REC'D NMOCD
11/13/2020

Form 3160-5
(June 2015)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

**SUNDRY NOTICES AND REPORTS ON WELLS**

***Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.***

***SUBMIT IN TRIPLICATE - Other instructions on page 2***

5. Lease Serial No.
NMLC064827A

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.
891000558X

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.
JAMES RANCH UNIT DI 2 901H

2. Name of Operator
XTO PERMIAN OPERATING LLC
Contact: STEPHANIE RABADUE
E-Mail: stephanie_rabadue@xtoenergy.com

9. API Well No.
30-015-45465-00-X1

3a. Address
6401 HOLIDAY HILL ROAD BLDG 5
MIDLAND, TX 79707

3b. Phone No. (include area code)
Ph: 432-620-6714

10. Field and Pool or Exploratory Area
LOS MEDANOS BONE SPRING

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 25 T22S R30E SENW 2600FSL 1990FWL
32.362988 N Lat, 103.836761 W Lon

11. County or Parish, State
EDDY COUNTY, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

| TYPE OF SUBMISSION | TYPE OF ACTION | | | |
|---|---|---|---|---|
| ☒ Notice of Intent | ☐ Acidize | ☐ Deepen | ☐ Production (Start/Resume) | ☐ Water Shut-Off |
| ☐ Subsequent Report | ☐ Alter Casing | ☐ Hydraulic Fracturing | ☐ Reclamation | ☐ Well Integrity |
| ☐ Final Abandonment Notice | ☐ Casing Repair | ☐ New Construction | ☐ Recomplete | ☒ Other Drilling Operations |
| | ☐ Change Plans | ☐ Plug and Abandon | ☐ Temporarily Abandon | |
| | ☐ Convert to Injection | ☐ Plug Back | ☐ Water Disposal | |

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

XTO Permian Operating, LLC respectfully requests to remediate the well with the attached procedures. Upon preparation for well completion, it was identified that the 5.5" csg ID is too restrictive for well completion to ensue. The well is not currently producing, has no perforations, and is static.

XTO's plan is to RIH and cut the 5.5" csg in the vertical portion of the well, set a Bone Spring isolation plug abandoning the original cased/cemented lateral, set a CIBP at the top of the casing cut capped by cement, set a whipstock and redrill the lateral of the well, placing two (2) more casing strings.

Procedures & WBDs are attached for:
1. General Casing Cut Procedure / Current WBD

14. I hereby certify that the foregoing is true and correct.

**Electronic Submission #537319 verified by the BLM Well Information System**
**For XTO PERMIAN OPERATING LLC, sent to the Carlsbad**
**Committed to AFMSS for processing by CHRISTOPHER WALLS on 11/13/2020 (21CRW0003SE)**

Name *(Printed/Typed)* STEPHANIE RABADUE — Title REGULATORY COORDINATOR

Signature (Electronic Submission) — Date 11/13/2020

Accepted for record – NMOCD gc 12/01/2020

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved By CHRISTOPHER WALLS — Title PETROLEUM ENGINEER — Date 11/13/2020

Conditions of approval, if any, are attached. Approval of this notice 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.

Office Carlsbad

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

(Instructions on page 2)

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

## Additional data for EC transaction #537319 that would not fit on the form

**32. Additional remarks, continued**

2. Plug & Abandon Procedure / P&A Diagram
3. Sidetrack & Re-Drill Procedure / Proposed WBD

In addition to these attachments, an updated drilling program with directional plan are also attached.

# Conditions of Approval

James Ranch Unit DI2 901H
30-015-45465

1. The cement plug across the Bone spring must be at least 180' in length. (7751-7571')

2. The minimum required fill of cement behind the 7-5/8" inch intermediate casing is:

   First stage to DV tool:

   ☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job

   Second stage above DV tool:

   ☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office.

3. The minimum required fill of cement behind the 5-1/2 inch production casing is:

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

## XTO James Ranch Unit DI 2 901H Remedial Work: 5-1/2" Cut & Pull, Mainbore P&A, Sidetrack/Re-drill

**Summary:**

This well is being remediated due to ID restrictions within the 5-1/2" Production Casing eliminating the ability to complete the well at its current state. This well has no perforations, has a long string of 5-1/2" casing cemented to 7,140' MD, and is in a static state. Any type of injection is not possible due to the cased and cemented state of the well and any access into the 5-1/2" casing with anything besides wireline has significant risk due to ID restrictions.

**General Procedure:**

- Set 100' cement plug inside the 5-1/2" casing from Top of Bone Spring (7,701')
- Cut & Pull the 5-1/2" casing at 7,100' (above the approximate TOC @ 7,140')
- Set a CIBP directly above the cut point, inside the 9-5/8" Casing
- Place cement on top of the CIBP to completely isolate and P&A the well beneath this point
- The well will then be side-tracked out of the 9-5/8", where a subsequent 2nd Intermediate casing of 7-5/8" Flush Joint & 5-1/2" 23ppf casing will be run and cemented per the Sundry.

<u>P&A Procedure:</u>

1. MIRU over well
2. Remove TA cap & NU/Test BOPs
3. PU 2-3/8" Tubing and set a 100' Cement plug of Class H 16.4 ppg from the top of the Bone Spring Formation at 7,701' (Plug will be from 7,701' to 7,601')
4. WOC for 4 hours and tag plug. POOH.
5. R/U Wireline, RIH with severing tool and sever 5-1/2" casing at ~7,100'
6. RD WL, ensure well is static and pipe is free
7. POOH and L/D 5-1/2" Casing
8. Conduct clean-out run
9. RU WL and RIH with CIBP and set at ~ 7,075'
10. RIH & Dump 35' (3 bbls) of 14.8 ppg Class C cement on top of CIBP
11. POOH and RD WL (WOC 4 hrs)
12. RIH and Tag cement plug

<u>Sidetrack & Re-Drill:</u>

1. Run, orient, and set whipstock at ~6,935'
2. Mill window. POOH.
3. RIH and drill 8-3/4" Intermediate 2 hole section. POOH.
4. Run 7-5/8" 29.7# FJ casing per attached drilling program
5. Cement casing per attached drilling program
6. ND BOP
7. Install casing slips
8. Install the Cactus 13-5/8" 10M x 11" 10M casing spool & DSA
9. NU BOPs and Test
10. RIH with BHA and drill 6-3/4" Production hole section. POOH.
11. Run 5-1/2" 23# RYP-110 production casing per attached drilling program.
12. Cement per attached drilling program
13. Install casing slips
14. Install TA cap
15. RDMO

# James Ranch Unit DI 2 901H

***3rd Bone Spring RH Ss., 2.5 Mile Lateral***

| | | | |
|---|---|---|---|
| **County:** | Eddy | **AFE #** | **DD.2017.02850** |
| **SHL:** | 2600' FSL, 1990' FWL<br>Sec 25, T 22S, R 30E | **XTO ID #** | **1632611001** |
| | | **API #** | **30-015-45465** |
| **BHL:** | 330' FNL, 2640' FEL<br>Sec 28, T 22S, R 30E | **Permit** | **BLM** |
| | | **Elevation** | **GL 3344', KB 3369' (25' AGL)** |
| **Area:** | Potash (+2 miles) | **Rig:** | **Noram 25** |

| TVD | Geology | Casing & Cement | Wellhead | Hole Size | General Notes |
|---|---|---|---|---|---|
| ***115'*** | ***Conudctor*** | | (Tech Data Sheet) | 24" | |
| | | *Cement to Surface* | | | |
| 366' | Rustler | | | | |
| 639' | Salado | **18-5/8" 87.5# J-55 BTC** | **710' MD** | | |
| | | | | 17-1/2" | |
| 761' | Top of Salt | | | | |
| | | *Cement to Surface* | | | |
| 3,604' | Base of Salt | | | | |
| | | **13-3/8" 68# HCL-80 BTC** | **3810' MD** | | |
| | | | | 12-1/4" | |
| 3,850' | Lamar / Delaware | | | | |
| 3,895' | Bell Canyon | | Composite<br>DV Tool<br>3,949' MD | | |
| 4,794' | Cherry Canyon | | | | |
| 6,046' | Brushy Canyon Ss. | | | | |
| | | | | | **Production Estimated TOC @ 7,140'** |
| 7,432' | Basal Brushy Canyon Ss. | | | | |
| 7,701' | Bone Spring Lm | *Cement to Surface* | | | |
| 7,832' | Avalon Ss. | | | | |
| 7,874' | Up. Avalon Carb. | **9-5/8" 40# HCP-110 BTC 0 - 3743'** | | | |
| 8,147' | Lw. Avalon Carb. | **9-5/8" 40# HCL-80 BTC 3743' - TD** | **8551' MD** | | |
| | | | | 8-3/4"<br>Curve | |
| 8,322' | Lw. Avalon Sh. | | | | |
| 8,841' | 1st Bone Spring Ss. | *Tail (15% OH excess)* | *KOP*<br>*10650' MD*<br>*10278' TVD* | | |
| | | 3708 sx 13.2 ppg class Poz/H | | | |
| 9,584' | 2nd Bone Spring | Top of Tail @ ~7,140' | | | |
| 10,359' | **KOP (TVD)** | | | | |
| 10,544' | 3rd Bone Spring | | | | |
| | | | | 8-1/2"<br>Lateral | |
| 10,844' | 3rd Bone Spring RH Ss. | | *EOC*<br>*11576' MD*<br>*10927' TVD* | | |
| | | 5-1/2" marker jts @ 5,509', 10,704',<br>& 19,009' | | | |
| | | | | **26,577' MD**<br>**10,836' TVD @ BHL**<br>**15,511' VS** | |
| **10,927'** | **3rd Bone Spring RH Ss.**<br>(Landing TVD) | Toe Sleeves @ 26,388' & 26,372' | | | **15,001' Lateral**<br>91.36° inc, 269.52° azm |
| **10,836'** | **TVD @ BHL** | **5-1/2" CYP-110 C7S** | | | |

# James Ranch Unit DI 2 901H

*3rd Bone Spring RH Ss., 2.5 Mile Lateral*

| | | | |
|---|---|---|---|
| **County:** | Eddy | **AFE #** | **DD.2017.02850** |
| **SHL:** | 2600' FSL, 1990' FWL<br>Sec 25, T 22S, R 30E | **XTO ID #** | **1632611001** |
| | | **API #** | **30-015-45465** |
| **BHL:** | 330' FNL, 2640' FEL<br>Sec 28, T 22S, R 30E | **Permit** | **BLM** |
| | | **Elevation** | **GL 3344', KB 3369' (25' AGL)** |
| **Area:** | Potash (+2 miles) | **Rig:** | **Nabors X-50** |

| TVD | Geology | Casing & Cement | Wellhead | Hole Size | General Notes |
|---|---|---|---|---|---|
| ***115'*** | ***Conudctor*** | | (Tech Data Sheet) | 24" | |
| | | *Cement to Surface* | | | |
| 366' | Rustler | | | | |
| 639' | Salado | **18-5/8" 87.5# J-55 BTC** | **710' MD** | | |
| | | | | 17-1/2" | |
| 761' | Top of Salt | | | | |
| | | *Cement to Surface* | | | |
| 3,604' | Base of Salt | **13-3/8" 68# HCL-80 BTC** | **3810' MD** | | |
| | | | | 12-1/4" | |
| 3,850' | Lamar / Delaware | | | | |
| 3,895' | Bell Canyon | | Composite DV Tool 3,949' MD | | |
| 4,794' | Cherry Canyon | | | | |
| | | | | | **35' 14.8 ppg Class C 1.32 cuft/sk Cement placed on top of 9-5/8" Cast Iron Bridge Plug set at ~7,075'** |
| 6,046' | Brushy Canyon Ss. | | | | **5-1/2" Severed at 7,100'** |
| 7,432' | Basal Brushy Canyon Ss. | | | | |
| | | | | | **100' 16.4 Class H 1.06 cuft/sk Cement Plug above the top of the Bone Spring Formation** |
| 7,701' | Bone Spring Lm | *Cement to Surface* | | | |
| 7,832' | Avalon Ss. | | | | |
| 7,874' | Up. Avalon Carb. | **9-5/8" 40# HCP-110 BTC 0 - 3743'** | | | |
| 8,147' | Lw. Avalon Carb. | **9-5/8" 40# HCL-80 BTC 3743' - TD** | **8551' MD** | | |
| | | | | 8-3/4" Curve | |
| 8,322' | Lw. Avalon Sh. | | | | |
| 8,841' | 1st Bone Spring Ss. | | *KOP 10650' MD 10278' TVD* | | |
| 9,584' | 2nd Bone Spring | | | | |
| 10,359' | **KOP (TVD)** | | | | |
| | | 5-1/2" marker jts @ 5,509', 10,704', & 19,009' | | | |
| 10,544' | 3rd Bone Spring | | | | |
| | | | | 8-1/2" Lateral | |
| 10,844' | 3rd Bone Spring RH Ss. | *Tail (15% OH excess)* 3708 sx 13.2 ppg class Poz/H Top of Tail @ ~7,140' | *EOC 11576' MD 10927' TVD* | | |
| | | | | **26,577' MD** | |
| **10,924'** | **3rd Bone Spring RH Ss.** (Landing TVD) | Toe Sleeves @ 26,388' & 26,372' | | **10,836' TVD @ BHL** **15,511' VS** | **15,001' Lateral** 91.36° inc, 269.52° azm |
| **10,844'** | **TVD @ BHL** | **5-1/2" CYP-110 C7S** | | | |

## Approvals

**Prepared by:** _____
Manuel Garcia, Drilling Engineer — Date

**Reviewed by:** _____
Drilling Engineer — Date

**Reviewed by:** _____
Kent Allison / Gary Puckett, Drilling Superintendent — Date

**Approved by:** _____
Drilling Manager — Date

# James Ranch Unit DI 2 901H

*3rd Bone Spring RH Ss., 2.5 Mile Lateral*

| | | | |
|---|---|---|---|
| **County:** | Eddy | **AFE #** | **DD.2017.02850** |
| **SHL:** | 2600' FSL, 1990' FWL | **XTO ID #** | **1632611001** |
| | Sec 25, T 22S, R 30E | **API #** | **30-015-45465** |
| **BHL:** | 330' FNL, 2640' FEL | **Permit** | **BLM** |
| | Sec 28, T 22S, R 30E | **Elevation** | **GL 3344', KB 3369' (25' AGL)** |
| **Area:** | Potash (+2 miles) | **Rig:** | **Nabors X-50** |

| TVD | Geology | Casing & Cement | Wellhead | Hole Size | General Notes |
|---|---|---|---|---|---|
| ***115'*** | ***Conudctor*** | | (Tech Data Sheet) | 24" | |
| 366' | Rustler | *Cement to Surface* | | | |
| 639' | Salado | **18-5/8" 87.5# J-55 BTC** | **710' MD** | 17-1/2" | |
| 761' | Top of Salt | | | | |
| 3,604' | Base of Salt | *Cement to Surface* **13-3/8" 68# HCL-80 BTC** | **3810' MD** | 12-1/4" | |
| 3,850' | Lamar / Delaware | | | | |
| 3,895' | Bell Canyon | *Cement to Surface* | | | |
| 4,794' | Cherry Canyon | **9-5/8" 40# HCP-110 BTC 0 - 3743'** **9-5/8" 40# HCL-80 BTC 3743' - TD** | | **Whipstock set at ~6,935'** | |
| 6,046' | Brushy Canyon Ss. | | | 8-3/4" | |
| 7,432' | Basal Brushy Canyon Ss. | | | | |
| 7,701' | Bone Spring Lm | | | | |
| 7,832' | Avalon Ss. | | | | |
| 7,874' | Up. Avalon Carb. | | | | |
| 8,147' | Lw. Avalon Carb. | | | | |
| 8,322' | Lw. Avalon Sh. | | | | |
| 8,841' | 1st Bone Spring Ss. | | | | |
| 9,584' | 2nd Bone Spring | **7.625 \| 29.7 \| RY P-110 \| Flush Joint 0' - 3,804'** **7.625 \| 29.7 \| HC L-80 \| Flush Joint 3,804' - 10,392'** | **10,392' MD** | | |
| 10,592' | **KOP (TVD)** | | **KOP** **10592' MD** **10208' TVD** | 6-3/4" Curve | |
| 10,544' | 3rd Bone Spring | | | | |
| 10,844' | 3rd Bone Spring RH Ss. | | **LP** **11721' MD** **10924' TVD** | 6-3/4" Lateral | |
| **10,924'** | **3rd Bone Spring RH Ss.** (Landing TVD) | **5.5 \| 23 \| RY P-110 \| Semi-Premium** **5.5 \| 23 \| RY P-110 \| Semi-Flush** **5.5 \| 23 \| RY P-110 \| Semi-Flush** | **26,283' MD** **10,844' TVD @ BHL** | | **14,562' Lateral** |
| **10,844'** | **TVD @ BHL** | | | | |

DRILLING PLAN: BLM COMPLIANCE
(Supplement to BLM 3160-3)

XTO Energy Inc.
James Ranch Unit DI 2 901H
Projected TD: 26283' MD / 10844' TVD
SHL: 2600' FSL & 1990' FWL , Section 25, T22S, R30E
BHL: 330' FNL & 2640' FEL , Section 28, T22S, R30E
Eddy County, NM

**1. Geologic Name of Surface Formation**

A. Quaternary

**2. Estimated Tops of Geological Markers & Depths of Anticipated Fresh Water, Oil or Gas**

| Formation | Well Depth (TVD) | Water/Oil/Gas |
|---|---|---|
| Rustler | 366' | Water |
| Top of Salt | 761' | Water |
| Base of Salt | 3604' | Water |
| Delaware | 3850' | Water |
| Brushy Canyon | 6046' | Water/Oil/Gas |
| Bone Spring | 7701' | Water |
| 1st Bone Spring Ss | 8841' | Water/Oil/Gas |
| 2nd Bone Spring Ss | 9584' | Water/Oil/Gas |
| 3rd Bone Spring Ss | 10544' | Water/Oil/Gas |
| Target/Land Curve | 10924' | Water/Oil/Gas |

*** Hydrocarbons @ Brushy Canyon
*** Groundwater depth 40' (per NM State Engineers Office).

After P&A, the well will have 9-5/8" set to a whipstock point of 6,935', which was cemented to surface. A third intermediate will isolate from the window to the 3rd Bone Spring by setting 7.625 inch casing at 10392' and cemented 200' inside the whipstock window. A 6.75 inch curve and 6.75 lateral hole will be drilled to 26283 MD/TD and 5.5 x 5.5 inch production casing will be set at TD and cemented back up to the 3rd intermediate (estimated TOC 9892 feet ) per Potash regulations.

**3. Casing Design**

| Hole Size | Depth | OD Csg | Weight | Grade | Collar | New/Used | SF Burst | SF Collapse | SF Tension |
|---|---|---|---|---|---|---|---|---|---|
| 8.75 | 0' – 3804' | 7.625 | 29.7 | RY P-110 | Flush Joint | New | 2.54 | 2.70 | 1.81 |
| 8.75 | 3804' – 10392' | 7.625 | 29.7 | HC L-80 | Flush Joint | New | 1.84 | 2.39 | 2.07 |
| 6.75 | 0' – 10292' | 5.5 | 23 | RY P-110 | Semi-Premium | New | 1.16 | 2.52 | 1.88 |
| 6.75 | 10292' - 11200' | 5.5 | 23 | RY P-110 | Semi-Flush | New | 1.16 | 2.31 | 4.04 |
| 6.75 | 11200' - 26283' | 5.5 | 23 | RY P-110 | Semi-Flush | New | 1.16 | 2.37 | 4.69 |

· XTO requests to not utilize centralizers in the curve and lateral
· 7.625 Collapse analyzed using 50% evacuation based on regional experience.
· 5.5 Tension calculated using vertical hanging weight plus the lateral weight multiplied by a friction factor of 0.35
· Test on Casing will be limited to 70% burst of the casing or 1500 psi, whichever is less
· Request to use 5" BTC Float equipment for the the production casing

**Wellhead:**

**Permanent Wellhead – Cactus CRC-MBU-3T-CFL Multibowl System**

*Permanent Wellhead – Multibowl System*

A. Starting Head: 13-5/8" 10M top flange x 13-3/8" SOW bottom
B. Casing Spool: 13-5/8" 10M Bottom Flange x 11" 10M Top Flange
C. Adapter Flange: 11" 10M Bottom x 13-5/8" 10M Top
D. Tubing Head: 13-5/8" 10M bottom flange x 7-1/16" 15M top flange

· Wellhead will be installed by manufacturer's representatives.
· Manufacturer will monitor welding process to ensure appropriate temperature of seal.
· Operator will test the 7-5/8" casing per BLM Onshore Order 2
· Wellhead Manufacturer representative will not be present for BOP test plug installation

## 4. Cement Program

***2nd Intermediate Casing: 7.625, 29.7 New casing to be set at +/- 10392'***

*1st Stage*
Optional Lead: 140 sxs Class C (mixed at 10.5 ppg, 2.77 ft3/sx, 15.59 gal/sx water)
TOC: 6,735'
Tail: 90 sxs Class C (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water)
TOC @ 9392
Compressives: 12-hr = 900 psi 24 hr = 1150 psi

*2nd Stage*
Lead: 0 sxs Class C (mixed at 12.9 ppg, 2.16 ft3/sx, 9.61 gal/sx water)
Tail: 430 sxs Class C (mixed at 14.8 ppg, 1.33 ft3/sx, 6.39 gal/sx water)
Top of Cement: Surface
Compressives: 12-hr = 900 psi 24 hr = 1150 psi

XTO requests to pump an optional two stage cement job on the 7-5/8" intermediate casing string with the first stage being pumped conventionally with the calculated top of cement at the Brush Canyon (6046') and the second stage performed as a bradenhead squeeze with planned cement from the Brushy Canyon to surface. If cement is not visually confirmed to circulate to surface, the final cement top after the second stage job will be verified by Echo-meter. If necessary, a top out consisting of 1,500 sack of Class C cement + 3% Salt + 1% PreMag-M + 6% Bentonite Gel (2.30 yld, 12.91 ppg) will be executed as a contingency. If cement is still unable to circulate to surface, another Echo-meter run will be performed for cement top verification.

XTO will include the Echo-meter verified fluid top and the volume of displacement fluid above the cement slurry in the annulus in all post-drill sundries on wells utilizing this cement program.

XTO will report to the BLM the volume of fluid (limited to 5 bbls) used to flush intermediate casing valves following backside cementing procedures.

XTO requests to pump an Optional Lead if well conditions dictate in an attempt to bring cement to inside the whipstock window on the first stage. If cement is brought to inside the window, the BLM will be notified and the second stage bradenhead squeeze and subsequent TOC verification will be negated.

XTO requests the option to conduct the bradenhead squeeze and TOC verification offline as per standard approval from BLM when unplanned remediation is needed and batch drilling is approved. In the event the bradenhead is conducted, we will ensure the first stage cement job is cemented properly and the well is static with floats holding and no pressure on the csg annulus

***Production Casing: 5.5, 23 New Semi-Flush, RY P-110 casing to be set at +/- 26283'***

Lead: 20 sxs NeoCem (mixed at 11.5 ppg, 2.69 ft3/sx, 15.00 gal/sx water) Top of Cement: 9892 feet
Tail: 1120 sxs VersaCem (mixed at 13.2 ppg, 1.51 ft3/sx, 8.38 gal/sx water) Top of Cement: 10592 feet
Compressives: 12-hr = 1375 psi 24 hr = 2285 psi

**5. Pressure Control Equipment**

Once the permanent WH is installed on the 13.375 casing, the blow out preventer equipment (BOP) will consist of a 13-5/8" minimum 5M Hydril and a 13-5/8" minimum 5M Double Ram BOP. MASP should not exceed 3732 psi. In any instance where 10M BOP is required by BLM, XTO requests a variance to utilize 5M annular with 10M ram preventers (a common BOP configuration, which allows use of 10M rams in unlikely event that pressures exceed 5M).

All BOP testing will be done by an independent service company. Annular pressure tests will be limited to 50% of the working pressure. When nippling up on the 13.375, 5M bradenhead and flange, the BOP test will be limited to 5000 psi. When nippling up on the 13.375, the BOP will be tested to a minimum of 5000 psi. All BOP tests will include a low pressure test as per BLM regulations. The 5M BOP diagrams are attached. Blind rams will be functioned tested each trip, pipe rams will be functioned tested each day.

A variance is requested to allow use of a flex hose as the choke line from the BOP to the Choke Manifold. If this hose is used, a copy of the manufacturer's certification and pressure test chart will be kept on the rig. Attached is an example of a certification and pressure test chart. The manufacturer does not require anchors.

**6. Proposed Mud Circulation System**

| INTERVAL | Hole Size | Mud Type | MW (ppg) | Viscosity (sec/qt) | Fluid Loss (cc) |
|---|---|---|---|---|---|
| 3704' to 10392' | 8.75 | FW / Cut Brine | 10-10.5 | 30-32 | NC |
| 10392' to 26283' | 6.75 | OBM | 10.8-11.3 | 29-32 | NC |

The necessary mud products for weight addition and fluid loss control will be on location at all times.

Use fibrous materials as needed to control seepage and lost circulation. Pump viscous sweeps as needed for hole cleaning. Pump speed will be recorded on a daily drilling report after mudding up. A Pason or Totco will be used to detect changes in loss or gain of mud volume. A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system.

**7. Auxiliary Well Control and Monitoring Equipment**

A. A Kelly cock will be in the drill string at all times.
B. A full opening drill pipe stabbing valve having appropriate connections will be on the rig floor at all times.
C. H2S monitors will be on location when drilling below the 13.375 casing.

**8. Logging, Coring and Testing Program**

Mud Logger: Mud Logging Unit (2 man) below intermediate casing.

Open hole logging will not be done on this well.

**9. Abnormal Pressures and Temperatures / Potential Hazards**

None Anticipated. BHT of 175 to 195 F is anticipated. No H2S is expected but monitors will be in place to detect any H2S occurrences. Should these circumstances be encountered the operator and drilling contractor are prepared to take all necessary steps to ensure safety of all personnel and environment. Lost circulation could occur but is not expected to be a serious problem in this area and hole seepage will be compensated for by additions of small amounts of LCM in the drilling fluid. The maximum anticipated bottom hole pressure for this well is 6135 psi.

**10. Anticipated Starting Date and Duration of Operations**

Anticipated spud date will be after DI 1A drilling is completed and BLM approval. Move in operations and drilling is expected to take 40 days.

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

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FAX: 361-887-0812
EMAIL: crpe&s@gates.com
WEB: www.gates.com

# GRADE D PRESSURE TEST CERTIFICATE

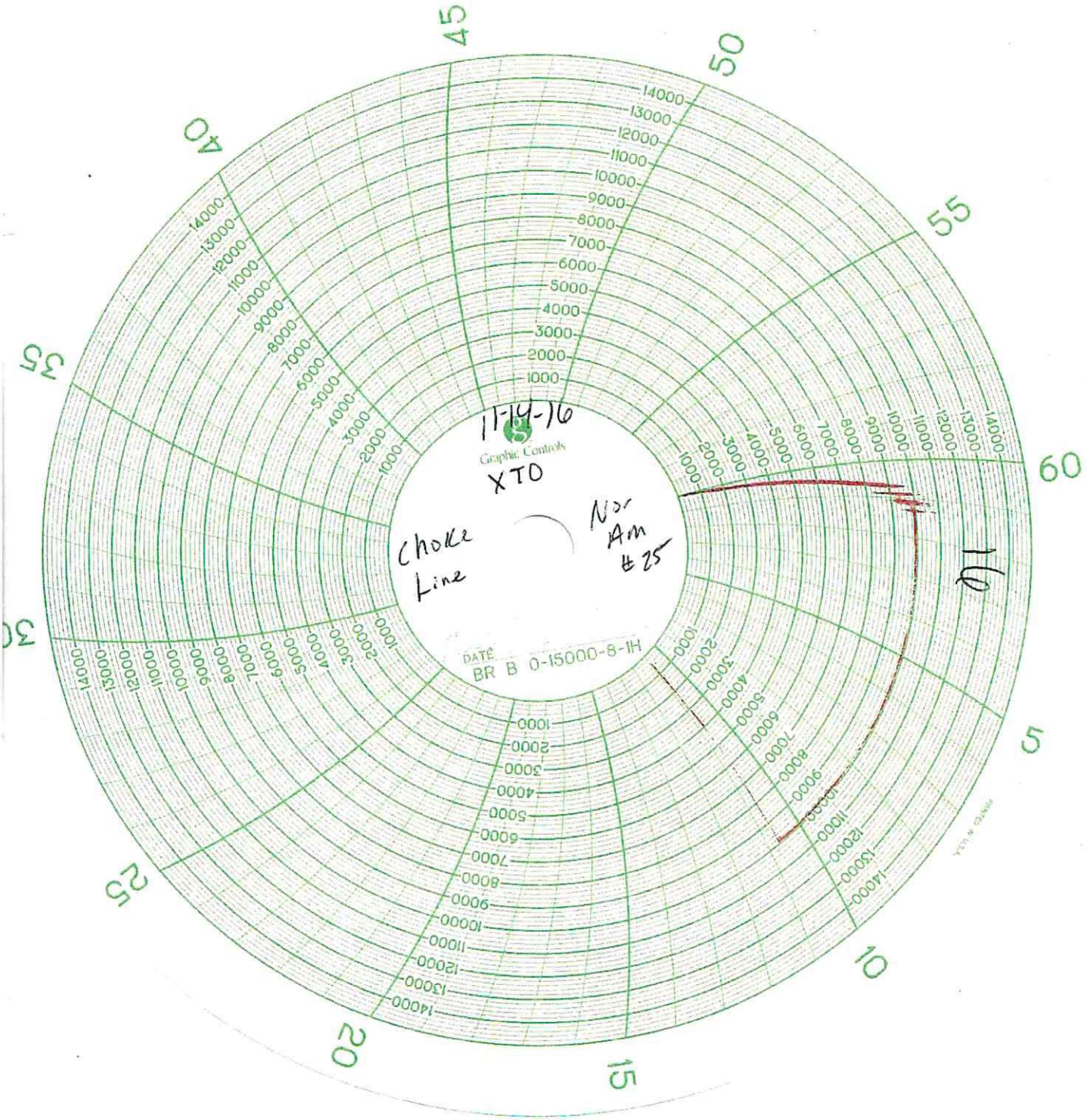
| | | | |
|---|---|---|---|
| Customer : | AUSTIN DISTRIBUTING | Test Date: | 6/8/2014 |
| Customer Ref. : | PENDING | Hose Serial No.: | D-060814-1 |
| Invoice No. : | 201709 | Created By: | NORMA |

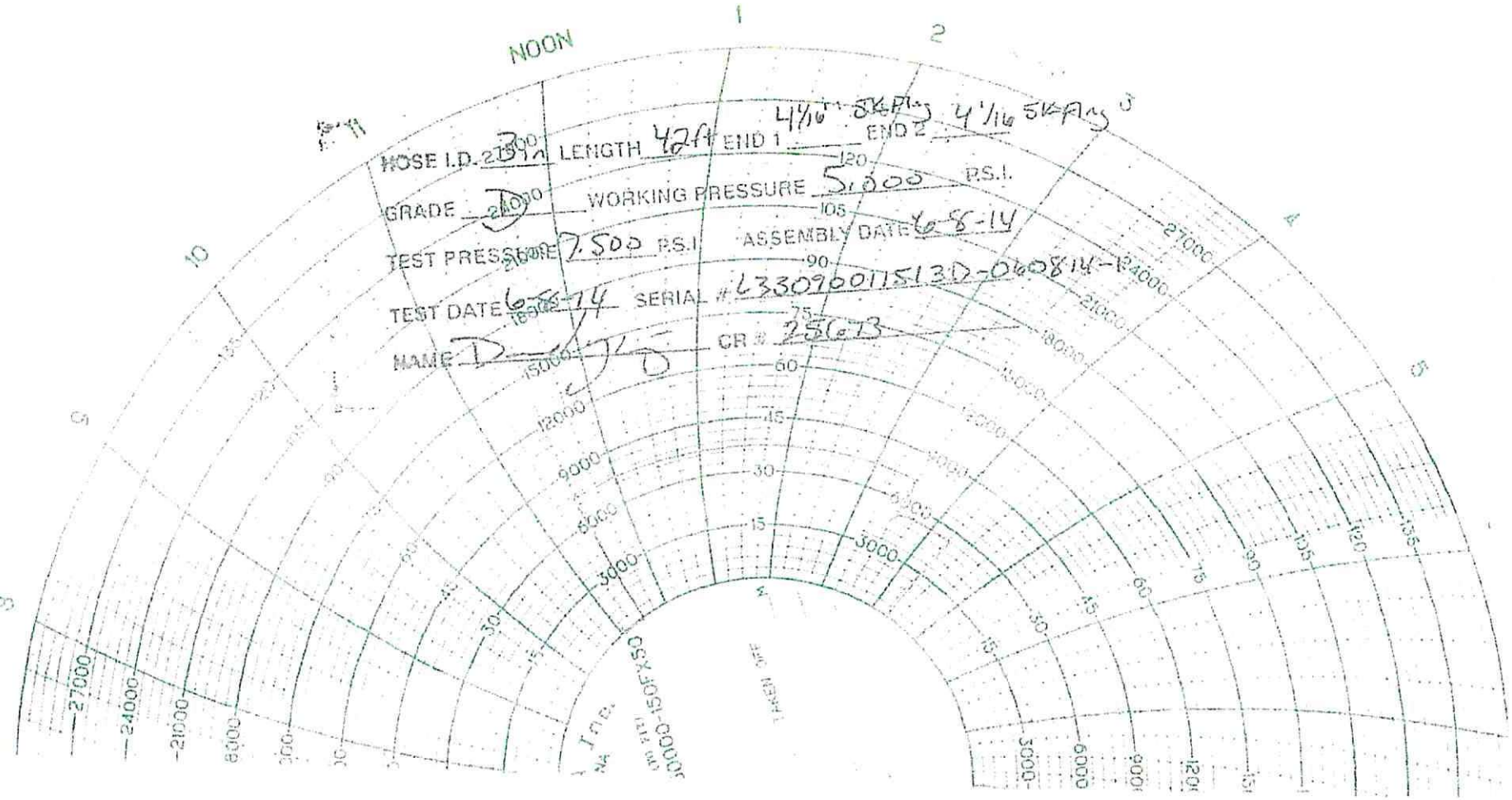
| | |
|---|---|
| Product Description: | FD3.042.0R41/16.5KFLGE/E LE |

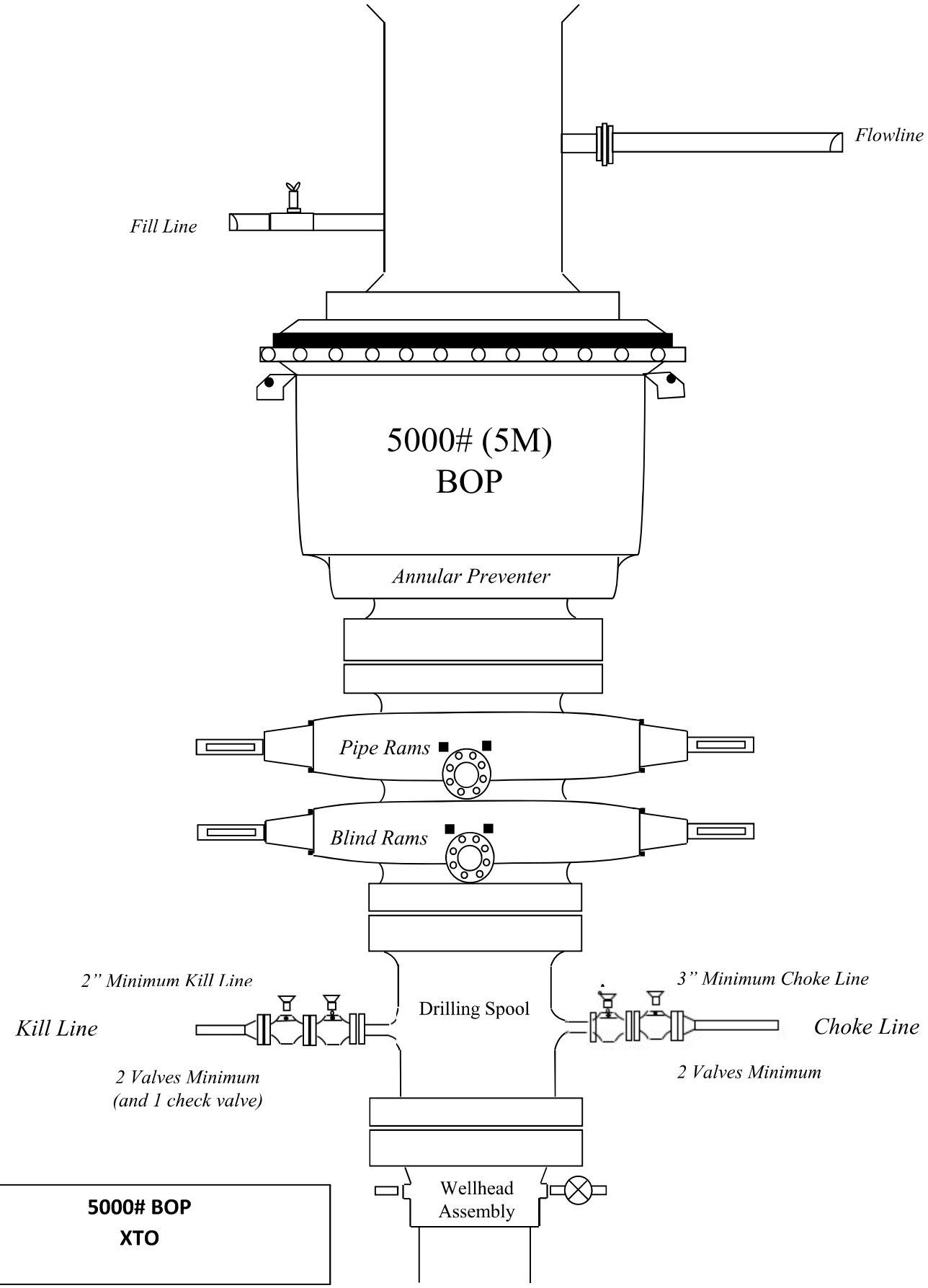
| | | | |
|---|---|---|---|
| End Fitting 1 : | 4 1/16 in.5K FLG | End Fitting 2 : | 4 1/16 in.5K FLG |
| Gates Part No. : | 4774-6001 | Assembly Code : | L33090011513D-060814-1 |
| Working Pressure : | 5,000 PSI | Test Pressure : | 7,500 PSI |

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 7,500 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.

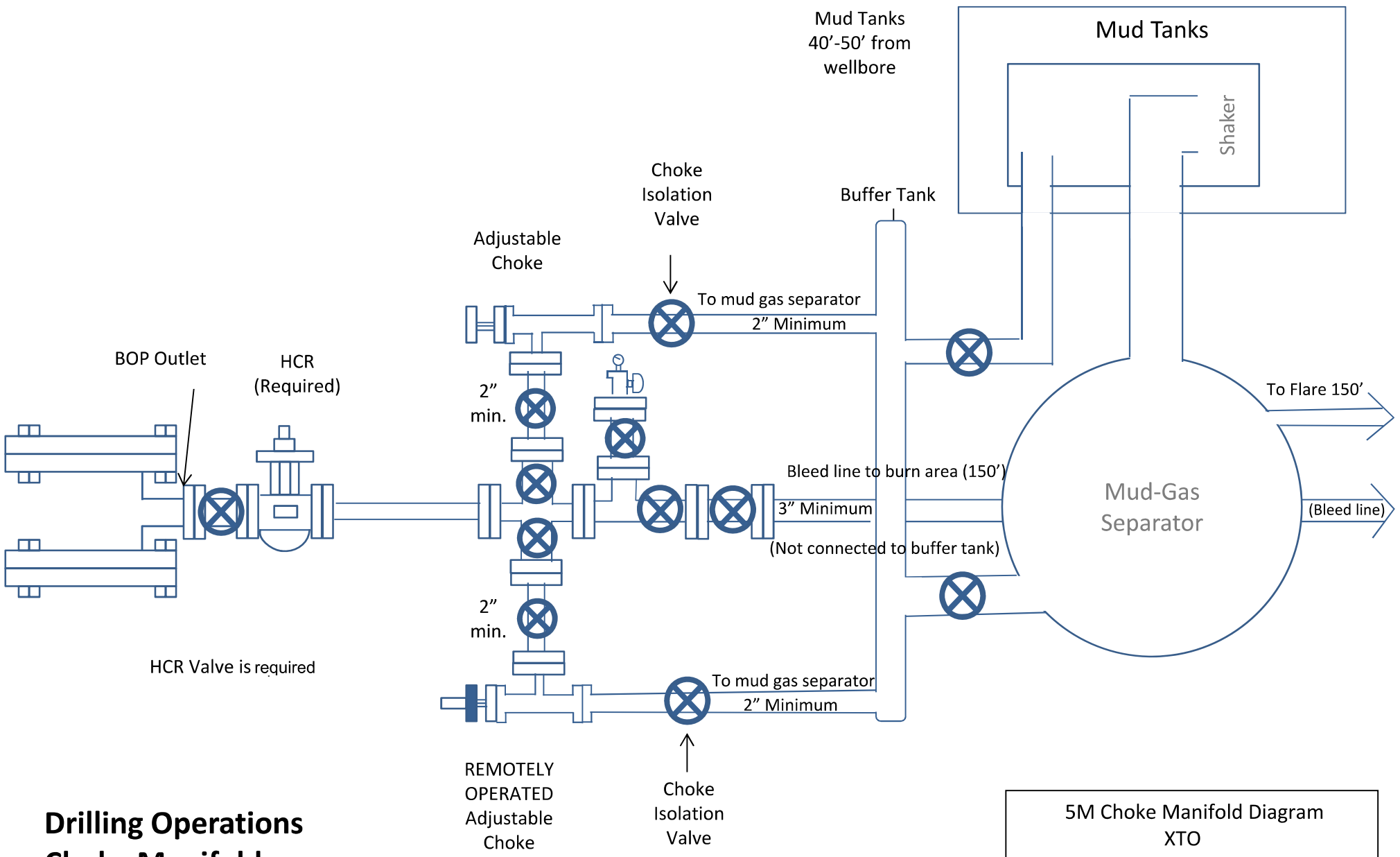
| | | | |
|---|---|---|---|
| Quality: | QUALITY | Technical Supervisor : | PRODUCTION |
| Date : | 6/8/2014 | Date : | 6/8/2014 |
| Signature : | | Signature : | |


11-14-16
Graphic Controls
XTO
Choke Line
Nor Am #25
DATE
BR B 0-15000-8-1H
45
50
55
60
5
10
15
20
25
30
35
40
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
11000
12000
13000
14000


NOON
HOSE I.D. 3"
LENGTH 42ft
END 1 4 1/16 5K FMC
END 2 4 1/16 5K FMC
GRADE D
WORKING PRESSURE 5,000 P.S.I.
TEST PRESSURE 7,500 P.S.I.
ASSEMBLY DATE 6-5-14
TEST DATE 6-5-14
SERIAL # 133090011513D-060814-1
NAME D. [illegible]
CR # 25673


Flowline
Fill Line
5000# (5M)
BOP
Annular Preventer
Pipe Rams
Blind Rams
2" Minimum Kill Line
3" Minimum Choke Line
Kill Line
Drilling Spool
Choke Line
2 Valves Minimum
(and 1 check valve)
2 Valves Minimum
Wellhead
Assembly

**5000# BOP**
**XTO**




**Drilling Operations**
**Choke Manifold**
**5M Service**

5M Choke Manifold Diagram
XTO

Schlumberger

Nabo

| Borehole: | Well: |
| --- | --- |
| ST01 | |

**Gravity & Magnetic Parameters**

| | | | | | |
| --- | --- | --- | --- | --- | --- |
| Model: | HDGM 2020 | Dip: | 60.063° | Date: | 11-Nov-2020 |
| MagDec: | 6.783° | FS: | 47846.237nT | Gravity FS: | 998.46mgn (9.80665 Ba |