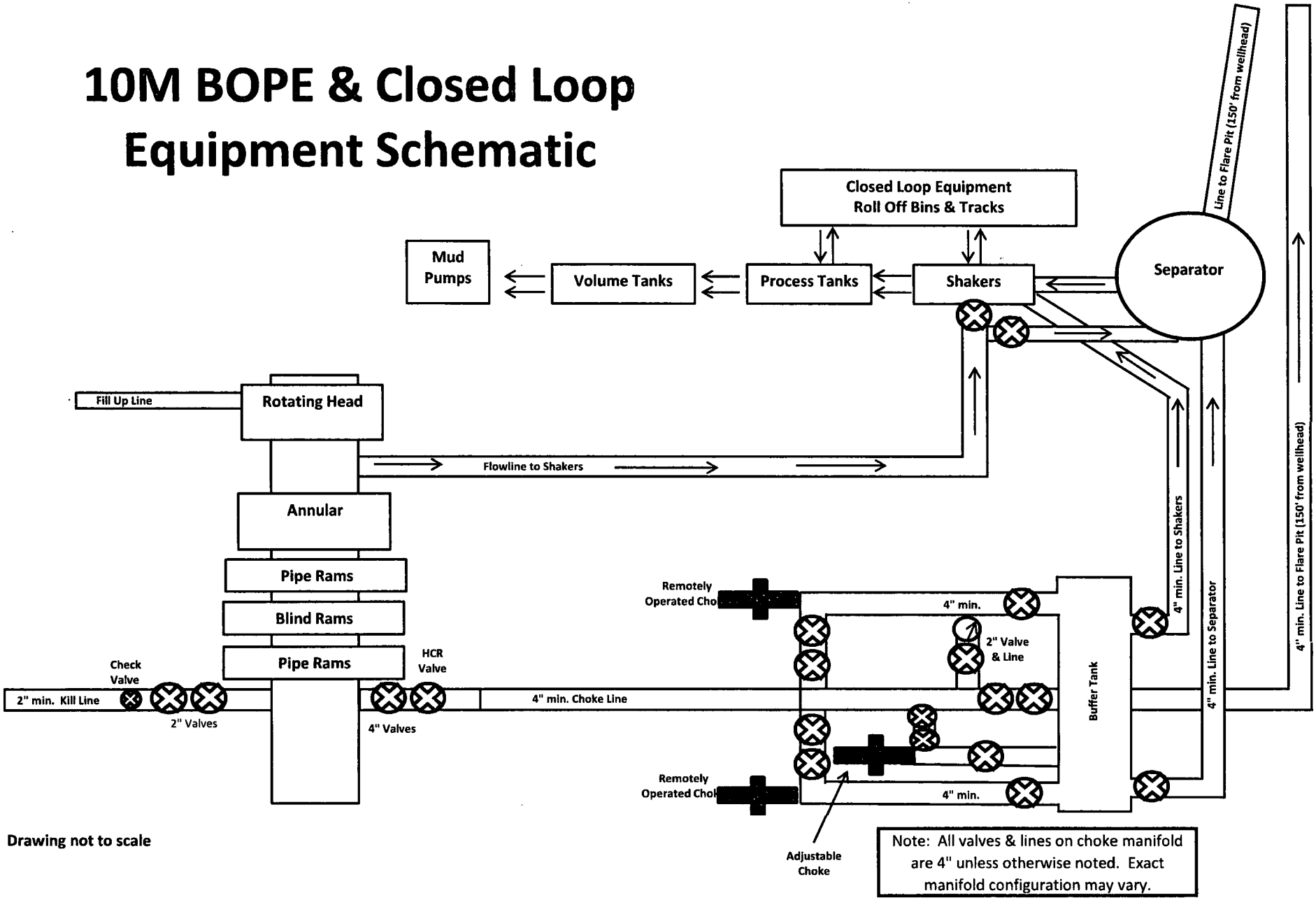
**ther proposed operations facets description:**

**ther proposed operations facets attachment:**

Red_Hills_West_21_W1BO_Fed_Com_3H_Drlg_Program_20180625113920.doc

**ther Variance attachment:**

# 10M BOPE & Closed Loop Equipment Schematic




Drawing not to scale

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

ENGINEERING & SERVICES

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

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

# 10K CEMENTING ASSEMBLY PRESSURE TEST CERTIFICATE

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

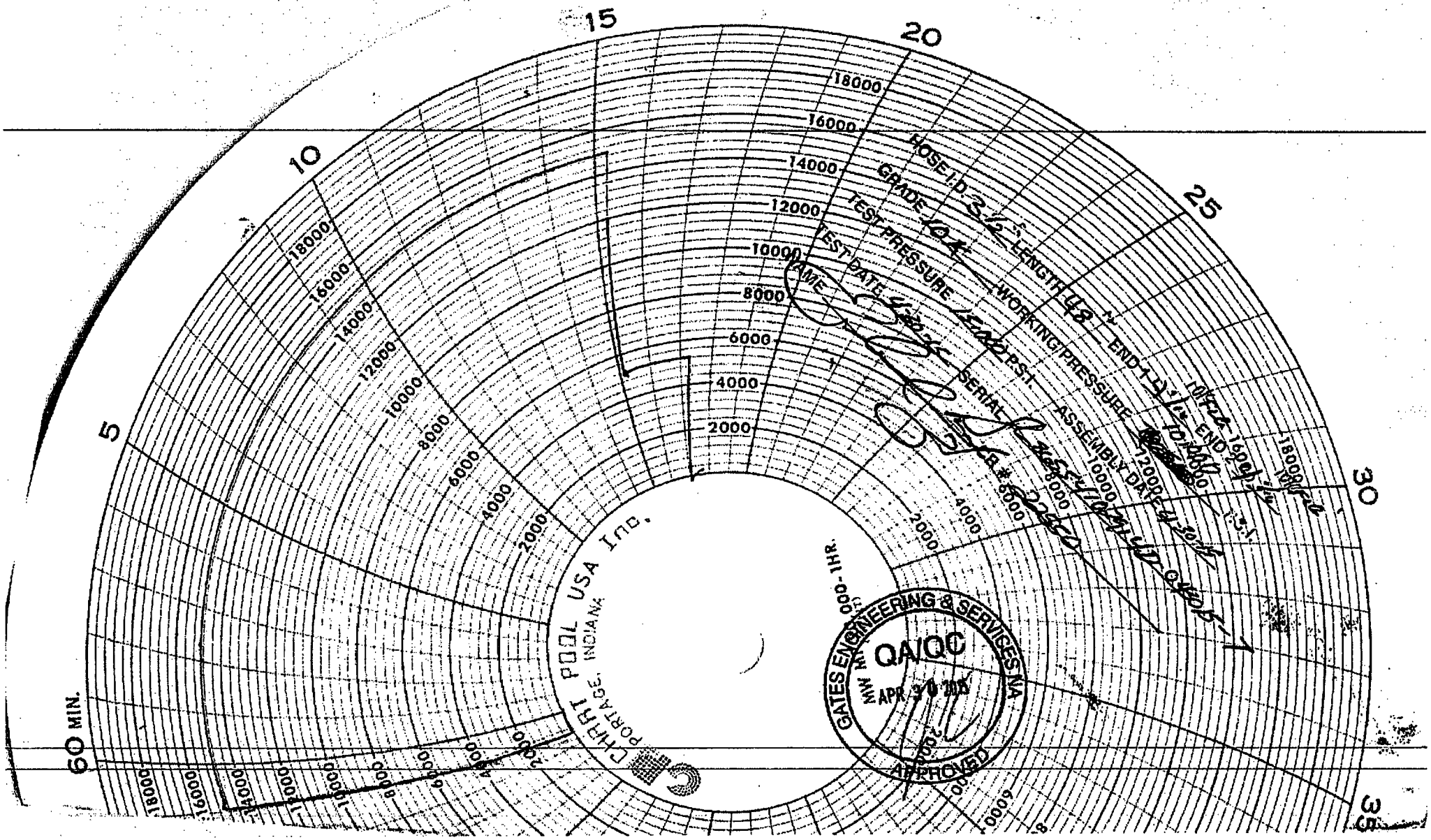
| | |
|---|---|
| Product Description: | 10K3.548.0CK4.1/1610KFLGE/E LE |

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

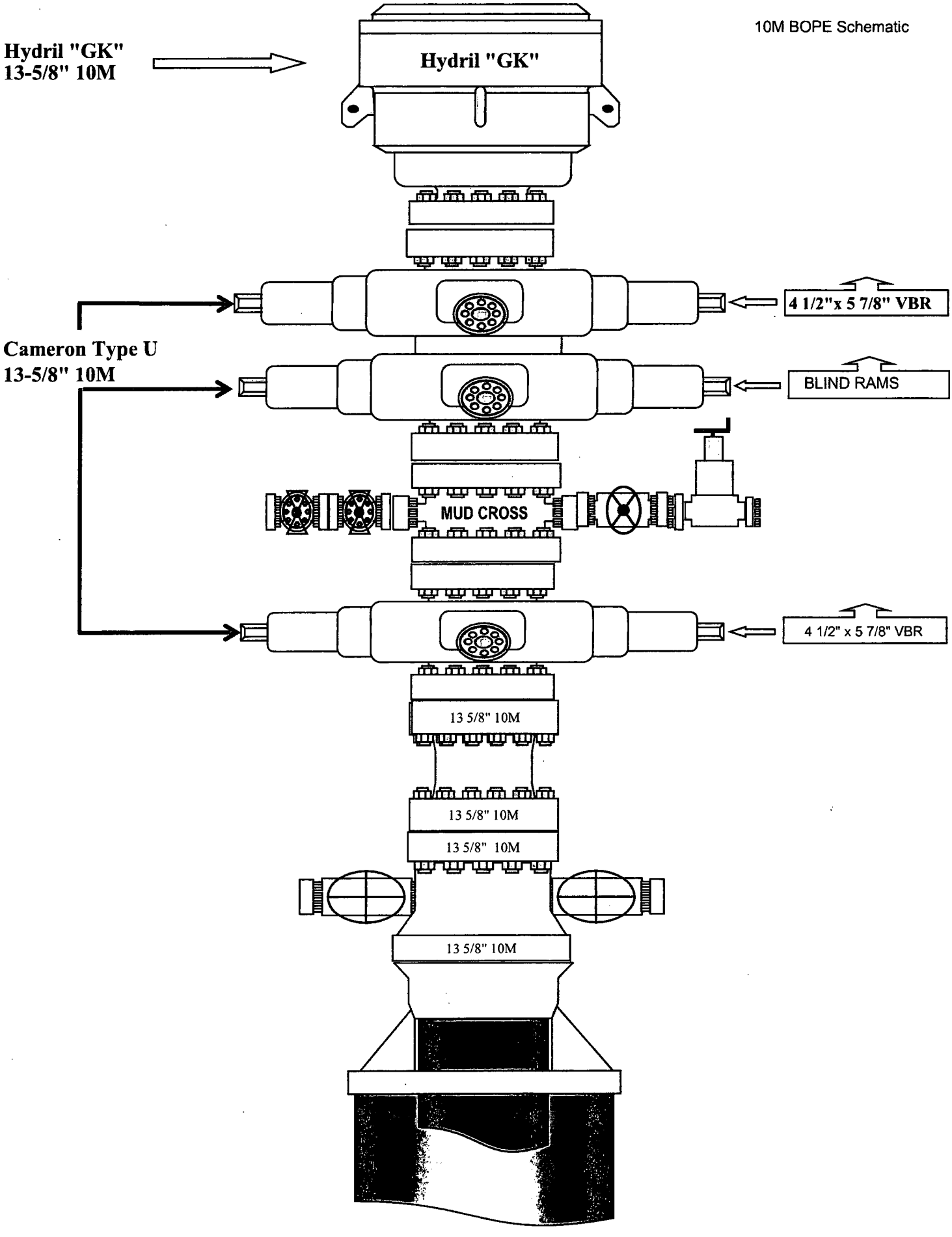
**Gates E & S North America, Inc.** certifies that the following hose assembly has been tested to the Gates Oilfield Roughneck Agreement/Specification requirements and passed the 15 minute hydrostatic test per API Spec 7K/Q1, Fifth Edition, June 2010, Test pressure 9.6.7 and per Table 9 to 15,000 psi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

| | | | |
|---|---|---|---|
| Quality Manager : | QUALITY | Produciton: | PRODUCTION |
| Date : | 4/30/2015 | Date : | 4/30/2015 |
| Signature : | | Signature : | |

Form PTC - 01 Rev.0 2

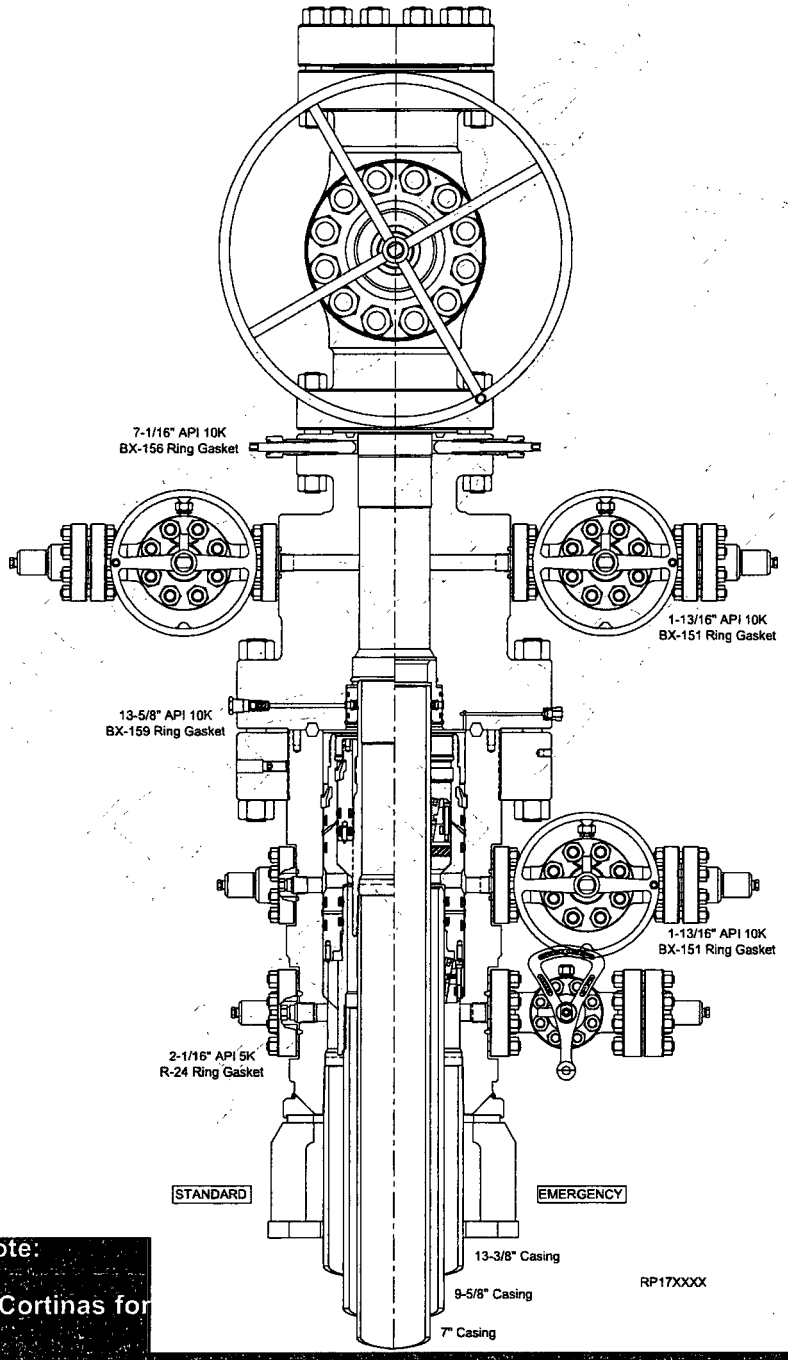

5
10
15
20
25
30
60 MIN.
18000
16000
14000
12000
10000
8000
6000
4000
2000
HOSE I.D.
GRADE
TEST PRESSURE
PSI
TEST DATE
NAME
SERIAL #
WORKING PRESSURE
ASSEMBLY DATE
LENGTH
END 1
END 2
CHART POOL USA Inc.
PORTAGE, INDIANA
GATES ENGINEERING & SERVICES NA
QA/QC
APPROVED

10M BOPE Schematic



# RUNNING PROCEDURE

# Mewbourne Oil Co




Publication Status Note:

Draft A sent to John Cortinas for review; RA 04/29/17

## Surface Systems Publication

| | | |
|---|---|---|
| CAMERON<br>A Schlumberger Company | 13-5/8" 10K MN-DS System<br>13-3/8" x 9-5/8" x 7" Casing Program | RP-003815<br>Rev 01 Draft A |

# 10,000 PSI Annular BOP Variance Request

Mewbourne Oil Company request a variance to use a 5000 psi annular BOP with a 10,000 psi BOP stack. The component and compatibility tables along with the general well control plans demonstrate how the 5000 psi annular BOP will be protected from pressures that exceed its rated working pressure (RWP). The pressure at which the control of the wellbore is transferred from the annular preventer to another available preventer will not exceed 3500 psi (70% of the RWP of the 5000 psi annular BOP).

## 1. Component and Preventer Compatibility Tables

The tables below outline the tubulars and the compatible preventers in use. This table, combined with the drilling fluid, documents that two barriers to flow will be maintained at all times.

| 12-1/4" Intermediate Hole Section<br>10M psi Requirement | | | | | |
|---|---|---|---|---|---|
| **Component** | **OD** | **Primary Preventer** | **RWP** | **Alternate Preventer(s)** | **RWP** |
| Drillpipe | 5.000" or<br>4.500" | Annular | 5M | Upper 3.5"-5.5" VBR<br>Lower 3.5"-5.5" VBR | 10M<br>10M |
| HWDP | 5.000" or<br>4.500" | Annular | 5M | Upper 3.5"-5.5" VBR<br>Lower 3.5"-5.5" VBR | 10M<br>10M |
| Jars | 6.500" | Annular | 5M | - | - |
| DCs and MWD tools | 6.500"-8.000" | Annular | 5M | - | - |
| Mud Motor | 8.000"-9.625" | Annular | 5M | - | - |
| Intermediate Casing | 9.625" | Annular | 5M | - | - |
| Open-Hole | - | Blind Rams | 10M | - | - |

| 8-3/4" Production Hole Section<br>10M psi Requirement | | | | | |
|---|---|---|---|---|---|
| **Component** | **OD** | **Primary Preventer** | **RWP** | **Alternate Preventer(s)** | **RWP** |
| Drillpipe | 5.000" or<br>4.500" | Annular | 5M | Upper 3.5"-5.5" VBR<br>Lower 3.5"-5.5" VBR | 10M<br>10M |
| HWDP | 5.000" or<br>4.500" | Annular | 5M | Upper 3.5"-5.5" VBR<br>Lower 3.5"-5.5" VBR | 10M<br>10M |
| Jars | 6.500" | Annular | 5M | - | - |
| DCs and MWD tools | 6.500"-8.000" | Annular | 5M | - | - |
| Mud Motor | 6.750"-8.000" | Annular | 5M | - | - |
| Production Casing | 7" | Annular | 5M | - | - |
| Open-Hole | - | Blind Rams | 10M | - | - |

| 6-1/8" Lateral Hole Section<br>10M psi Requirement | | | | | |
|---|---|---|---|---|---|
| **Component** | **OD** | **Primary Preventer** | **RWP** | **Alternate Preventer(s)** | **RWP** |
| Drillpipe | 4.500" | Annular | 5M | Upper 3.5"-5.5" VBR<br>Lower 3.5"-5.5" VBR | 10M<br>10M |
| HWDP | 4.500" | Annular | 5M | Upper 3.5"-5.5" VBR<br>Lower 3.5"-5.5" VBR | 10M<br>10M |
| DCs and MWD tools | 4.750"-5.500" | Annular | 5M | Upper 3.5"-5.5" VBR<br>Lower 3.5"-5.5" VBR | 10M<br>10M |
| Mud Motor | 4.750"-5.500" | Annular | 5M | Upper 3.5"-5.5" VBR<br>Lower 3.5"-5.5" VBR | 10M<br>10M |
| Production Casing | 4.500" | Annular | 5M | Upper 3.5"-5.5" VBR<br>Upper 3.5"-5.5" VBR | 10M<br>10M |
| Open-Hole | - | Blind Rams | 10M | - | - |

VBR = Variable Bore Ram

## 2. Well Control Procedures

Below are the minimal high-level tasks prescribed to assure a proper shut-in while drilling, tripping, running casing, pipe out of the hole (open hole), and moving the BHA through the BOPs. At least one well control drill will be performed weekly per crew to demonstrate compliance with the procedure and well control plan. The well control drill will be recorded in the daily drilling log. The type of drill will be determined by the ongoing operations, but reasonable attempts will be made to vary the type of drill conducted (pit, trip, open hole, choke, etc.). This well control plan will be available for review by rig personnel in the Mewbourne Oil Company drilling supervisor's office on location and on the rig floor. All BOP equipment will be tested as per Onshore O&G Order No. 2 with the exception of the 5000 psi annular which will be tested to 70% of its RWP.

General Procedure While Drilling

1. Sound alarm (alert crew)
2. Space out drill string
3. Shut down pumps (stop pumps and rotary)
4. Shut-in well (uppermost applicable BOP, typically annular preventer, first. HCR & choke will already be in the closed position.)
5. Confirm shut-in
6. Notify toolpusher/company representative
7. Read and record the following:
    a. SIDPP & SICP
    b. Pit gain
    c. Time
8. Regroup and identify forward plan

9. If pressure has built or is anticipated during the kill to reach 70% or greater of the RWP of the annular preventer, confirm spacing and close the upper variable bore rams.

General Procedure While Tripping

1. Sound alarm (alert crew)
2. Stab full-opening safety valve & close
3. Space out drill string
4. Shut-in well (uppermost applicable BOP, typically annular preventer, first. HCR & choke will already be in the closed position.)
5. Confirm shut-in
6. Notify toolpusher/company representative
7. Read and record the following:
    a. SIDPP & SICP
    b. Pit gain
    c. Time
8. Regroup and identify forward plan
9. If pressure has built or is anticipated during the kill to reach 70% of the RWP of the annular preventer, confirm spacing and close the upper variable bore rams.

General Procedure While Running Production Casing

1. Sound alarm (alert crew)
2. Stab crossover and full-opening safety valve and close
3. Space out string
4. Shut-in well (uppermost applicable BOP, typically annular preventer, first. HCR & choke will already be in the closed position.)
5. Confirm shut-in
6. Notify toolpusher/company representative
7. Read and record the following:
    a. SIDPP & SICP
    b. Pit gain
    c. Time
8. Regroup and identify forward plan
9. If pressure has built or is anticipated during the kill to reach 70% or greater of the RWP of the annular preventer, confirm spacing and close the upper variable bore rams.

General Procedure With No Pipe In Hole (Open Hole)

1. Sound alarm (alert crew)
2. Shut-in with blind rams (HCR & choke will already be in the closed position)
3. Confirm shut-in
4. Notify toolpusher/company representative
5. Read and record the following:
    a. SICP
    b. Pit gain
    c. Time
6. Regroup and identify forward plan

General Procedures While Pulling BHA Through Stack

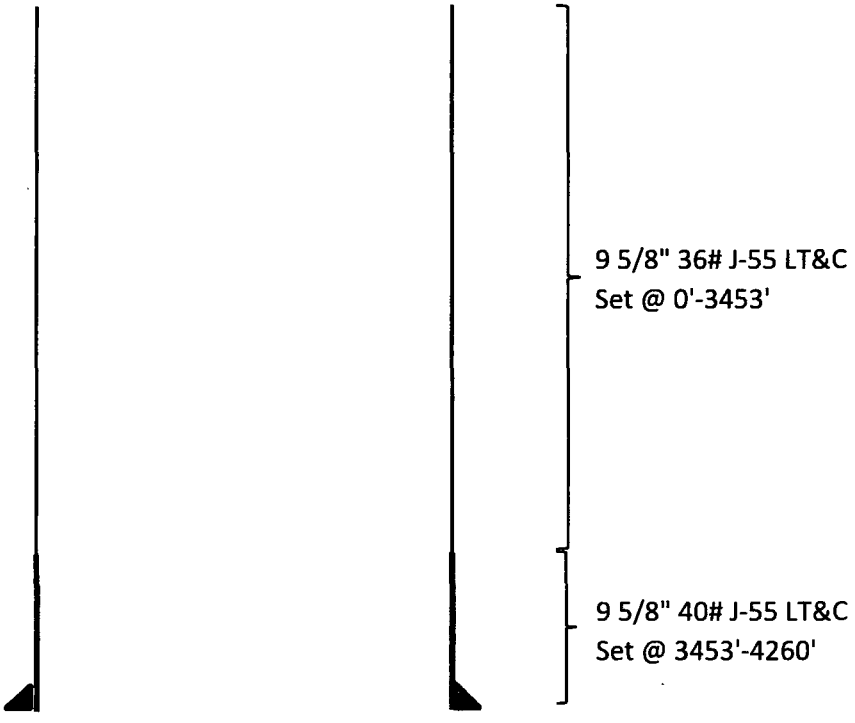
1. PRIOR to pulling last joint of drillpipe through stack:
    a. Perform flow check. If flowing, continue to (b).
    b. Sound alarm (alert crew)
    c. Stab full-opening safety valve and close
    d. Space out drill string with tool joint just beneath the upper variable bore rams
    e. Shut-in using upper variable bore rams (HCR & choke will already be in the closed position)
    f. Confirm shut-in
    g. Notify toolpusher/company representative
    h. Read and record the following:
        i. SIDPP & SICP
        ii. Pit gain
        iii. Time
    i. Regroup and identify forward plan
2. With BHA in the stack and compatible ram preventer and pipe combination immediately available:
    a. Sound alarm (alert crew)
    b. Stab crossover and full-opening safety valve and close
    c. Space out drill string with upset just beneath the upper variable bore rams
    d. Shut-in using upper variable bore rams (HCR & choke will already be in the closed position)
    e. Confirm shut-in
    f. Notify toolpusher/company representative
    g. Read and record the following:
        i. SIDPP & SICP

ii. Pit gain
iii. Time

h. Regroup and identify forward plan

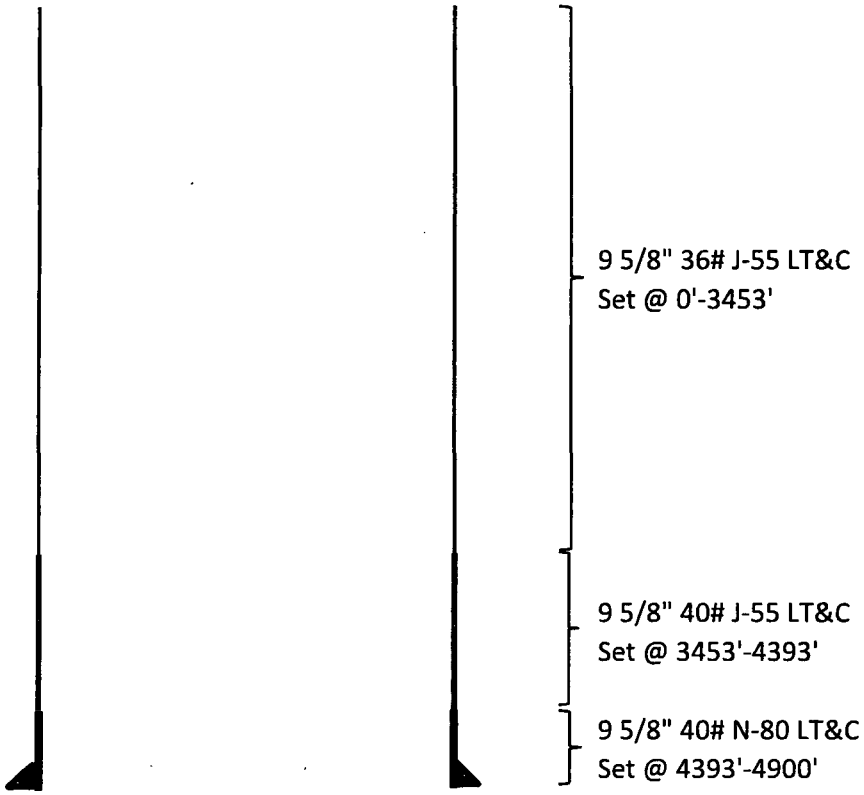
3. With BHA in the stack and NO compatible ram preventer and pipe combination immediately available:
   a. Sound alarm (alert crew)
   b. If possible, pull string clear of the stack and follow "Open Hole" procedure.
   c. If impossible to pull string clear of the stack:
   d. Stab crossover, make up one joint/stand of drillpipe and full-opening safety valve and close
   e. Space out drill string with tooljoint just beneath the upper variable bore ram
   f. Shut-in using upper variable bore ram (HCR & choke will already be in the closed position)
   g. Confirm shut-in
   h. Notify toolpusher/company representative
   i. Read and record the following:
      i. SIDPP & SICP
      ii. Pit gain
      iii. Time
   j. Regroup and identify forward plan

Red Hills West Unit #018H
Intermediate Casing



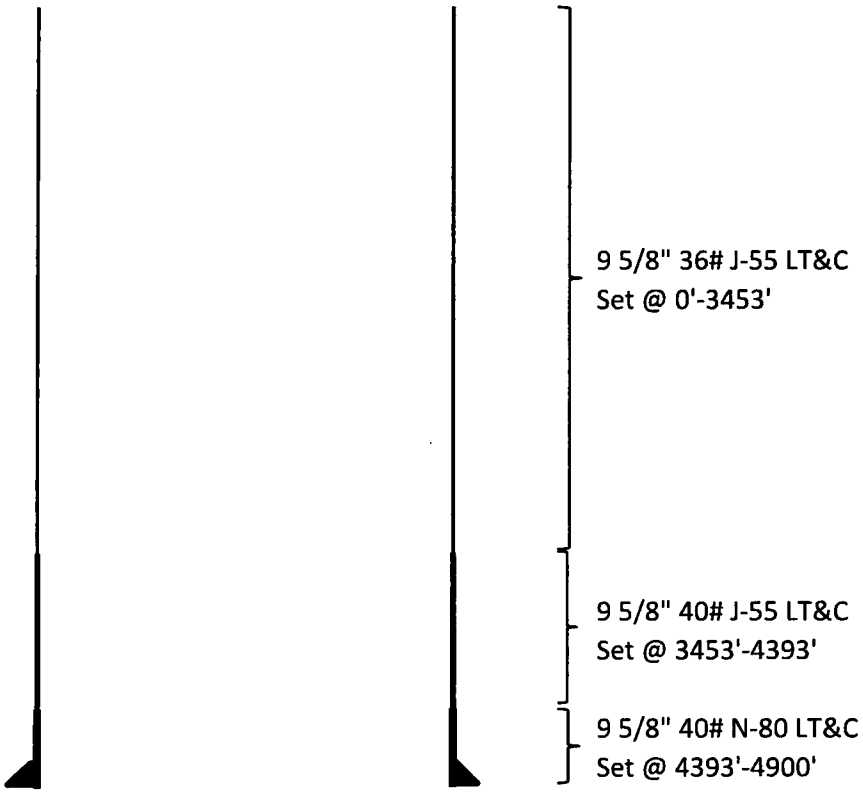

| Casing | SF Collapse | SF Burst | SF Jt Tension | SF Body Tension |
|---|---|---|---|---|
| 36# J-55 | 1.13 | 1.96 | 2.89 | 4.54 |
| 40# J-55 | 1.16 | 1.78 | 16.11 | 19.52 |

Salado Draw 9 W1DM Fed Com #3H
Intermediate Casing



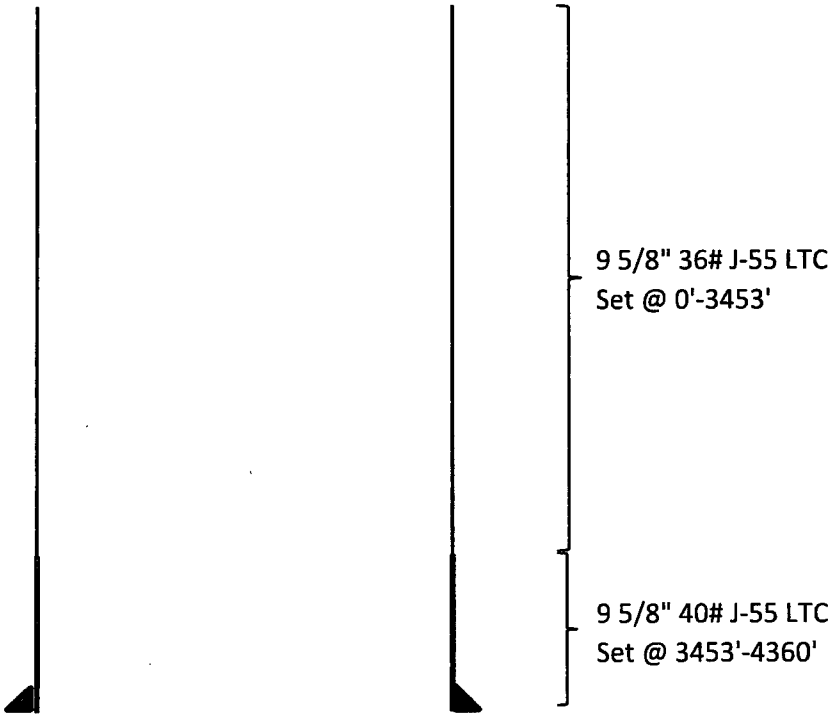

| Casing | SF Collapse | SF Burst | SF Jt Tension | SF Body Tension |
|---|---|---|---|---|
| 36# J-55 | 1.13 | 1.96 | 2.49 | 4.54 |
| 40# J-55 | 1.13 | 1.73 | 8.98 | 16.75 |
| 40# N-80 | 1.21 | 2.26 | 36.35 | 45.18 |

Salado Draw 9/16 W1BO Fed Com #3H
Intermediate Casing




| Casing | SF Collapse | SF Burst | SF Jt Tension | SF Body Tension |
|---|---|---|---|---|
| 36# J-55 | 1.13 | 1.96 | 2.78 | 4.54 |
| 40# J-55 | 1.13 | 1.73 | 8.98 | 16.75 |
| 40# N-80 | 1.21 | 2.26 | 36.35 | 45.18 |

Red Hills West 21 W1BO Fed Com #3H
Intermediate Csg




| Casing | SF Collapse | SF Burst | SF Jt Tension | SF Body Tension |
|---|---|---|---|---|
| 36# J-55 | 1.13 | 1.96 | 2.82 | 3.51 |
| 40# J-55 | 1.13 | 1.74 | 14.33 | 17.36 |

**Mewbourne Oil Company, Red Hills West 21 W1BO Fed Com #3H**
**Sec 21, T26S, R32E**
**SL: 205' FNL & 1950' FEL**
**BHL: 330' FSL & 1650' FEL**

## Casing Program

| Hole Size | Casing Interval From | Casing Interval To | Csg. Size | Weight (lbs) | Grade | Conn. | SF Collapse | SF Burst | SF Jt Tension | SF Body Tension |
|---|---|---|---|---|---|---|---|---|---|---|
| 17.5" | 0' | 626' | 13.375" | 48 | H40 | STC | 2.69 | 6.04 | 10.72 | 18.00 |
| 12.25" | 0' | 3453' | 9.625" | 36 | J55 | LTC | 1.13 | 1.96 | 2.82 | 3.51 |
| 12.25" | 3453' | 4360' | 9.625" | 40 | J55 | LTC | 1.13 | 1.74 | 14.33 | 17.36 |
| 8.75" | 0' | 12410' | 7" | 26 | HCP110 | LTC | 1.37 | 1.75 | 2.00 | 2.57 |
| 6.125" | 11513' | 16849' | 4.5" | 13.5 | P110 | LTC | 1.30 | 1.52 | 4.69 | 5.86 |
| | | | | BLM Minimum Safety Factor | | | 1.125 | 1 | 1.6 Dry<br>1.8 Wet | 1.6 Dry<br>1.8 Wet |

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

| | Y or N |
|---|---|
| Is casing new? If used, attach certification as required in Onshore Order #1 | Y |
| Is casing API approved? If no, attach casing specification sheet. | Y |
| Is premium or uncommon casing planned? If yes attach casing specification sheet. | N |
| Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria). | Y |
| Will the pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing? | Y |
| | |
| Is well located within Capitan Reef? | N |
| If yes, does production casing cement tie back a minimum of 50' above the Reef? | |
| Is well within the designated 4 string boundary. | |
| | |
| Is well located in SOPA but not in R-111-P? | N |
| If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing? | |
| | |
| Is well located in R-111-P and SOPA? | N |
| If yes, are the first three strings cemented to surface? | |
| Is 2nd string set 100' to 600' below the base of salt? | |
| | |
| Is well located in high Cave/Karst? | N |
| If yes, are there two strings cemented to surface? | |
| (For 2 string wells) If yes, is there a contingency casing if lost circulation occurs? | |
| | |
| Is well located in critical Cave/Karst? | N |
| If yes, are there three strings cemented to surface? | |

**Mewbourne Oil Company, Red Hills West 21 W1BO Fed Com #3H**
**Sec 21, T26S, R32E**
**SL: 205' FNL & 1950' FEL**
**BHL: 330' FSL & 1650' FEL**

## Casing Program

| Hole Size | Casing Interval From | Casing Interval To | Csg. Size | Weight (lbs) | Grade | Conn. | SF Collapse | SF Burst | SF Jt Tension | SF Body Tension |
|---|---|---|---|---|---|---|---|---|---|---|
| 17.5" | 0' | 626' | 13.375" | 48 | H40 | STC | 2.69 | 6.04 | 10.72 | 18.00 |
| 12.25" | 0' | 3453' | 9.625" | 36 | J55 | LTC | 1.13 | 1.96 | 2.82 | 3.51 |
| 12.25" | 3453' | 4360' | 9.625" | 40 | J55 | LTC | 1.13 | 1.74 | 14.33 | 17.36 |
| 8.75" | 0' | 12410' | 7" | 26 | HCP110 | LTC | 1.37 | 1.75 | 2.00 | 2.57 |
| 6.125" | 11513' | 16849' | 4.5" | 13.5 | P110 | LTC | 1.30 | 1.52 | 4.69 | 5.86 |
| | | | | BLM Minimum Safety Factor | | | 1.125 | 1 | 1.6 Dry<br>1.8 Wet | 1.6 Dry<br>1.8 Wet |

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

| | Y or N |
|---|---|
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| Is casing API approved? If no, attach casing specification sheet. | Y |
| Is premium or uncommon casing planned? If yes attach casing specification sheet. | N |
| Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria). | Y |
| Will the pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing? | Y |
| | |
| Is well located within Capitan Reef? | N |
| If yes, does production casing cement tie back a minimum of 50' above the Reef? | |
| Is well within the designated 4 string boundary. | |
| | |
| Is well located in SOPA but not in R-111-P? | N |
| If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing? | |
| | |
| Is well located in R-111-P and SOPA? | N |
| If yes, are the first three strings cemented to surface? | |
| Is 2nd string set 100' to 600' below the base of salt? | |
| | |
| Is well located in high Cave/Karst? | N |
| If yes, are there two strings cemented to surface? | |
| (For 2 string wells) If yes, is there a contingency casing if lost circulation occurs? | |
| | |
| Is well located in critical Cave/Karst? | N |
| If yes, are there three strings cemented to surface? | |

**Mewbourne Oil Company, Red Hills West 21 W1BO Fed Com #3H**
**Sec 21, T26S, R32E**
**SL: 205' FNL & 1950' FEL**
**BHL: 330' FSL & 1650' FEL**

## Casing Program

| Hole Size | Casing Interval From | Casing Interval To | Csg. Size | Weight (lbs) | Grade | Conn. | SF Collapse | SF Burst | SF Jt Tension | SF Body Tension |
|---|---|---|---|---|---|---|---|---|---|---|
| 17.5" | 0' | 626' | 13.375" | 48 | H40 | STC | 2.69 | 6.04 | 10.72 | 18.00 |
| 12.25" | 0' | 3453' | 9.625" | 36 | J55 | LTC | 1.13 | 1.96 | 2.82 | 3.51 |
| 12.25" | 3453' | 4360' | 9.625" | 40 | J55 | LTC | 1.13 | 1.74 | 14.33 | 17.36 |
| 8.75" | 0' | 12410' | 7" | 26 | HCP110 | LTC | 1.37 | 1.75 | 2.00 | 2.57 |
| 6.125" | 11513' | 16849' | 4.5" | 13.5 | P110 | LTC | 1.30 | 1.52 | 4.69 | 5.86 |
| | | | | BLM Minimum Safety Factor | | | 1.125 | 1 | 1.6 Dry<br>1.8 Wet | 1.6 Dry<br>1.8 Wet |

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

| | Y or N |
|---|---|
| Is casing new? If used, attach certification as required in Onshore Order #1 | Y |
| Is casing API approved? If no, attach casing specification sheet. | Y |
| Is premium or uncommon casing planned? If yes attach casing specification sheet. | N |
| Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria). | Y |
| Will the pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing? | Y |
| | |
| Is well located within Capitan Reef? | N |
| If yes, does production casing cement tie back a minimum of 50' above the Reef? | |
| Is well within the designated 4 string boundary. | |
| | |
| Is well located in SOPA but not in R-111-P? | N |
| If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing? | |
| | |
| Is well located in R-111-P and SOPA? | N |
| If yes, are the first three strings cemented to surface? | |
| Is 2nd string set 100' to 600' below the base of salt? | |
| | |
| Is well located in high Cave/Karst? | N |
| If yes, are there two strings cemented to surface? | |
| (For 2 string wells) If yes, is there a contingency casing if lost circulation occurs? | |
| | |
| Is well located in critical Cave/Karst? | N |
| If yes, are there three strings cemented to surface? | |

**Mewbourne Oil Company, Red Hills West 21 W1BO Fed Com #3H**
**Sec 21, T26S, R32E**
**SL: 205' FNL & 1950' FEL**
**BHL: 330' FSL & 1650' FEL**

## Casing Program

| Hole Size | Casing Interval From | Casing Interval To | Csg. Size | Weight (lbs) | Grade | Conn. | SF Collapse | SF Burst | SF Jt Tension | SF Body Tension |
|---|---|---|---|---|---|---|---|---|---|---|
| 17.5" | 0' | 626' | 13.375" | 48 | H40 | STC | 2.69 | 6.04 | 10.72 | 18.00 |
| 12.25" | 0' | 3453' | 9.625" | 36 | J55 | LTC | 1.13 | 1.96 | 2.82 | 3.51 |
| 12.25" | 3453' | 4360' | 9.625" | 40 | J55 | LTC | 1.13 | 1.74 | 14.33 | 17.36 |
| 8.75" | 0' | 12410' | 7" | 26 | HCP110 | LTC | 1.37 | 1.75 | 2.00 | 2.57 |
| 6.125" | 11513' | 16849' | 4.5" | 13.5 | P110 | LTC | 1.30 | 1.52 | 4.69 | 5.86 |
| | | | | BLM Minimum Safety Factor | | | 1.125 | 1 | 1.6 Dry<br>1.8 Wet | 1.6 Dry<br>1.8 Wet |

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

| | Y or N |
|---|---|
| Is casing new? If used, attach certification as required in Onshore Order #1 | Y |
| Is casing API approved? If no, attach casing specification sheet. | Y |
| Is premium or uncommon casing planned? If yes attach casing specification sheet. | N |
| Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria). | Y |
| Will the pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing? | Y |
| | |
| Is well located within Capitan Reef? | N |
| If yes, does production casing cement tie back a minimum of 50' above the Reef? | |
| Is well within the designated 4 string boundary. | |
| | |
| Is well located in SOPA but not in R-111-P? | N |
| If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing? | |
| | |
| Is well located in R-111-P and SOPA? | N |
| If yes, are the first three strings cemented to surface? | |
| Is 2nd string set 100' to 600' below the base of salt? | |
| | |
| Is well located in high Cave/Karst? | N |
| If yes, are there two strings cemented to surface? | |
| (For 2 string wells) If yes, is there a contingency casing if lost circulation occurs? | |
| | |
| Is well located in critical Cave/Karst? | N |
| If yes, are there three strings cemented to surface? | |

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

## 1. General Requirements

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

## 2. Hydrogen Sulfide Training

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

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

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

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

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

## 3. Hydrogen Sulfide Safety Equipment and Systems

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

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

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

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

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

## 4. Mud Program

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

## 5. Metallurgy

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

## 6. Communications

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

## 7. Well Testing

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

## 8. Emergency Phone Numbers

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

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

**Mewbourne Oil Company, Red Hills West 21 W1BO Fed Com #3H**
**Sec 21, T26S, R32E**
**SL: 205' FNL & 1950' FEL**
**BHL: 330' FSL & 1650' FEL**

## 1. Geologic Formations

| | | | |
|---|---|---|---|
| TVD of target | 12102' | Pilot hole depth | NA |
| MD at TD: | 16849' | Deepest expected fresh water: | 225' |

**Basin**

| Formation | Depth (TVD) from KB | Water/Mineral Bearing/ Target Zone? | Hazards* |
|---|---|---|---|
| Quaternary Fill | Surface | | |
| Rustler | 551 | | |
| Top Salt | 918 | | |
| Base Salt | 4216 | | |
| Yates | | Oil/Gas | |
| Seven Rivers | | Oil/Gas | |
| Queen | | Oil/Gas | |
| Grayburg | | | |
| Lamar | 4435 | Oil/Gas | |
| Bell Canyon | 4467 | Oil/Gas | |
| Cherry Canyon | 5417 | Oil/Gas | |
| Manzanita Marker | 5655 | | |
| Brushy Canyon | 7015 | Oil/Gas | |
| Bone Spring | 8566 | Oil/Gas | |
| 1st Bone Spring Sand | 9487 | Oil/Gas | |
| 2nd Bone Spring Sand | 10112 | Oil/Gas | |
| 3rd Bone Spring Sand | 11340 | Oil/Gas | |
| Abo | | | |
| Wolfcamp | 11694 | Target Zone | |
| Devonian | | | |
| Fusselman | | | |
| Ellenburger | | | |
| Granite Wash | | | |

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

**Mewbourne Oil Company, Red Hills West 21 W1BO Fed Com #3H**
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## 2. Casing Program

| Hole Size | Casing Interval From | Casing Interval To | Csg. Size | Weight (lbs) | Grade | Conn. | SF Collapse | SF Burst | SF Jt Tension | SF Body Tension |
|---|---|---|---|---|---|---|---|---|---|---|
| 17.5" | 0' | 626' | 13.375" | 48 | H40 | STC | 2.69 | 6.04 | 10.72 | 18.00 |
| 12.25" | 0' | 3453' | 9.625" | 36 | J55 | LTC | 1.13 | 1.96 | 2.82 | 3.51 |
| 12.25" | 3453' | 4360' | 9.625" | 40 | J55 | LTC | 1.13 | 1.74 | 14.33 | 17.36 |
| 8.75" | 0' | 12410' | 7" | 26 | HCP110 | LTC | 1.37 | 1.75 | 2.00 | 2.57 |
| 6.125" | 11513' | 16849' | 4.5" | 13.5 | P110 | LTC | 1.30 | 1.52 | 4.69 | 5.86 |
| BLM Minimum Safety Factor | | | 1.125 | | 1 | | 1.6 Dry<br>1.8 Wet | | 1.6 Dry<br>1.8 Wet | |

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

| | Y or N |
|---|---|
| Is casing new? If used, attach certification as required in Onshore Order #1 | Y |
| Is casing API approved? If no, attach casing specification sheet. | Y |
| Is premium or uncommon casing planned? If yes attach casing specification sheet. | N |
| Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria). | Y |
| Will the pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing? | Y |
| | |
| Is well located within Capitan Reef? | N |
| If yes, does production casing cement tie back a minimum of 50' above the Reef? | |
| Is well within the designated 4 string boundary. | |
| | |
| Is well located in SOPA but not in R-111-P? | N |
| If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing? | |
| | |
| Is well located in R-111-P and SOPA? | N |
| If yes, are the first three strings cemented to surface? | |
| Is 2nd string set 100' to 600' below the base of salt? | |
| | |
| Is well located in high Cave/Karst? | N |
| If yes, are there two strings cemented to surface? | |
| (For 2 string wells) If yes, is there a contingency casing if lost circulation occurs? | |
| | |
| Is well located in critical Cave/Karst? | N |
| If yes, are there three strings cemented to surface? | |

**Mewbourne Oil Company, Red Hills West 21 W1BO Fed Com #3H**
**Sec 21, T26S, R32E**
**SL: 205' FNL & 1950' FEL**
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## 3. Cementing Program

| Casing | # Sks | Wt. lb/ gal | Yld ft3/ sack | $H_20$ gal/ sk | 500# Comp. Strength (hours) | Slurry Description |
|---|---|---|---|---|---|---|
| Surf. | 290 | 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. | 710 | 12.5 | 2.12 | 11 | 10 | Lead: Class C + Salt + Gel + Extender + LCM |
| | 200 | 14.8 | 1.34 | 6.3 | 8 | Tail: Class C + Retarder |
| Prod. Stg 1 | 385 | 12.5 | 2.12 | 11 | 9 | Lead: Class C + Gel + Retarder + Defoamer + Extender |
| | 400 | 15.6 | 1.18 | 5.2 | 10 | Tail: Class H + Retarder + Fluid Loss + Defoamer |
| ECP/DV Tool @ 5650' | | | | | | |
| Prod. Stg 2 | 50 | 12.5 | 2.12 | 11 | 9 | Lead: Class C + Gel + Retarder + Defoamer + Extender |
| | 100 | 14.8 | 1.34 | 6.3 | 8 | Tail: Class C + Retarder |
| Liner | 225 | 11.2 | 2.97 | 18 | 16 | Class C + Salt + Gel + Fluid Loss + Retarder + Dispersant + Defoamer + Anti-Settling Agent |

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

| Casing String | TOC | % Excess |
|---|---|---|
| Surface | 0' | 100% |
| Intermediate | 0' | 25% |
| Production | 4160' | 25% |
| Liner | 11513' | 25% |

**Mewbourne Oil Company, Red Hills West 21 W1BO Fed Com #3H**
**Sec 21, T26S, R32E**
**SL: 205' FNL & 1950' FEL**
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## 4. Pressure Control Equipment

| | |
|---|---|
| | Variance: 5M Annular |

| BOP installed and tested before drilling which hole? | Size? | System Rated WP | Type | ✓ | Tested to: |
|---|---|---|---|---|---|
| 12 1/4" | 13 5/8" | 10M | Annular | X | 5000# |
| | | | Blind Ram | X | 10000# |
| | | | Pipe Ram | X | |
| | | | Double Ram | | |
| | | | Other* | | |

*Specify if additional ram is utilized.

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

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

| | |
|---|---|
| X | Formation integrity test will be performed per Onshore Order #2.<br>On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i. |
| Y | A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart. |
| | N Are anchors required by manufacturer? |
| Y | A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested.<br>• Provide description here: See attached schematic. |

**Mewbourne Oil Company, Red Hills West 21 W1BO Fed Com #3H**
**Sec 21, T26S, R32E**
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## 5. Mud Program

| Depth | | Type | Weight (ppg) | Viscosity | Water Loss |
|---|---|---|---|---|---|
| From | To | | | | |
| 0' | 626' | FW Gel | 8.6-8.8 | 28-34 | N/C |
| 626' | 4360' | Saturated Brine | 10.0 | 28-34 | N/C |
| 4360' | 11513' | Cut Brine | 8.6-9.5 | 28-34 | N/C |
| 11513' | 16849' | OBM | 10.0-13.0 | 30-40 | <10cc |

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

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

## 6. Logging and Testing Procedures

| Logging, Coring and Testing. | |
|---|---|
| X | Will run GR/CNL from KOP (11513') to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM. |
| | No Logs are planned based on well control or offset log information. |
| | Drill stem test? If yes, explain |
| | Coring? If yes, explain |

| Additional logs planned | | Interval |
|---|---|---|
| X | Gamma Ray | 11513' (KOP) to TD |
| | Density | |
| | CBL | |
| | Mud log | |
| | PEX | |

**Mewbourne Oil Company, Red Hills West 21 W1BO Fed Com #3H**
**Sec 21, T26S, R32E**
**SL: 205' FNL & 1950' FEL**
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## 7. Drilling Conditions

| Condition | Specify what type and where? |
|---|---|
| BH Pressure at deepest TVD | 8181 psi |
| Abnormal Temperature | No |

Mitigation measure for abnormal conditions. Describe. Lost circulation material/sweeps/mud scavengers in surface hole.

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

## 8. Other facets of operation

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

Attachments
___ Directional Plan
___ Other, describe

**APD ID:** 10400031519 **Submission Date:** 06/26/2018

**Operator Name:** MEWBOURNE OIL COMPANY

**Well Name:** RED HILLS WEST 21 W1BO FED COM **Well Number:** 3H

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

Highlighted data reflects the most recent changes

Show Final Text

## Section 1 - Existing Roads

**Will existing roads be used?** YES

**Existing Road Map:**

RedHillsWest21_W1BOFedCom3H_existingroadmap_20180622111934.pdf

**Existing Road Purpose:** ACCESS,FLUID TRANSPORT **Row(s) Exist?** NO

### ROW ID(s)

**ID:**

**Do the existing roads need to be improved?** NO

**Existing Road Improvement Description:**

**Existing Road Improvement Attachment:**

## Section 2 - New or Reconstructed Access Roads

**Will new roads be needed?** YES

**New Road Map:**

RedHillsWest21_W1BOFedCom3H_newroadmap_20180622131042.pdf

**New road type:** RESOURCE

**Length:** 27.7 Feet **Width (ft.):** 30

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

**Army Corp of Engineers (ACOE) permit required?** NO

**ACOE Permit Number(s):**

**New road travel width:** 14

**New road access erosion control:** None

**New road access plan or profile prepared?** NO

**New road access plan attachment:**

**Access road engineering design?** NO

**Operator Name:** MEWBOURNE OIL COMPANY

**Well Name:** RED HILLS WEST 21 W1BO FED COM **Well Number:** 3H

**Access surfacing type:** OTHER

**Access topsoil source:** OFFSITE

**Access surfacing type description:** Caliche

**Access onsite topsoil source depth:**

**Offsite topsoil source description:** Private pit

**Onsite topsoil removal process:**

**Access other construction information:**

**Access miscellaneous information:**

**Number of access turnouts:** 0 **Access turnout map:**

## Drainage Control

**New road drainage crossing:** OTHER

**Drainage Control comments:** NONE

**Road Drainage Control Structures (DCS) description:** None

**Road Drainage Control Structures (DCS) attachment:**

## Access Additional Attachments

**Additional Attachment(s):**

## Section 3 - Location of Existing Wells

**Existing Wells Map?** YES

**Attach Well map:**

RedHillsWest21_W1BOFedCom3H_existingwellmap_20180622131121.pdf

**Existing Wells description:**

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

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

**Production Facilities description:** Existing appx. 1100' of 2-7/8 flowline along SWD and gas line ROW.

**Production Facilities map:**

RedHillsWest21_W1BOFedCom3H_productionfacilitymap_20180622131141.pdf

## Section 5 - Location and Types of Water Supply

## Water Source Table

**Operator Name:** MEWBOURNE OIL COMPANY

**Well Name:** RED HILLS WEST 21 W1BO FED COM **Well Number:** 3H

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

**Water source type:** IRRIGATION

**Describe type:**

**Source longitude:** -103.40123

**Source latitude:** 32.204

**Source datum:** NAD83

**Water source permit type:** WATER WELL

**Source land ownership:** FEDERAL

**Water source transport method:** TRUCKING

**Source transportation land ownership:** FEDERAL

**Water source volume (barrels):** 1940

**Source volume (acre-feet):** 0.2500526

**Source volume (gal):** 81480

**Water source and transportation map:**

RedHillsWest21_W1BOFedCom3H_watersourceandtransmap_20180622131201.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 Production type:** **Completion Method:**

**Water well additional information:**

**State appropriation permit:**

**Additional information attachment:**

**Operator Name:** MEWBOURNE OIL COMPANY

**Well Name:** RED HILLS WEST 21 W1BO FED COM **Well Number:** 3H

## Section 6 - Construction Materials

**Construction Materials description:** Caliche

**Construction Materials source location attachment:**

RedHillsWest21_W1BOFedCom3H_calichesourceandtransmap_20180622131256.pdf

## Section 7 - Methods for Handling Waste

**Waste type:** DRILLING

**Waste content description:** Drill cuttings

**Amount of waste:** 940 barrels

**Waste disposal frequency :** One Time Only

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

**Safe containmant attachment:**

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

**Disposal type description:**

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

**Waste type:** SEWAGE

**Waste content description:** Human waste & grey water

**Amount of waste:** 1500 gallons

**Waste disposal frequency :** Weekly

**Safe containment description:** 2,000 gallon plastic container

**Safe containmant attachment:**

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

**Disposal type description:**

**Disposal location description:** City of Carlsbad Water Treatment facility

**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

**Operator Name:** MEWBOURNE OIL COMPANY

**Well Name:** RED HILLS WEST 21 W1BO FED COM **Well Number:** 3H

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**

## Section 8 - Ancillary Facilities

**Are you requesting any Ancillary Facilities?:** NO

**Ancillary Facilities attachment:**

**Comments:**

**Operator Name:** MEWBOURNE OIL COMPANY

**Well Name:** RED HILLS WEST 21 W1BO FED COM **Well Number:** 3H

## Section 9 - Well Site Layout

**Well Site Layout Diagram:**

RedHillsWest21_W1BOFedCom3H_wellsitelayout_20180622131327.pdf

**Comments:**

## Section 10 - Plans for Surface Reclamation

**Type of disturbance:** New Surface Disturbance

**Multiple Well Pad Name:** RED HILLS WEST 21 BO

**Multiple Well Pad Number:** 2

**Recontouring attachment:**

**Drainage/Erosion control construction:** None

**Drainage/Erosion control reclamation:** None

| | | |
|---|---|---|
| **Well pad proposed disturbance (acres):** 3.95 | **Well pad interim reclamation (acres):** 0.895 | **Well pad long term disturbance (acres):** 3.055 |
| **Road proposed disturbance (acres):** 0.02 | **Road interim reclamation (acres):** 0 | **Road long term disturbance (acres):** 0 |
| **Powerline proposed disturbance (acres):** 0 | **Powerline interim reclamation (acres):** 0 | **Powerline long term disturbance (acres):** 0 |
| **Pipeline proposed disturbance (acres):** 0 | **Pipeline interim reclamation (acres):** 2.9834712E-7 | **Pipeline long term disturbance (acres):** 2.9834712E-7 |
| **Other proposed disturbance (acres):** 0 | **Other interim reclamation (acres):** 1.205 | **Other long term disturbance (acres):** 1.205 |
| **Total proposed disturbance:** 3.97 | **Total interim reclamation:** 2.1000004 | **Total long term disturbance:** 4.26 |

**Disturbance Comments:** In areas to be heavily disturbed, the top 6 inches of soil material, will be stripped and stockpiled on the perimeter of the well location to keep topsoil viable, and to make redistribution of topsoil more efficient during interim reclamation. Stockpiled topsoil should include vegetative material. Topsoil will be clearly segregated and stored separately from subsoils. Contaminated soil will not be stockpiled, but properly treated and handled prior to topsoil salvaging.
**Reconstruction method:** The areas planned for interim reclamation will then be recontoured to the original contour if feasible, or if not feasible, to an interim contour that blends with the surrounding topography as much as possible. Where applicable, the fill material of the well pad will be backfilled into the cut to bring the area back to the original contour. The interim cut and fill slopes prior to re-seeding will not be steeper than a 3:1 ratio, unless the adjacent native topography is steeper. Note: Constructed slopes may be much steeper during drilling, but will be recontoured to the above ratios during interim reclamation.
**Topsoil redistribution:** Topsoil will be evenly respread and aggressively revegetated over the entire disturbed area not needed for all-weather operations including cuts & fills. To seed the area, the proper BLM seed mixture, free of noxious weeds, will be used.
**Soil treatment:** NA

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

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

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

**Operator Name:** MEWBOURNE OIL COMPANY

**Well Name:** RED HILLS WEST 21 W1BO FED COM **Well Number:** 3H

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

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

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

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

**Non native seed used?** NO

**Non native seed description:**

**Seedling transplant description:**

**Will seedlings be transplanted for this project?** NO

**Seedling transplant description attachment:**

**Will seed be harvested for use in site reclamation?** NO

**Seed harvest description:**

**Seed harvest description attachment:**

## Seed Management

### Seed Table

**Seed type:**

**Seed source:**

**Seed name:**

**Source name:**

**Source address:**

**Source phone:**

**Seed cultivar:**

**Seed use location:**

**PLS pounds per acre:**

**Proposed seeding season:**

### Seed Summary

**Total pounds/Acre:**

| Seed Type | Pounds/Acre |
|---|---|

**Seed reclamation attachment:**

## Operator Contact/Responsible Official Contact Info

**First Name:** Bradley **Last Name:** Bishop

**Operator Name:** MEWBOURNE OIL COMPANY

**Well Name:** RED HILLS WEST 21 W1BO FED COM **Well Number:** 3H

**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:** WELL PAD

**Describe:**

**Surface Owner:** BUREAU OF LAND MANAGEMENT

**Other surface owner description:**

**BIA Local Office:**

**BOR Local Office:**

**COE Local Office:**

**DOD Local Office:**

**NPS Local Office:**

**State Local Office:**

**Military Local Office:**

**USFWS Local Office:**

**Other Local Office:**

**USFS Region:**

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

**Operator Name:** MEWBOURNE OIL COMPANY

**Well Name:** RED HILLS WEST 21 W1BO FED COM **Well Number:** 3H

**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:**

**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:**

**Military Local Office:**

**USFWS Local Office:**

**Other Local Office:**

**USFS Region:**

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

**Operator Name:** MEWBOURNE OIL COMPANY

**Well Name:** RED HILLS WEST 21 W1BO FED COM **Well Number:** 3H

## Section 12 - Other Information

**Right of Way needed?** NO **Use APD as ROW?**

**ROW Type(s):**

## ROW Applications

**SUPO Additional Information:**

**Use a previously conducted onsite?** YES

**Previous Onsite information:** JUN 18 2018 Met w/RRC Surveying & staked location @ 205' FNL & 1950' FEL. Sec 21, T26S, R32E, Lea Co. NM. (Elevation @ 3158'). Topsoil will be 30' wide on S. Reclaim 50' S & E. This will be a 400' x 430' pad. Approx. 150 of new road needed. Arch. cleared through BLM MOA. Will require onsite approval. Lat 32.03500176 N, Long -103.67768555 W NAD83.

## Other SUPO Attachment

RedHillsWest21_W1BOFedCom3H_gascaptureplan_20180622131529.pdf

RedHillsWest21_W1BOFedCom3H_interimreclamationdiagram_20180622131547.pdf

## Section 1 - General

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

## Section 2 - Lined Pits

**Would you like to utilize Lined Pit PWD options?** NO

**Produced Water Disposal (PWD) Location:**

**PWD surface owner:**

**PWD disturbance (acres):**

**Lined pit PWD on or off channel:**

**Lined pit PWD discharge volume (bbl/day):**

**Lined pit specifications:**

**Pit liner description:**

**Pit liner manufacturers information:**

**Precipitated solids disposal:**

**Decribe precipitated solids disposal:**

**Precipitated solids disposal permit:**

**Lined pit precipitated solids disposal schedule:**

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

**Lined pit reclamation description:**

**Lined pit reclamation attachment:**

**Leak detection system description:**

**Leak detection system attachment:**

**Lined pit Monitor description:**

**Lined pit Monitor attachment:**

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

**Is the reclamation bond a rider under the BLM bond?**

**Lined pit bond number:**

## Section 3 - Unlined Pits

**Would you like to utilize Unlined Pit PWD options?** NO

**Produced Water Disposal (PWD) Location:**

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

**Unlined pit PWD on or off channel:**

**Unlined pit PWD discharge volume (bbl/day):**

**Unlined pit specifications:**

**Precipitated solids disposal:**

**Decribe precipitated solids disposal:**

**Precipitated solids disposal permit:**

**Unlined pit precipitated solids disposal schedule:**

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

**Unlined pit reclamation description:**

**Unlined pit reclamation attachment:**

**Unlined pit Monitor description:**

**Unlined pit Monitor attachment:**

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

**Beneficial use user confirmation:**

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

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

**TDS lab results:**

**Geologic and hydrologic evidence:**

**State authorization:**

**Unlined Produced Water Pit Estimated percolation:**

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

**Is the reclamation bond a rider under the BLM bond?**

**Unlined pit bond number:**

**Unlined pit bond amount:**

**Additional bond information attachment:**

## Section 4 - Injection

**Would you like to utilize Injection PWD options?** NO

**Produced Water Disposal (PWD) Location:**

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

**Injection well type:**

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

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

**Injection well new surface disturbance (acres):**

**Minerals protection information:**

**Mineral protection attachment:**

**Underground Injection Control (UIC) Permit?**

**UIC Permit attachment:**

## Section 5 - Surface Discharge

**Would you like to utilize Surface Discharge PWD options?** NO

**Produced Water Disposal (PWD) Location:**

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

**Surface discharge PWD discharge volume (bbl/day):**

**Surface Discharge NPDES Permit?**

**Surface Discharge NPDES Permit attachment:**

**Surface Discharge site facilities information:**

**Surface discharge site facilities map:**

## Section 6 - Other

**Would you like to utilize Other PWD options?** NO

**Produced Water Disposal (PWD) Location:**

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

**Other PWD discharge volume (bbl/day):**

**Other PWD type description:**

**Other PWD type attachment:**

**Have other regulatory requirements been met?**

**Other regulatory requirements attachment:**

AFMSS

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

# Bond Info Data Report

12/07/2018

## 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:**