

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTNMOCD
ArtesiaFORM 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.*5. Lease Serial No.
NMNM136870

6. If Indian, Allottee or Tribe Name

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

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

XTO ENERGY INCORPORATED

Contact: KELLY KARDOS

E-Mail: kelly_kardos@xtoenergy.com

8. Well Name and No.

CORRAL CANYON 10-15 FED COM 10H

9. API Well No.

30-015-46325-00-X1

3a. Address

6401 HOLIDAY HILL ROAD BLDG 5
MIDLAND, TX 79707

3b. Phone No. (include area code)

Ph: 432-620-4374

10. Field and Pool or Exploratory Area

CORRAL CANYON-BONE SPRING, S

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Sec 10 T25S R29E NENW 500FNL 2410FWL
32.150574 N Lat, 103.973083 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 | | | |
|--|---|---|--|---|
| <input checked="" type="checkbox"/> Notice of Intent | <input type="checkbox"/> Acidize | <input type="checkbox"/> Deepen | <input type="checkbox"/> Production (Start/Resume) | <input type="checkbox"/> Water Shut-Off |
| <input type="checkbox"/> Subsequent Report | <input type="checkbox"/> Alter Casing | <input type="checkbox"/> Hydraulic Fracturing | <input type="checkbox"/> Reclamation | <input type="checkbox"/> Well Integrity |
| <input type="checkbox"/> Final Abandonment Notice | <input type="checkbox"/> Casing Repair | <input type="checkbox"/> New Construction | <input type="checkbox"/> Recomplete | <input checked="" type="checkbox"/> Other |
| | <input type="checkbox"/> Change Plans | <input type="checkbox"/> Plug and Abandon | <input type="checkbox"/> Temporarily Abandon | Change to Original A |
| | <input type="checkbox"/> Convert to Injection | <input type="checkbox"/> Plug Back | <input type="checkbox"/> Water Disposal | PD |

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 recompleat 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 recompleat 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 request to modify the mud and cement program for the subject well based on the recent lost circulation problems experienced on the adjacent well.

XTO requests to not utilize centralizers in the curve.

Updated drilling program attached.

RECEIVED

DEC 03 2019

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

DISTRICT/ARTESIA/O.C.D.

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

Electronic Submission #493070 verified by the BLM Well Information System

For XTO ENERGY INCORPORATED, sent to the Carlsbad

Committed to AFMSS for processing by PRISCILLA PEREZ on 11/20/2019 (20PP0467SE)

Name (Printed/Typed) KELLY KARDOS

Title REGULATORY COORDINATOR

Signature (Electronic Submission)

Date 11/20/2019 APPROVED

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

NOV 21 2019

Approved By

Title

Date

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.

BUREAU OF LAND MANAGEMENT

Office ROSWELL FIELD OFFICE

Title 18 U.S.C. Section 1001 and Title 48 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 ****

1/27/20 KS

Revisions to Operator-Submitted EC Data for Sundry Notice #493070

Operator Submitted

Sundry Type: APDCH
NOI

Lease: NMNM136870

Agreement:

Operator: XTO PERMIAN OPERATING, LLC
6401 HOLIDAY HILL RD BLDG 5
MIDLAND, TX 79707
Ph: 432-620-4374

Admin Contact: KELLY KARDOS
REGULATORY COORDINATOR
E-Mail: kelly_kardos@xtoenergy.com
Ph: 432-620-4374

Tech Contact: KELLY KARDOS
REGULATORY COORDINATOR
E-Mail: kelly_kardos@xtoenergy.com
Ph: 432-620-4374

Location:
State: NM
County: EDDY

Field/Pool: CORRAL CANYON BONE SPRING

Well/Facility: CORRAL CANYON 10-15 FED COM 10H
Sec 10 T25S R29E Mer NMP NENW 500FNL 2410FWL

BLM Revised (AFMSS)

APDCH
NOI

NMNM136870

XTO ENERGY INCORPORATED
6401 HOLIDAY HILL ROAD BLDG 5
MIDLAND, TX 79707
Ph: 432:683 2277

KELLY KARDOS
REGULATORY COORDINATOR
E-Mail: kelly_kardos@xtoenergy.com
Ph: 432-620-4374

KELLY KARDOS
REGULATORY COORDINATOR
E-Mail: kelly_kardos@xtoenergy.com
Ph: 432-620-4374

NM
EDDY

CORRAL CANYON-BONE SPRING, S

CORRAL CANYON 10-15 FED COM 10H
Sec 10 T25S R29E NENW 500FNL 2410FWL
32.150574 N Lat, 103.973083 W Lon

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

XTO Energy Inc.
Corral Canyon 10-15 Fed #10H
Projected TD: 19167' MD / 8838' TVD
SHL: 500' FNL & 2410' FWL , Section 10, T25S, R29E
BHL: 50' FSL & 1980' FWL , Section 15, T25S, R29E
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 | 536' | Water |
| Top of Salt | 715' | Water |
| Base of Salt | 2922' | Water |
| Delaware | 3131' | Water |
| Bone Spring Lm | 6888' | Water/Oil/Gas |
| 1st Bone Spring Ss | 7823' | Water/Oil/Gas |
| 2nd Bone Spring Ss | 8596' | Water/Oil/Gas |
| Target/Land Curve | 8838' | Water/Oil/Gas |

No other formations are expected to yield oil, gas or fresh water in measurable volumes. The surface fresh water sands will be protected by setting 13-3/8 inch casing @ 650' (114' into the Rustler) and circulating cement back to surface. The salt will be isolated by setting 9-5/8 inch casing at 7400'. A DV tool will be set @ 3500' (2850' below the surface shoe). Cement will be circulated to surface. An 8-3/4 inch curve and 8-1/2 inch lateral hole will be drilled to MD/TD and 5-1/2 inch casing will be set at TD and cemented back at least 500' into the intermediate casing.

3. Casing Design

| Hole Size | Depth | OD Csg | Weight | Collar | Grade | New/Used | SF Burst | SF Collapse | SF Tension |
|-----------------|-------------|---------|--------|--------|--------|----------|----------|-------------|------------|
| 17-1/2" | 0' – 650' | 13-3/8" | 54.5 | STC | J-55 | New | 1.52 | 3.89 | 14.51 |
| 12-1/4" | 0' – 7400' | 9-5/8" | 40 | LTC | HCL-80 | New | 2.33 | 2.31 | 2.83 |
| 8-3/4" x 8-1/2" | 0' – 19167' | 5-1/2" | 17 | BTC | P-110 | New | 1.12 | 1.70 | 2.53 |

- XTO requests to not utilize centralizers in the curve and lateral
- 9-5/8" Collapse analyzed using 50% evacuation based on regional experience.
- 5-1/2" tension calculated using vertical hanging weight plus the lateral weight multiplied by a friction factor of 0.35

WELLHEAD:

Permanent Wellhead – GERSH Multibowl System

A. Starting Head: 13-5/8" 5M top flange x 13-3/8" SOW bottom

B. Tubing Head: 13-5/8" 5M bottom flange x 7-1/16" 10M top flange

- Wellhead will be installed by manufacturer's representatives.
- Manufacturer will monitor welding process to ensure appropriate temperature of seal.
- Manufacturer will witness installation of test plug for initial test.
- Operator will test the 9-5/8" casing per BLM Onshore Order 2

4. Cement Program

Surface Casing: 13-3/8", 54.5 New J-55, STC casing to be set at +/- 650'

Tail: 670 sxs Class C + 0.5% CaCl (mixed at 14.8 ppg, 1.34 ft3/sx, 6.35 gal/sx water)
Compressives: 12-hr = 900 psi 24 hr = 1300 psi

Intermediate Casing: 9-5/8", 40 New HCL-80, LTC casing to be set at +/- 7400'

First Stage

Lead: 590 sxs Class C (mixed at 10.5 ppg, 2.7 ft3/sx, 14.28 gal/sx water)

Tail: 160 sxs Class C (mixed at 13.0 ppg, 1.41 ft3/sx, 7.31 gal/sx water)
Compressives: 12-hr = 900 psi 24 hr = 1500 psi

If losses are severe, a DV tool will be set @ 3500' (2850' below the surface shoe).

Second Stage

Lead: 390 sxs Class C (mixed at 12.8 ppg, 1.91 ft3/sx, 10.4 gal/sx water)

Tail: 140 sxs Class C (mixed at 14.8 ppg, 1.3 ft3/sx, 5.95 gal/sx water)
Compressives: 12-hr = 900 psi 24 hr = 1500 psi

Production Casing: 5-1/2", 17 New P-110, BTC casing to be set at +/- 19167'

Lead: 140 sxs 50/50 Poz Class C (mixed at 11.0 ppg, 3.2 ft3/sx, 19.09 gal/sx water)

Tail: 2270 sxs 50/50 Poz Class H (mixed at 13.2 ppg, 1.51 ft3/sx, 7.17 gal/sx water)
Compressives: 12-hr = 140 psi 24 hr = 1100 psi

5. Pressure Control Equipment

The blow out preventer equipment (BOP) for this well consists of a 13-5/8" minimum 3M Hydril and a 13-5/8" minimum 3M Double Ram BOP. MASP should not exceed 2468 psi.

All BOP testing will be done by an independent service company. Annular pressure tests will be limited to 50% of the working pressure. When nipping up on the 13-5/8" 3M bradenhead and flange, the BOP test will be limited to 3000 psi. When nipping up on the 9-5/8", the BOP will be tested to a minimum of 3000 psi. All BOP tests will include a low pressure test as per BLM regulations. The 3M 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) |
|-----------------|-----------------|--|-----------|--------------------|-----------------|
| 0' to 650' | 17-1/2" | FW/Native | 8.4-8.8 | 35-40 | NC |
| 650' to 7400' | 12-1/4" | Brine/ Diesel Emulsion | 8.8-9.0 | 30-32 | NC |
| 7400' to 19167' | 8-3/4" x 8-1/2" | FW / Cut Brine / Polymer/ OBM | 9.3 - 9.6 | 29-32 | NC - 20 |

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

Spud with fresh water/native mud. Drill out from under 13-3/8" surface casing with a Brine/Diesel Emulsion drilling fluid. The Brine/Diesel Emulsion drilling fluid will be used while drilling through the salt formation to the bottom of the hole section as it has a lower density range and inhibits hole enlargement. Use lost circulation 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 13-3/8" 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

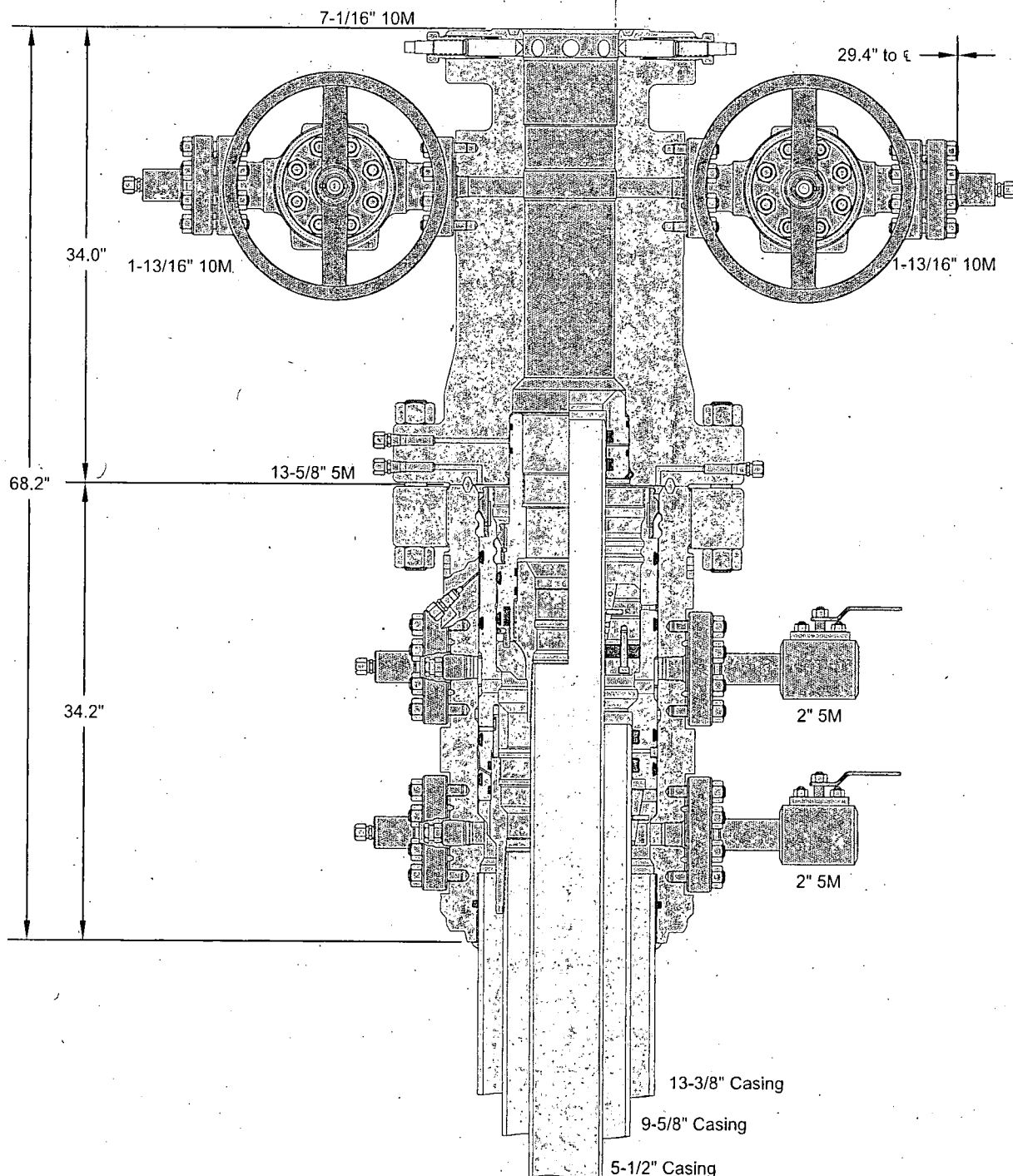
None Anticipated. BHT of 140 to 160 F is anticipated. No H2S is expected but monitors will be in place to detect any H2S occurrences. Should these circumstances be encountered the operator and drilling contractor are prepared to take all necessary steps to ensure safety of all personnel and environment. Lost circulation could occur 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 4412 psi.

10. Anticipated Starting Date and Duration of Operations

Road and location construction will begin after Santa Fe and BLM have approved the APD. Anticipated spud date will be as soon after Santa Fe and BLM approval and as soon as a rig will be available. Move in operations and drilling is expected to take 40 days. If production casing is run, an additional 30 days will be needed to complete well and construct surface facilities and/or lay flow lines in order to place well on production.



GE Oil & Gas



ALL DIMENSIONS ARE APPROXIMATE

This drawing is the property of GE Oil & Gas Pressure Control LP and is considered confidential. Unless otherwise approved in writing, neither it nor its contents may be used, copied, transmitted or reproduced except for the sole purpose of GE Oil & Gas Pressure Control LP.

XTO ENERGY, INC.

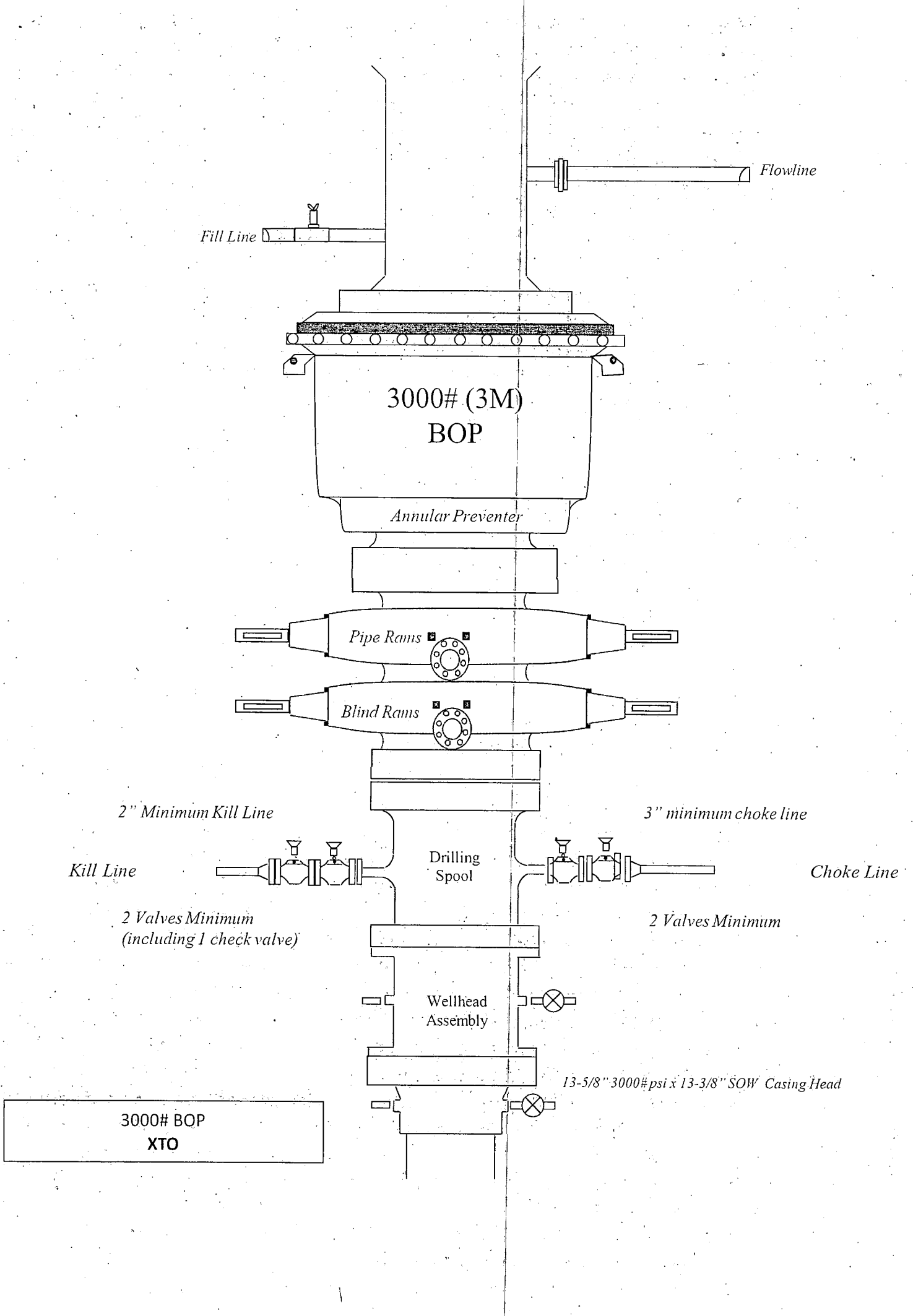
13-3/8" x 9-5/8" x 5-1/2" 10M RSH-2 Wellhead
Assembly, With T-EBS-F Tubing Head

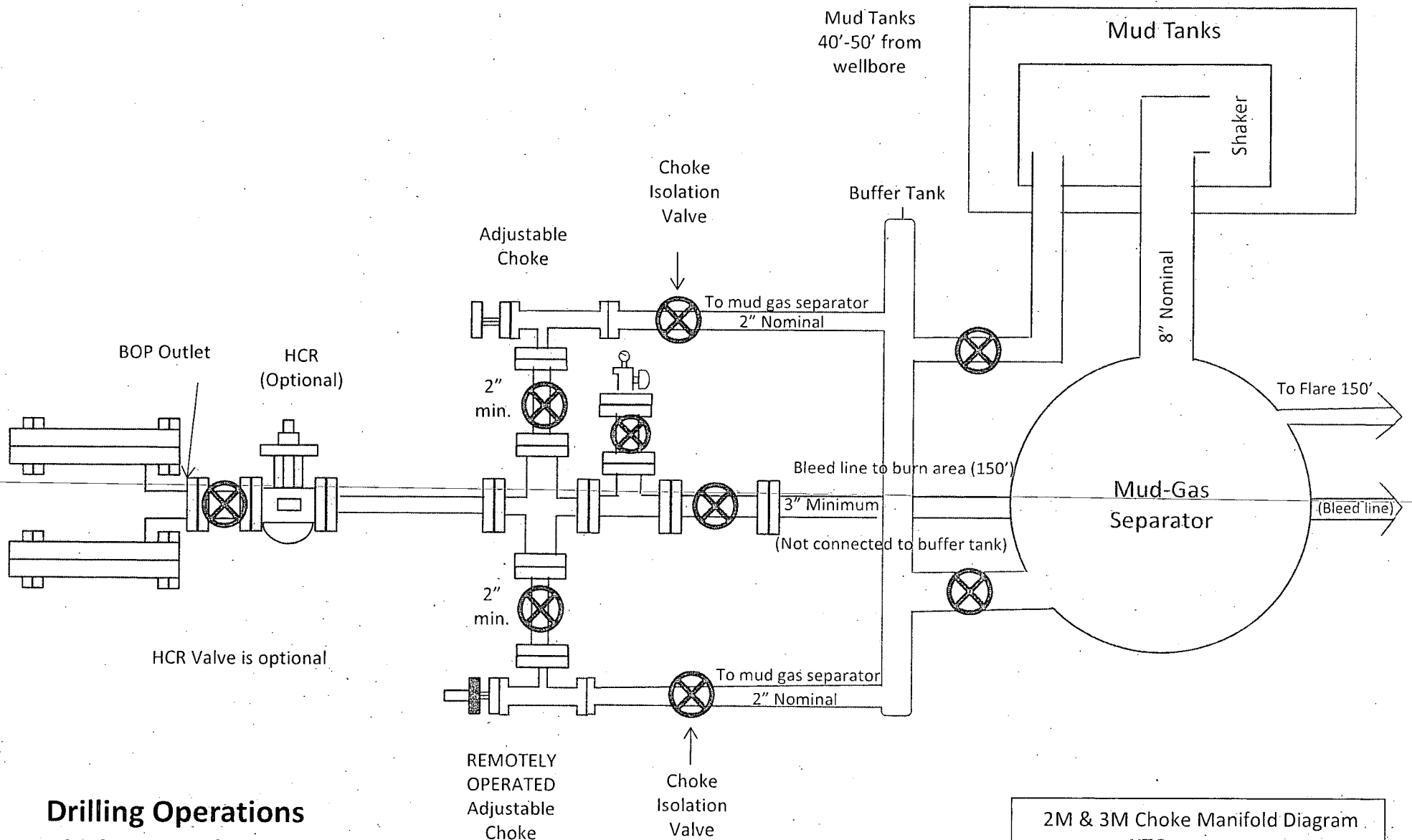
DRAWN VJK 16FEB17

APPRV KN 16FEB17

FOR REFERENCE ONLY

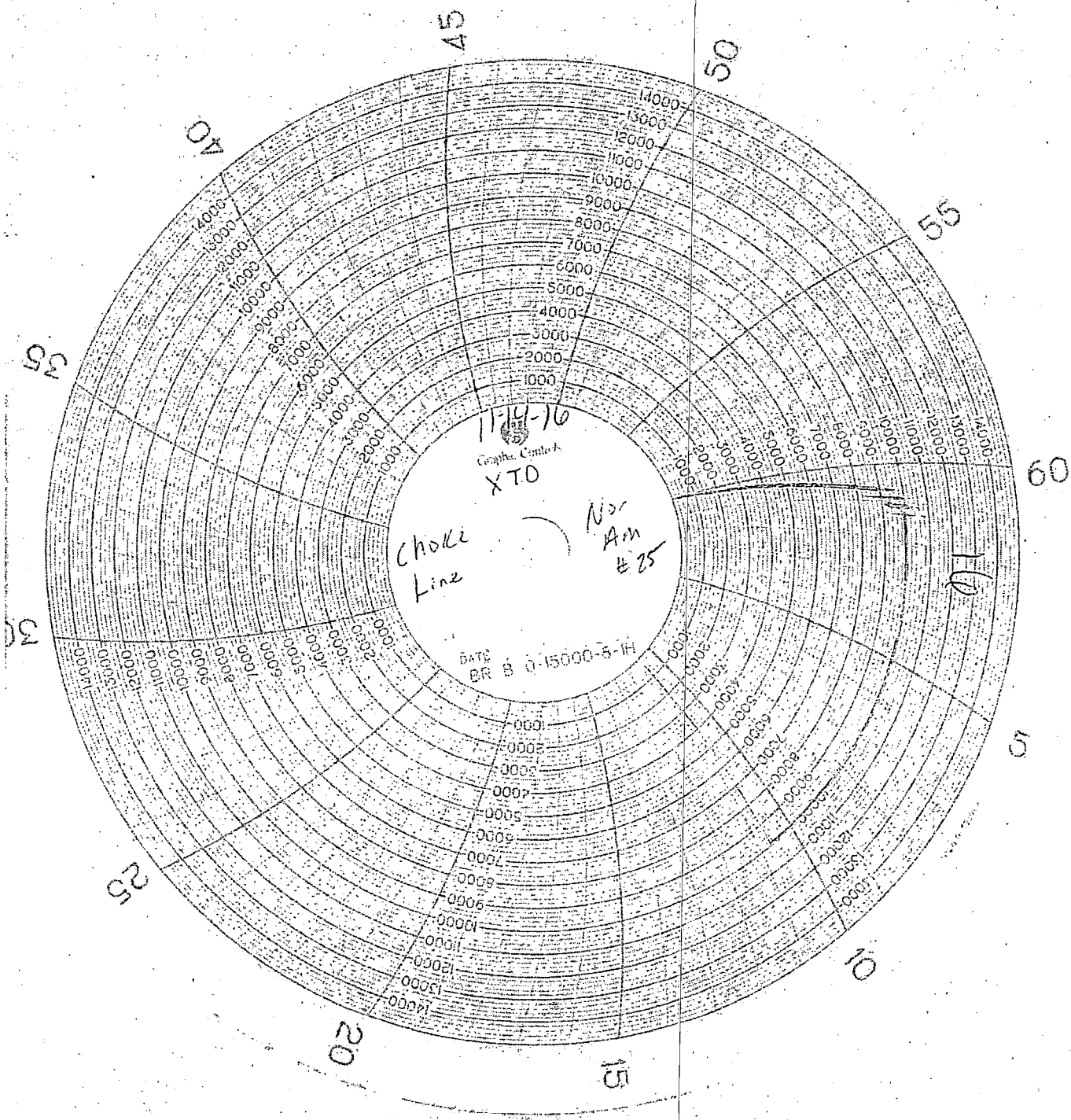
DRAWING NO. 10012842





Drilling Operations **Choke Manifold** **2M & 3M Service**

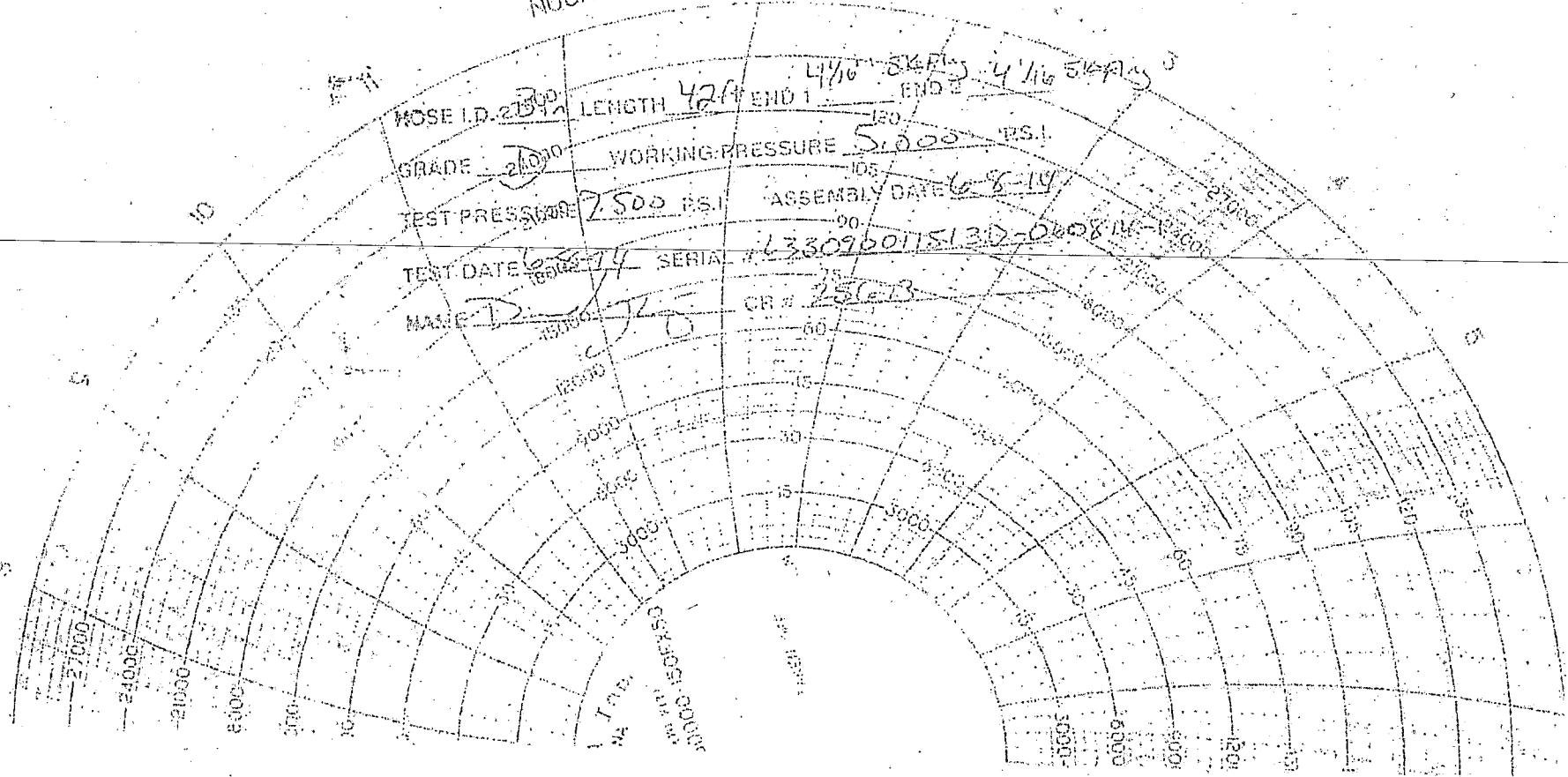
2M & 3M Choke Manifold Diagram
 XTO



NOON

2

HOSE I.D. 2 1/2 LENGTH 42 ft END 1 1 1/2 SK-FLY END 2 4 1/2 SK-FLY
GRADE D WORKING PRESSURE 5,000 P.S.I.
TEST PRESSURE 7,500 P.S.I. ASSEMBLY DATE 6-8-14
TEST DATE 6-8-14 SERIAL # 1330900115130-000814-1300
NAME D. J. L. CR # 256-B



PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

| | |
|-----------------------|--|
| OPERATOR'S NAME: | XTO Energy |
| LEASE NO.: | NMNM-136870 |
| WELL NAME & NO.: | Corral Canyon 10-15 Fed Com 10H |
| SURFACE HOLE FOOTAGE: | 0500' FNL & 2410' FWL |
| BOTTOM HOLE FOOTAGE: | 0050' FSL & 1980' FWL Sec. 15, T. 25 S., R 29 E. |
| LOCATION: | Section 10, T. 25 S., R 29 E., NMPM |
| COUNTY: | Eddy County, New Mexico |

Communitization Agreement

The operator will submit a Communitization Agreement to the Carlsbad Field Office, 620 E Greene St. Carlsbad, New Mexico 88220, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.

If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.

In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

A. DRILLING OPERATIONS REQUIREMENTS

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

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

☒ **Eddy County**

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

1. **Hydrogen Sulfide (H₂S) monitors shall be installed prior to drilling out the surface shoe. If H₂S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.**
2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a “Major” violation.**
3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works is located, this does not include the dog house or stairway area.
4. **The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

B. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) for Water Basin:

After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least **8 hours**. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements.

Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

Medium Cave/Karst

Possibility of water flows in the Salado and Castile.

Possibility of lost circulation in the Red Beds, Rustler, and Delaware.

1. The 13-3/8 inch surface casing shall be set at approximately 650 feet (in a competent bed below the Magenta Dolomite, which is a Member of the Rustler, and if salt is encountered, set casing at least 25 feet above the salt) and cemented to the surface. If salt is encountered, set casing at least 25 feet above the salt.

- a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is:

Option 1:

- ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash. Excess calculates to negative 19% - Additional cement will be required.**

Option 2:

Operator has proposed DV tool at depth of 3500', but will adjust cement proportionately if moved. DV tool shall be set a minimum of 50' below previous shoe and a minimum of 200' above current shoe. Operator shall submit sundry if DV tool depth cannot be set in this range. If an ECP is used, it is to be set a minimum of 50' below the shoe to provide cement across the shoe. If it cannot be set below the shoe, a CBL shall be run to verify cement coverage.

a. 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. Operator should have plans as to how they will achieve circulation on the next stage.

b. Second stage above DV tool:

- ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash. Excess calculates to negative 18% - Additional cement will be required.**

If cement does not circulate to surface on the intermediate casing, the cement on the production casing must come to surface.

Centralizers required through the curve and a minimum of one every other joint.

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.

4. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API 53.

2. Variance approved to use flex line from BOP to choke manifold. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. **Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.** If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).
3. **Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 3000 (3M) psi.**
 - a. **Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.**
 - b. **If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.**
 - c. **Manufacturer representative shall install the test plug for the initial BOP test.**
 - d. **Operator shall perform the intermediate casing integrity test to 70% of the casing burst. This will test the multi-bowl seals.**
 - e. **If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well-head shall be cut off, cementing operations performed and another wellhead installed.**
4. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
 - b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer.**

- c. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- d. The results of the test shall be reported to the appropriate BLM office.
- e. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**
- f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

E. WASTE MATERIAL AND FLUIDS

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

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

JAM 112119