

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**

|                                                                                                                                                                                                                                                                                                                                                                                                         |                                                           |                                                                                                                                                                                                                                                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER<br>1b. Type of Well: <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other INJ-DIS<br>1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone |                                                           | 5. Lease Serial No.<br><b>NMLC0071988B</b><br>6. If Indian, Allottee or Tribe Name<br><br>7. If Unit or CA Agreement, Name and No.<br><b>JAMES RANCH / NMNM070965X</b><br>8. Lease Name and Well No.<br><b>JAMES RANCH UNIT 17 SKYLARK FED 1</b> |
| 2. Name of Operator<br><b>XTO PERMIAN OPERATING LLC</b>                                                                                                                                                                                                                                                                                                                                                 |                                                           | 9. API Well No.<br><b>30 015 46676</b>                                                                                                                                                                                                           |
| 3a. Address<br><b>6401 Holiday Hill Road, Bldg 5 Midland TX 79707</b>                                                                                                                                                                                                                                                                                                                                   | 3b. Phone No. (include area code)<br><b>(432)682-8873</b> | 10. Field and Pool, or Exploratory<br><b>SWD; DEVONIAN-SILURIAN</b>                                                                                                                                                                              |
| 4. Location of Well (Report location clearly and in accordance with any State requirements. *)<br>At surface <b>SWNW / 2490 FNL / 1223 FWL / LAT 32.304886 / LONG -103.804427</b><br>At proposed prod. zone <b>SWNW / 2490 FNL / 1223 FWL / LAT 32.304886 / LONG -103.804427</b>                                                                                                                        |                                                           | 11. Sec., T. R. M. or Blk. and Survey or Area<br><b>SEC 17 / T23S / R31E / NMP</b>                                                                                                                                                               |
| 14. Distance in miles and direction from nearest town or post office*<br><b>13.2 miles</b>                                                                                                                                                                                                                                                                                                              |                                                           | 12. County or Parish<br><b>EDDY</b>                                                                                                                                                                                                              |
| 15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) <b>1223 feet</b>                                                                                                                                                                                                                                                                  |                                                           | 16. No of acres in lease<br><b>480</b>                                                                                                                                                                                                           |
| 18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. <b>206 feet</b>                                                                                                                                                                                                                                                                              |                                                           | 17. Spacing Unit dedicated to this well<br><b>0</b>                                                                                                                                                                                              |
| 21. Elevations (Show whether DF, KDB, RT, GL, etc.)<br><b>3317 feet</b>                                                                                                                                                                                                                                                                                                                                 |                                                           | 20. BLM/BIA Bond No. in file<br><b>FED: COB000050</b>                                                                                                                                                                                            |
| 22. Approximate date work will start*<br><b>06/01/2019</b>                                                                                                                                                                                                                                                                                                                                              |                                                           | 23. Estimated duration<br><b>90 days</b>                                                                                                                                                                                                         |
| 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.<br>2. A Drilling Plan.<br>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).<br>5. Operator certification.<br>6. Such other site specific information and/or plans as may be requested by the BLM. |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                                                                                                                        |                                                                      |                           |
|------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|---------------------------|
| 25. Signature<br>(Electronic Submission)<br><br>Title<br><b>Regulatory Coordinator</b>                                 | Name (Printed/Typed)<br><b>Stephanie Rabadue / Ph: (432)620-6714</b> | Date<br><b>10/24/2019</b> |
| Approved by (Signature)<br>(Electronic Submission)<br><br>Title<br><b>Assistant Field Manager Lands &amp; Minerals</b> | Name (Printed/Typed)<br><b>Cody Layton / Ph: (575)234-5959</b>       | Date<br><b>01/27/2020</b> |
| Office<br><b>CARLSBAD</b>                                                                                              |                                                                      |                           |

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.



District I  
1625 N. French Dr., Hobbs, NM 88240  
Phone: (575) 393-6161 Fax: (575) 393-0720  
District II  
811 S. First St., Artesia, NM 88210  
Phone: (575) 748-1283 Fax: (575) 748-9720  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
Phone: (505) 334-6178 Fax: (505) 334-6170  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505  
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico  
Energy, Minerals & Natural Resources Department  
OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-102  
Revised August 1, 2011  
Submit one copy to appropriate  
District Office  
☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

|                                    |                                                                   |                                         |
|------------------------------------|-------------------------------------------------------------------|-----------------------------------------|
| <sup>1</sup> API Number<br>30-015- | <sup>2</sup> Pool Code<br>96101                                   | <sup>3</sup> Pool Name<br>SWD; Devonian |
| <sup>4</sup> Property Code         | <sup>5</sup> Property Name<br>James Ranch Unit 17 Skylark Fed SWD |                                         |
| <sup>7</sup> OGRID No.<br>373075   | <sup>8</sup> Operator Name<br>XTO Permian Operating, LLC          | <sup>6</sup> Well Number<br>1           |
|                                    |                                                                   | <sup>9</sup> Elevation<br>3,317'        |

<sup>10</sup> Surface Location

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| E             | 17      | 23 S     | 31 E  |         | 2,490         | NORTH            | 1,223         | WEST           | EDDY   |

<sup>11</sup> Bottom Hole Location If Different From Surface

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
|               |         |          |       |         |               |                  |               |                |        |

|                                    |                               |                                  |                         |
|------------------------------------|-------------------------------|----------------------------------|-------------------------|
| <sup>12</sup> Dedicated Acres<br>0 | <sup>13</sup> Joint or Infill | <sup>14</sup> Consolidation Code | <sup>15</sup> Order No. |
|------------------------------------|-------------------------------|----------------------------------|-------------------------|

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

|                                                                                                                                                                                                                                                                                                                                       |  |                                                                                                                                                                                                                                                                                                                                       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <sup>16</sup><br>                                                                                                                                                                                                                                                                                                                     |  |                                                                                                                                                                                                                                                                                                                                       |  | <sup>17</sup> OPERATOR CERTIFICATION<br>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.<br>Stephanie Rabadue 07/15/2019<br>Signature Date<br>Stephanie Rabadue<br>Printed Name<br>stephanie_rabadue@xtoenergy.com<br>E-mail Address |  |
| <sup>18</sup> SURVEYOR CERTIFICATION<br>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.<br>2-4-2019<br>Date of Survey<br>Signature and Seal of Professional Surveyor:   |  |                                                                                                                                                                                                                                                                                                                                       |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |
| GEODETTIC COORDINATES<br>NAD 27 NME<br>SURFACE LOCATION<br>Y= 474,993.3<br>X= 663,565.4<br>LAT.= 32.304763°N<br>LONG.= 103.803939°W<br>CORNER COORDINATES TABLE<br>NAD 27 NME<br>A - Y= 477,475.8 N, X= 662,328.9 E<br>B - Y= 477,491.3 N, X= 664,961.6 E<br>C - Y= 474,836.3 N, X= 662,342.8 E<br>D - Y= 474,850.8 N, X= 664,978.1 E |  | GEODETTIC COORDINATES<br>NAD 83 NME<br>SURFACE LOCATION<br>Y= 475,052.9<br>X= 704,748.2<br>LAT.= 32.304886°N<br>LONG.= 103.804427°W<br>CORNER COORDINATES TABLE<br>NAD 83 NME<br>A - Y= 477,535.4 N, X= 703,511.6 E<br>B - Y= 477,550.9 N, X= 706,144.3 E<br>C - Y= 474,895.9 N, X= 703,525.6 E<br>D - Y= 474,910.4 N, X= 706,160.9 E |  | MARK DILLON HARP 23786<br>Certificate Number TM 2018112621                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |

# PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

|                              |                                              |
|------------------------------|----------------------------------------------|
| <b>OPERATOR'S NAME:</b>      | <b>XTO Permian Operating, LLC</b>            |
| <b>LEASE NO.:</b>            | <b>NMLC-0071988B</b>                         |
| <b>WELL NAME &amp; NO.:</b>  | <b>James Ranch Unit 17 Skylark Fed SWD 1</b> |
| <b>SURFACE HOLE FOOTAGE:</b> | <b>2490' FNL &amp; 1223' FWL</b>             |
| <b>LOCATION:</b>             | <b>Section 17, T.23 S., R.31 E., NMPM</b>    |
| <b>COUNTY:</b>               | <b>Eddy County, New Mexico</b>               |

COA

|                      |                                                  |                                            |                                          |
|----------------------|--------------------------------------------------|--------------------------------------------|------------------------------------------|
| H2S                  | <input type="radio"/> Yes                        | <input checked="" type="radio"/> No        |                                          |
| Potash               | <input type="radio"/> None                       | <input type="radio"/> Secretary            | <input checked="" type="radio"/> R-111-P |
| Cave/Karst Potential | <input checked="" type="radio"/> Low             | <input type="radio"/> Medium               | <input type="radio"/> High               |
| Cave/Karst Potential | <input type="radio"/> Critical                   |                                            |                                          |
| Variance             | <input type="radio"/> None                       | <input checked="" type="radio"/> Flex Hose | <input type="radio"/> Other              |
| Wellhead             | <input type="radio"/> Conventional               | <input checked="" type="radio"/> Multibowl | <input type="radio"/> Both               |
| Other                | <input type="checkbox"/> 4 String Area           | <input type="checkbox"/> Capitan Reef      | <input type="checkbox"/> WIPP            |
| Other                | <input checked="" type="checkbox"/> Fluid Filled | <input type="checkbox"/> Cement Squeeze    | <input type="checkbox"/> Pilot Hole      |
| Special Requirements | <input type="checkbox"/> Water Disposal          | <input type="checkbox"/> COM               | <input checked="" type="checkbox"/> Unit |

## A. HYDROGEN SULFIDE

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

### R-111-P Potash

**Possible water flows in the Salado and Castile.**

**Possible lost circulation in the Red Beds, Rustler, and Delaware.**

**Abnormal pressures expected to be encountered at the Base of the 3rd Bone Springs/Top of the Wolfcamp.**

## B. CASING

1. The **18-5/8** inch surface casing shall be set at approximately **730** feet (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite and 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 will be a minimum of **24 hours in the Potash Area** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
  - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
  - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the **13-3/8** inch 1<sup>st</sup> intermediate casing is:
  - 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 potash.**

3. The minimum required fill of cement behind the **9-5/8** inch 2<sup>nd</sup> intermediate casing is:

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. DV tool shall be set a minimum of 50' below previous shoe and a minimum of 200' above current shoe. The DV tool may be cancelled if cement circulates to surface on the first stage.

- a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.
- b. Second stage above DV tool:
  - Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to potash.**

- ❖ In R111 Potash Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

**Production casing must be kept fluid filled to meet BLM minimum collapse requirement.**

4. The minimum required fill of cement behind the 7 inch production liner is:
  - Cement as proposed by operator. Operator shall provide method of verification.

**Open hole completion from 15,930'-17,120'.**

### **C. PRESSURE CONTROL**

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).
2. **In the case where the only BOP installed is an annular preventer, it shall be tested to a minimum of 2000 psi (which may require upgrading to 3M or 5M annular).**
3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M) psi.**
4. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the 13-3/8" 1<sup>st</sup> intermediate casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 1<sup>st</sup> intermediate casing shoe shall be **10,000 (10M) psi. Operator must have a full functioning 10M BOP no variance is approved.**
  - 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. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
  - e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

## **D. SPECIAL REQUIREMENT (S)**

### **Unit Wells**

The well sign for a unit well shall include the unit number in addition to the surface and bottom hole lease numbers. This also applies to participating area numbers. If a participating area has not been established, the operator can use the general unit designation, but will replace the unit number with the participating area number when the sign is replaced.

### **Commercial Well Determination**

A commercial well determination shall be submitted after production has been established for at least six months.

### **Well Completion**

**The operator shall supply the BLM with a copy of a mudlog over the permitted disposal interval and estimated insitu water salinity based on open-hole logs. If hydrocarbon shows occur while drilling, the operator shall notify the BLM.**

**The operator shall provide to the BLM a summary of formation depth picks based on mudlog and geophysical logs along with a copy of the mudlog and open hole logs from TD to top of Devonian**

A NOI sundry with the completion procedure for this well shall be submitted and approved prior to commencing completion work. The procedure will be reviewed to verify that the completion proposal will allow the operator to:

1. Properly evaluate the injection zone utilizing open hole logs, swab testing and/or any other method to confirm that hydrocarbons cannot be produced in paying quantities. This evaluation shall be reviewed by the BLM prior to injection commencing.
2. Restrict the injection fluid to the approved formation.
3. If a step rate test will be run an NOI sundry shall be submitted to the BLM for approval

If off-lease water will be disposed in this well, the operator shall provide proof of right-of-way approval.

## GENERAL REQUIREMENTS

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

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

☒ Eddy County

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

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

### A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. 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.
4. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
5. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
6. 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.
7. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

**B. PRESSURE CONTROL**

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
  - a. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).
  - 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.
  - g. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

#### C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

D. WASTE MATERIAL AND FLUIDS

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

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

**JAM 011520**

**PECOS DISTRICT  
SURFACE USE  
CONDITIONS OF APPROVAL**

**XTO Permian Operating LLC  
James Ranch Unit DI 3 Drill Island MW  
Lease Number NMLC0071988B**

**James Ranch Unit DI 3 Future Well #1:** Slot A2

**Surface Hole Location:** 1,397' FWL & 2,585' FNL, Section 17, T. 23 S. R. 31 E.

**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #2:** Slot A3

**Surface Hole Location:** 1,472' FWL & 2,585' FNL, Section 17, T. 23 S. R. 31 E.

**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #3:** Slot A4

**Surface Hole Location:** 1,597' FWL & 2,585' FNL, Section 17, T. 23 S. R. 31 E.

**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #4:** Slot A5

**Surface Hole Location:** 1,672' FWL & 2,585' FNL, Section 17, T. 23 S. R. 31 E.

**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #5:** Slot B2

**Surface Hole Location:** 1,397' FWL & 2,615' FNL, Section 17, T. 23 S. R. 31 E.

**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #6:** Slot B3

**Surface Hole Location:** 1,472' FWL & 2,615' FNL, Section 17, T. 23 S. R. 31 E.

**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #7:** Slot B4

**Surface Hole Location:** 1,597' FWL & 2,615' FNL, Section 17, T. 23 S. R. 31 E.

**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #8:** Slot B5

**Surface Hole Location:** 1,672' FWL & 2,615' FNL, Section 17, T. 23 S. R. 31 E.

**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #9:** Slot C2

**Surface Hole Location:** 1,398' FWL & 2,639' FSL, Section 17, T. 23 S. R. 31 E.

**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #10:** Slot C3

**Surface Hole Location:** 1,473' FWL & 2,638' FSL, Section 17, T. 23 S. R. 31 E.

**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #11:** Slot C4  
**Surface Hole Location:** 1,598' FWL & 2,638' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #12:** Slot C5  
**Surface Hole Location:** 1,673' FWL & 2,638' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #13:** Slot D2  
**Surface Hole Location:** 1,398' FWL & 2,609' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #14:** Slot D3  
**Surface Hole Location:** 1,473' FWL & 2,608' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #15:** Slot D4  
**Surface Hole Location:** 1,598' FWL & 2,608' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #16:** Slot D5  
**Surface Hole Location:** 1,673' FWL & 2,608' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #17:** Slot E1  
**Surface Hole Location:** 1,274' FWL & 2,484' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #18:** Slot E2  
**Surface Hole Location:** 1,399' FWL & 2,484' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #19:** Slot E3  
**Surface Hole Location:** 1,474' FWL & 2,483' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #20:** Slot E4  
**Surface Hole Location:** 1,599' FWL & 2,483' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #21:** Slot E5  
**Surface Hole Location:** 1,674' FWL & 2,483' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #22:** Slot F1  
**Surface Hole Location:** 1,274' FWL & 2,454' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #23:** Slot F2  
**Surface Hole Location:** 1,399' FWL & 2,454' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #24:** Slot F3  
**Surface Hole Location:** 1,474' FWL & 2,453' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #25:** Slot F4  
**Surface Hole Location:** 1,599' FWL & 2,453' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #26:** Slot F5  
**Surface Hole Location:** 1,674' FWL & 2,453' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #27:** Slot G1  
**Surface Hole Location:** 1,274' FWL & 2,424' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #28:** Slot G2  
**Surface Hole Location:** 1,399' FWL & 2,424' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #29:** Slot G3  
**Surface Hole Location:** 1,474' FWL & 2,423' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #30:** Slot G4  
**Surface Hole Location:** 1,599' FWL & 2,423' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #31:** Slot G5  
**Surface Hole Location:** 1,674' FWL & 2,423' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #32:** Slot H1  
**Surface Hole Location:** 1,275' FWL & 2,394' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #33:** Slot H2  
**Surface Hole Location:** 1,400' FWL & 2,394' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #34:** Slot H3  
**Surface Hole Location:** 1,475' FWL & 2,393' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #35:** Slot H4  
**Surface Hole Location:** 1,600' FWL & 2,393' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #36:** Slot H5  
**Surface Hole Location:** 1,675' FWL & 2,393' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #37:** Slot I1  
**Surface Hole Location:** 1,276' FWL & 2,269' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #38:** Slot I2  
**Surface Hole Location:** 1,401' FWL & 2,269' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #39:** Slot I3  
**Surface Hole Location:** 1,476' FWL & 2,268' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #40:** Slot I4  
**Surface Hole Location:** 1,601' FWL & 2,268' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #41:** Slot I5  
**Surface Hole Location:** 1,676' FWL & 2,268' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #42:** Slot J1  
**Surface Hole Location:** 1,276' FWL & 2,239' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #43:** Slot J2  
**Surface Hole Location:** 1,401' FWL & 2,239' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #44:** Slot J3  
**Surface Hole Location:** 1,476' FWL & 2,238' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #45:** Slot J4  
**Surface Hole Location:** 1,601' FWL & 2,238' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #46:** Slot J5  
**Surface Hole Location:** 1,676' FWL & 2,238' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #47:** Slot K1  
**Surface Hole Location:** 1,276' FWL & 2,209' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #48:** Slot K2  
**Surface Hole Location:** 1,401' FWL & 2,209' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #49:** Slot K3  
**Surface Hole Location:** 1,476' FWL & 2,208' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #50:** Slot K4  
**Surface Hole Location:** 1,601' FWL & 2,208' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #51:** Slot K5  
**Surface Hole Location:** 1,676' FWL & 2,208' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #52:** Slot L1  
**Surface Hole Location:** 1,277' FWL & 2,179' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #53:** Slot L2  
**Surface Hole Location:** 1,402' FWL & 2,179' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #54:** Slot L3  
**Surface Hole Location:** 1,477' FWL & 2,178' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #55:** Slot L4  
**Surface Hole Location:** 1,602' FWL & 2,178' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 Future Well #56:** Slot L5  
**Surface Hole Location:** 1,677' FWL & 2,178' FSL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** To Be Determined

**James Ranch Unit DI 3 BS2A-4N 311H:** Slot M6  
**Surface Hole Location:** 2,080' FWL & 2,503' FNL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** 2,310' FWL & 50' FNL, Section 8, T. 23 S. R. 31 E.

**James Ranch Unit DI 3 BS2B-3N 310H:** Slot N6  
**Surface Hole Location:** 2,081' FWL & 2,533' FNL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** 1,650' FWL & 50' FNL, Section 8, T. 23 S. R. 31 E.

**James Ranch Unit DI 3 BS3-3N 232H:** Slot O6  
**Surface Hole Location:** 2,081' FWL & 2,563' FNL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** 1,650' FWL & 50' FNL, Section 8, T. 23 S. R. 31 E.

**James Ranch Unit DI 3 WYC-4N 233H:** Slot P6  
**Surface Hole Location:** 2,081' FWL & 2,593' FNL, Section 17, T. 23 S. R. 31 E.  
**Bottom Hole Location:** 2,310' FWL & 50' FNL, Section 8, T. 23 S. R. 31 E.

**JRU 17 Skylark SWD #1:** Slot AA0  
**Surface Hole Location:** 1,223' FWL & 2,490' FNL, Section 17, T. 23 S. R. 31 E.

## **TABLE OF CONTENTS**

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

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- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☐ **Special Requirements**

- ☐ **Construction**
  - Notification
  - Topsoil
  - Closed Loop System
  - Federal Mineral Material Pits
  - Well Pads
  - Roads

- ☐ **Road Section Diagram**
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  - Well Structures & Facilities
  - Pipelines
  - Electric Lines

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- ☐ **Final Abandonment & Reclamation**

## **I. GENERAL PROVISIONS**

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

## **II. PERMIT EXPIRATION**

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

## **III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES**

Any cultural resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

OR

If the entire project is covered under the Permian Basin Programmatic Agreement (cultural resources only):

The proponent has contributed funds commensurate to the undertaking into an account for offsite mitigation. Participation in the PA serves as mitigation for the effects of this project on cultural resources. If any human skeletal remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered at any time during construction, all construction activities shall halt and the BLM will be notified as soon as possible within 24 hours. Work shall not resume until a Notice to Proceed is issued by the BLM. See information below discussing NAGPRA.

If the proposed project is split between a Class III inventory and a Permian Basin Programmatic Agreement contribution, the portion of the project covered under Class III inventory should default to the first paragraph stipulations.

The holder is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently during the course of project implementation. In the event that any of the cultural items listed above are discovered during the course of project work, the proponent shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The proponent or initiator of any project shall be held responsible for protecting, evaluating, reporting, excavating, treating, and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes."

Any paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

#### **IV. NOXIOUS WEEDS**

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

## **V. SPECIAL REQUIREMENT(S)**

## **VI. CONSTRUCTION**

### **A. NOTIFICATION**

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5909 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

### **B. TOPSOIL**

The operator shall strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation.

### **C. CLOSED LOOP SYSTEM**

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

### **D. FEDERAL MINERAL MATERIALS PIT**

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

### **E. WELL PAD SURFACING**

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation. The well pad shall be constructed in a manner which

creates the smallest possible surface disturbance, consistent with safety and operational needs.

## **F. EXCLOSURE FENCING (CELLARS & PITS)**

### **Exclosure Fencing**

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

## **G. ON LEASE ACCESS ROADS**

### **Road Width**

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

### **Surfacing**

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

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

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

### **Crowning**

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

### **Ditching**

Ditching shall be required on both sides of the road.

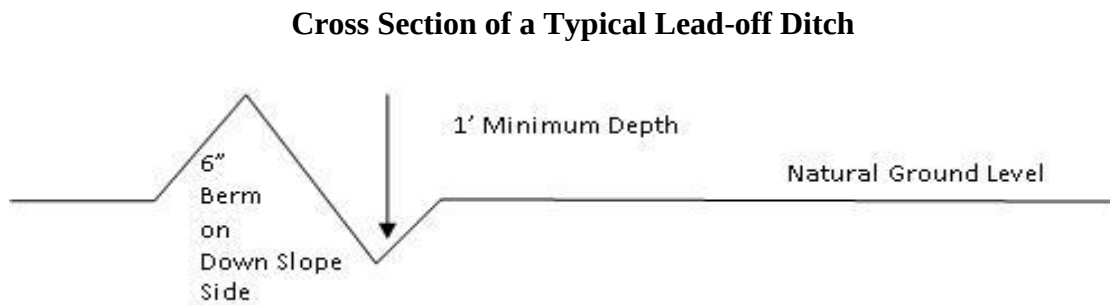
### **Turnouts**

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

### **Drainage**

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

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



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

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

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

$$400 \text{ foot road with } 4\% \text{ road slope: } \frac{400'}{4\%} + 100' = 200' \text{ lead-off ditch interval}$$

### **Cattle guards**

An appropriately sized cattle guard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattle guards on the access road route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattle guards that are in place and are utilized during lease operations.

### **Fence Requirement**

Where entry is granted across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

**Public Access**

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

### Construction Steps

1. Salvage topsoil
2. Construct road

3. Redistribute topsoil
4. Revegetate slopes

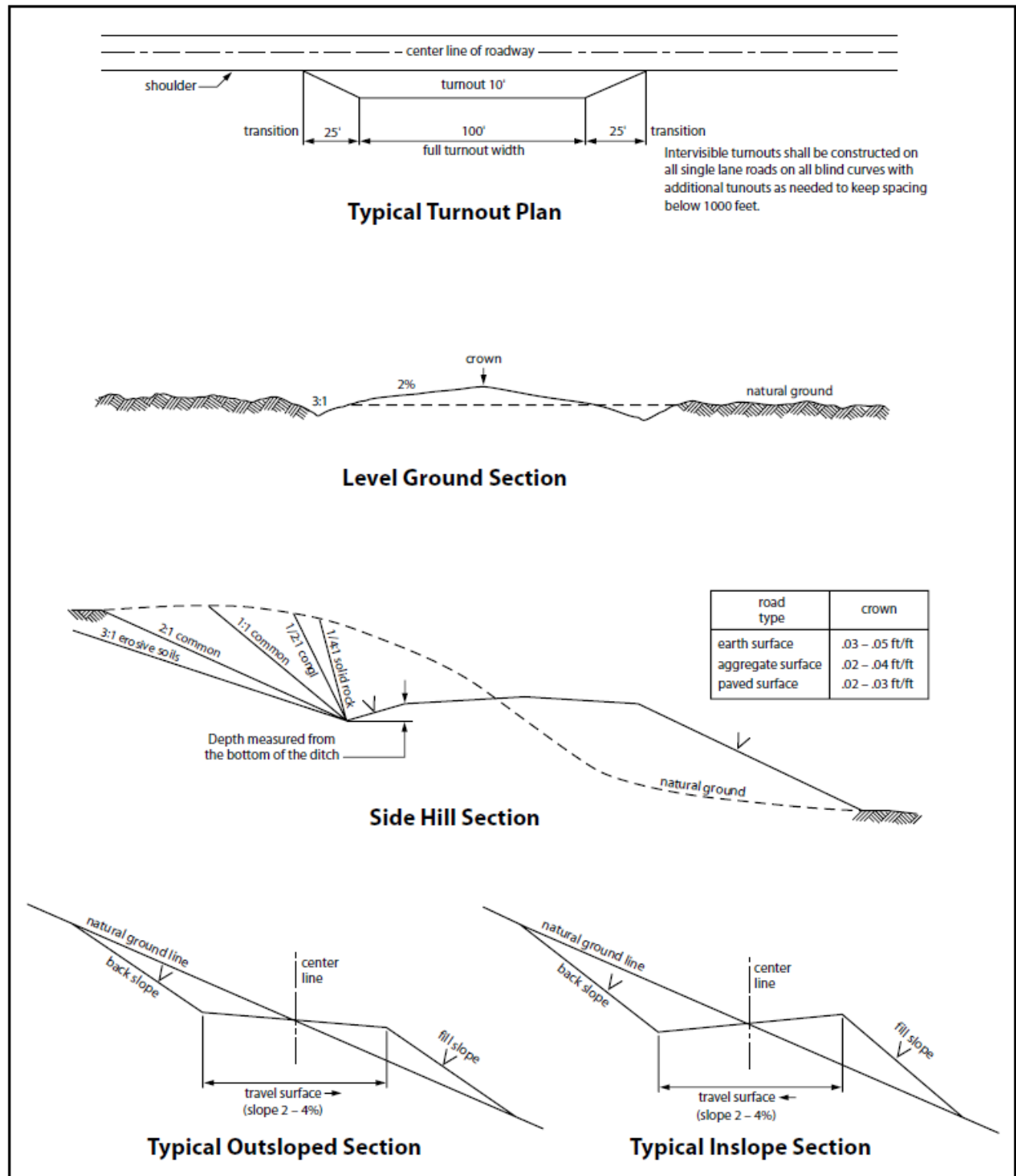


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

## **VII. PRODUCTION (POST DRILLING)**

### **A. WELL STRUCTURES & FACILITIES**

#### **Placement of Production Facilities**

Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

#### **Exclosure Netting (Open-top Tanks)**

Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

#### **Chemical and Fuel Secondary Containment and Exclosure Screening**

The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

#### **Open-Vent Exhaust Stack Exclosures**

The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone.*) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

#### **Containment Structures**

Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

### **Painting Requirement**

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, **Shale Green** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

## **B. PIPELINES**

### **BURIED PIPELINE STIPULATIONS**

A copy of the application (Grant, APD, or Sundry Notice) and attachments, including conditions of approval, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.
2. The Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.
3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil or other pollutant, wherever found, shall be the responsibility of holder, regardless of fault. Upon failure of holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve holder of any responsibility as provided herein.

5. All construction and maintenance activity will be confined to the authorized right-of-way.
6. The pipeline will be buried with a minimum cover of 36 inches between the top of the pipe and ground level.
7. The maximum allowable disturbance for construction in this right-of-way will be 30 feet:
- Blading of vegetation within the right-of-way will be allowed: maximum width of blading operations will not exceed 20 feet. The trench is included in this area. (*Blading is defined as the complete removal of brush and ground vegetation.*)
  - Clearing of brush species within the right-of-way will be allowed: maximum width of clearing operations will not exceed 30 feet. The trench and bladed area are included in this area. (*Clearing is defined as the removal of brush while leaving ground vegetation (grasses, weeds, etc.) intact. Clearing is best accomplished by holding the blade 4 to 6 inches above the ground surface.*)
  - The remaining area of the right-of-way (if any) shall only be disturbed by compressing the vegetation. (*Compressing can be caused by vehicle tires, placement of equipment, etc.*)
8. The holder shall stockpile an adequate amount of topsoil where blading is allowed. The topsoil to be stripped is approximately 6 inches in depth. The topsoil will be segregated from other spoil piles from trench construction. The topsoil will be evenly distributed over the bladed area for the preparation of seeding.
9. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.
10. Vegetation, soil, and rocks left as a result of construction or maintenance activity will be randomly scattered on this right-of-way and will not be left in rows, piles, or berms, unless otherwise approved by the Authorized Officer. The entire right-of-way shall be recontoured to match the surrounding landscape. The backfilled soil shall be compacted and a 6 inch berm will be left over the ditch line to allow for settling back to grade.
11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.
12. The holder will reseed all disturbed areas. Seeding will be done according to the attached seeding requirements, using the following seed mix.

- |                                                    |                                                  |
|----------------------------------------------------|--------------------------------------------------|
| <input type="checkbox"/> seed mixture 1            | <input type="checkbox"/> seed mixture 3          |
| <input checked="" type="checkbox"/> seed mixture 2 | <input type="checkbox"/> seed mixture 4          |
| <input type="checkbox"/> seed mixture 2/LPC        | <input type="checkbox"/> Aplomado Falcon Mixture |

13. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2.

14. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. All signs and information thereon will be posted in a permanent, conspicuous manner, and will be maintained in a legible condition for the life of the pipeline.

15. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder before maintenance begins. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway. As determined necessary during the life of the pipeline, the Authorized Officer may ask the holder to construct temporary deterrence structures.

16. Any cultural resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

OR

If the entire project is covered under the Permian Basin Programmatic Agreement (cultural resources only):

The proponent has contributed funds commensurate to the undertaking into an account for offsite mitigation. Participation in the PA serves as mitigation for the effects of this project on cultural resources. If any human skeletal remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered at any time during construction, all construction activities shall halt and the BLM will be notified as soon as possible within 24 hours. Work shall not resume until a Notice to Proceed is issued by the BLM. See Stipulation 17 for more information.

If the proposed project is split between a Class III inventory and a Permian Basin Programmatic Agreement contribution, the portion of the project covered under Class III inventory should default to the first paragraph stipulations.

17. The holder is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently during the course of project implementation. In the event that any of the cultural items listed above are discovered during the course of project work, the proponent shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The proponent or initiator of any project shall be held responsible for protecting, evaluating, reporting, excavating, treating, and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes."

18. Any paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

19. The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes associated roads, pipeline corridor and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

20. Escape Ramps - The operator will construct and maintain pipeline/utility trenches [that are not otherwise fenced, screened, or netted] to prevent livestock, wildlife, and humans from becoming entrapped. At a minimum, the operator will construct and maintain escape ramps, ladders, or other methods of avian and terrestrial wildlife escape in the trenches according to the following criteria:

- a. Any trench left open for eight (8) hours or less is not required to have escape ramps; however, before the trench is backfilled, the contractor/operator shall inspect the trench for wildlife, remove all trapped wildlife, and release them at least 100 yards from the trench.
- b. For trenches left open for eight (8) hours or more, earthen escape ramps (built at no more than a 30 degree slope and spaced no more than 500 feet apart) shall be placed in the trench.

## STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES

**A copy of the application (Grant, Sundry Notice, APD) and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.**

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or

property arising from the occupancy or use of public lands under this grant.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to activity of the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. The holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. The holder shall be held to a standard of strict liability for damage or injury to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the right-of-way or permit area:

- a. Activities of the holder including, but not limited to construction, operation, maintenance, and termination of the facility.
- b. Activities of other parties including, but not limited to:
  - (1) Land clearing.
  - (2) Earth-disturbing and earth-moving work.
  - (3) Blasting.
  - (4) Vandalism and sabotage.
- c. Acts of God.

The maximum limitation for such strict liability damages shall not exceed one million dollars (\$1,000,000) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from an act of war or from the negligent acts or omissions of the United States.

5. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil, salt water, or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil, salt water, or other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any responsibility as provided herein.

6. All construction and maintenance activity will be confined to the authorized right-of-way width of 20 feet. If the pipeline route follows an existing road or buried pipeline right-of-way, the surface pipeline must be installed no farther than 10 feet from the edge of the road or buried pipeline right-of-way. If existing surface pipelines prevent this distance, the proposed surface pipeline must be installed immediately adjacent to the outer surface pipeline. All construction and maintenance activity will be confined to existing roads or right-of-ways.

7. No blading or clearing of any vegetation will be allowed unless approved in writing by the Authorized Officer.

8. The holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky or dune areas, the pipeline will be "snaked" around hummocks and dunes rather than suspended across these features.

9. The pipeline shall be buried with a minimum of 24 inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of construction, shall be returned to at least its former state with no bumps or dips remaining in the road surface.

10. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil

conditions being encountered and which are in accordance with sound resource management practices.

12. Excluding the pipe, all above-ground structures not subject to safety requirement shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2; designated by the Rocky Mountain Five State Interagency Committee.

13. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. Signs will be maintained in a legible condition for the life of the pipeline.

14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.

15. Any cultural resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

OR

If the entire project is covered under the Permian Basin Programmatic Agreement (cultural resources only):

The proponent has contributed funds commensurate to the undertaking into an account for offsite mitigation. Participation in the PA serves as mitigation for the effects of this project on cultural resources. If any human skeletal remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered at any time during construction, all construction activities shall halt and the BLM will be notified as soon as possible within 24 hours. Work shall not resume until a Notice to Proceed is issued by the BLM. See Stipulation 16 for more information.

If the proposed project is split between a Class III inventory and a Permian Basin Programmatic Agreement contribution, the portion of the project covered under Class III inventory should default to the first paragraph stipulations.

16. The holder is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently during the course of project implementation. In the event that any of the cultural items listed above are discovered during the course of project work, the proponent shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The proponent or initiator of any project shall be held responsible for protecting, evaluating, reporting, excavating, treating, and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes."

17. Any paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

18. The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, powerline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

19. Surface pipelines must be less than or equal to 4 inches and a working pressure below 125 psi.

- The BLM, Carlsbad Field Office, will be informed immediately if any subsurface drainage channels, passages, or voids are intersected by trenching, and no pipe will be laid in the trench at that point until clearance has been issued by the Authorized Officer.
- If a void is encountered alignments may be rerouted to avoid the karst feature and lessen; the potential of subsidence or collapse of karst features, buildup of toxic or combustible gas, or other possible impacts to cave and karst resources from the buried pipeline.
- Special restoration stipulations or realignment may be required at such intersections, if any.
- A leak detection plan **will be submitted to the BLM Carlsbad Field Office for approval** prior to pipeline installation. The method could incorporate gauges to detect pressure drops, situating valves and lines so they can be visually inspected periodically or installing electronic sensors to alarm when a leak is present. The leak detection plan will incorporate an automatic shut off system that will be

- installed for proposed pipelines to minimize the effects of an undesirable event.
- Regular monitoring is required to quickly identify leaks for their immediate and proper treatment.
- All spills or leaks will be reported to the BLM immediately for their immediate and proper treatment.

## C. ELECTRIC LINES

### STANDARD STIPULATIONS FOR OVERHEAD ELECTRIC DISTRIBUTION LINES

**A copy of the grant and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.**

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.
2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.
3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.
4. There will be no clearing or blading of the right-of-way unless otherwise agreed to in writing by the Authorized Officer.
5. Power lines shall be constructed and designed in accordance to standards outlined in "Suggested Practices for Avian Protection on Power lines: The State of the Art in 2006" Edison Electric Institute, APLIC, and the California Energy Commission 2006 . The holder shall assume the burden and expense of proving that pole designs not shown in the above publication deter raptor perching, roosting, and nesting. Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all powerline structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the holder without liability or expense to the United States.

Raptor deterrence will consist of but not limited to the following: triangle perch discouragers shall be placed on each side of the cross arms and a nonconductive perching deterrence shall be placed on all vertical poles that extend past the cross arms.

6. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

7. The BLM serial number assigned to this authorization shall be posted in a permanent, conspicuous manner where the power line crosses roads and at all serviced facilities. Numbers will be at least two inches high and will be affixed to the pole nearest the road crossing and at the facilities served.

8. Upon cancellation, relinquishment, or expiration of this grant, the holder shall comply with those abandonment procedures as prescribed by the Authorized Officer.

9. All surface structures (poles, lines, transformers, etc.) shall be removed within 180 days of abandonment, relinquishment, or termination of use of the serviced facility or facilities or within 180 days of abandonment, relinquishment, cancellation, or expiration of this grant, whichever comes first. This will not apply where the power line extends service to an active, adjoining facility or facilities.

10. Any cultural resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

OR

If the entire project is covered under the Permian Basin Programmatic Agreement (cultural resources only):

The proponent has contributed funds commensurate to the undertaking into an account for offsite mitigation. Participation in the PA serves as mitigation for the effects of this project on cultural resources. If any human skeletal remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered at any time during construction, all construction activities shall halt and the BLM will be notified as soon as possible within 24 hours. Work shall not resume until a Notice to Proceed is issued by the BLM. See Stipulation 11 for more information.

If the proposed project is split between a Class III inventory and a Permian Basin Programmatic Agreement contribution, the portion of the project covered under Class III inventory should default to the first paragraph stipulations.

11. The holder is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently during the course of project implementation. In the event that any of the cultural

items listed above are discovered during the course of project work, the proponent shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The proponent or initiator of any project shall be held responsible for protecting, evaluating, reporting, excavating, treating, and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes."

12. Any paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

13. Special Stipulations:

For reclamation remove poles, lines, transformer, etc. and dispose of properly.  
Fill in any holes from the poles removed.

- Smaller powerlines will be routed around sinkholes and other karst features to avoid or lessen the possibility of encountering near surface voids and to minimize changes to runoff or possible leaks and spills from entering karst systems. Larger powerlines will adjust their pole spacing to avoid cave and karst features.
- The BLM, Carlsbad Field Office, will be informed immediately if any subsurface drainage channels, cave passages, or voids are penetrated during construction.
- No further construction will be done until clearance has been issued by the Authorized Officer.
- Special restoration stipulations or realignment may be required.

## **VIII. INTERIM RECLAMATION**

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and

loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

## **IX. FINAL ABANDONMENT & RECLAMATION**

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well.

## **X. Potash Resources**

Lessees must comply with the 2012 Secretarial Potash Order. The Order is designed to manage the efficient development of oil, gas, and potash resources. Section 6 of the Order provides general provisions which must be followed to minimize conflict between the industries and ensure the safety of operations.

To minimize impacts to potash resources, the proposed well is confined within the boundaries of the established James Ranch Drill Island 3.

Approval is for **Skylark SWD and surface disturbances of drill island ONLY** ;until protests of James Ranch Drill Island 3 Development Area by OXY has been resolved.

(Insert Seed Mixture Here)



APD ID: 10400049903

Submission Date: 10/24/2019

Highlighted data  
reflects the most  
recent changes

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: JAMES RANCH UNIT 17 SKYLARK FED SWD Well Number: 1

[Show Final Text](#)

Well Type: INJECTION - DISPOSAL

Well Work Type: Drill

## Section 1 - Geologic Formations

| Formation ID | Formation Name  | Elevation | True Vertical Depth | Measured Depth | Lithologies        | Mineral Resources                                | Producing Formation |
|--------------|-----------------|-----------|---------------------|----------------|--------------------|--------------------------------------------------|---------------------|
| 568539       | PERMIAN         | 3317      | 0                   | 0              | OTHER : Quaternary | NONE                                             | N                   |
| 568540       | RUSTLER         | 1753      | 1564                | 1564           | SILTSTONE          | USEABLE WATER                                    | N                   |
| 568537       | TOP SALT        | 1402      | 1915                | 1915           | SALT               | POTASH                                           | N                   |
| 568534       | BASE OF SALT    | 158       | 3159                | 3159           | SALT               | POTASH                                           | N                   |
| 568541       | DELAWARE        | -2317     | 5634                | 5634           | SANDSTONE          | NATURAL GAS, OIL,<br>OTHER : Produced Water      | N                   |
| 568542       | BONE SPRING     | -5355     | 8672                | 8672           | SANDSTONE          | NATURAL GAS, OIL,<br>OTHER : Produced Water      | N                   |
| 568538       | BONE SPRING 1ST | -6349     | 9666                | 9666           | SANDSTONE          | NATURAL GAS, OIL,<br>OTHER : Produced Water      | N                   |
| 568535       | BONE SPRING 2ND | -7179     | 10496               | 10496          | SANDSTONE          | NATURAL GAS, OIL,<br>OTHER : Produced Water      | N                   |
| 568545       | BONE SPRING 3RD | -7796     | 11113               | 11113          | SANDSTONE          | CO2, NATURAL GAS,<br>OIL, OTHER : Produced Water | N                   |
| 568547       | CISCO-CANYON    | -7819     | 11136               | 11136          | SHALE              | NATURAL GAS, OIL,<br>OTHER : Produced Water      | N                   |
| 568546       | WOLFCAMP        | -8111     | 11428               | 11428          | LIMESTONE          | NATURAL GAS, OIL,<br>OTHER : Produced Water      | N                   |
| 568548       | STRAWN          | -8381     | 11698               | 11698          | LIMESTONE          | NATURAL GAS, OIL,<br>OTHER : produced water      | N                   |
| 568549       | ATOKA-MORROW    | -8610     | 11927               | 11927          | SANDSTONE, SHALE   | NATURAL GAS, OIL,<br>OTHER : produced water      | N                   |
| 568550       | BARNETT         | -9886     | 13203               | 13203          | SHALE              | NATURAL GAS, OIL,<br>OTHER : Produced Water      | N                   |
| 568551       | MISSISSIPPIAN   | -10201    | 13518               | 13518          | LIMESTONE          | NATURAL GAS, OIL,<br>OTHER : Produced Water      | N                   |
| 568552       | WOODFORD        | -10772    | 14089               | 14089          | SHALE              | NATURAL GAS, OIL,<br>OTHER : Produced Water      | N                   |
| 568553       | DEVONIAN        | -10914    | 14231               | 14231          | DOLOMITE           | NONE                                             | Y                   |
| 568554       | FUSSELMAN       | -11181    | 14498               | 14498          | DOLOMITE           | NONE                                             | Y                   |

**Operator Name:** XTO PERMIAN OPERATING LLC

**Well Name:** JAMES RANCH UNIT 17 SKYLARK FED SWD **Well Number:** 1

## Section 2 - Blowout Prevention

**Pressure Rating (PSI):** 10M

**Rating Depth:** 17120

**Equipment:** Once WH is installed on 13-3/8 inch casing, the blow out preventer equipment (BOP) for this well consists of a 13-5/8 minimum 5M Annular and a 13-5/8 minimum 10M Double Ram BOP. MASP should not exceed 5979 psi. In any instance where 10M BOP is required by BLM,

**Requesting Variance?** YES

**Variance request:** 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. In any instance where 10M BOP is required by BLM, XTO requests 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). A variance is requested for annular pressure tests to be limited to 70% of the working pressure. Wellhead: · 18-5/8" SOW bottom x 21-1/4" 2M top flange. A. Starting Head: 13-5/8" 10M top flange x 13-3/8" SOW bottom B. Tubing Head: 13-5/8" 10M bottom flange x 7" 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 9-5/8" casing per BLM Onshore Order 2 · Wellhead manufacturer representative will not be present for BOP test plug installation

**Testing Procedure:** 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" 10M bradenhead and flange, the BOP test will be limited to 10000 psi. When nipping up on the 9-5/8", the BOP will be tested to a minimum of 10000 psi. All BOP tests will include a low pressure test as per BLM regulations. The 10M BOP diagrams are attached. Blind rams will be functioned tested each trip, pipe rams will be functioned tested each day.

**Choke Diagram Attachment:**

JRU\_3\_10MCM\_20191022073611.pdf

**BOP Diagram Attachment:**

JRU\_3\_5M10MBOP\_20191022112423.pdf

**Pressure Rating (PSI):** 2M

**Rating Depth:** 550

**Equipment:** The blow out preventer equipment (BOP) for this well consists of a 13-5/8" minimum 2M Hydril and a 13-5/8" minimum 2M Double Ram BOP.

**Requesting Variance?** YES

**Variance request:** 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.

**Testing Procedure:** 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, the BOP test will be limited to 2,000 psi. All BOP tests will include a low pressure test as per BLM regulations. The 2M BOP diagram is attached. Blind rams will be function tested each trip, pipe rams will be function tested each day.

**Choke Diagram Attachment:**

JRU\_3\_2MCM\_20191022073647.pdf

**BOP Diagram Attachment:**

JRU\_3\_2MBOP\_20191022073655.pdf

**Operator Name:** XTO PERMIAN OPERATING LLC

**Well Name:** JAMES RANCH UNIT 17 SKYLARK FED SWD **Well Number:** 1

### 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      | 24        | 18.625   | NEW       | API      | N              | 0          | 550           | 0           | 550            | 3317        | 2767           | 550                         | J-55    | 87.5   | BUTT       | 2.56        | 1.84     | DRY           | 27.62    | DRY          | 27.62   |
| 2         | INTERMEDIATE | 17.5      | 13.375   | NEW       | API      | N              | 0          | 3940          | 0           | 3940           |             | -623           | 3940                        | HCL-80  | 68     | BUTT       | 1.29        | 1.66     | DRY           | 5.77     | DRY          | 5.77    |
| 3         | PRODUCTION   | 12.25     | 9.625    | NEW       | API      | N              | 0          | 11720         | 0           | 11720          |             | -8403          | 11720                       | HCP-110 | 53.5   | BUTT       | 1.64        | 1.59     | DRY           | 2.74     | DRY          | 2.74    |
| 4         | LINER        | 8.5       | 7.0      | NEW       | API      | N              | 11300      | 15930         | 11300       | 15930          | -7983       | -12613         | 4630                        | HCP-110 | 32     | BUTT       | 1.15        | 2.49     | DRY           | 3.89     | DRY          | 3.89    |
| 5         | OPEN HOLE    | 6         |          |           |          |                | 15930      | 17120         |             |                |             |                | 1190                        |         |        |            |             |          |               |          |              |         |

#### Casing Attachments

**Casing ID:** 1 **String Type:** SURFACE

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

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

JRU\_3\_Csg\_20191022112557.pdf

**Operator Name:** XTO PERMIAN OPERATING LLC

**Well Name:** JAMES RANCH UNIT 17 SKYLARK FED SWD **Well Number:** 1

#### Casing Attachments

---

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

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

JRU\_3\_Csg\_20191022112608.pdf

---

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

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

JRU\_3\_Csg\_20191022112618.pdf

---

**Casing ID:** 4 **String Type:**LINER

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

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

JRU\_3\_Csg\_20191022112546.pdf

---

**Operator Name:** XTO PERMIAN OPERATING LLC

**Well Name:** JAMES RANCH UNIT 17 SKYLARK FED SWD **Well Number:** 1

## Casing Attachments

**Casing ID:** 5 **String Type:** OPEN HOLE

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

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

### 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      | 550       | 1010         | 1.36  | 14.8    | 1373.6 | 100     | C           | 2% CaCL   |

|              |      |      |       |       |      |      |      |        |     |       |                  |
|--------------|------|------|-------|-------|------|------|------|--------|-----|-------|------------------|
| INTERMEDIATE | Lead |      | 0     | 3940  | 2890 | 1.86 | 12.8 | 5375.4 | 100 | Poz/C | None             |
| INTERMEDIATE | Tail |      |       |       | 870  | 1.33 | 14.8 | 1157.1 | 100 | C     | 2% CaCl          |
| PRODUCTION   | Lead | 4040 | 0     | 4040  | 1600 | 2.6  | 11.5 | 1602.6 | 100 | Poz/C | 2% CaCl          |
| PRODUCTION   | Tail |      |       |       | 520  | 1.19 | 14.8 | 618.8  | 100 | C     | 2% CaCl          |
| PRODUCTION   | Lead | 4040 | 4040  | 11720 | 730  | 2.63 | 11.5 | 1919.9 | 100 | Poz/C | 2% CaCl          |
| PRODUCTION   | Tail |      |       |       | 440  | 1.33 | 14.8 | 585.2  | 100 | C     | 2% CaCl          |
| OPEN HOLE    | Lead |      | 14240 | 14975 | 0    | 0    | 0    | 0      | 0   | None  | None - Open Hole |

|       |      |  |       |       |     |     |      |     |     |   |      |
|-------|------|--|-------|-------|-----|-----|------|-----|-----|---|------|
| LINER | Lead |  | 11300 | 15930 | 680 | 1.2 | 14.5 | 816 | 100 | C | None |
|-------|------|--|-------|-------|-----|-----|------|-----|-----|---|------|

**Operator Name:** XTO PERMIAN OPERATING LLC

**Well Name:** JAMES RANCH UNIT 17 SKYLARK FED SWD **Well Number:** 1

## Section 5 - Circulating Medium

**Mud System Type:** Closed

**Will an air or gas system be Used?** NO

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

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

**Describe what will be on location to control well or mitigate other conditions:** The necessary mud products for weight addition a fluid loss control will be on location at all times.

**Describe the mud monitoring system utilized:** A Pason or Totco will be used to detect changes in loss or gain of mud volume.

## 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                                                                                                                                                                                                                                                     |
|-----------|--------------|-------------------|----------------------|----------------------|---------------------|-----------------------------|----|----------------|----------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3940      | 11720        | OTHER : Cut Brine | 8.9                  | 9.2                  |                     |                             |    |                |                |                 | 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 hrs to determine: density, viscosity, strength, filtration and pH as necessary. Solids control equipment will be used to operate as a closed loop system. |
| 0         | 550          | OTHER : FW/Native | 8.3                  | 8.6                  |                     |                             |    |                |                |                 | 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 hrs to determine: density, viscosity, strength, filtration and pH as necessary. Solids control equipment will be used to operate as a closed loop system. |
| 550       | 3940         | OTHER : Brine     | 10                   | 10.2                 |                     |                             |    |                |                |                 | 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 hrs to determine: density, viscosity, strength, filtration and pH as necessary. Solids control equipment will be used to operate as a closed              |

**Operator Name:** XTO PERMIAN OPERATING LLC

**Well Name:** JAMES RANCH UNIT 17 SKYLARK FED SWD **Well Number:** 1

| 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                                                                                                                                                                                                                                                     |
|-----------|--------------|------------------------------|----------------------|----------------------|---------------------|-----------------------------|----|----------------|----------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|           |              |                              |                      |                      |                     |                             |    |                |                |                 | loop system.                                                                                                                                                                                                                                                                   |
| 1172<br>0 | 1593<br>0    | OTHER : Cut<br>Brine/Polymer | 12.3                 | 12.5                 |                     |                             |    |                |                |                 | 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 hrs to determine: density, viscosity, strength, filtration and pH as necessary. Solids control equipment will be used to operate as a closed loop system. |
| 1593<br>0 | 1712<br>0    | OTHER : Fresh<br>Water       | 8.4                  | 8.6                  |                     |                             |    |                |                |                 | 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 hrs to determine: density, viscosity, strength, filtration and pH as necessary. Solids control equipment will be used to operate as a closed loop system. |

## Section 6 - Test, Logging, Coring

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

Mud Logging Unit (2 Man) below 13-3/8" casing. Open hole logging and rotary side wall cores will be conducted in intermediate and production hole sections. Logs that may be run include Triple Combo, Dipole Sonic, FMI, NMR, and Rotary SWC.

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

CEMENT BOND LOG,COMPENSATED NEUTRON LOG,DIRECTIONAL SURVEY,ELECTRIC LOG,GAMMA RAY LOG,MUD LOG/GEOLOGIC LITHOLOGY LOG,

**Coring operation description for the well:**

Rotary side wall core.

## Section 7 - Pressure

**Anticipated Bottom Hole Pressure:** 7478

**Anticipated Surface Pressure:** 3711

**Anticipated Bottom Hole Temperature(F):** 190

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

**Describe:**

**Operator Name:** XTO PERMIAN OPERATING LLC

**Well Name:** JAMES RANCH UNIT 17 SKYLARK FED SWD **Well Number:** 1

**Contingency Plans geohazards description:**

**Contingency Plans geohazards attachment:**

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

**Hydrogen sulfide drilling operations plan:**

JRU\_3\_H2S\_Dia\_20191022112447.pdf

JRU\_3\_H2S\_Plan\_20191022112456.pdf

## Section 8 - Other Information

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

**Other proposed operations facets description:**

**Other proposed operations facets attachment:**

**Other Variance attachment:**

JRU\_3\_FH\_20191022074859.pdf

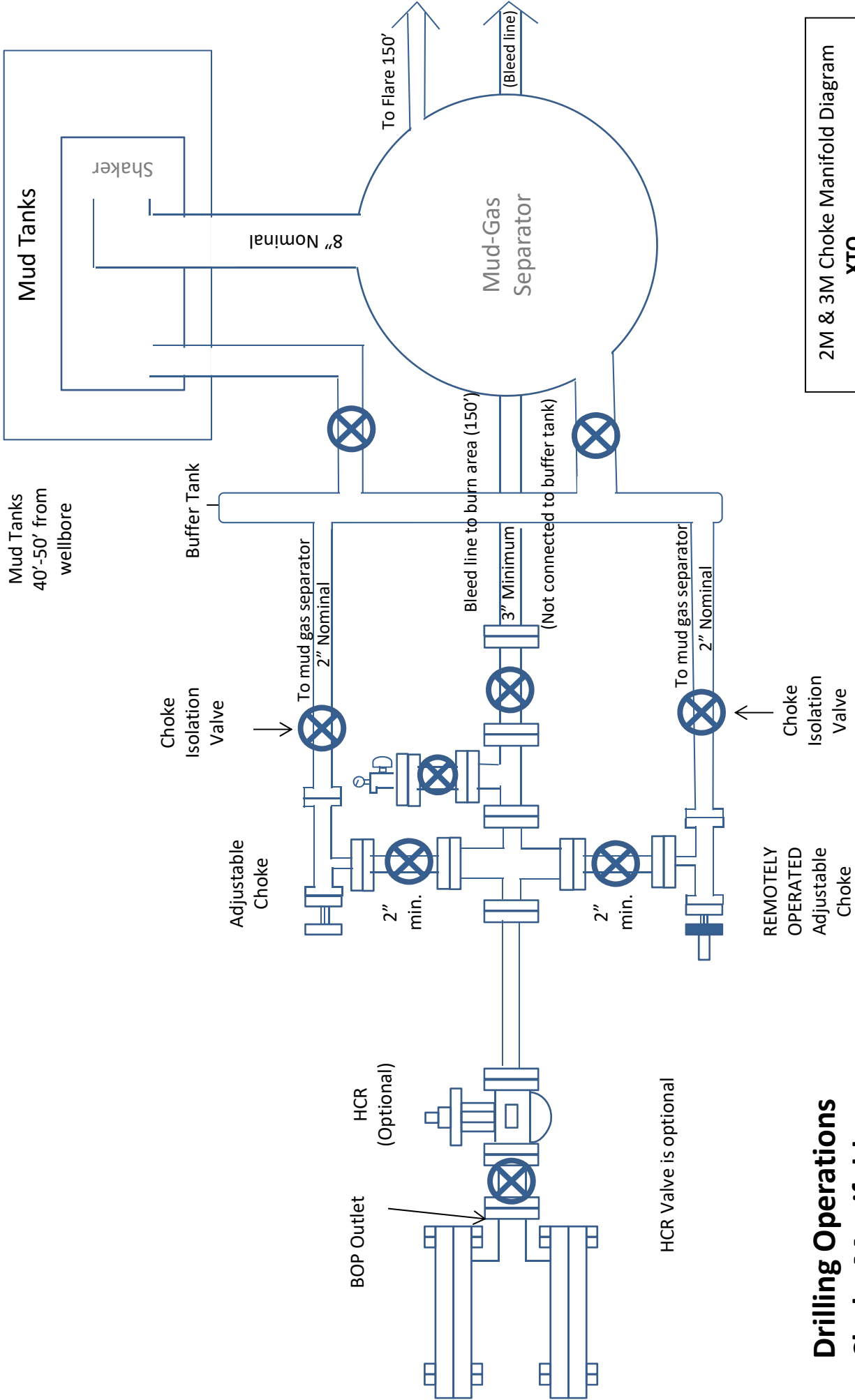
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JRU\_3\_WWC\_20191022112526.pdf

JRU\_3\_MBS\_20191202092133.pdf

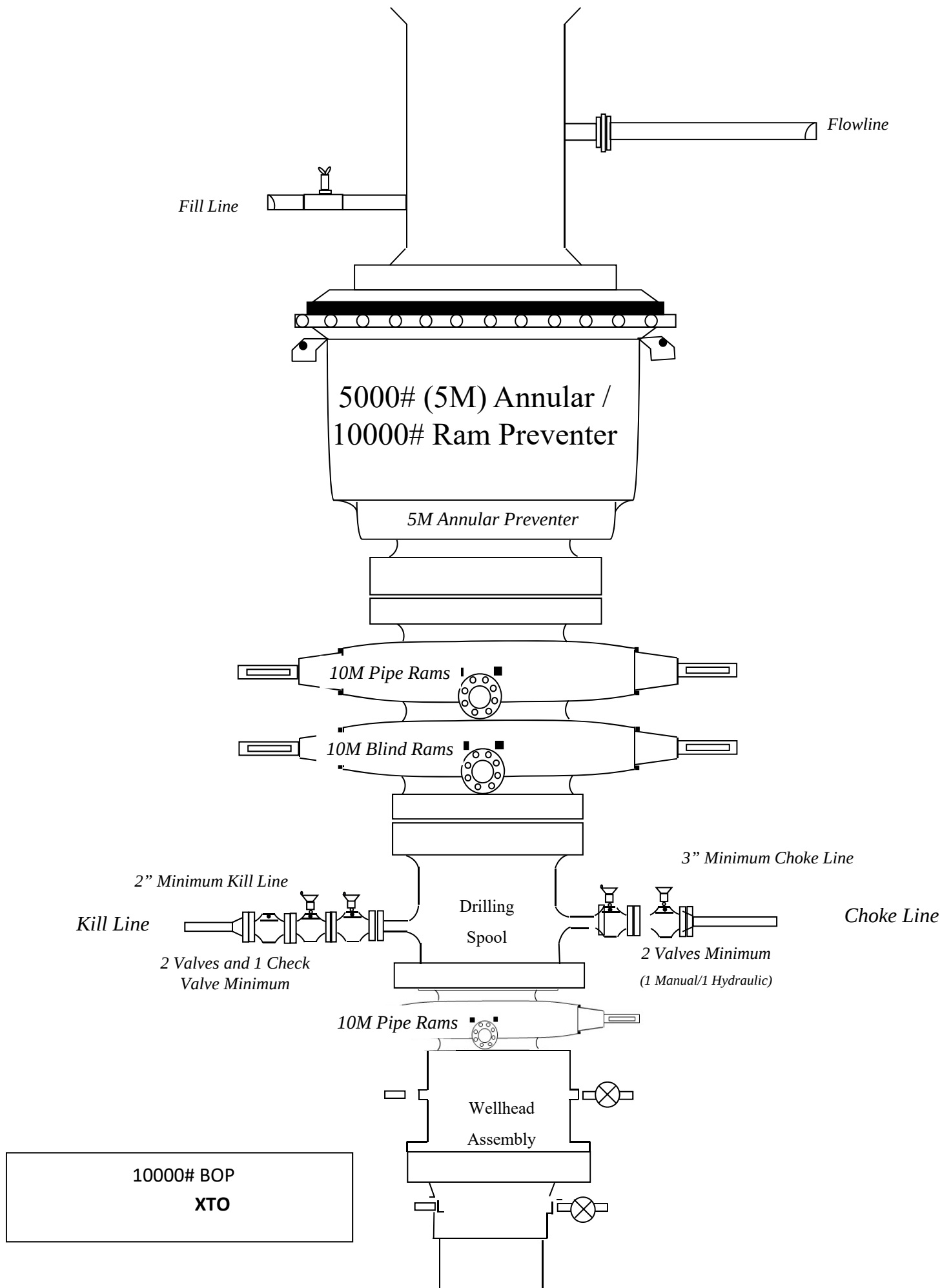
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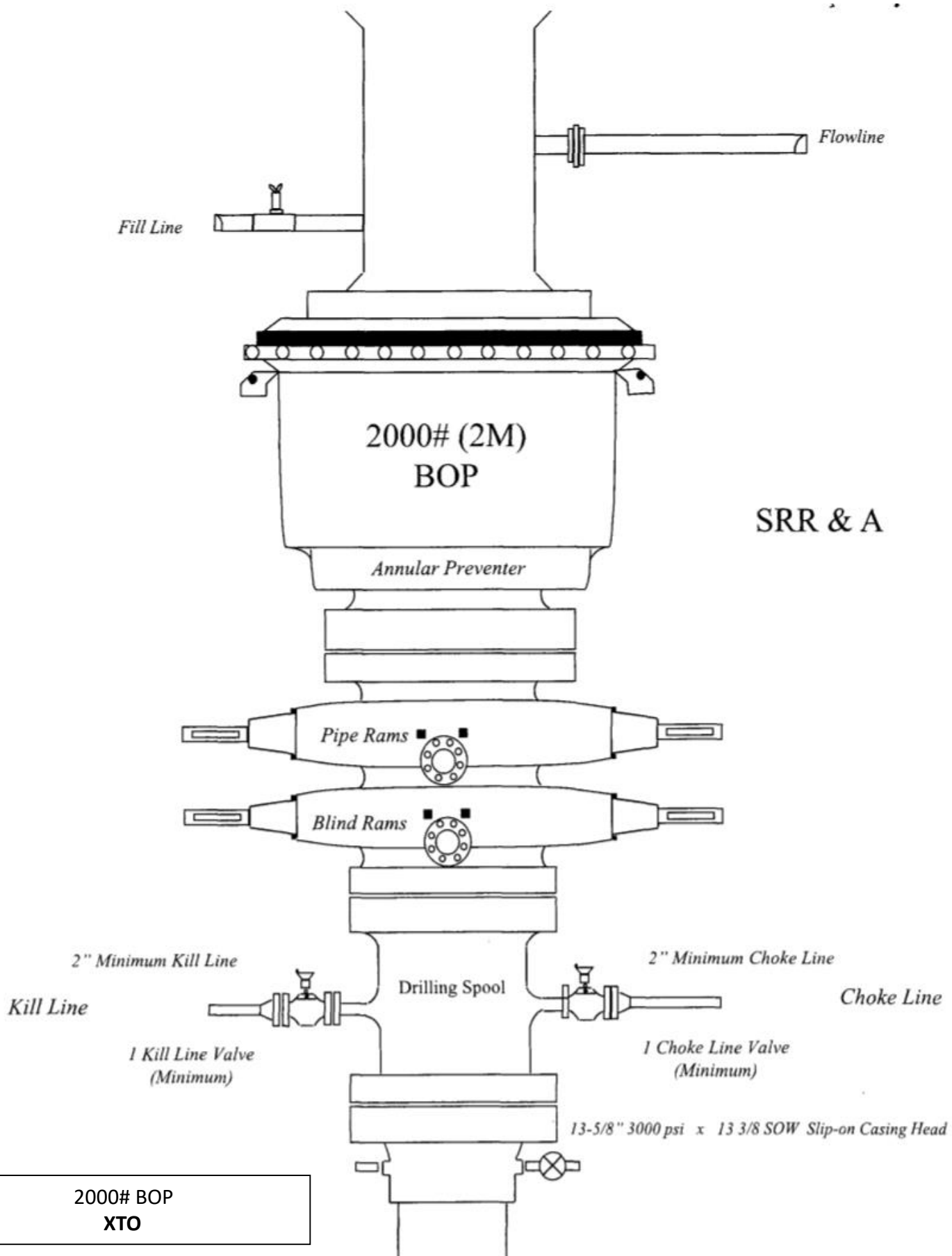




2M & 3M Choke Manifold Diagram  
XTO

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





**Casing Design**

| Hole Size | Depth           | OD Csg    | Weight | Collar | Grade   | New/Used | SF<br>Burst | SF<br>Collapse | SF<br>Tension |
|-----------|-----------------|-----------|--------|--------|---------|----------|-------------|----------------|---------------|
| 24"       | 0' – 550'       | 18-5/8"   | 87.5   | BTC    | J-55    | New      | 1.84        | 2.56           | 27.62         |
| 17-1/2"   | 0' – 3940'      | 13-3/8"   | 68     | BTC    | HCL-80  | New      | 1.66        | 1.29           | 5.77          |
| 12-1/4"   | 0' – 11720'     | 9-5/8"    | 53.5   | BTC    | HCP-110 | New      | 1.59        | 1.64           | 2.74          |
| 8-1/2"    | 11300' – 15930' | 7"        | 32     | BTC    | HCP-110 | New      | 2.49        | 1.15           | 3.89          |
| 6"        | 15930' – 17120' | Open hole |        |        |         |          |             |                |               |

**Wellhead:*****Temporary Wellhead***

- 18-5/8" SOW bottom x 21-1/4" 2M top flange.

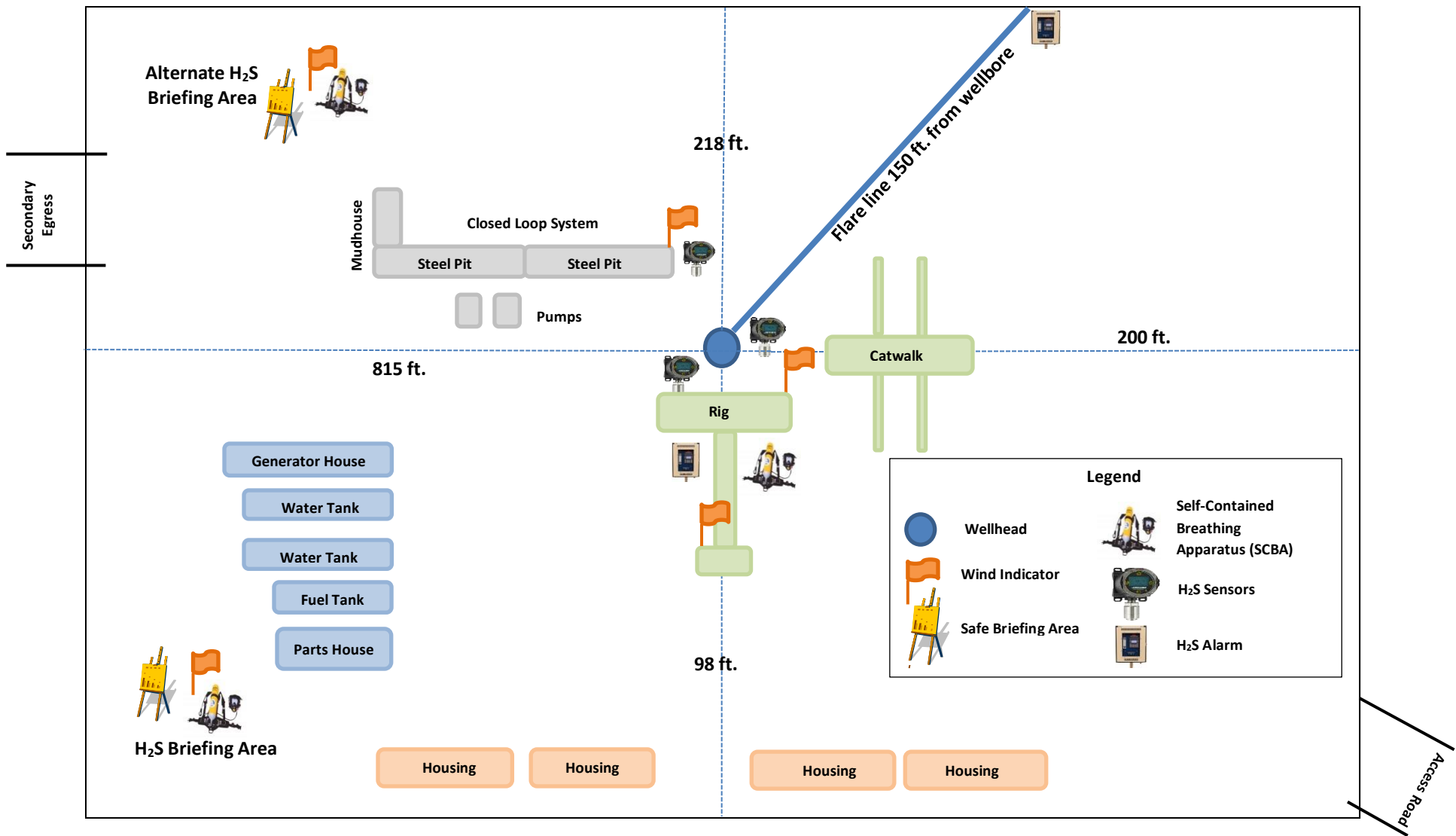
***Permanent Wellhead – GE RSH Multibowl System***

- A. Starting Head: 13-5/8" 10M top flange x 13-3/8" SOW bottom
- B. Tubing Head: 13-5/8" 10M bottom flange x 7" 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 9-5/8" casing per BLM Onshore Order 2
  - Wellhead manufacturer representative will not be present for BOP test plug installation



Prevailing Winds  
Direction SW

# H<sub>2</sub>S Briefing Areas and Alarm Locations





## HYDROGEN SULFIDE (H<sub>2</sub>S) CONTINGENCY PLAN

### Assumed 100 ppm ROE = 3000'

100 ppm H<sub>2</sub>S concentration shall trigger activation of this plan.

#### Emergency Procedures

In the event of a release of gas containing H<sub>2</sub>S, the first responder(s) must

- Isolate the area and prevent entry by other persons into the 100 ppm ROE.
- Evacuate any public places encompassed by the 100 ppm ROE.
- Be equipped with H<sub>2</sub>S monitors and air packs in order to control the release.
- Use the "buddy system" to ensure no injuries occur during the response
- Take precautions to avoid personal injury during this operation.
- Contact operator and/or local officials to aid in operation. See list of phone numbers attached.
- Have received training in the
  - o Detection of H<sub>2</sub>S, and
  - o Measures for protection against the gas,
  - o Equipment used for protection and emergency response.

#### Ignition of Gas source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO<sub>2</sub>). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally, the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever this is an ignition of the gas.

#### Characteristics of H<sub>2</sub>S and SO<sub>2</sub>

| Common Name      | Chemical Formula | Specific Gravity | Threshold Limit | Hazardous Limit | Lethal Concentration |
|------------------|------------------|------------------|-----------------|-----------------|----------------------|
| Hydrogen Sulfide | H <sub>2</sub> S | 1.189 Air = 1    | 10 ppm          | 100 ppm/hr      | 600 ppm              |
| Sulfur Dioxide   | SO <sub>2</sub>  | 2.21 Air = 1     | 2 ppm           | N/A             | 1000 ppm             |

#### Contacting Authorities

All XTO location personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available including directions to site. The following call list of essential and potential responders has been prepared for use during a release. (Operator Name)'s response must be in coordination with the State of New Mexico's "Hazardous Materials Emergency Response Plan" (HMER).

## **CARLSBAD OFFICE – EDDY & LEA COUNTIES**

3104 E. Greene St., Carlsbad, NM 88220  
Carlsbad, NM

575-887-7329

### **XTO PERSONNEL:**

|                                        |              |
|----------------------------------------|--------------|
| Kendall Decker, Drilling Manager       | 903-521-6477 |
| Milton Turman, Drilling Superintendent | 817-524-5107 |
| Jeff Raines, Construction Foreman      | 432-557-3159 |
| Toady Sanders, EH & S Manager          | 903-520-1601 |
| Wes McSpadden, Production Foreman      | 575-441-1147 |

### **SHERIFF DEPARTMENTS:**

|             |              |
|-------------|--------------|
| Eddy County | 575-887-7551 |
| Lea County  | 575-396-3611 |

### **NEW MEXICO STATE POLICE:**

575-392-5588

### **FIRE DEPARTMENTS:**

|           |              |
|-----------|--------------|
|           | 911          |
| Carlsbad  | 575-885-2111 |
| Eunice    | 575-394-2111 |
| Hobbs     | 575-397-9308 |
| Jal       | 575-395-2221 |
| Lovington | 575-396-2359 |

### **HOSPITALS:**

|                             |              |
|-----------------------------|--------------|
|                             | 911          |
| Carlsbad Medical Emergency  | 575-885-2111 |
| Eunice Medical Emergency    | 575-394-2112 |
| Hobbs Medical Emergency     | 575-397-9308 |
| Jal Medical Emergency       | 575-395-2221 |
| Lovington Medical Emergency | 575-396-2359 |

### **AGENT NOTIFICATIONS:**

#### **For Lea County:**

|                                              |              |
|----------------------------------------------|--------------|
| Bureau of Land Management – Hobbs            | 575-393-3612 |
| New Mexico Oil Conservation Division – Hobbs | 575-393-6161 |

#### **For Eddy County:**

|                                                |              |
|------------------------------------------------|--------------|
| Bureau of Land Management - Carlsbad           | 575-234-5972 |
| New Mexico Oil Conservation Division - Artesia | 575-748-1283 |



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

PHONE: 361-887-9807  
FAX: 361-887-0812  
EMAIL: crpe&s@gates.com  
WEB: www.gates.com

## GRADE D PRESSURE TEST CERTIFICATE

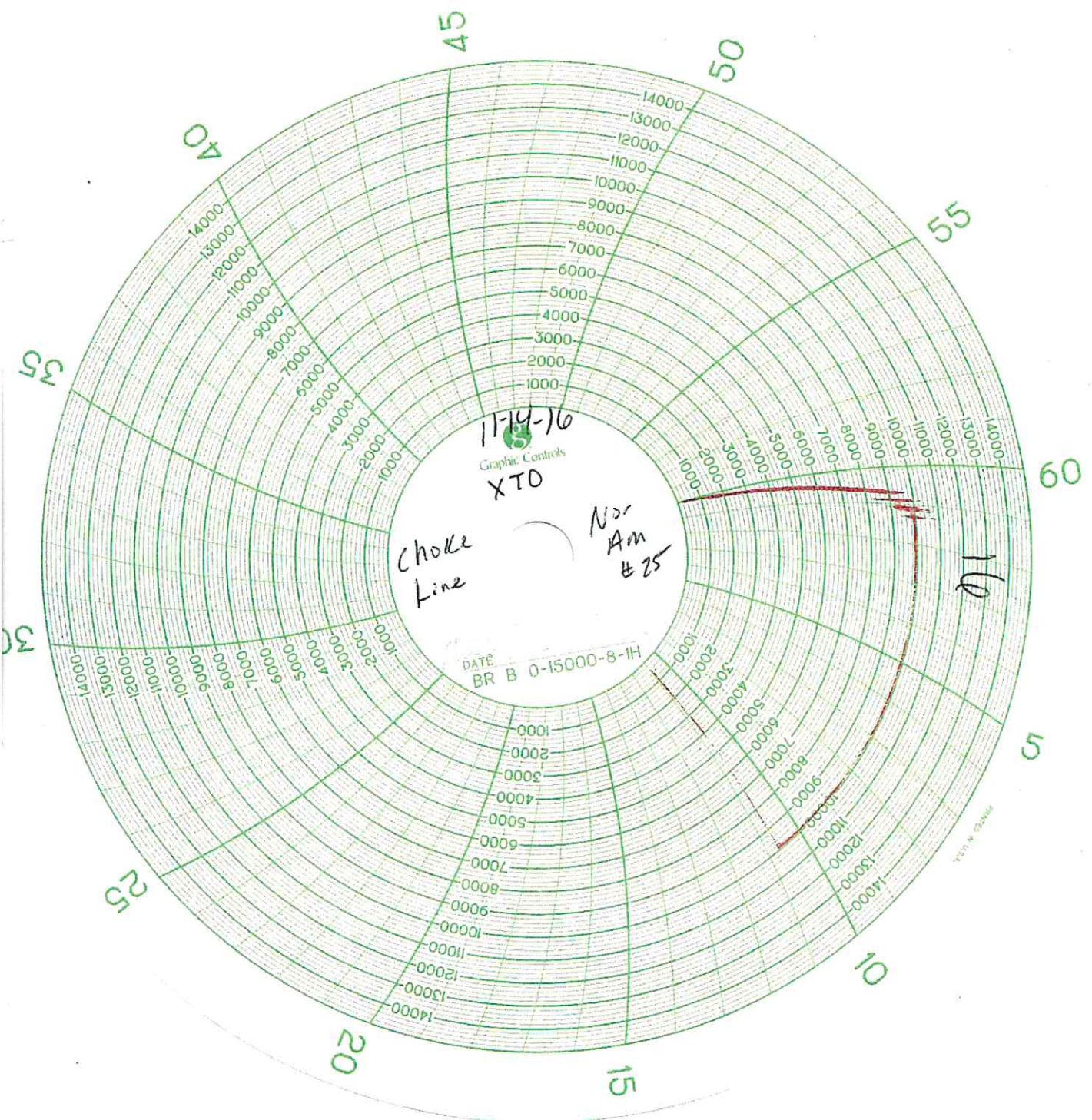
|                |                     |                  |            |
|----------------|---------------------|------------------|------------|
| Customer:      | AUSTIN DISTRIBUTING | Test Date:       | 6/8/2014   |
| Customer Ref.: | PENDING             | Hose Serial No.: | D-060814-1 |
| Invoice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

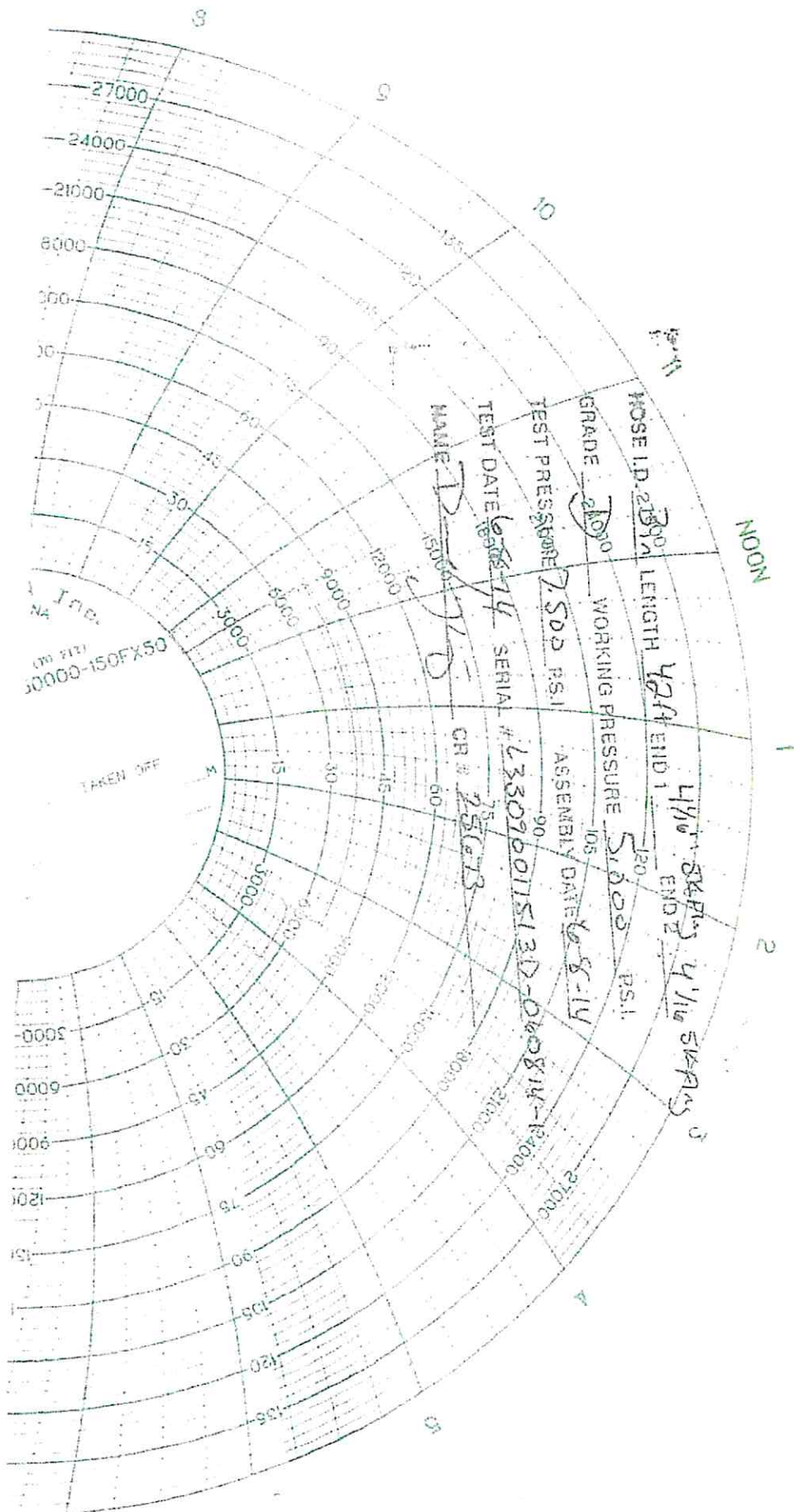
|                      |                             |
|----------------------|-----------------------------|
| Product Description: | FD3-042.0R41/16.5KFLGE/E LE |
|----------------------|-----------------------------|

|                   |                  |                |                        |
|-------------------|------------------|----------------|------------------------|
| End Filling 1:    | 4 1/16 in.5K FLG | End Filling 2: | 4 1/16 in.5K FLG       |
| Gates Part No.:   | 4274-6001        | 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 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:              | Signature: | Quality:              | Signature: |
| Date:                 | 6/8/2014   | Date:                 | 6/8/2014   |
| Technical Supervisor: | Signature: | Technical Supervisor: | Signature: |
| PRODUCTION            | 6/8/2014   | PRODUCTION            | 6/8/2014   |





|           |           |       |         |
|-----------|-----------|-------|---------|
| RECEIVED: | REVIEWER: | TYPE: | APP NO: |
|-----------|-----------|-------|---------|

ABOVE THIS TABLE FOR OCD DIVISION USE ONLY

**NEW MEXICO OIL CONSERVATION DIVISION**  
 - Geological & Engineering Bureau -  
 1220 South St. Francis Drive, Santa Fe, NM 87505



**ADMINISTRATIVE APPLICATION CHECKLIST**

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND  
 REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

**Applicant:** BOPCO, LP **OGRID Number:** 260737  
**Well Name:** James Ranch Unit 17 Skylark SWD #1 **API:** To be assigned  
**Pool:** Devonian; SWD (96101) **Pool Code:** \_\_\_\_\_

**SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION  
 INDICATED BELOW**

**1) TYPE OF APPLICATION:** Check those which apply for [A]

A. Location – Spacing Unit – Simultaneous Dedication

☐ NSL

☐ NSP (PROJECT AREA)

☐ NSP (PRORATION UNIT)

☐ SD

B. Check one only for [ I ] or [ II ]

[ I ] Commingling – Storage – Measurement

☐ DHC

☐ CTB

☐ PLC

☐ PC

☐ OLS

☐ OLM

[ II ] Injection – Disposal – Pressure Increase – Enhanced Oil Recovery

☐ WFX

☐ PMX

☒ SWD

☐ IPI

☐ EOR

☐ PPR

**2) NOTIFICATION REQUIRED TO:** Check those which apply.

A. ☒ Offset operators or lease holders

B. ☐ Royalty, overriding royalty owners, revenue owners

C. ☒ Application requires published notice

D. ☒ Notification and/or concurrent approval by SLO

E. ☒ Notification and/or concurrent approval by BLM

F. ☒ Surface owner

G. ☒ For all of the above, proof of notification or publication is attached, and/or,

H. ☐ No notice required

**FOR OCD ONLY**

☐ Notice Complete

☐ Application  
Content  
Complete

**3) CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

**Note: Statement must be completed by an individual with managerial and/or supervisory capacity.**

Tracie J. Cherry, Regulatory Coordinator

Print or Type Name

Signature

Date

432-571-8220

Phone Number

tracie\_cherry@xtoenergy.com

e-mail Address

**APPLICATION FOR AUTHORIZATION TO INJECT**

- I. PURPOSE: Secondary Recovery Pressure Maintenance XX Disposal Storage  
Application qualifies for administrative approval? XX Yes No
- II. OPERATOR: BOPCO, LP  
ADDRESS: 6401 Holiday Hill Rd. Bldg 5, Midland, TX 79707  
CONTACT PARTY: Tracie J. Cherry, Regulatory Coordinator PHONE: 432-221-7379
- III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection.  
Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project? Yes XX No  
If yes, give the Division order number authorizing the project: \_\_\_\_\_
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
- VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
- VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
  2. Whether the system is open or closed;
  3. Proposed average and maximum injection pressure;
  4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and,
  5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
- \*VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.
- IX. Describe the proposed stimulation program, if any.
- \*X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted).
- \*XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
- XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground sources of drinking water.
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
- XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.
- NAME: Tracie J. Cherry TITLE: Regulatory Coordinator  
SIGNATURE:  DATE: 03/08/19  
E-MAIL ADDRESS: tracie\_cherry@xtoenergy.com
- \* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstances of the earlier submittal: \_\_\_\_\_

### III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

- (1) Lease name; Well No.; Location by Section, Township and Range; and footage location within the section.
- (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
- (3) A description of the tubing to be used including its size, lining material, and setting depth.
- (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District Offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

- (1) The name of the injection formation and, if applicable, the field or pool name.
- (2) The injection interval and whether it is perforated or open-hole.
- (3) State if the well was drilled for injection or, if not, the original purpose of the well.
- (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
- (5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any.

### XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

- (1) The name, address, phone number, and contact party for the applicant;
- (2) The intended purpose of the injection well; with the exact location of single wells or the Section, Township, and Range location of multiple wells;
- (3) The formation name and depth with expected maximum injection rates and pressures; and,
- (4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Dr., Santa Fe, New Mexico 87505, within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

---

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

### III. Well Data

A. 1) Lease name: **James Ranch Unit 36 Skylark SWD**  
 Well #: **1** API # **TBA**  
 Section: **17**  
 Township: **23S**  
 Range: **31E**  
 Footage: **2490 FNL & 1223 FWL**

2) Casing Info:

| Casing size              | Set depth       | Sacks cmt     | Hole size | TOC    | Method |
|--------------------------|-----------------|---------------|-----------|--------|--------|
| 18-5/8", 87.5# J-55 BTC  | 550'            | 1150 sx C     | 24        | Surf   | Circ   |
| 13-3/8" 68# HCL-80 BTC   | 3940'           | 2600 sx Poz/C | 17-1/2"   | Surf   | Circ   |
|                          |                 | 935 sx C      |           |        |        |
| 9-5/8" 53.5# HCP-110 BTC | 11720'          | Stg 1:        | 12-1/4"   | Surf   | Circ   |
| DV @ 3800'               |                 | 2165 sx Poz/H |           |        |        |
|                          |                 | Stg 2:        |           |        |        |
|                          |                 | 1235 sx Poz/H |           |        |        |
| 7" 32# HCP-110 BTC       | 11,300'-15,930' | 665 sx Poz/H  | 8-1/2"    | 11,300 | Circ   |

3) Tubing to be used (size, lining material, setting depth):

**Tapered String**

**5-1/2" , 17#, P-110 IPC to 10,800'**

**4-1/2" , 13.65#, P110 IPC tubing @ 10,800'-15,830'**

4) Name, model, and depth of packer to be used:

**Baker Series F nickle plated permanent packer @ 15,830'**

B. 1) Name of the injection formation and, if applicable, the field or pool name:

**SWD; Devonian**

2) The injection interval and whether it is perforated or open hole:

**Open hole, 15,930'-17,120' (or to the base of the Fusselman as determined by mud logs)**

3) State if the well was drilled for injection or, if not, the original purpose of the well:

**This well is being drilled for the purpose of injection**

4) Give the depths of any other perforated intervals and detail on the sacks of cement or BPs used to seal off such perforations:

**N/A**

5) Give the depth to and the name of the next higher and next lower oil or gas zone in the area of the well, if any:

**Higher: Bell Canyon (+/-4,072), Cherry Canyon (+/-4,919) Brushy Canyon (+/-6,584),  
 Avalon/Bone Spring (+/-7,995), Wolfcamp (+/-11,242), Atoka (+/-13,087), Morrow (+/-13,722)**

**Lower: None**

# JRU 17 Skylark State SWD #1

Proposed SWD Schematic (Feb 28, 2019)

County: Eddy

SHL: 2490' FNL, 1223' FWL  
Sec 17, T 23S, R 31E

BHL: 2490' FNL, 1223' FWL  
Sec 17, T 23S, R 31E



API # N/A  
Elevation GL 3317', KB 3347' (30' AGL)  
Rig: TBD (RKB 27')

| Geology                                                          | Casing & Cement                                                                                                                                                                                | Wellhead    | Hole Size | General Notes                                           |
|------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-----------|---------------------------------------------------------|
| <b>(Tech Data Sheet)</b>                                         |                                                                                                                                                                                                |             |           |                                                         |
| TVD Formation                                                    |                                                                                                                                                                                                |             | 24"       |                                                         |
| 371' Rustler                                                     | <u>Tail (100% OH excess)</u><br>1150 sx 14.8ppg Class C<br>Top of Tail @ 0'<br><br><b>18-5/8" 87.5# J-55 BTC</b>                                                                               | 550' MD     |           |                                                         |
| 722' Top Salt                                                    | <u>Lead (150% OH excess)</u><br>2600 sx 12.8ppg Poz/C<br>Top of Lead @ 0<br><br><u>Tail (100% OH excess)</u><br>935 sx 14.8ppg Class C<br>Top of Tail @ 3100'                                  |             | 17-1/2"   |                                                         |
| 3,827' Base Salt                                                 | <b>13-3/8" 68# HCL-80 BTC</b>                                                                                                                                                                  | 3940' MD    |           |                                                         |
| 4,047' Delaware                                                  | <u>Sta 2 Lead (100% OH excess)</u><br>790 sx 11.5ppg Poz/H<br>Top of Lead @ 0'<br><br><u>Sta 2 Tail (100% OH excess)</u><br>445 sx 14.8ppg Poz/H<br>Top of Tail @ 3100'<br><br>DV Tool @ 4040' |             | 12-1/4"   |                                                         |
| 7,932' Bone Spring                                               | <u>Sta 1 Lead (100% OH excess)</u><br>1610 sx 11.5ppg Poz/H<br>Top of Lead @ 4040'                                                                                                             | 11300' MD   |           | 5-1/2" 17#, P-110 IPC tbg to 10,800'                    |
| 11,222' Wolfcamp                                                 | <u>Sta 1 Tail (100% OH excess)</u><br>555 sx 14.8ppg Poz/H<br>Top of Tail @ 10720'                                                                                                             |             |           | Crossover                                               |
| 11,567' Wolfcamp B                                               | <b>9-5/8" 53.5# HCP-110 BTC</b>                                                                                                                                                                | 11720' MD   |           | 4-1/2" 13.65#, P-110 IPC tbg 10,800' - 15,830'          |
| 12,902' Strawn<br>13,087' Atoka<br>13,722' Morrow                | <u>Tail (40% OH excess)</u><br>685 sx 14.5ppg Poz/H<br>Top of Tail @ 11300'                                                                                                                    |             | 8-1/2"    |                                                         |
| 15,316' Mississippian Lm<br>15,761' Woodford<br>15,906' Devonian | <b>7" 32# HCP-110 BTC</b>                                                                                                                                                                      | 15930' MD   |           | Baker Series F nickle plated permanent packer @ 15,830' |
| 17,120' TVD at BHL                                               | Open hole completion                                                                                                                                                                           | 17,120' MD  | 6"        |                                                         |
| 17,136' Montoya                                                  |                                                                                                                                                                                                | 17,120' TVD |           |                                                         |
| <b>Approvals</b>                                                 |                                                                                                                                                                                                |             |           |                                                         |
| Prepared by: _____                                               | Peer Reviewed by: _____ Date _____                                                                                                                                                             |             |           |                                                         |
| Reviewed by: _____                                               | Approved by: _____                                                                                                                                                                             |             |           |                                                         |

## C-108 DATA

- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well.

**Map attached.**

- VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each wells type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.

**There are no wells penetrating the proposed injection zone within the one mile area of review**

**There are four (4) horizontal wellbores that terminated inside the 1 mile AOR. None of the wells TVD penetrate the proposed injection zone**

**Iridium MDPI 28 21 Federal COM 001 930-015-45242)**

**Not drilled/completed**

**Iridium MDPI 28 21 Federal COM 011H (30-015-45073)**

**Bone Spring**

**Iridium MDPI 28 21 Federal COM 021H (30-015-45074)**

**Bone Spring**

**Iridium MDPI 28 21 Federal COM 171H (30-015-45076)**

**Wolfcamp**

- VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected:

**20,000 average, 40,000 maximum BWPD**

2. Whether the system is open or closed: **closed**

3. Proposed average and maximum injection pressure: **2,000 psi average, 3,186 psi maximum**

4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water: **Well will be part of a multi-well SWD system taking Permian waters. The majority of the produced water will come from Delaware, Bone Spring and Wolfcamp formations with minor amounts from Atoka and Morrow.**

**An analysis of water to be disposed is attached**

5. If injection is for disposal purposes into a zone not productive of oil & gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water:

**There is one disposal well within a 1 mile radius of the proposed well**

**The well does not penetrate the proposed disposal interval**

- VIII. Attach appropriate geologic data on the injection zone including appropriate lithologic detail, geologic name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with TDS of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval:

**Lithologic Detail: Carbonate (Dol.&Ls.)**

**Geological Name: Siluro/Devonian & Fusselman**

**Thickness: Est. 1,230'**

**Depth: Est 15,906'/17,136'**

**The Capitan Reef a known drinking water aquifer is not present in this area based on published maps**

IX. Describe the proposed stimulation program, if any:

**Acid stimulate with approximately 5000 gallons of 15% NEFE HCL acid.**

X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted.)

**Logs will be submitted with completion papers when well is drilled.**

XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

**According to the New Mexico Office of State Engineer database, 1 active water well used for livestock is located in NWSW Sec 17 23S-31E**

XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrology connection between the disposal zone and any underground sources of drinking water.

**(See attached affidavit)**

February 27, 2019

New Mexico, Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505

**Re: Geology Statement per Question XII on the Application for Authorization to Inject Form C-108 for  
XTO Energy Inc., an ExxonMobil subsidiary  
James Ranch Unit 17 Skylark State SWD #1,  
Section 17, Township 23 South, Range 31 East,  
Eddy County, New Mexico**

To whom it may concern:

XTO Energy, Inc., an ExxonMobil subsidiary, has examined available geological data at the above-mentioned well located at 2,490 feet north and 1,223 feet west of Section 17, Township 23 South, Range 31 East, Eddy County, New Mexico; and finds no evidence of open faults or other hydrologic connection between the disposal zone and the underground sources of drinking water.

Respectively Submitted,

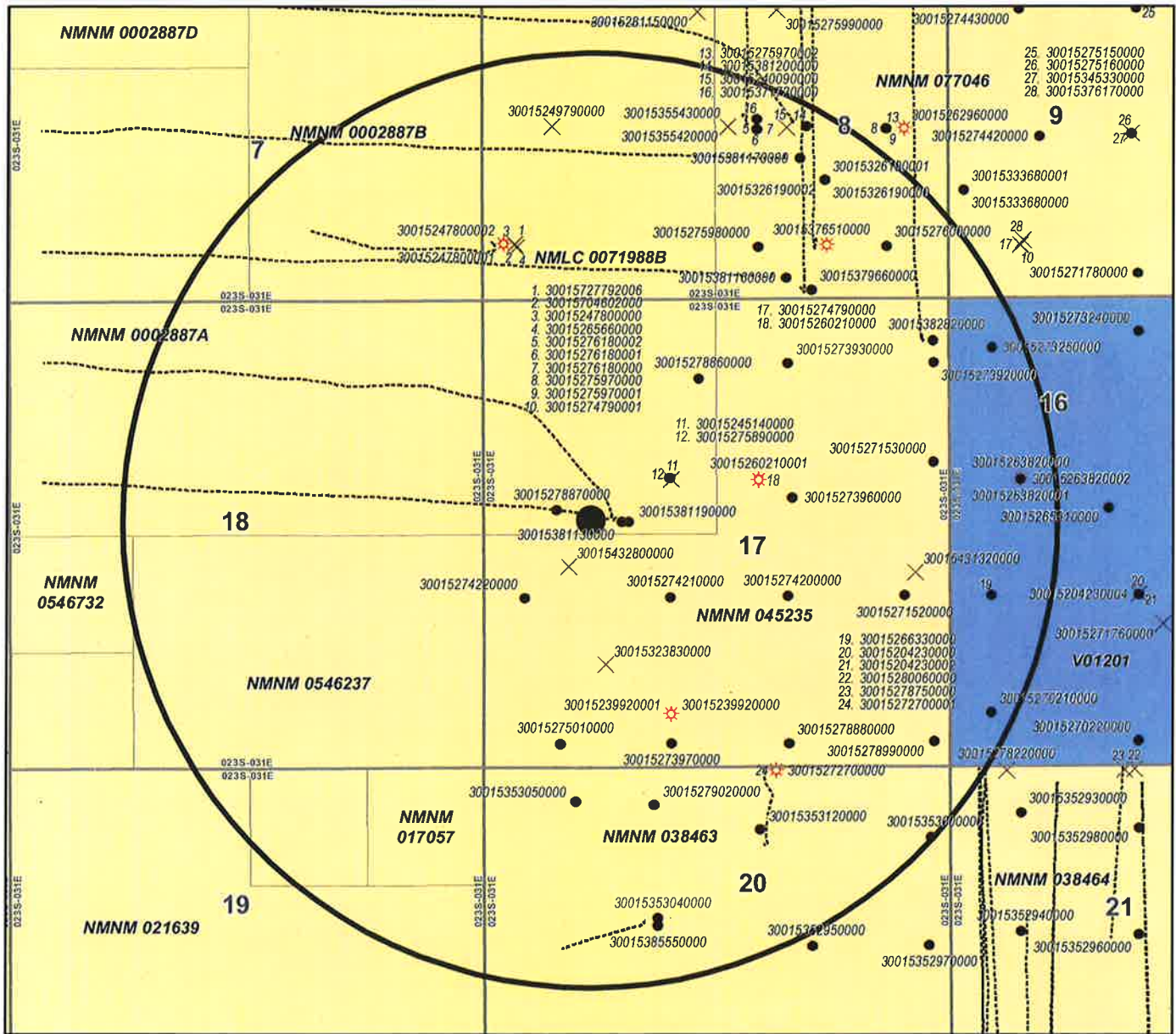
  


**Matthew W. Kearney, P.G.**

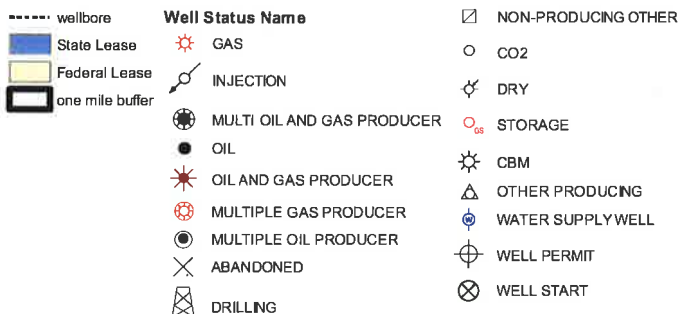
Division Geologist

XTO Energy Inc., an ExxonMobil subsidiary  
22777 Springwoods Village Parkway  
Spring, Texas 77389

# James Ranch Unit 17 Skylark SWD 1 Eddy County, New Mexico



1 Mile Area of Review



known well operator in buffer

BASS ENTRPRS PROD CO

BOPCO LP

DEVON ENERGY PROD

EOG RESOURCES INC

OXY U S A INC

SANTA FE ENR OP PRTN

YATES PETROLEUM CORP

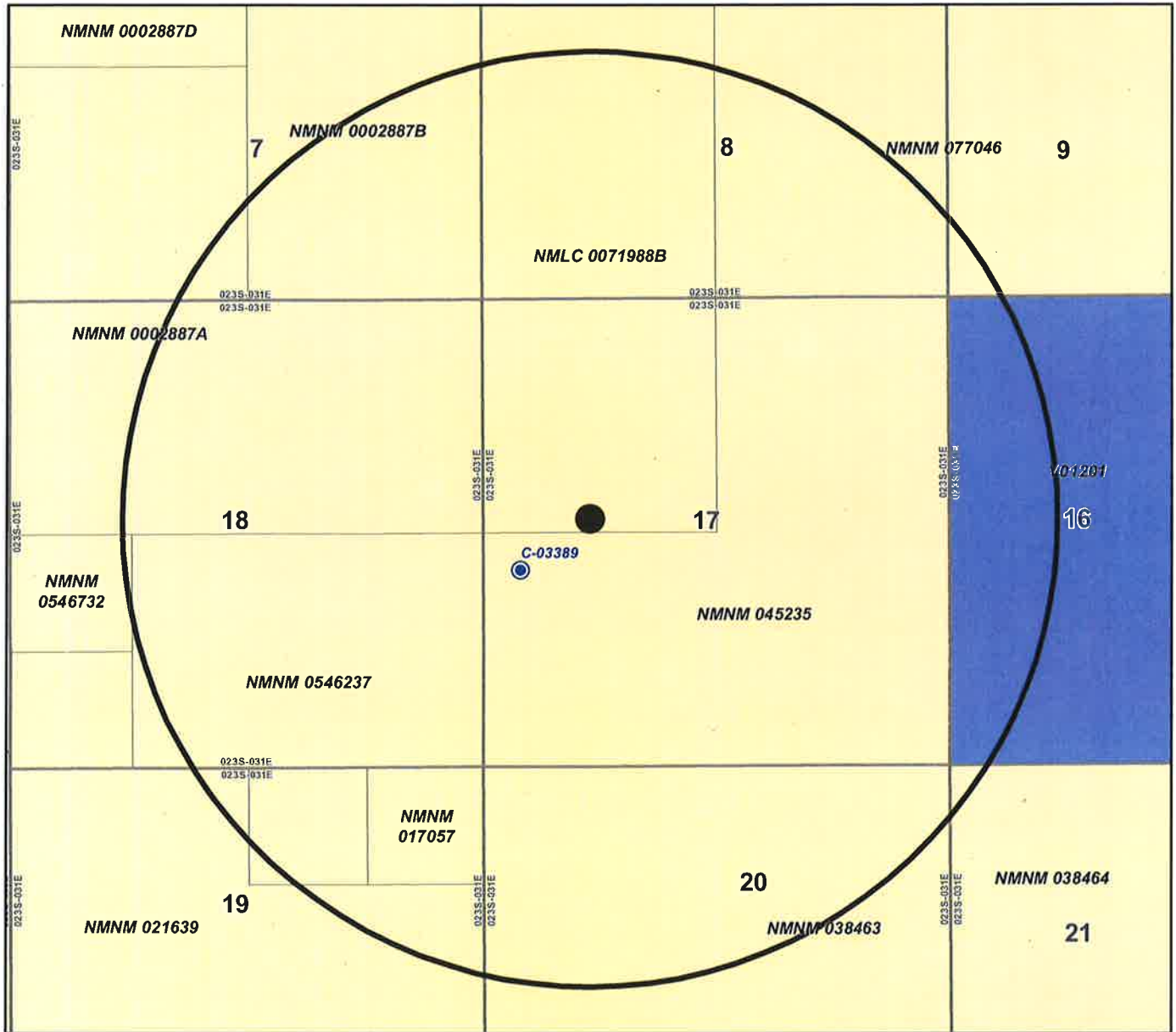
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A number line diagram illustrating the conversion from miles to kilometers. The top scale is labeled "Miles" and has markings at 0,  $\frac{1}{2}$ , and 1. The bottom scale is labeled "Kilometers" and has markings at 0,  $\frac{1}{4}$ ,  $\frac{1}{2}$ , and 1. The  $\frac{1}{2}$  mile mark is aligned with the  $\frac{1}{2}$  kilometer mark.

- |                                                                                                                   |                                                                                                                |                                                                                                         |
|-------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
|  Wellbore                      | <b>Well Status Name</b>                                                                                        |  NON-PRODUCING OTHER |
|  State Lease                   |  GAS                        |  CO2                 |
|  Federal Lease                 |  INJECTION                  |  DRY                 |
|  two mile buffer               |  MULTI OIL AND GAS PRODUCER |  STORAGE             |
|  BLM Active Unit - James Ranch |  OIL                        |  CBM                 |
|                                                                                                                   |  OIL AND GAS PRODUCER       |  OTHER PRODUCING     |
|                                                                                                                   |  MULTIPLE GAS PRODUCER      |  WATER SUPPLY WELL   |
|                                                                                                                   |  MULTIPLE OIL PRODUCER      |  WELL PERMIT         |
|                                                                                                                   |  ABANDONED                  |  WELL START          |
|                                                                                                                   |  DRILLING                   |                                                                                                         |

**known well operator in buffer**  
BASS ENTRPRS PROD CO  
BOPCO LP  
DEVON ENERGY PROD  
EOG RESOURCES INC  
KAISER-FRANCIS OIL  
OXY U S A INC  
SANTA FE ENR OP PRTN  
YATES PETROLEUM CORP

# James Ranch Unit 17 Skylark SWD 1 Eddy County, New Mexico



Water Wells within 1 mile



- water well
- location
- surface declaration
- surface permit
- State Lease
- Federal Lease
- one mile buffer



# New Mexico Office of the State Engineer

## Water Right Summary



**WR File Number:** C 03389      **Subbasin:** C      **Cross Reference:** -  
**Primary Purpose:** STK    72-12-1 LIVESTOCK WATERING  
**Primary Status:** PMT    PERMIT  
**Total Acres:**      **Subfile:** -  
**Total Diversion:** 3      **Cause/Case:** -  
**Owner:** JIMMY MILLS 2005 GST TRUST  
**Contact:** STACY MILLS  
**Owner:** BUREAU OF LAND MANAGEMENT  
**Contact:** SUSAN BRITT

### Documents on File

| Trn #                  | Doc                   | File/Act                   | Status |     | Transaction Desc. | From/ | Acres | Diversion | Consumptive |
|------------------------|-----------------------|----------------------------|--------|-----|-------------------|-------|-------|-----------|-------------|
|                        |                       |                            | 1      | 2   |                   | To    |       |           |             |
| <a href="#">469691</a> | <a href="#">COWNF</a> | <a href="#">2009-02-02</a> | CHG    | PRC | C 03389           | T     |       | 0         |             |
| <a href="#">469688</a> | <a href="#">72121</a> | <a href="#">2008-09-04</a> | PMT    | APR | C 03389           | T     |       | 3         |             |

### Current Points of Diversion

(NAD83 UTM in meters)

| POD Number              | Well Tag | Source | Q | Q | Q | 6416 4 | Sec | Tws | Rng | X      | Y       | Other Location Desc |
|-------------------------|----------|--------|---|---|---|--------|-----|-----|-----|--------|---------|---------------------|
| <a href="#">C 03389</a> |          |        | 1 | 1 | 3 | 17     | 23S | 31E |     | 612316 | 3574683 | SE1/4               |

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.



#### **Statements Regarding Seismicity**

XTO has performed a seismicity risk assessment associated with the proposed James Ranch Unit 17 Skylark SWD Well by investigating historic seismicity, the presence of deep faulting, orientation of faults relative to the current stress regime and the potential for pore pressure build up that might cause a fault to slip. The analysis was done utilizing Stanford's Fault Slip Potential Tool version 2.0 (FSP; Walsh et al. 2017). To accommodate the tool's analytics, a simplified spatial relationship between the proposed well and possible faulting was established.

As part of our risk assessment we also consider mitigation options to address inherent uncertainties associated with the evaluation of possible seismicity. XTO has developed and will implement, as a precautionary measure, a seismicity monitoring plan to address the inherent uncertainty in the subsurface characterization, future rates of disposal and reservoir response.

A summary of the evaluation and seismicity monitoring plan follows:

#### **Historic Seismicity**

There are three seismic events reported by the USGS and State Geologic Survey within ~6 miles of the proposed well. The New Mexico Tech Seismological Observatory determined that the March 18, 2012 event was linked to the collapse of a potash mine. Additionally, the Texas Bureau of Economic Geology's TexNet website shows no recent earthquakes in Texas within ~25 miles of the New Mexico border in the Delaware Basin (Figure 1).

#### **Deep Faulting**

Utilizing licensed 3D seismic data in the area of the proposed SWD well, XTO has interpreted two faults and/or linear features. Additionally, there are several seismic discontinuities that are interpreted as karst features in the Devonian section that do not appear to have significant lateral continuity.

#### **Stress Regime**

Utilizing data and analysis from Snee and Zoback, 'State of Stress in the Permian Basin, Texas and New Mexico: Implications for Induced Seismicity' (Feb 2018, The Leading Edge) the region of the proposed well is primarily a normal faulting regime and the subject well is near the boundary of stress areas two and four (Figure 1).

#### **Geomechanical Modeling**

A simple screening level geometric / geomechanical assessment of the two faults was performed utilizing the FSP tool. The model was run using the Aphi option which makes a simplifying and conservative assumption that faults are critically stressed and thus close to failure. Additionally, given the uncertainties in the geophysical interpretation and stress information, a probabilistic scenario was run varying fault and stress characteristics. FSP model deterministic and uncertainty inputs and results of the model are shown in Figures 2a and 2b.

#### **Pore Pressure Modeling**

A screening level investigation of possible pore pressure increases due to the proposed SWD well was performed utilizing the FSP tool and a range of reservoir parameters. For this screening level

analysis a 'high-side', flat rate model was run assuming disposal of 40,000 BWPD beginning in 2019 and continuing at that rate until 2040. Sensitivities were performed by varying several reservoir parameters. Deterministic models and uncertainty analysis are shown in Figure 3 which contains deterministic and probabilistic model inputs, snap shots of the calculated pore pressure increases in 2025 and 2040 and cross-plots of pore pressure uncertainty and fault slip probabilities.

#### **Integration of Geomechanical and Pore Pressure Modeling**

Integration of the geomechanical and hydrological elements of the assessment was performed using the FSP Integrated module and are shown in Figure 5. Note the y-axis in the lower right hand colored graph in Figure 5 is labeled 'Fault Slip Potential'. This a labeling convention within the tool but overstates the efficacy of the analysis. The FSP output should not be taken as calculating a reliable probability of a fault slipping but rather a screening method for assessing the relative potential of faults to slip.

#### **Uncertainty**

The analysis presented is a screening level approach that encompasses a range of uncertainties in several components that are difficult to individually constrain due to the limited static and dynamic data available for deep disposal wells. Accordingly, the analysis was done by varying key inputs to understand the relative importance of each and guide the focus of future data collection efforts.

#### **Monitoring Plan**

To manage the inherent uncertainty, XTO has contracted with a third party to provide seismicity monitoring using public seismometers augmented by a private array in the area of the proposed well. This will allow for a better determination of baseline seismicity as well as early detection should there be anomalous events. Additionally, XTO will determine the original pore pressure of the disposal interval prior to initiating operations. Upon request, XTO will share the results of this work with the EMNRD's UIC staff.



Tim Tyrrell

XTO Geoscience Technical Manager

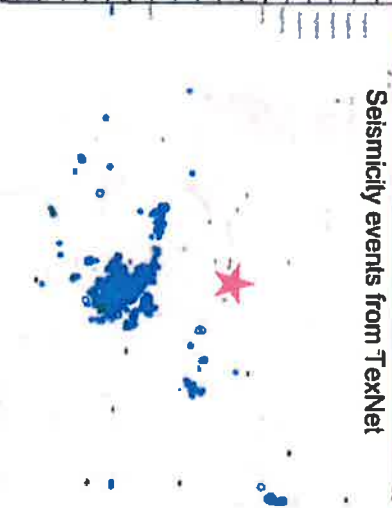
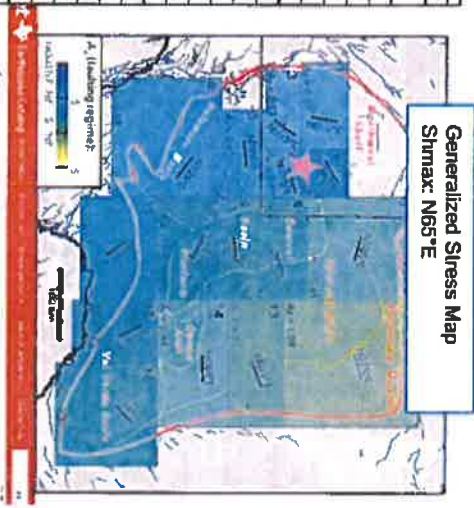
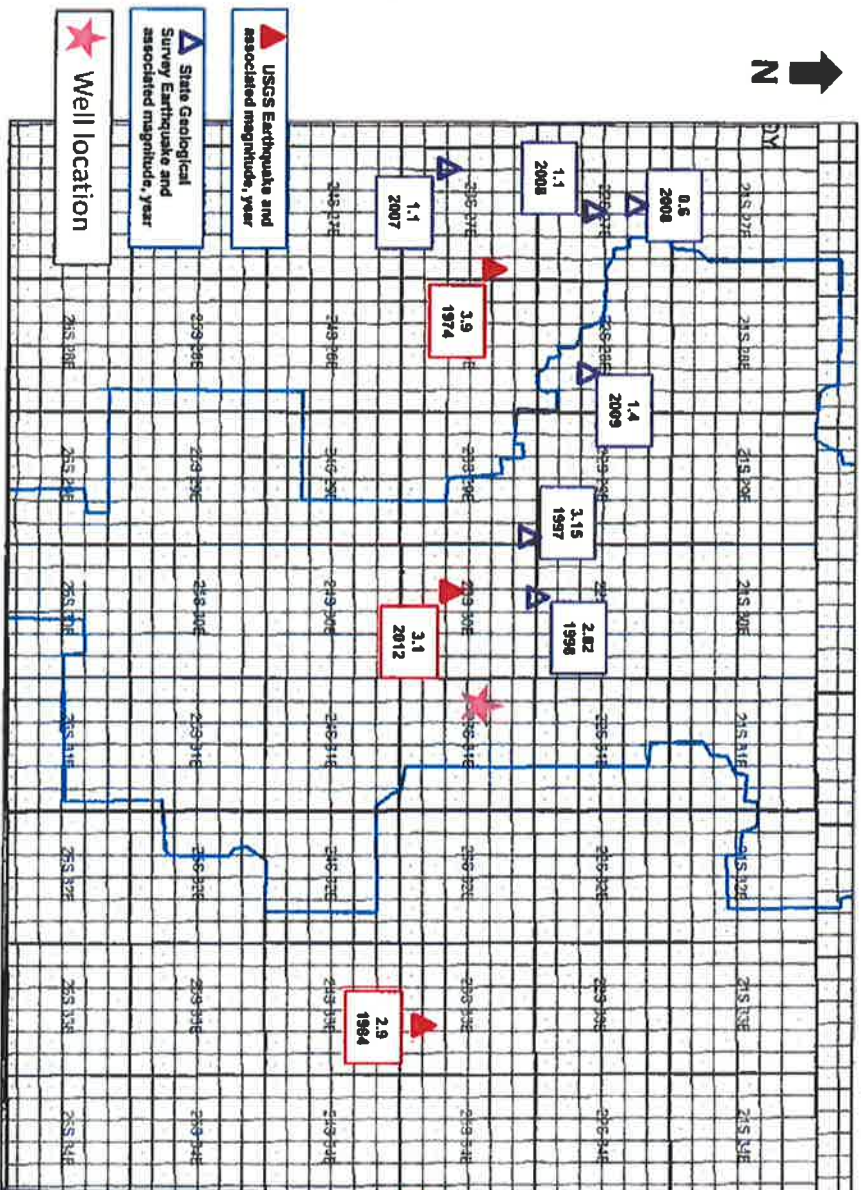


Figure 1

# Geomechanical Analysis

## Fault Inputs

Number of faults (max 500) **2**

Friction Coefficient (m) **0.8**

☐ Random Faults

☒ Enter Faults

|   | X (feet) [m] | Y (feet) [m] | Strike (Deg) | Dip (Deg) | Length (ft) |
|---|--------------|--------------|--------------|-----------|-------------|
| 1 | 9 5000       | 9 5000       | 324          | 85        | 8 7600      |
| 2 | 10 4000      | 8 4000       | 13           | 80        | 7 2400      |

## Stress Regime Inputs

☒ Use A-PH Model

Vertical Stress @ Depth (psia) **974**

A-PH Parameter **0.8**

☐ Main Fault Stress Grad Available (psia)

Main Hor Stress Direction (deg to CVN) **65**

Initial Res Pressure Gradient (psia) **0.47**

Reference Depth for Calculations (ft) **14500**

Maximum Injection Rate: 40,000 bbl/day

Stress Regime: Normal Faulting

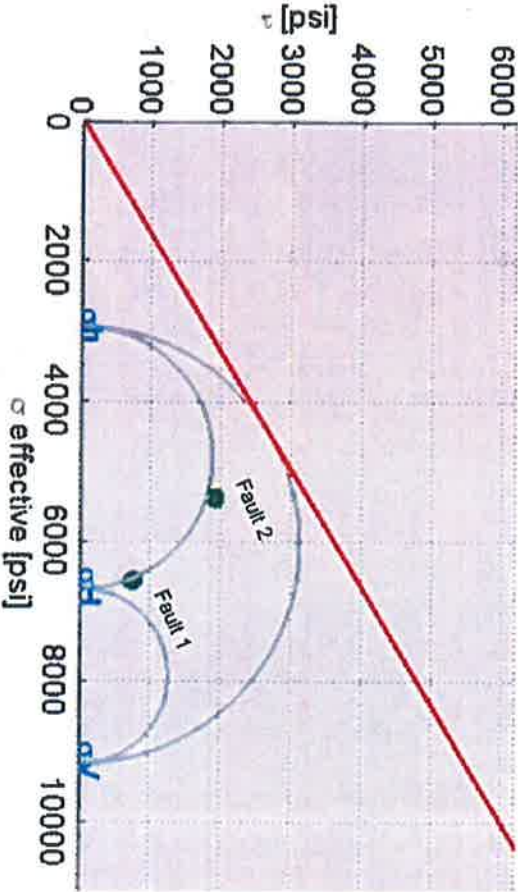


Figure 2a

# Geomechanical Analysis

## Uncertainty Ranges

|                                    |     |
|------------------------------------|-----|
| Strike Angles (bearing, degrees)   | 15  |
| Dip Angles (bearing, degrees)      | 15  |
| Max Horiz. Stress Dir (°S degrees) | 15  |
| Friction Coeff. $\mu$ (0.6)        | 0.9 |
| A-Phi Parameter (°S)               | 0.7 |

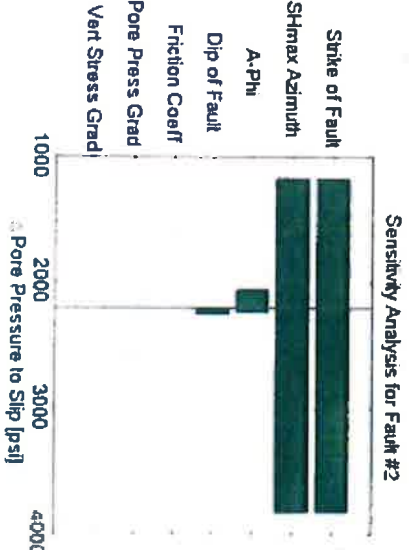
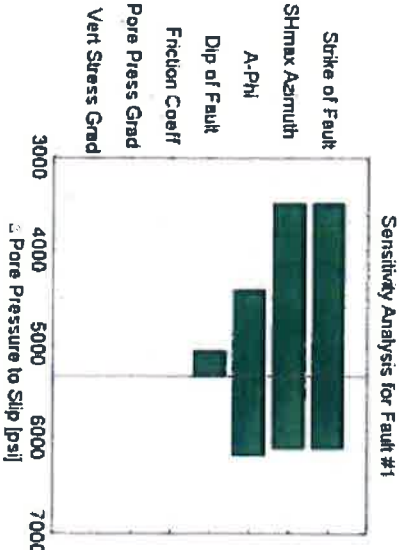
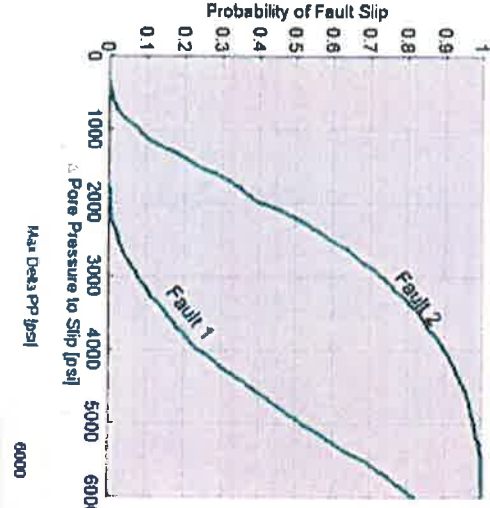
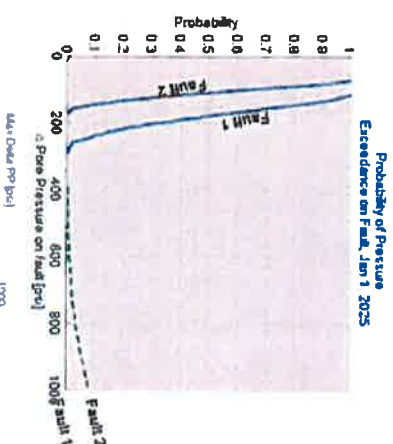
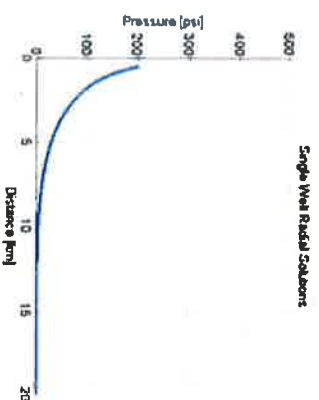
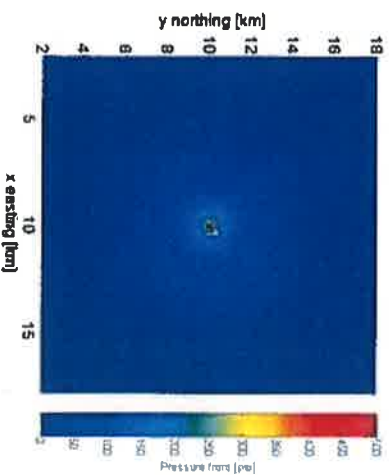


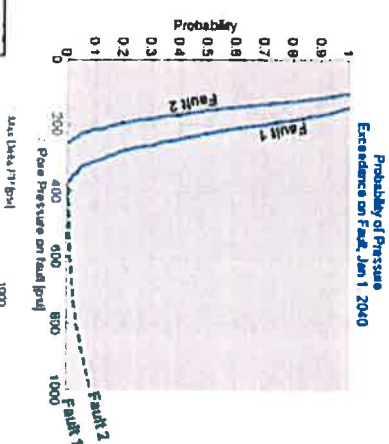
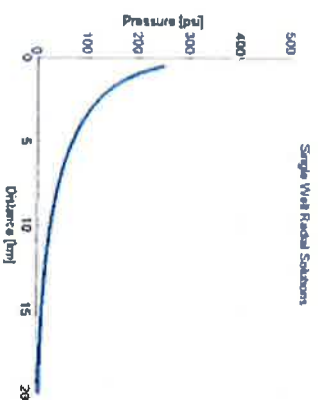
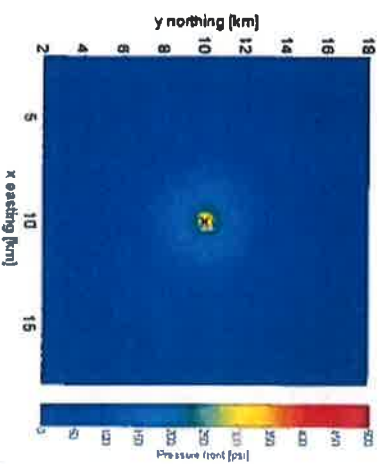
Figure 2b

# Pore Pressure Analysis

2025 Snapshot



2040 Snapshot



| Uncertainty Ranges        |     |
|---------------------------|-----|
| Acquire Thickness [50 ft] | 25% |
| Porosity [5 %]            | 2   |
| Perm [5 md]               | 15  |

Figure 3

# Geomechanical / Pore Pressure Integration

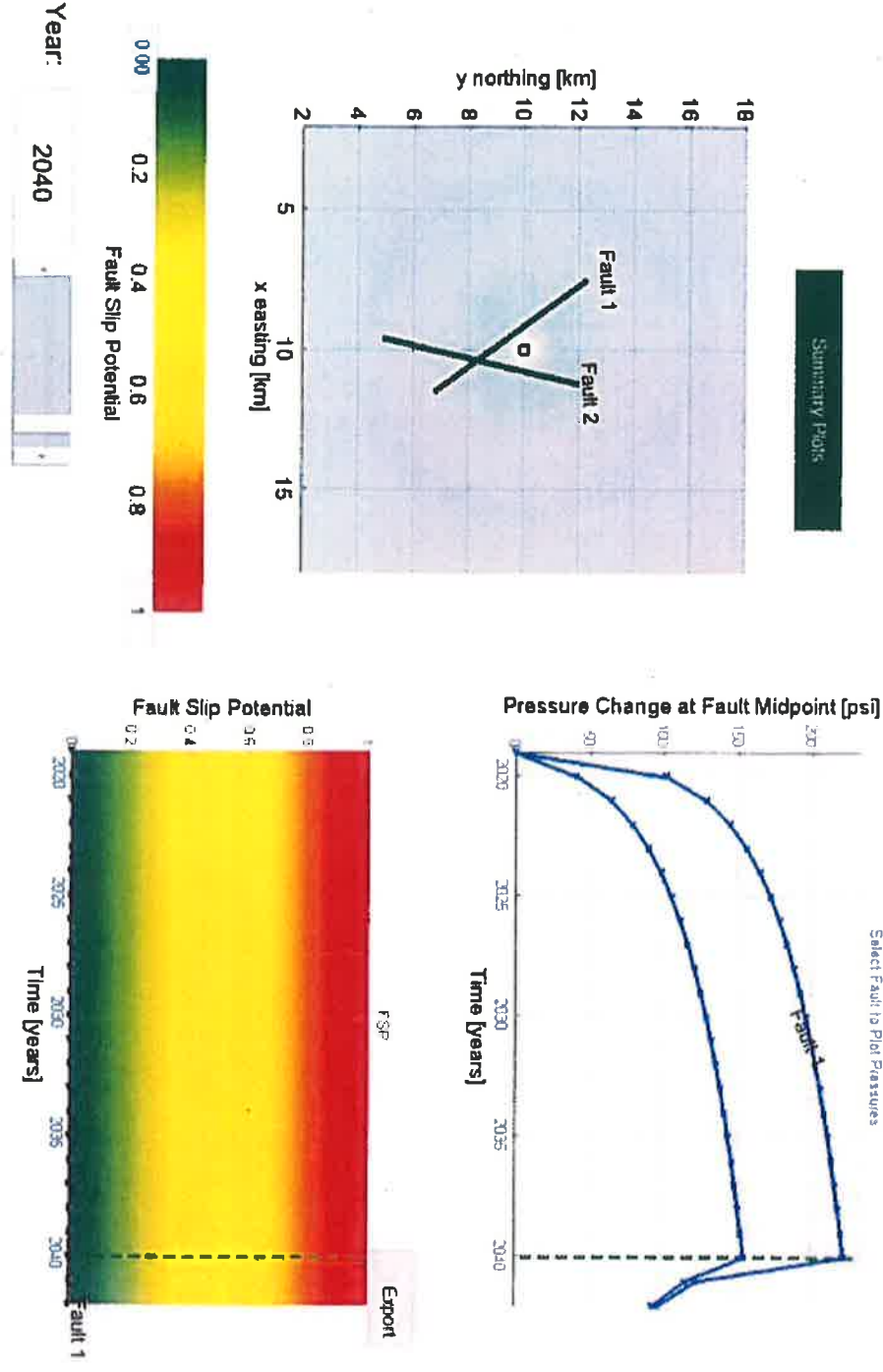
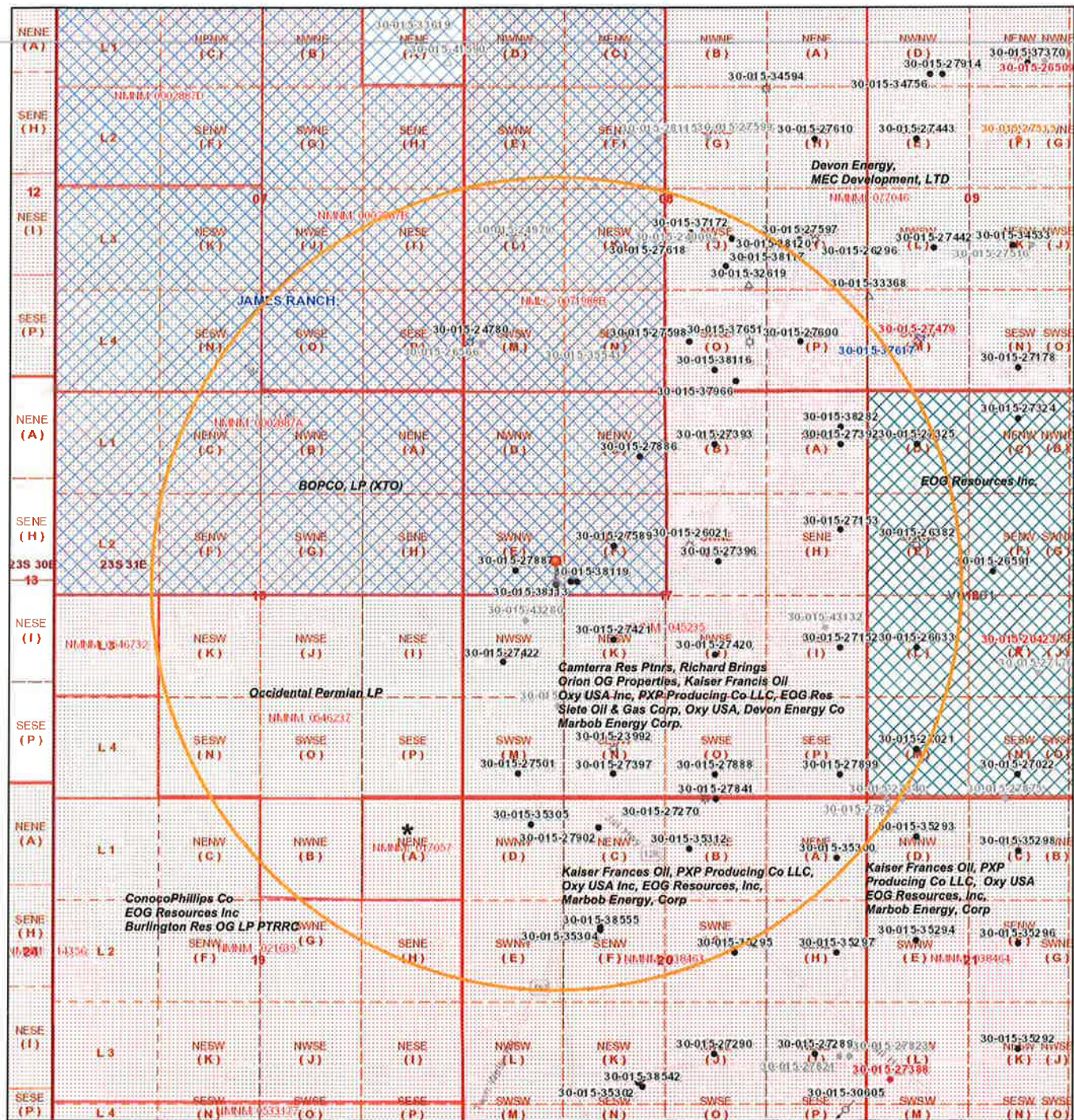


Figure 4

# James Ranch Unit 17 Skylark Operators/Leashold



3/5/2019 4:38:35 PM

Well Locations - Large Scale

- Miscellaneous
- ★ CO2 Active
- ✱ CO2 Cancelled
- ✱ CO2 New
- ✱ CO2, Plugged
- ✱ CO2, Temporarily Abandoned
- ✱ Gas Active
- ✱ Gas, Cancelled, Never Drilled
- ✱ Gas, New
- ✱ Gas, Plugged
- ✱ Gas, Temporarily Abandoned
- ✱ Injection, Active
- ✱ Injection, Cancelled

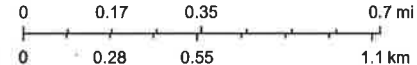
- ✱ Injection, New
- ✱ Injection, Plugged
- ✱ Injection, Temporarily Abandoned
- Oil, Active
- Oil, Cancelled
- Oil, New
- Oil, Plugged
- Oil, Temporarily Abandoned
- △ Salt Water Injection, Active
- △ Salt Water Injection, Cancelled
- △ Salt Water Injection, New
- △ Salt Water Injection, Plugged
- △ Salt Water Injection Temporarily Abandoned

Well Locations - Small Scale

- Active
- New
- Plugged
- Cancelled
- Temporarily Abandoned
- OCD Districts
- ★ OCD District Offices
- PLSS First Division

\*Gillmore Resources, Inc  
Wheeler, Freddie Jean  
Hurt Properties LP  
The Gillmore Revocable Trust  
Martin, Cecile E  
Hurt, James R

1:18,056



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap contributors, and the GIS User

New Mexico Oil Conservation Division  
NM OCD Oil and Gas Map. <http://nm-emnrd.maps.arcgis.com/apps/webappviewer/> New Mexico Oil Conservation Division

CARLSBAD  
**CURRENT-ARGUS**

**AFFIDAVIT OF PUBLICATION**

**Ad No.**  
**0001278944**

Tracie J Cherry  
XTO ENERGY  
6401 HOLIDAY HILL RD. BLDG 5

MIDLAND TX 79707

I, a legal clerk of the **Carlsbad Current-Argus**,  
a newspaper published daily at the City of  
Carlsbad, in said county of Eddy, state of New  
Mexico and of general paid circulation in said  
county; that the same is a duly qualified  
newspaper under the laws of the State wherein  
legal notices and advertisements may be  
published; that the printed notice attached  
hereto was published in the regular and entire  
edition of said newspaper and not in supplement  
thereof on the date as follows, to wit:

03/02/19

  
Legal Clerk

Subscribed and sworn before me this  
6th of March 2019.

  
State of WI, County of Brown  
NOTARY PUBLIC

9-19-21  
My Commission Expires

**NOTICE OF APPLICATION FOR WATER DISPOS-  
AL WELL PERMIT**

BOPCO, L.P. has applied to the New Mexico Oil  
Conservation Division for a permit to dispose of  
produced water into a porous formation not  
productive of oil or gas.

The applicant proposes to dispose of produced  
water into the **James Ranch Unit 17 Skylark #1**  
(Siluro-Devonian and Fusselman Formations).  
The maximum injection pressure will be 3,186  
psi and the maximum rate will be 40,000 bbls.  
produced water per day. The proposed dispos-  
al well is located approximately 20 miles NE of  
Malaga, New Mexico in Section 17, T23S, R31E,  
2490' FNL & 1223' FWL, Eddy County, New  
Mexico. The produced water will be disposed  
at a subsurface depth of 15,930' - 17,120'.

Any questions concerning this application  
should be directed to Tracie J Cherry, Regulator-  
y Coordinator, BOPCO, L.P., 6401 Holiday Hill  
Rd, Bldg 5, Midland, Texas 79707, (432) 221-  
7379.

Interested parties must file objections or re-  
quests for hearing with the Oil Conservation Di-  
vision, 1220 S. St. Francis Dr., Santa Fe, New  
Mexico 87505 within 15 days.

Pub: March 2, 2019 #1278944



Ad#:0001278944  
P O : 0001278944  
# of Affidavits :0.00

CERTIFIED MAILING LIST

BOPCO, LP

James Ranch Unit 17 Skylark SWD #1

**Certified #7018 2290 0001 1289 5498**

Bureau of Land Management  
620 E. Greene Street  
Carlsbad, NM 88220-6292

**Certified #7018 2290 0001 1289 5504**

Jimmy Mills GST Trust  
Stacy Mills  
PO Box 1358  
Loving, NM 88256

**Certified #7018 2290 0001 1289 5511**

Devon Energy Corporation  
Attn: Ryan Cloer, Landman  
333 W. Sheridan Ave  
Oklahoma City, OK 73102

**Certified #7018 2290 0001 1289 2664**

EOG Resources, Inc  
Kay Maddox  
PO Box 2267  
Midland, TX 79702

**Certified #7018 2290 0001 1289 5535**

Oxy USA, Inc  
Kelley Montgomery  
PO Box 4294  
Houston, TX 77210-4294

**Certified #7018 2290 0001 1289 6310**

Gilmore Resources Inc  
PO Box 577  
Kimball NE 69145-0577

**Certified #7018 2290 0001 1289 6280**

Freddie Jean Wheeler  
1000 Cordova PL #454  
Santa Fe, NM 87505-1725

**Certified #7018 2290 0001 1289 6297**

Marbob Energy Corp  
PO Box 227  
Artesia, NM 88211-0227

**Certified #7018 2290 0001 1289 6303**

Hurt Properties LP  
PO Box 1927  
Abingdon VA 24212-1927

**Certified #7018 2290 0001 1289 6457**

The Gilmore Revocable Trust  
505 N Big Spring Ste 303  
Midland, TX 79701-4346

**Certified #7018 2290 0001 1289 6327**

Cecile E Martin  
411 Meadowlakes Dr  
Meadowlakes, TX 78654-7138

**Certified #7018 2290 0001 1289 6334**

James R Hurt  
PO Box 72  
Odessa, TX 79760-0072

**Certified #7018 2290 0001 1289 6341**

MEC Development LTD  
PO Box 4000  
The Woodlands, TX 77380-4000

**Certified #7018 2290 0001 1289 6358**

Occidental Permian, LP  
5 E Greenway Plaza #110  
Houston, TX 77046-0521

**Certified #7018 2290 0001 1289 6365**

ConocoPhillips Co  
PO Box 7500  
Bartlesville, OK 74005-7500

**Certified #7018 2290 0001 1289 6372**

Kaiser Francis Oil  
PO Box 21463  
Tulsa, OK 74121-1468

**Certified #7018 2290 0001 1289 6389**

Burlington Resources OG LP  
3401 E 30<sup>th</sup> St  
Farmington, NM 87402-8807

**Certified #7018 2290 0001 1289 6396**

Camterra Res Ptnrs  
2615 E End Blvd S  
Marshal, TX 75670

**Certified #7018 2290 0001 1289 6402**

Orion OG Properties  
PO Box 2523  
Roswell, NM 88202

**Certified #7018 2290 0001 1289 6419**

Siete Oil & Gas Corp  
PO Box 2523  
Roswell, NM 88202-2523

**Certified #7018 2290 0001 1289 6426**

Richard S Briggs  
17 Meadowbrook Ln  
Trophy Club, TX 76262

**Certified #7018 2290 0001 1289 6433**

PXP Producing Co LLC  
717 Texas St Ste 2100  
Houston, TX 77002-2753

**Certified #7018 2290 0001 1289 6440**

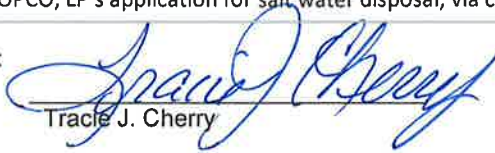
EOG Resources Inc  
333 Clay St #4200  
Houston, TX 77002

**Certified #7018 2290 0001 1289 6078**

The New Mexico State Land Office  
310 Old Santa Fe Trail  
Santa Fe, NM 87501

I, Tracie J Cherry, do hereby certify the surface owner and offset leasehold operator for the well shown were furnished a copy of BOPCO, LP's application for salt water disposal, via certified mail.

Signed:

  
Tracie J. Cherry

Title: Regulatory Coordinator

Date:

03/08/19

## 10,000 PSI Annular BOP Variance Request

XTO Energy/XTO Permian Op. 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 BOPL).

### 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.

| 8-1/2" Production Hole Section<br>10M psi Requirement |                  |                   |     |                                            |            |
|-------------------------------------------------------|------------------|-------------------|-----|--------------------------------------------|------------|
| Component                                             | OD               | Primary Preventer | RWP | Alternate Preventer(s)                     | RWP        |
| Drillpipe                                             | 5.000" or 4.500" | Annular           | 5M  | Upper 3.5"-5.5" VBR<br>Lower 3.5"-5.5" VBR | 10M<br>10M |
| HWDP                                                  | 5.000" or 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                                     | 5-1/2"           | Annular           | 5M  | -                                          | -          |
| Open-Hole                                             | -                | Blind Rams        | 10M | -                                          | -          |

## **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 XTO Energy/Permian Operating 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.

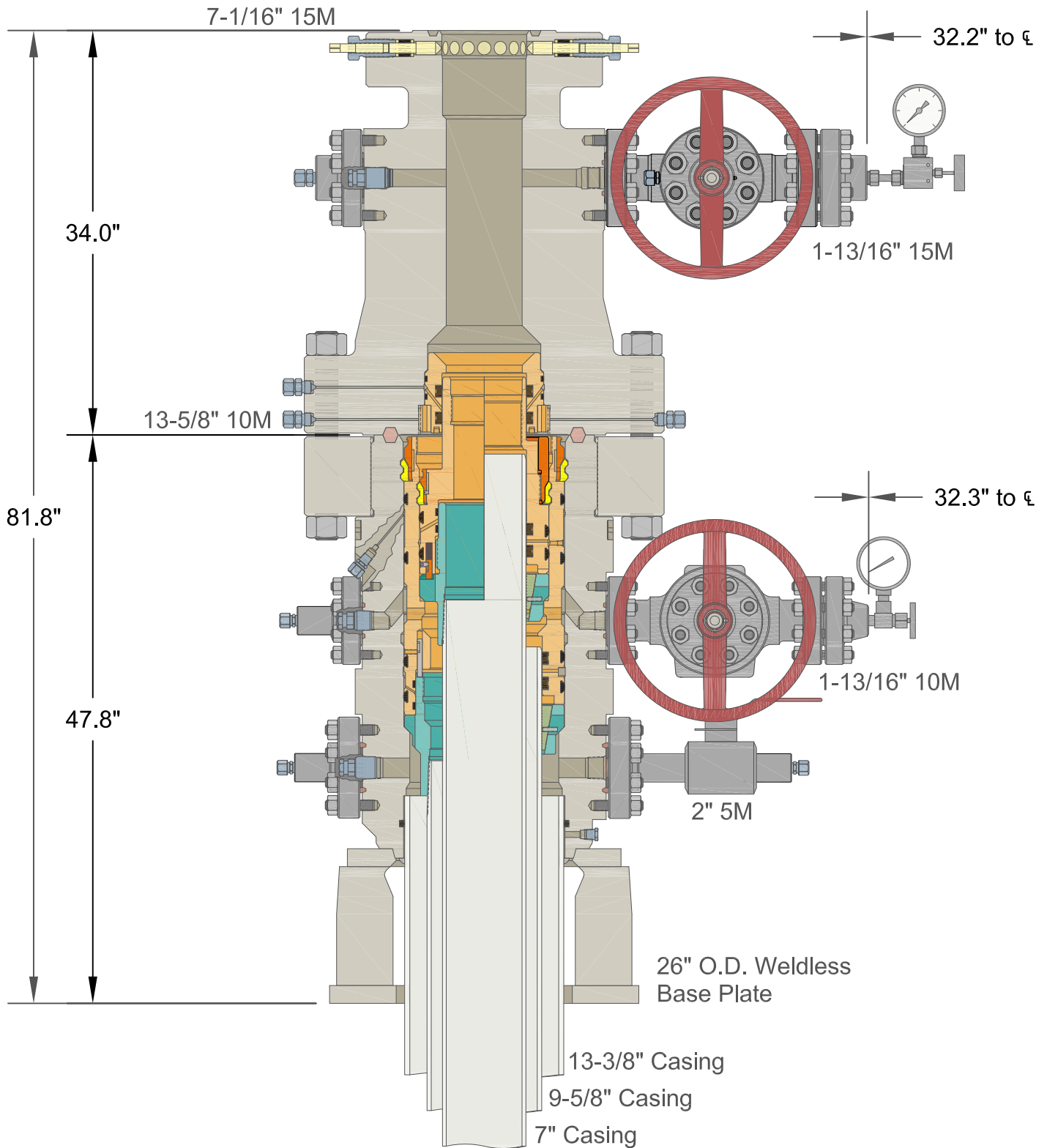
### General Procedure With No Pipe In Hole (Open Hole)

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



**BAKER  
HUGHES**  
a GE company



## Pressure Control

13-3/8" x 9-5/8" x 7" 15M RSH-2 Wellhead  
Assembly, With T-EBS-F-HP Tubing Head

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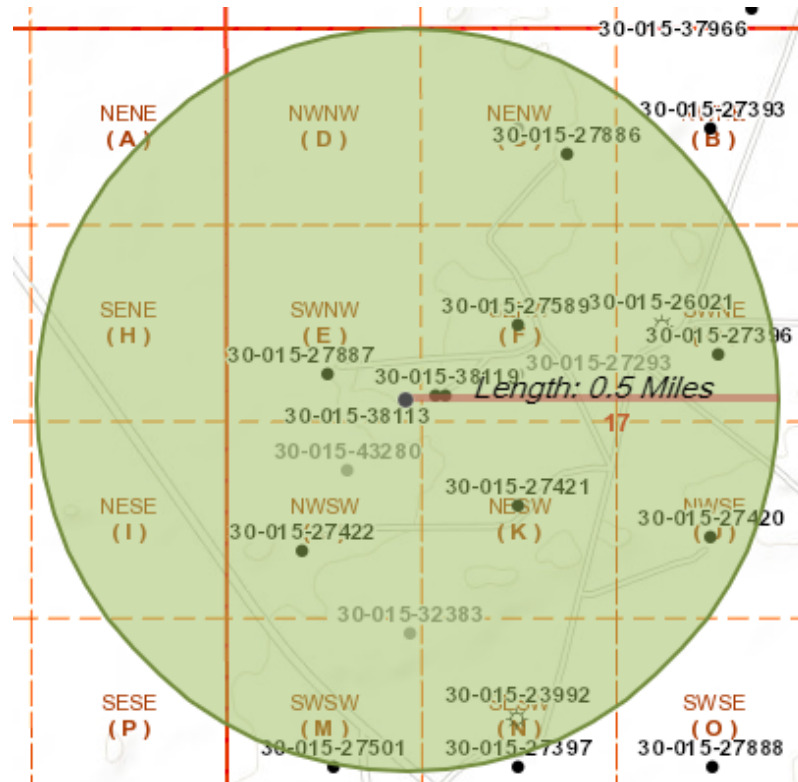
DATE:

31OCT18

XTO ENERGY, INC.

# James Ranch Unit 17 Skylark Fed SWD #1

Half Mile Radius



| <b><u>Well Name</u></b>     | <b><u>API #</u></b> | <b><u>Operator</u></b>     | <b><u>Formation</u></b> | <b><u>Prod. Cmt Top</u></b> |
|-----------------------------|---------------------|----------------------------|-------------------------|-----------------------------|
| Pure Gold C Federal #001    | 30-015-23992        | Devon Energy Prod Co. LP   | Atoka                   | Surface                     |
| Pure Gold C-17 Federal #014 | 30-015-27422        | Devon Energy Prod Co. LP   | Delaware                | Surface                     |
| Pure Gold C 17 Federal #015 | 30-015-32383        | Devon Energy Prod Co. LP   | Cancelled APD           | Cancelled APD               |
| Pure Gold C-17 Federal #012 | 30-015-27421        | Devon Energy Prod Co. LP   | Delaware                | Surface                     |
| Pure Gold C-17 Federal #008 | 30-015-27420        | Devon Energy Prod Co. LP   | Delaware                | Surface                     |
| James Ranch Unit #124H      | 30-015-38113        | XTO Permian Operating, LLC | Delaware                | Surface                     |
| James Ranch Unit #121H      | 30-015-38119        | XTO Permian Operating, LLC | Delaware                | 5014'                       |
| Pure Gold C-17 Fed          | 30-015-27293        | Santa Fe Energy Co         | Cancelled APD           | Cancelled APD               |
| James Ranch Unit #055       | 30-015-27589        | XTO Permian Operating, LLC | Delaware                | Surface                     |
| Pure Gold C-17 Federal #009 | 30-015-27396        | Devon Energy Prod Co. LP   | Delaware                | Surface                     |
| Pure Gold C-17 Federal #002 | 30-015-26021        | Devon Energy Prod Co. LP   | Delaware                | Surface                     |
| James Ranch Unit #056       | 30-015-27886        | XTO Permian Operating, LLC | Delaware                | 3920'                       |
| Highwayman Fed              | 30-015-25414        | Herman JU Ledbetter        | Cancelled APD           | Cancelled APD               |
| James Ranch Unit #057       | 30-015-27887        | XTO Permian Operating, LLC | Delaware                | 3478'                       |