OCD Hobbs

15-927

HOBBS OCD

SEP 21 2016

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Form 3160-3
(March 2012)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

**APPLICATION FOR PERMIT TO DRILL OR REENTER**

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

5. Lease Serial No. BHL
NMNM027507 NM107393

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

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

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

8. Lease Name and Well No. (316812)
Red Hills West 21 A2DM Fed Com #2H

2. Name of Operator Mewbourne Oil Company (14744)

9. API Well No.
30-025-43427

| 3a. Address | 3b. Phone No. *(include area code)* | 10. Field and Pool, or Exploratory |
|---|---|---|
| PO Box 5270<br>Hobbs, NM 88241 | 575-393-5905 | Jennings Upper Shale - 97838 |

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

At surface 200' FNL & 990' FWL, Sec 21 T26S R32E

At proposed prod. zone 330' FSL & 990' FWL, Sec 21 T26S R32E

UNORTHODOX LOCATION

11. Sec., T. R. M. or Blk. and Survey or Area
Sec. 21 T26S R32E

| 14. Distance in miles and direction from nearest town or post office* | 12. County or Parish | 13. State |
|---|---|---|
| 29 miles West of Jal, NM | Lea | NM |

| 15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) | 16. No. of acres in lease | 17. Spacing Unit dedicated to this well |
|---|---|---|
| 200' | NMNM027507 - 1,178.92 | 160 acres |

| 18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. | 19. Proposed Depth | 20. BLM/BIA Bond No. on file |
|---|---|---|
| 610' - Red Hills West 21 DM #1H | 8,893' - TVD<br>13,464' - MD | NM1693 nationwide, NMB-000919 |

| 21. Elevations (Show whether DF, KDB, RT, GL, etc.) | 22. Approximate date work will start* | 23. Estimated duration |
|---|---|---|
| 3150' - GL | 09/21/2015 | 60 days |

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

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 required by the BLM.

| 25. Signature | Name *(Printed/Typed)* | Date |
|---|---|---|
| Bradley Bishop | Bradley Bishop | 07/21/2015 |

Title

| Approved by *(Signature)* | Name *(Printed/Typed)* | Date |
|---|---|---|
| /s/Cody Layton | | SEP 8 – 2016 |

| Title | Office |
|---|---|
| FIELD MANAGER | CARLSBAD FIELD OFFICE |

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.

APPROVAL FOR TWO YEARS

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.

(Continued on page 2)

*(Instructions on page 2)

Carlsbad Controlled Water Basin

KZ 09/21/16

SEE ATTACHED FOR CONDITIONS OF APPROVAL

Approval Subject to General Requirements & Special Stipulations Attached

**Mewbourne Oil Co, Red Hills West 21 A2DM Fed Com #2H**
**Sec 21, T26S, R32E**
**SL: 200' FNL & 990' FWL**
**BHL: 330' FSL & 990' FWL**

## 1. Geologic Formations

| | | | |
|---|---|---|---|
| TVD of target | 8893' | Pilot hole depth | NA |
| MD at TD: | 13464' | Deepest expected fresh water: | 225' |

**Basin**

| Formation | Depth (TVD) from KB | Water/Mineral Bearing/ Target Zone? | Hazards* |
|---|---|---|---|
| Quaternary Fill | Surface | Water | |
| Rustler | 733 | Water | |
| Top of Salt | 989 | Salt | |
| Base of Salt/Castile | 4137 | Barren | |
| Delaware (Lamar) | 4372 | Oil/Gas | |
| Manzanita Marker | 5562 | | |
| Bone Spring | 8441 | Target Zone | |
| 2nd Bone Spring | | | |
| Wolfcamp | | Will Not Penetrate | |
| Canyon | | | |
| Strawn | | | |
| Atoka | | | |
| Morrow | | | |
| Barnett Shale | | | |
| Woodford Shale | | | |
| Devonian | | | |
| Fusselman | | | |
| Ellenburger | | | |
| Granite Wash | | | |

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

**Mewbourne Oil Co, Red Hills West 21 A2DM Fed Com #2H**
**Sec 21, T26S, R32E**
**SL: 200' FNL & 990' FWL**
**BHL: 330' FSL & 990' FWL**

**2. Casing Program**

See COA

| Hole Size | Casing Interval From | Casing Interval To | Csg. Size | Weight (lbs) | Grade | Conn. | SF Collapse | SF Burst | SF Tension |
|---|---|---|---|---|---|---|---|---|---|
| 17.5" | 0' | ~~760'~~ 850' | 13.375" | 48 | H40 | STC | 1.87 | 4.38 | 8.83 |
| 12.25" | 0' | 3453' | 9.625" | 36 | J55 | LTC | 1.13 | 1.96 | 2.86 |
| 12.25" | 3453' | 4300' | 9.625" | 40 | J55 | LTC | 1.15 | 1.77 | 15.35 |
| 8.75" | 0' | 8320' | 7" | 26 | HCP110 | LTC | 1.8 | 2.3 | 2.89 |
| 8.75" | 8320' | 9220' | 7" | 26 | HCP110 | BTC | 1.65 | 2.11 | 35.47 |
| 6.125" | 8320' | 13464' | 4.5" | 13.5 | P110 | LTC | 2.26 | 2.63 | 4.85 |
| | | | | BLM Minimum Safety Factor | | | 1.125 | 1 | 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 |
| Does casing meet API specifications? 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 intermediate 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 Co, Red Hills West 21 A2DM Fed Com #2H**
**Sec 21, T26S, R32E**
**SL: 200' FNL & 990' FWL**
**BHL: 330' FSL & 990' FWL**

## 3. Cementing Program

| Casing | # Sks | Wt. lb/ gal | Yld ft3/ sack | $H_20$ gal/ sk | 500# Comp. Strength (hours) | Slurry Description |
|---|---|---|---|---|---|---|
| Surf | 380 | 12.5 | 2.12 | 11 | 10 | Lead: Class C + 4.0% Bentonite + 0.6% CD-32 + 5% Sodium Chloride +0.25lb/sk Cello-Flake |
| | 200 | 14.8 | 1.34 | 6.3 | 8 | Class C + 0.005pps Static Free + 1% CaCl2 + 0.25 pps CelloFlake + 0.005 gps FP-6L |
| Inter. See COA | 670 | 12.5 | 2.12 | 11 | 10 | Lead: Class C (35:65:4) + 5% Sodium Chloride +5#/sk LCM +0.25lb/sk Cello-Flake |
| | 200 | 14.8 | 1.34 | 6.3 | 8 | Tail: Class C + 0.25 lb/sk Cello Flake + 0.005 lb/sk Static Free |
| Prod. | 240 | 12 | 2.12 | 11 | 10 | Lead: Class C (60:40:0)+3% Sodium Chloride+5#/sk LCM+0.7% Sodium Metasillicate+0.3% FL52A+6%MPA5 |
| | 400 | 15.6 | 1.18 | 5.2 | 12 | Tail: Class H+0.1%R3+0.3%FL52A |
| Liner See COA | 210 | 11.2 | 2.97 | 18 | 16 | Class C (60:40:0)+4% MPA5+1.2% BA10A+10#/sk BA90+5%A10+0.65%ASA301+1.5%SMS+1.2%R21 |

DV tool depth(s) will be adjusted based on hole conditions and cement volumes will be adjusted proportionally. DV tool will be set a minimum of 50 feet below previous casing and a minimum of 200 feet above current shoe. Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

| Casing String | TOC | % Excess |
|---|---|---|
| Surface | 0' | 100% |
| Intermediate | 0' | 25% |
| Production | 4100' | 25% |
| Liner | 8320' | 25% |

## 4. Pressure Control Equipment

**Mewbourne Oil Co, Red Hills West 21 A2DM Fed Com #2H**
**Sec 21, T26S, R32E**
**SL: 200' FNL & 990' FWL**
**BHL: 330' FSL & 990' FWL**

| | |
|---|---|
| | |

| BOP installed and tested before drilling which hole? | Size? | Min. Required WP | Type | ✓ | Tested to: |
|---|---|---|---|---|---|
| See COA 12-1/4" | 13-5/8" | 2M | Annular | X | 1250# |
| | | | Blind Ram | | must test to 2,000 psi |
| | | | Pipe Ram | | |
| | | | Double Ram | | |
| | | | Other* | | |
| 8-3/4" | 11" | 3M | Annular | X | 1500# |
| | | | Blind Ram | X | 3000# |
| | | | Pipe Ram | X | |
| | | | Double Ram | | |
| | | | Other * | | |
| 6-1/8" | 11" | 3M | Annular | X | 1500# |
| | | | Blind Ram | X | 3000# |
| | | | 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. |

| | | |
|---|---|---|
| ~~N~~ 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. | |
| See COA | N | Are anchors required by manufacturer? |
| N | 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><br>• Provide description here<br><br>See attached schematic. | |

**5. Mud Program**

| Depth | | Type | Weight (ppg) | Viscosity | Water Loss |
|---|---|---|---|---|---|
| From | To | | | | |
| 0 | ~~760~~ 850' | FW Gel | 8.6-8.8 | 28-34 | N/C |
| See COA ~~760~~ | 4300 | Saturated Brine | 10.0-10.2 | 28-34 | N/C |
| 4300 | 8320 | Cut Brine | 8.5-9.3 | 28-34 | N/C |
| 8320 | 13464 | FW/Polymer | 8.5-9.3 | 28-34 | N/C |

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? | Visual Monitoring |

**6. Logging and Testing Procedures**

| Logging, Coring and Testing. | |
|---|---|
| X | Will run GR/CNL from KOP (8320) to surface. 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 | From KOP(8320) to TD |
| | Density | |
| | CBL | |
| | Mud log | |
| | PEX | |

**7. Drilling Conditions**

| Condition | Specify what type and where? |
|---|---|
| BH Pressure at deepest TVD | 3824 psi |
| Abnormal Temperature | No |

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

| 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 |
| | H2S Plan attached |

See COA

**8. Other facets of operation**

Is this a walking operation? If yes, describe. No
Will be pre-setting casing? If yes, describe. No

Attachments
✓ Directional Plan
___ Other, describe

**Notes Regarding Blowout Preventer**

**Mewbourne Oil Company**

Red Hills West 21 A2DM Fed Com #2H

200' FNL & 990' FWL (SHL)

Sec 21-T26S-R32E

Lea County, New Mexico

I. Drilling nipple (bell nipple) to be constructed so that it can be removed without the use of a welder through the opening of the rotary table, with minimum internal diameter equal to blowout preventer bore.

II. Blowout preventer and all fittings must be in good condition with a minimum 2000 psi working pressure on 13 3/8" casing and 3000 psi working pressure on 9 5/8" & 7" casing.

III. Safety valve must be available on the rig floor at all times with proper connections to install in the drill string. Valve must be full bore with minimum 3000 psi working pressure.

IV. Equipment through which bit must pass shall be at least as large as internal diameter of the casing.

V. A kelly cock shall be installed on the kelly at all times.

Blowout preventer closing equipment to include and accumulator of at least 40 gallon capacity, two independent sources of pressure on closing unit, and meet all other API specifications.

# 11" 3M BOPE & Closed Loop Equipment Schematic

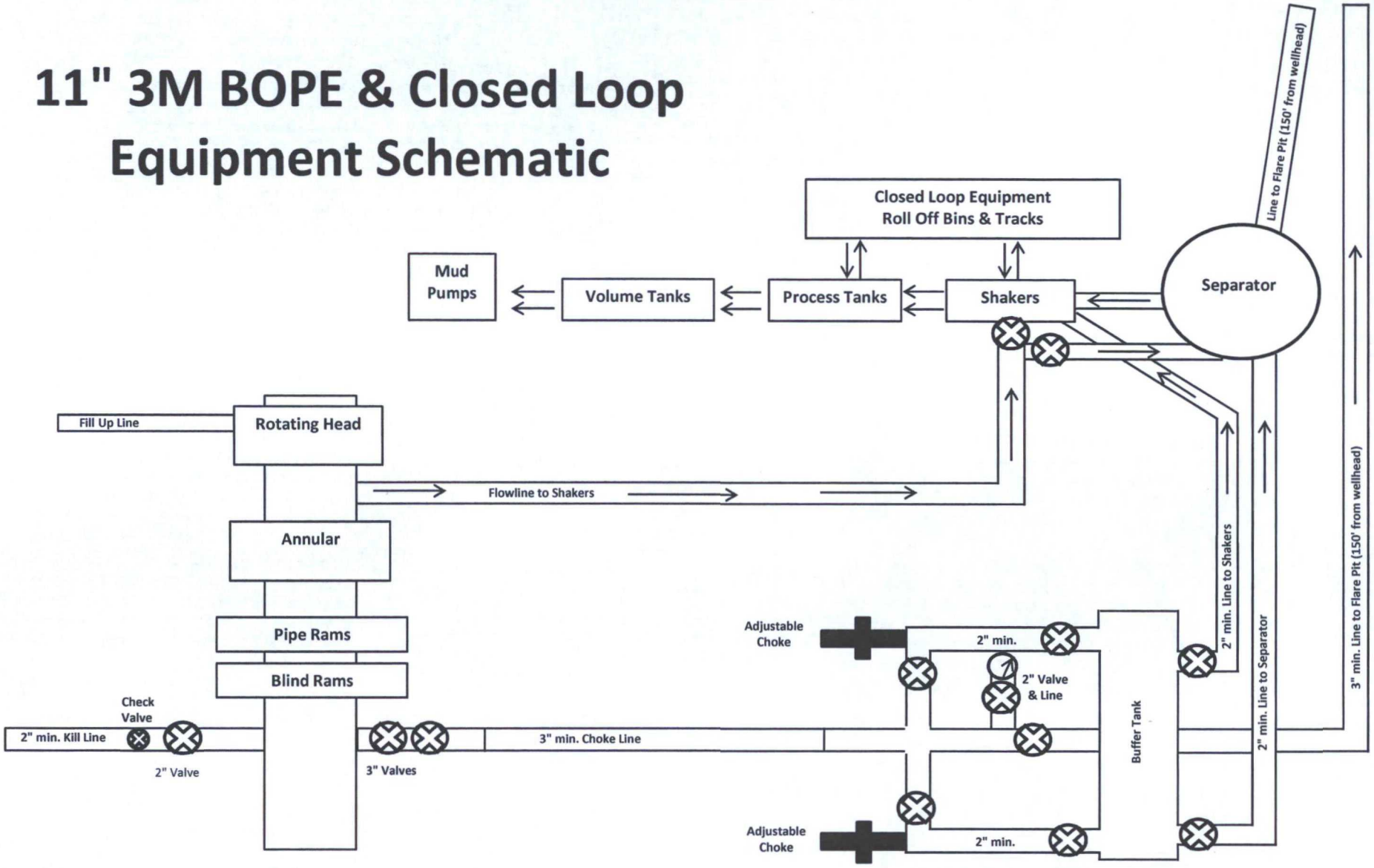



**Exhibit 2**

**Well Name: Red Hills West 21 A2DM Fed Com #2H**

Note: All valves & lines on choke manifold are 3" unless otherwise noted. Exact manifold configuration may vary.

# 13 ⅝" 2M BOPE & Closed Loop Equipment Schematic

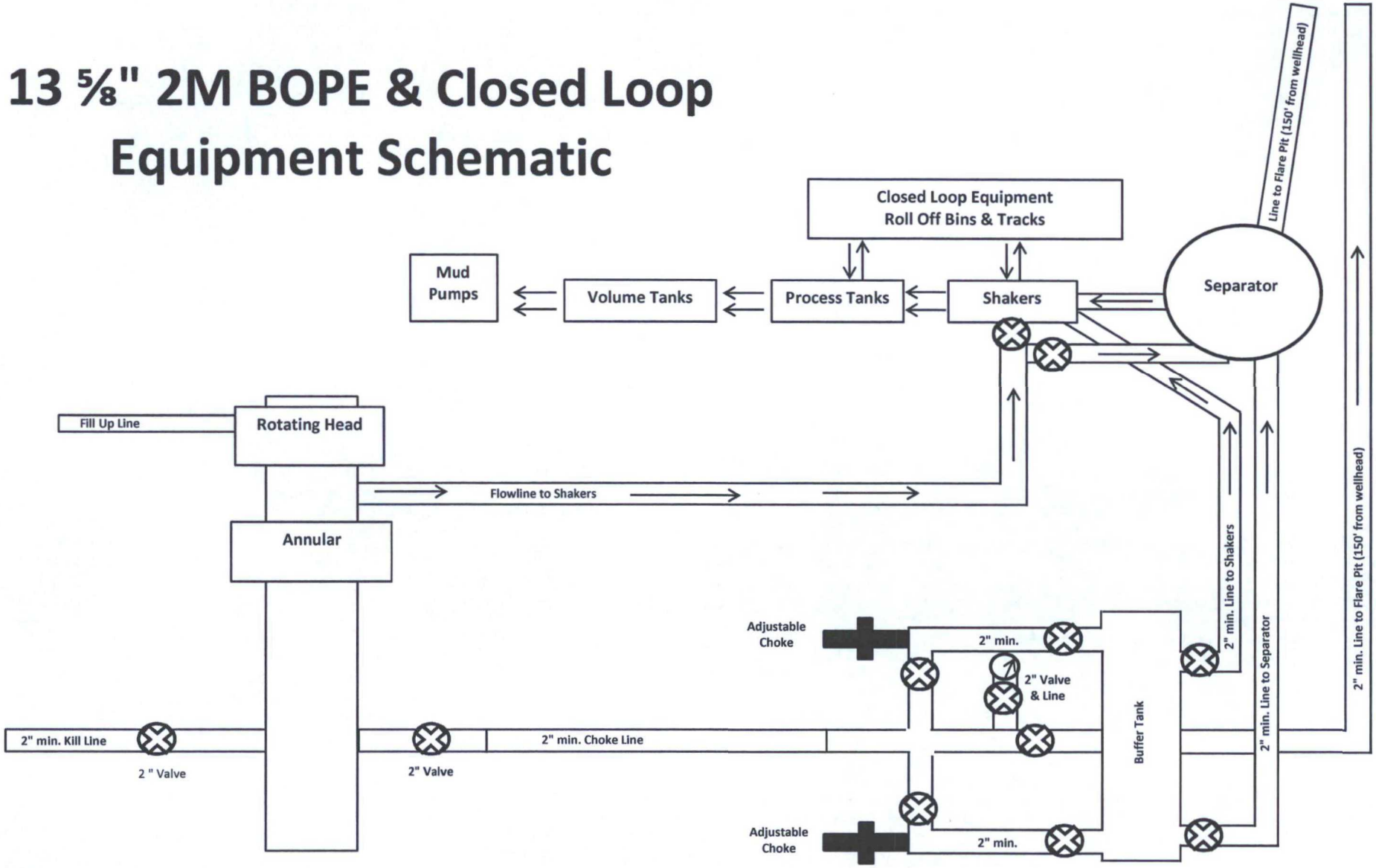



Exhibit 2A

Well Name: Red Hills West 21 A2DM Fed Com #2H

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 |

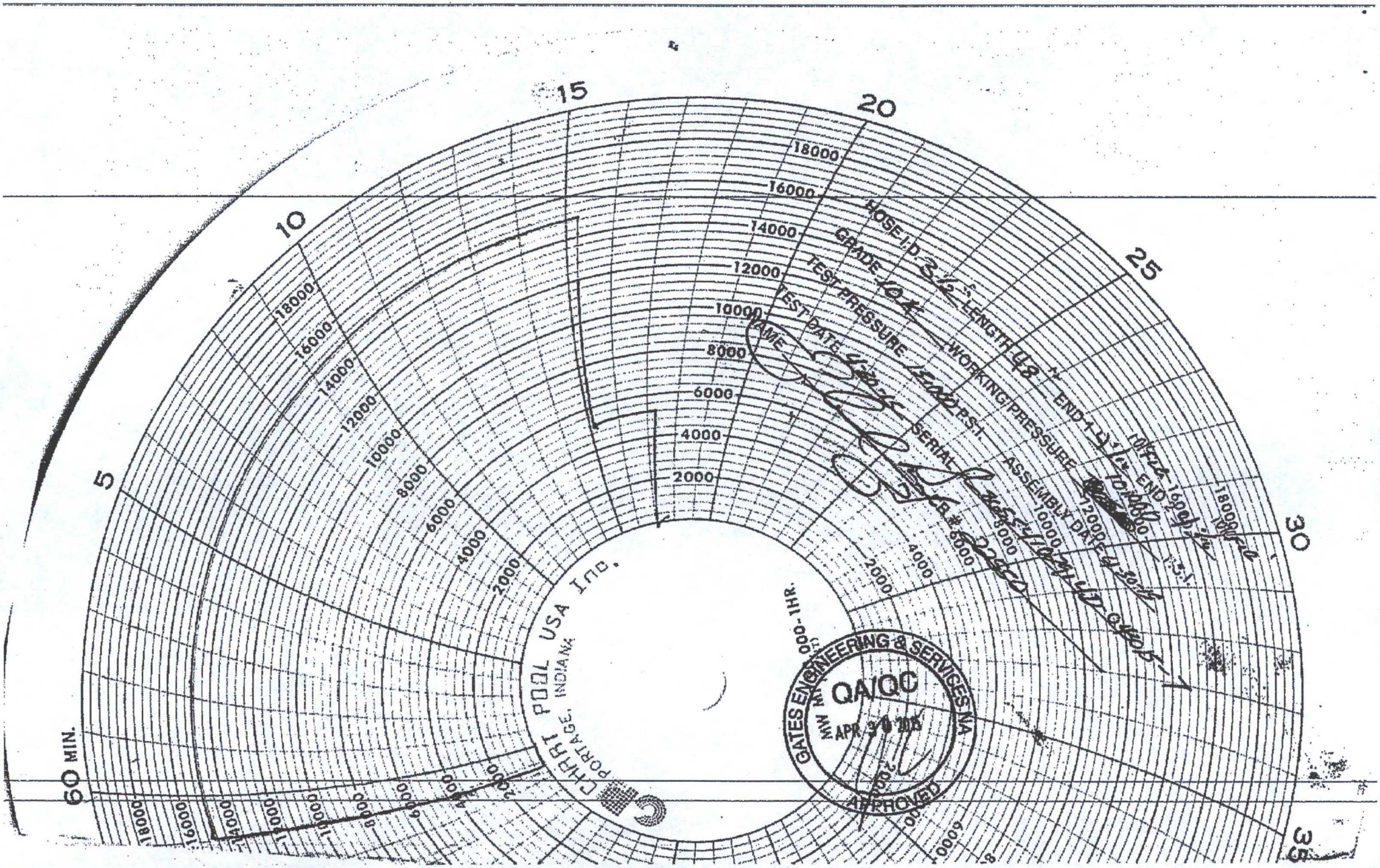
| | |
|---|---|
| Product Description: | 10K3.548.0CK4.1/1610KFLGE/E LE |

| | | | |
|---|---|---|---|
| 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 | Producton: | PRODUCTION |
| Date : | 4/30/2015 | Date : | 4/30/2015 |
| Signature : | | Signature : | |

Form PTC - 01 Rev.0 2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HOSE I.D. 3/4"
GRADE 1SN
LENGTH 48"
WORKING PRESSURE
TEST PRESSURE 15000 PSI.
TEST DATE 4-20-15
SERIAL
ASSEMBLY DATE 4-20-15
CHART POOL USA Inc.
PORTAGE, INDIANA
GATES ENGINEERING & SERVICES NA
QA/QC
APPROVED