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DISTRICT II-ARTESIA O.C.D.

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

5. Lease Serial No.
NMNM0554239

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

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

1c. Type of Completion: ☐ Hydraulic Fracturing ☑ Single Zone ☐ Multiple Zone

7. If Unit or CA Agreement, Name and No.
JAMES RANCH / NMNM070965X

8. Lease Name and Well No.
JRU DI 11 WHITLASH A
108H 326099

2. Name of Operator
XTO PERMIAN OPERATING LLC

9. API Well No.
30-015-46270

3a. Address
6401 Holiday Hill Road, Bldg 5 Midland TX 79707

3b. Phone No. *(include area code)*
(432)682-8873

10. Field and Pool, or Exploratory
Wildcat WC 015 G06 S223057M K Upper Wolfcamp

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface NESW / 1990 FSL / 2040 FWL / LAT 32.390461 / LONG -103.905687
At proposed prod. zone SWSW / 330 FSL / 50 FWL / LAT 32.386042 / LONG -103.94651

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 17 / T22S / R30E / NMP

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

12. County or Parish
EDDY

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
1990 feet	641.4	400
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	**19. Proposed Depth**	**20. BLM/BIA Bond No. in file**
30 feet	10347 feet / 23675 feet	FED: COB000050
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	**22. Approximate date work will start***	**23. Estimated duration**
3102 feet	09/01/2019	90 days

24. Attachments

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

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

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	Stephanie Rabadue / Ph: (432)620-6714	04/23/2019

Title
Regulatory Coordinator

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575)234-5959	09/04/2019
Title	**Office**	
Assistant Field Manager Lands & Minerals	CARLSBAD	

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

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

APPROVED WITH CONDITIONS

Approval Date: 09/04/2019

(Continued on page 2)

*(Instructions on page 2)

RWP 9-6-19

PECOS DISTRICT DRILLING
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**XTO Permian Operating, LLC**
LEASE NO.:	**NMNM-0554239**
WELL NAME & NO.:	**JRU DI 11 Whitlash A 108H**
SURFACE HOLE FOOTAGE:	**1990' FSL & 2040' FWL**
BOTTOM HOLE FOOTAGE LOCATION:	**0330' FSL & 0050' FWL Sec. 13, T. 22 S., R 29 E. Section 17, T. 22 S., R 30 E., NMPM**
COUNTY:	**County, New Mexico**

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

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.

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

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a "Major" violation.**

3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works is located, this does not include the dog house or stairway area.

4. **The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

B. CASING

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

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

Wait on cement (WOC) for 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.

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

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

R-111-P-Potash
High Cave/Karst
Possibility of water flows in the Salado and Castile.
Possibility of lost circulation in the Red Beds, Rustler, and Delaware.
Abnormal pressure may be encountered within the 3rd Bone Spring Sand and all subsequent formations.

A MINIMUM OF TWO CASING STRINGS CEMENTED TO SURFACE IS REQUIRED IN HIGH CAVE/KARST AREAS. THE CEMENT MUST BE IN A SOLID SHEATH. THEREFORE, ONE INCH OPERATIONS ARE NOT SUFFICIENT TO PROTECT CAVE KARST RESOURCES. A CASING DESIGN THAT HAS A ONE INCH JOB PERFORMED DOES NOT COUNT AS A SOLID SHEATH. IF THE PRIMARY CEMENT JOB ON THE SURFACE CASING DOES NOT CIRCULATE, THEN THE NEXT TWO CASING STRINGS MUST BE CEMENTED TO SURFACE.

1. The **16** inch surface casing shall be set at approximately **375** feet (a minimum of 25 feet 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 is to include the lead cement slurry.**

c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

d. If cement falls back, remedial cementing will be done prior to drilling out that string.

11-3/4 1st Intermediate casing shall be kept fluid filled while running into hole to meet BLM minimum collapse requirements.

2. The minimum required fill of cement behind the **11-3/4** inch 1st intermediate casing, which shall be set at approximately **3400** feet, 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 cave/karst and potash.**

Formation below the 11-3/4" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

8-5/8 2nd Intermediate casing shall be kept fluid filled while running into hole to meet BLM minimum collapse requirements.

3. The minimum required fill of cement behind the **8-5/8** inch 2nd 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.**

Formation below the 8-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe and the mud weight for the bottom of the hole. Report results to BLM office.

Centralizers required on horizontal leg, must be type for horizontal service and a minimum of one every other joint.

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

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

5. 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.

6. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

C. PRESSURE CONTROL

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

2. Variance approved to use flex line from BOP to choke manifold. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. **Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.** If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).

   Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be psi

3. **Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the 11-3/4'' 1st intermeidate casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 11-3/4'' 1st intermeidate casing shoe shall be psi.**
   a. **Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.**

b. **If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.**
c. **Manufacturer representative shall install the test plug for the initial BOP test.**
d. **Operator shall perform the 8-5/8" casing integrity tests to 70% of the casing burst. This will test the multi-bowl seals.**
e. **If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.**

5M 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.

4. The appropriate BLM office shall be notified a minimum of 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.

   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.

D. 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.

E. DRILL STEM TEST

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

F. 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 081919

PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL

Environmental Assessment DOI-BLM-NM-P020-2019-0000-EA

XTO Permian Operating LLC
James Ranch Unit DI 11 Drill Island MW
Lease Number NMNM0554239

James Ranch Unit DI 11 Centerpoint: 2675' FEL & 2295' FSL, Sec. 17-22S-30E, NMPM, Eddy County, New Mexico

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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.

Electric Lines

☐ **Interim Reclamation**

☐ **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 and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator 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 shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

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)

Hydrology:

The entire well pad(s) will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. The compacted berm shall be constructed at a minimum of 12 inches with impermeable mineral material (e.g. caliche). Topsoil shall not be used to construct the berm. No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad. The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed. Any water erosion that may occur due to the construction of the well pad during the life of the well will be quickly corrected and proper measures will be taken to prevent future erosion. Stockpiling of topsoil is required. The top soil shall be stockpiled in an appropriate location to prevent loss of soil due to water or wind erosion and not used for berming or erosion control. If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.

Tank battery locations will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank or 24 hour production, whichever is greater. Automatic shut off, check valves, or similar systems will be installed for tanks to minimize the effects of catastrophic line failures used in production or drilling.

When crossing ephemeral drainages the pipeline(s) will be buried to a minimum depth of 48 inches from the top of pipe to ground level. Erosion control methods such as gabions and/or rock aprons should be placed on both up and downstream sides of the pipeline crossing. In addition, curled (weed free) wood/straw fiber wattles/logs and/or silt fences should be placed on the downstream side for sediment control during construction and maintained until soils and vegetation have stabilized. Water bars should be placed within the ROW to divert and dissipate surface runoff. A pipeline access road is not permitted to cross these ephemeral drainages. Traffic should be diverted to a preexisting route. Additional seeding may be required in floodplains and drainages to restore energy dissipating vegetation.

Prior to pipeline installation/construction a leak detection plan will be developed. The method(s) 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.

Any water erosion that may occur due to the construction of overhead electric line and during the life of the power line will be quickly corrected and proper measures will be

taken to prevent future erosion. A power pole should not be placed in drainages, playas, wetlands, riparian areas, or floodplains and must span across the features at a distance away that would not promote further erosion.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the 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 .

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.

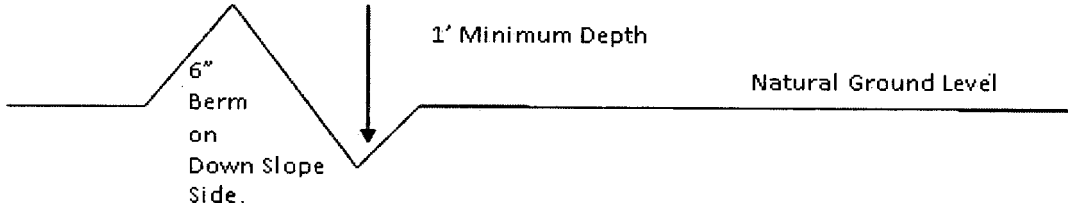
Turnouts

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 outsloping and insloping, leadoff 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 %);

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

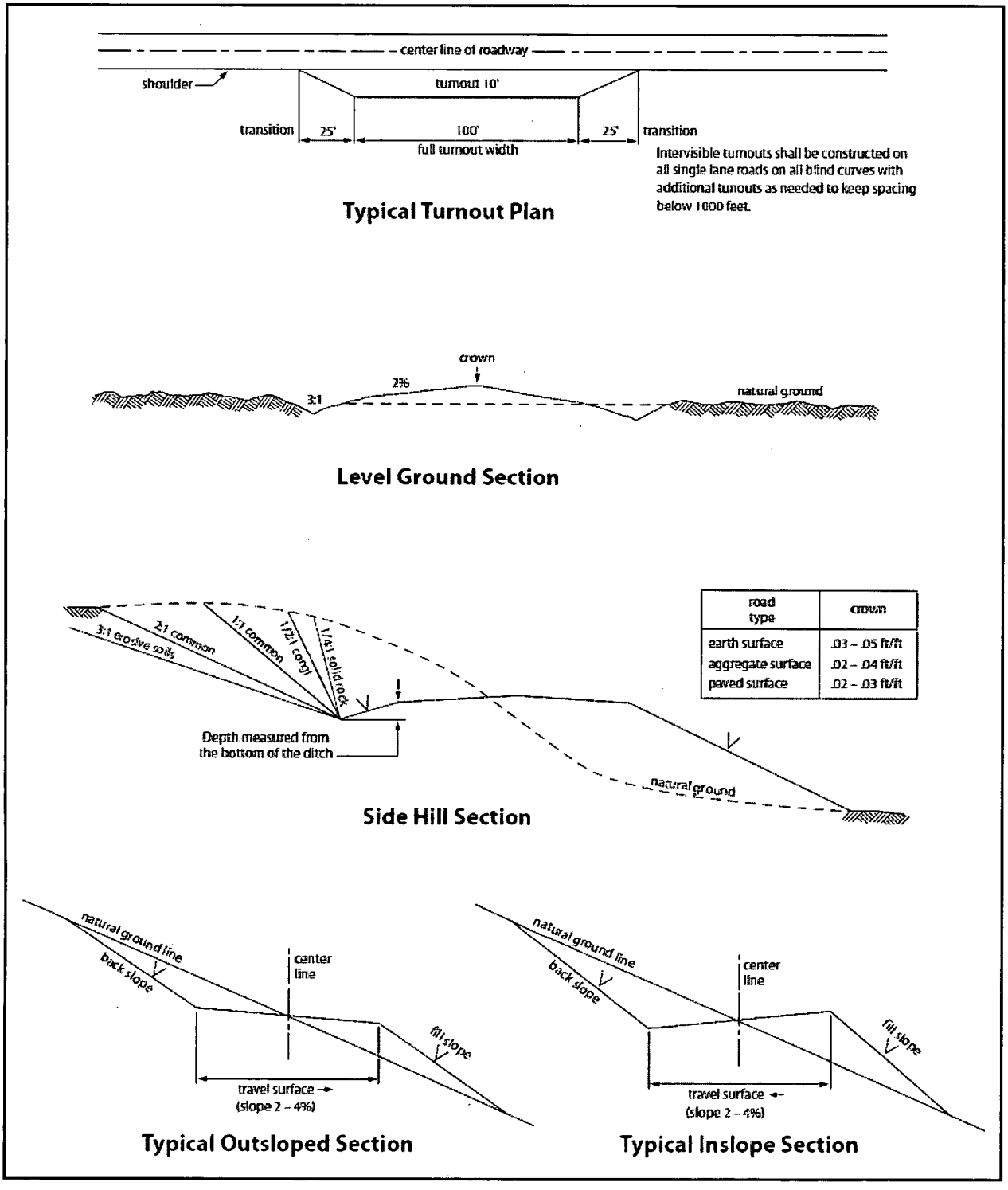


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

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 **30** 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.

(X) seed mixture 1	( ) seed mixture 3
( ) seed mixture 2	( ) seed mixture 4
( ) seed mixture 2/LPC	( ) 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 and/or paleontological resources (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. 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 proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

17. 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.

18. 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.

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 and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. 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 proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

11. Special Stipulations:

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

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).

Seed Mixture 1 for Loamy Sites

Holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed shall be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed shall be either certified or registered seed. The seed container shall be tagged in accordance with State law(s) and available for inspection by the Authorized Officer.

Seed shall be planted using a drill equipped with a depth regulator to ensure proper depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture shall be evenly and uniformly planted over the disturbed area (small/heavier seeds have a tendency to drop the bottom of the drill and are planted first). Holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed shall be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre shall be doubled. The seeding shall be repeated until a satisfactory stand is established as determined by the Authorized Officer. Evaluation of growth may not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species	lb/acre
Plains lovegrass (Eragrostis intermedia)	0.5
Sand dropseed (Sporobolus cryptandrus)	1.0
Sideoats grama (Bouteloua curtipendula)	5.0
Plains bristlegrass (Setaria macrostachya)	2.0

*Pounds of pure live seed:

Pounds of seed **x** percent purity **x** percent germination = pounds pure live seed

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BUREAU OF LAND MANAGEMENT

Operator Certification Data Report

09/05/2019

Operator Certification

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

NAME: Stephanie Rabadue **Signed on:** 09/15/2018

Title: Regulatory Coordinator

Street Address: 500 W. Illinois St, Ste 100

City: Midland **State:** TX **Zip:** 79701

Phone: (432)620-6714

Email address: stephanie_rabadue@xtoenergy.com

Field Representative

Representative Name:

Street Address:

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

Phone:

Email address:

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

Application Data Report

09/05/2019

APD ID: 10400040980 **Submission Date:** 04/23/2019

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: JRU DI 11 WHITLASH A **Well Number:** 108H

Well Type: OIL WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - General

APD ID: 10400040980 **Tie to previous NOS?** **Submission Date:** 04/23/2019

BLM Office: CARLSBAD **User:** Stephanie Rabadue **Title:** Regulatory Coordinator

Federal/Indian APD: FED **Is the first lease penetrated for production Federal or Indian?** FED

Lease number: NMNM0554239 **Lease Acres:** 641.4

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

Agreement in place? YES **Federal or Indian agreement:** FEDERAL

Agreement number: NMNM070965X

Agreement name:

Keep application confidential? NO

Permitting Agent? NO **APD Operator:** XTO PERMIAN OPERATING LLC

Operator letter of designation:

Operator Info

Operator Organization Name: XTO PERMIAN OPERATING LLC

Operator Address: 6401 Holiday Hill Road, Bldg 5

Zip: 79707

Operator PO Box:

Operator City: Midland **State:** TX

Operator Phone: (432)682-8873

Operator Internet Address:

Section 2 - Well Information

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

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

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

Well Name: JRU DI 11 WHITLASH A **Well Number:** 108H **Well API Number:**

Field/Pool or Exploratory? Exploratory **Field Name:** WILDCAT BONE SPRING **Pool Name:**

Is the proposed well in an area containing other mineral resources? POTASH

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: JRU DI 11 WHITLASH A **Well Number:** 108H

Is the proposed well in an area containing other mineral resources? POTASH

Is the proposed well in a Helium production area? N **Use Existing Well Pad?** NO **New surface disturbance?**

Type of Well Pad: MULTIPLE WELL **Multiple Well Pad Name:** JAMES RANCH UNIT DI **Number:** 11

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

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: DELINEATION

Describe sub-type:

Distance to town: **Distance to nearest well:** 30 FT **Distance to lease line:** 1990 FT

Reservoir well spacing assigned acres Measurement: 400 Acres

Well plat: JRU_DI_11_Whit_108H_C102_20190422064602.pdf

Well work start Date: 09/01/2019 **Duration:** 90 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number: **Reference Datum:**

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
SHL Leg #1	1990	FSL	2040	FWL	22S	30E	17	Aliquot NESW	32.390461	-103.905687	EDDY	NEW MEXICO	NEW MEXICO	S	STATE	3102	0	0
KOP Leg #1	1990	FSL	2040	FWL	22S	30E	17	Aliquot NESW	32.390461	-103.905687	EDDY	NEW MEXICO	NEW MEXICO	S	STATE	1102	2000	2000
PPP Leg #1	330	FSL	660	FEL	22S	30E	18	Aliquot SESE	32.386827	-103.918807	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 0554239	-7473	13000	10575

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: JRU DI 11 WHITLASH A **Well Number:** 108H

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
PPP Leg #1	330	FSL	1980	FWL	22S	30E	17	Aliquot SESW	32.385899	-103.905891	EDDY	NEW MEXICO	NEW MEXICO	S	STATE	-7028	10300	10130
EXIT Leg #1	330	FSL	100	FWL	22S	29E	13	Aliquot SWSW	32.386041	-103.946348	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 0554220	-7246	23625	10348
BHL Leg #1	330	FSL	50	FWL	22S	29E	13	Aliquot SWSW	32.386042	-103.946511	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 0554220	-7245	23675	10347

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BUREAU OF LAND MANAGEMENT

Drilling Plan Data Report

09/05/2019

APD ID: 10400040980 **Submission Date:** 04/23/2019

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: JRU DI 11 WHITLASH A **Well Number:** 108H

Well Type: OIL WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

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Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1	---	3102	0	0	OTHER,ALLUVIUM : Alluvium	NONE	N
2	RUSTLER	3025	77	77	SANDSTONE	USEABLE WATER	N
3	TOP SALT	2735	367	367	SALT	POTASH	N
4	BASE OF SALT	-55	3157	3157	SALT	POTASH	N
5	DELAWARE	-285	3387	3387	MARL,SANDSTONE	OTHER,NATURAL GAS,OIL : Produced Water	N
6	BONE SPRING 1ST	-5103	8205	8205	SANDSTONE	OTHER,NATURAL GAS,POTASH : Produced Water	N
7	BONE SPRING 2ND	-5608	8710	8710	SANDSTONE	OTHER,NATURAL GAS,OIL : Produced Water	N
8	BONE SPRING 3RD	-6251	9353	9353	SANDSTONE	OTHER,NATURAL GAS,OIL : Produced Water	N
9	WOLFCAMP	-7395	10497	10497	SHALE	OTHER,NATURAL GAS,OIL : Produced Water	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 2M **Rating Depth:** 322

Equipment: The blow out preventer equipment (BOP) on surface casing temporary wellhead will consist of a 21-1/4" minimum 2M Hydril. MASP should not exceed 971 psi.
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 nippling up on the 18-3/4", 2M bradenhead and flange, the BOP test will be limited to 2000 psi. The 2M BOP diagrams are attached. Blind rams will be functioned tested each trip, pipe rams will be functioned tested each day.
Choke Diagram Attachment:

JRU_DI_11_2MCM_20190422065033.pdf

BOP Diagram Attachment:

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: JRU DI 11 WHITLASH A **Well Number:** 108H

JRU_DI_11_2MCM_20190422065033.pdf

JRU_DI_11_2MBOP_20190422065048.pdf

Pressure Rating (PSI): 5M **Rating Depth:** 10575

Equipment: Once the permanent WH is installed on the 11-3/4" casing, the blow out preventer equipment (BOP) will consist of a 13-5/8" minimum 5M Hydril and a 13-5/8" minimum 5M Double Ram BOP.
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 nippling up on the 11-3/4", 5M bradenhead and flange, the BOP test will be limited to 5000 psi. When nippling up on the 8-5/8", the BOP will be tested to a minimum of 5000 psi. All BOP tests will include a low pressure test as per BLM regulations. The 5M BOP diagrams are attached. Blind rams will be functioned tested each trip, pipe rams will be functioned tested each day.
Choke Diagram Attachment:

JRU_DI_11_5MCM_20190422064904.pdf

BOP Diagram Attachment:

JRU_DI_11_5MBOP_20190422064914.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	18.75	16.0	NEW	API	N	0	322	0	322			322	J-55	75	ST&C	6.92	2.71	DRY	29.4	DRY	29.4
2	INTERMEDIATE	14.75	11.75	NEW	API	N	0	3182	0	3182			3182	J-55	47	ST&C	1.53	1.57	DRY	3.19	DRY	3.19
3	INTERMEDIATE	10.625	8.625	NEW	API	N	0	7145	0	7145			7145	J-55	32	BUTT	1.28	1.12	DRY	2.05	DRY	2.05
4	PRODUCTION	7.875	5.5	NEW	API	N	0	23675	0	10575			23675	P-110	17	BUTT	1.28	1.12	DRY	2.05	DRY	2.05

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: JRU DI 11 WHITLASH A **Well Number:** 108H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

JRU_DI_11_Whit_108H_Csg_20190419094949.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

JRU_DI_11_Whit_108H_Csg_20190419094955.pdf

Casing ID: 3 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

JRU_DI_11_Whit_108H_Csg_20190419095001.pdf

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: JRU DI 11 WHITLASH A **Well Number:** 108H

Casing Attachments

Casing ID: 4 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

JRU_DI_11_Whit_108H_Csg_20190419095007.pdf

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	240	240	1.35	14.8	324	100	Halcem-C	2% CaCl
SURFACE	Tail										none
INTERMEDIATE	Lead		0	3182	1330	1.87	12.9	2487.1	100	Econocem-HLTRRC	None
INTERMEDIATE	Tail				190	1.35	14.8	256.5	100	Halcem-C	2% CaCl
INTERMEDIATE	Lead		0	7145	550	1.88	12.9	1034	100	Halcem-C	2% CaCl
INTERMEDIATE	Tail				300	1.88	14.8	564	100	Halcem-C	2% CaCl
PRODUCTION	Lead		3282	23675	830	2.69	10.5	2232.7	100	NeoCem	None
PRODUCTION	Tail				1900	1.61	13.2	3059	20	VersaCem	None

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: JRU DI 11 WHITLASH A **Well Number:** 108H

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 and 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
7145	10575	OIL-BASED MUD	10	10.3							A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system
0	322	OTHER : FW/Native	8.4	8.8							A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system
322	3182	OTHER : Brine/Gel Sweeps	9.8	10.2							A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: JRU DI 11 WHITLASH A **Well Number:** 108H

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
											as a closed loop system
3182	7145	OTHER : FW/Cut Brine	8.7	9.4							A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system

Section 6 - Test, Logging, Coring

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

Open hole logging to include Density/Neutron/PE/Dual Laterlog/Spectral Gamma from kick-off point to intermediate casing shoe.

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

CBL,CNL,DS,GR,MUDLOG

Coring operation description for the well:

No coring will take place on this well.

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 5663 **Anticipated Surface Pressure:** 3336.5

Anticipated Bottom Hole Temperature(F): 160

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

Describe:

Potential loss of circulation through the Capitan Reef.

Contingency Plans geoharzards description:

The necessary mud products for weight addition and fluid loss control will be on location at all times.A Pason or Totco will be used to detect changes in loss or gain of mud volume. A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system. Lost circulation could occur but is not expected to be a serious problem in this area and hole seepage will be compensated for by additions of small amounts of LCM in the drilling fluid.

Contingency Plans geohazards attachment:

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: JRU DI 11 WHITLASH A **Well Number:** 108H

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

JRU_DI_11_H2S_Dia_20190419084544.pdf

JRU_DI_11_H2S_Plan_20190419084551.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

JRU_DI_11_Whit_108H_DD_20190419084602.pdf

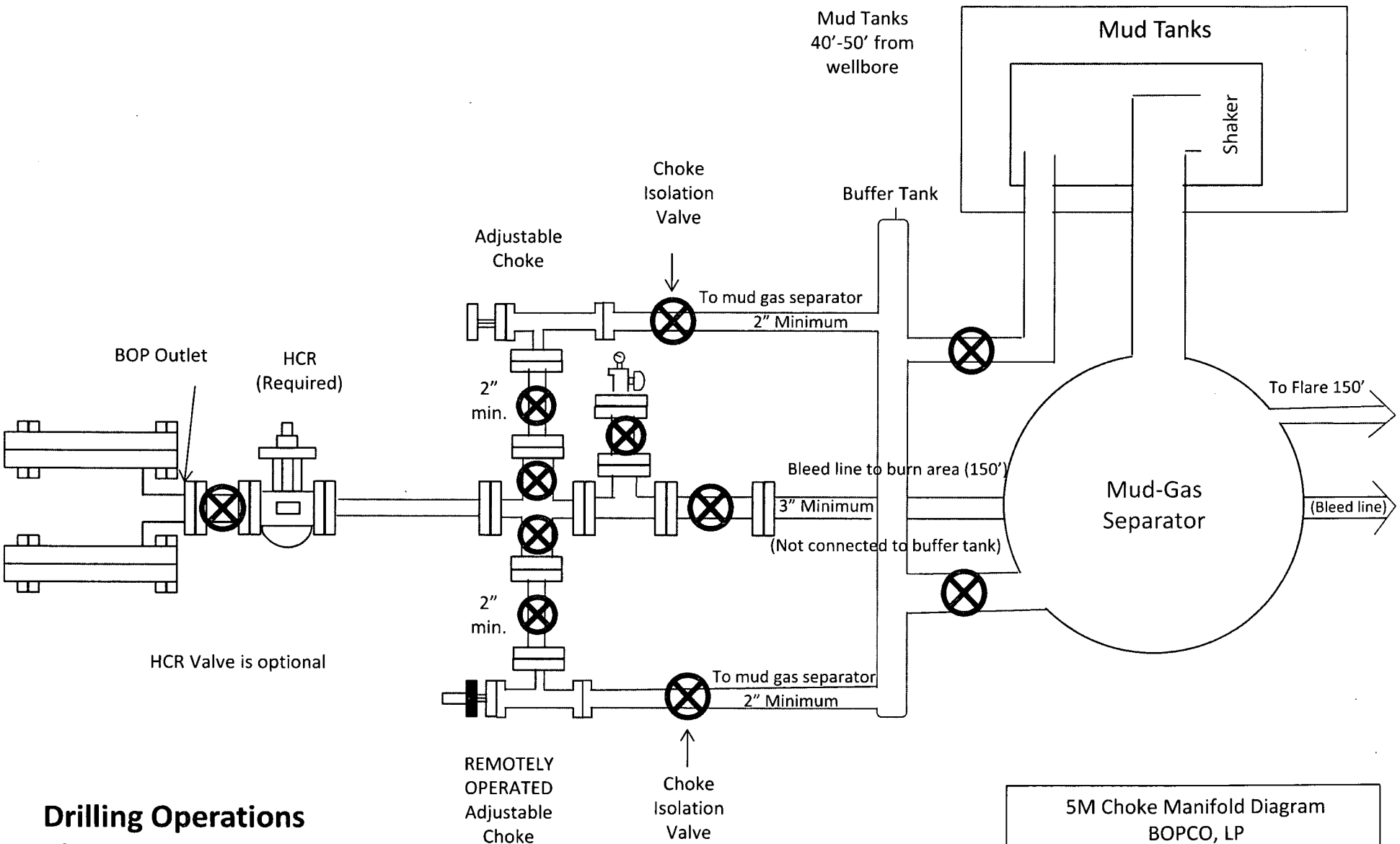
Other proposed operations facets description:

Other proposed operations facets attachment:

JRU_DI_11_Whit_108H_GCP_20190422071536.pdf

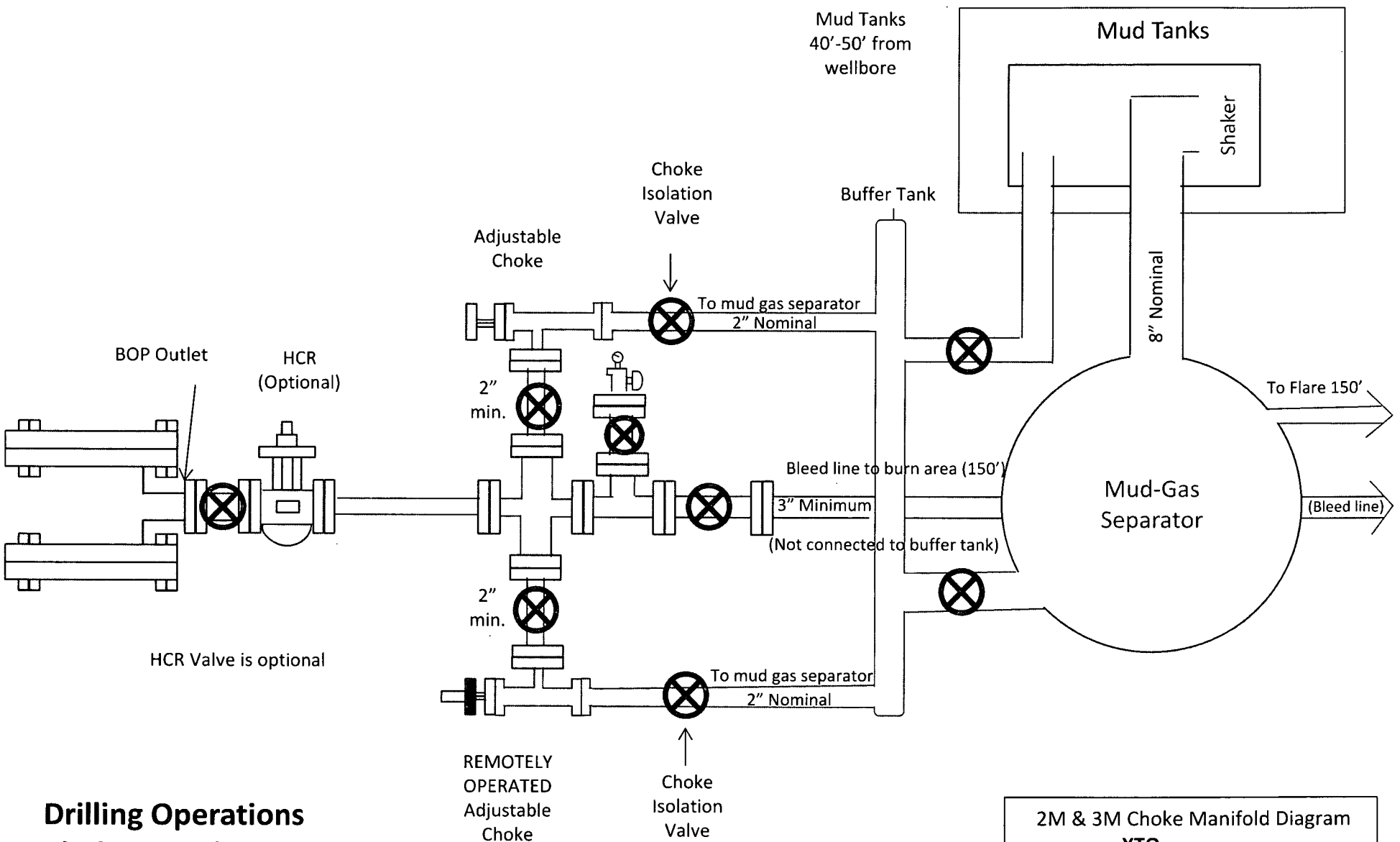
Other Variance attachment:

JRU_DI_11_FH_20190419084630.pdf



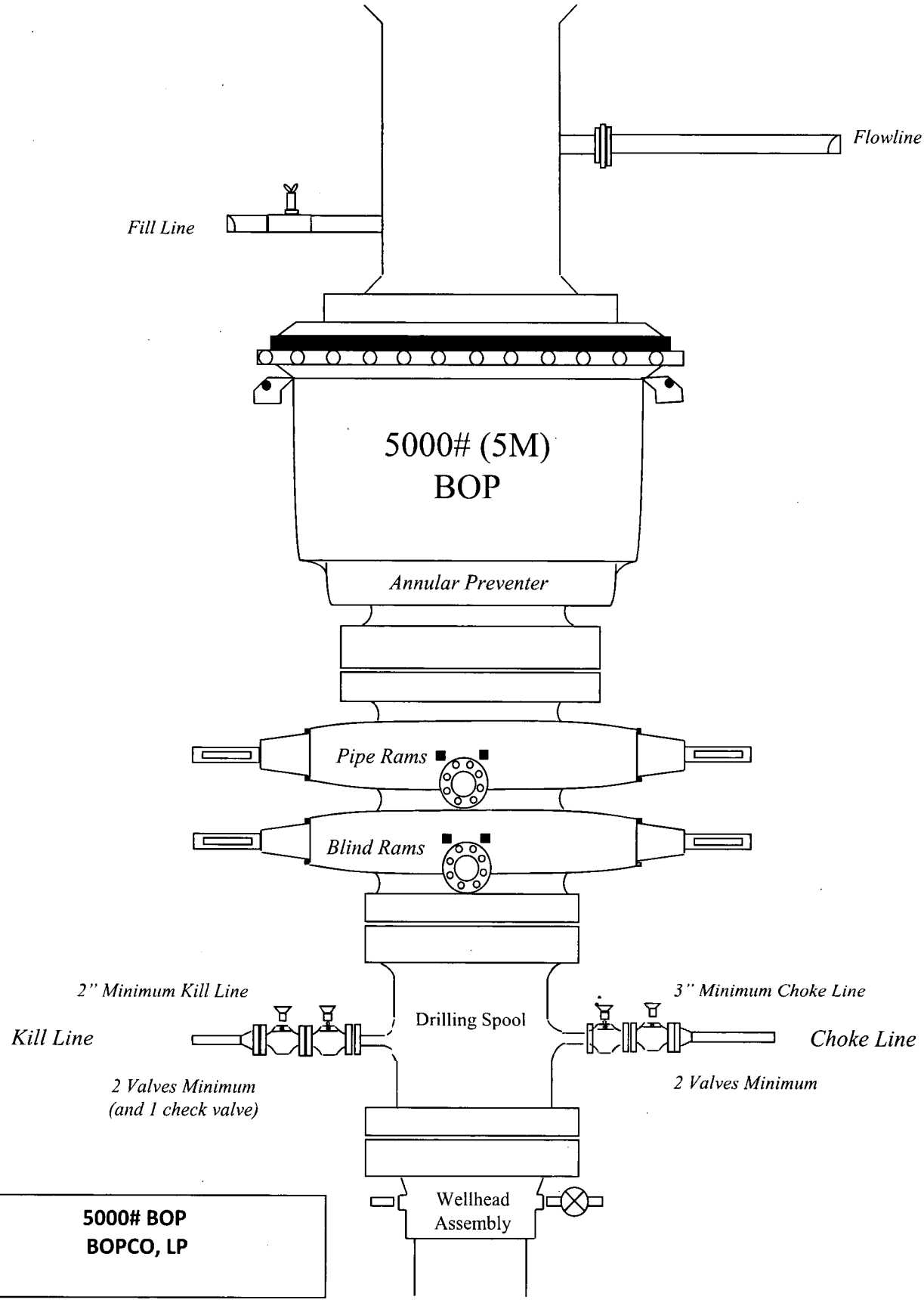
Drilling Operations
Choke Manifold
5M Service

5M Choke Manifold Diagram
BOPCO, LP

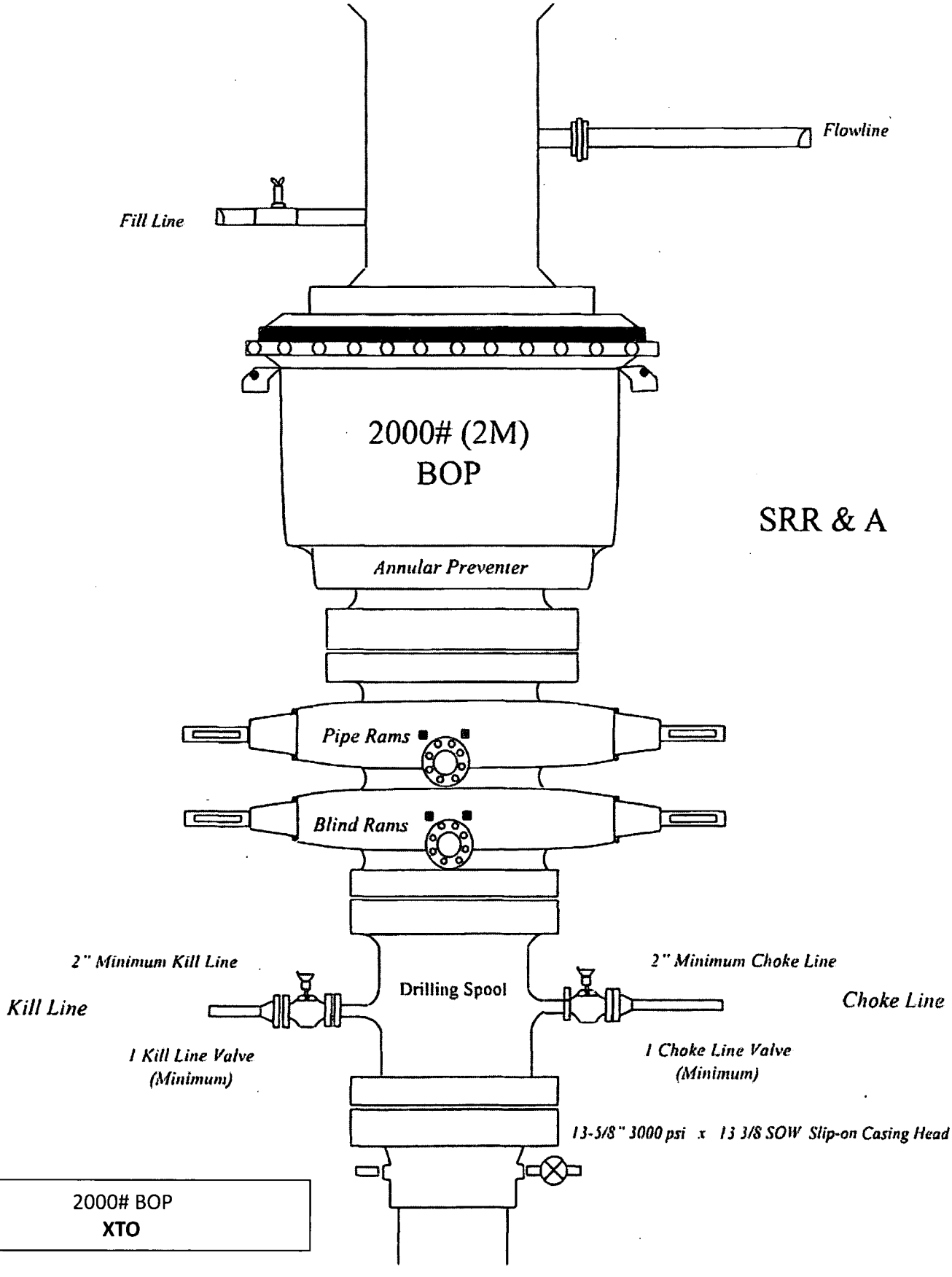


Drilling Operations
Choke Manifold
2M & 3M Service

2M & 3M Choke Manifold Diagram
XTO



5000# BOP
BOPCO, LP


Flowline
Fill Line
2000# (2M)
BOP
SRR & A
Annular Preventer
Pipe Rams
Blind Rams
2" Minimum Kill Line
2" Minimum Choke Line
Kill Line
Drilling Spool
Choke Line
1 Kill Line Valve
(Minimum)
1 Choke Line Valve
(Minimum)
13-5/8" 3000 psi x 13 3/8 SOW Slip-on Casing Head

2000# BOP
XTO

Casing Design

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
18-3/4"	0' – 322'	16"	75	STC	J-55	New	2.71	6.92	29.40
14-3/4"	0' – 3182'	11-3/4"	47	STC	J-55	New	1.57	1.53	3.19
10-5/8"	0' – 7145'	8-5/8"	32	BTC	J-55	New	1.23	1.72	2.53
7-7/8"	0' – 23675'	5-1/2"	17	BTC	P-110	New	1.12	1.38	2.15

- XTO requests to utilize centralizers only from KOP to TOC.
- 11-3/4" Collapse analyzed using 50% evacuation based on regional experience.
- 8-5/8" Collapse analyzed using 33% evacuation based on regional experience.
- 5-1/2" Tension calculated using vertical hanging weight plus the lateral weight multiplied by a friction factor of 0.35
- Test on 2M Annular & Casing will be limited to 70% burst of the casing or 1500psi, whichever is less

Wellhead:

Temporary Wellhead

- 16" SOW bottom x 16-3/4" 2M top flange.

Permanent Wellhead – GE RSH Multibowl System

A. Starting Head: 13-5/8" 5M top flange x 11-3/4" SOW bottom

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

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

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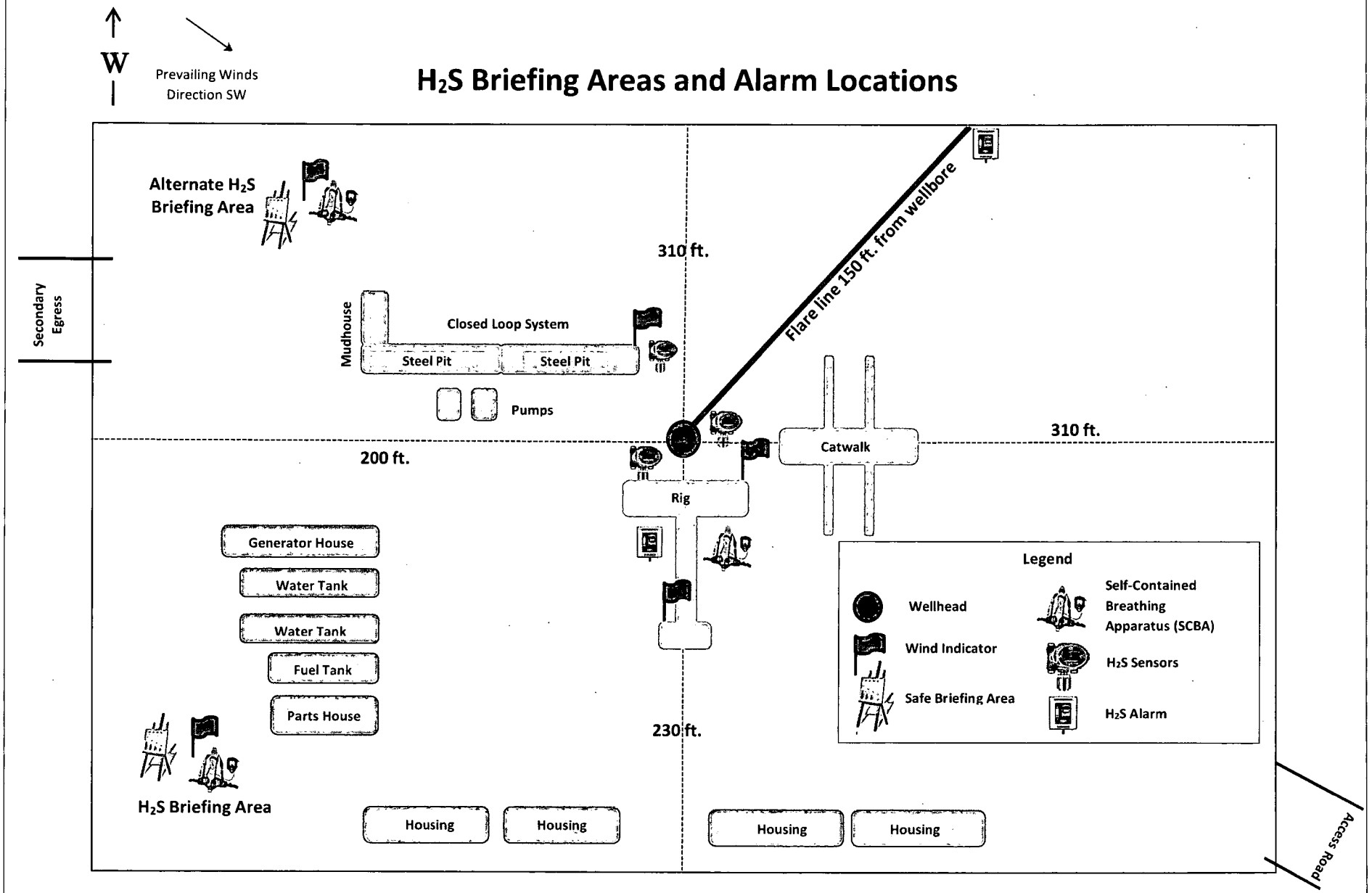
H_2S Briefing Areas and Alarm Locations



GENERAL OFFICES – MIDLAND, TEXAS

BOPCO, L.P.

6401 Holiday Hill Road
Midland, Tx 79707
(432) 683-2277

HYDROGEN SULFIDE (H2S) CONTINGENCY PLAN

Assumed 100 ppm ROE = 3000'

100 ppm H2S concentration shall trigger activation of this plan.

Emergency Procedures

In the event of a release of gas containing H_2S, 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_2S 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_2S, 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_2). 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_2S and SO_2

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H_2S	1.189 Air = I	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO_2	2.21 Air = I	2 ppm	N/A	1000 ppm

Contacting Authorities

BOPCO, L.P. 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
BOPCO, L.P. 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

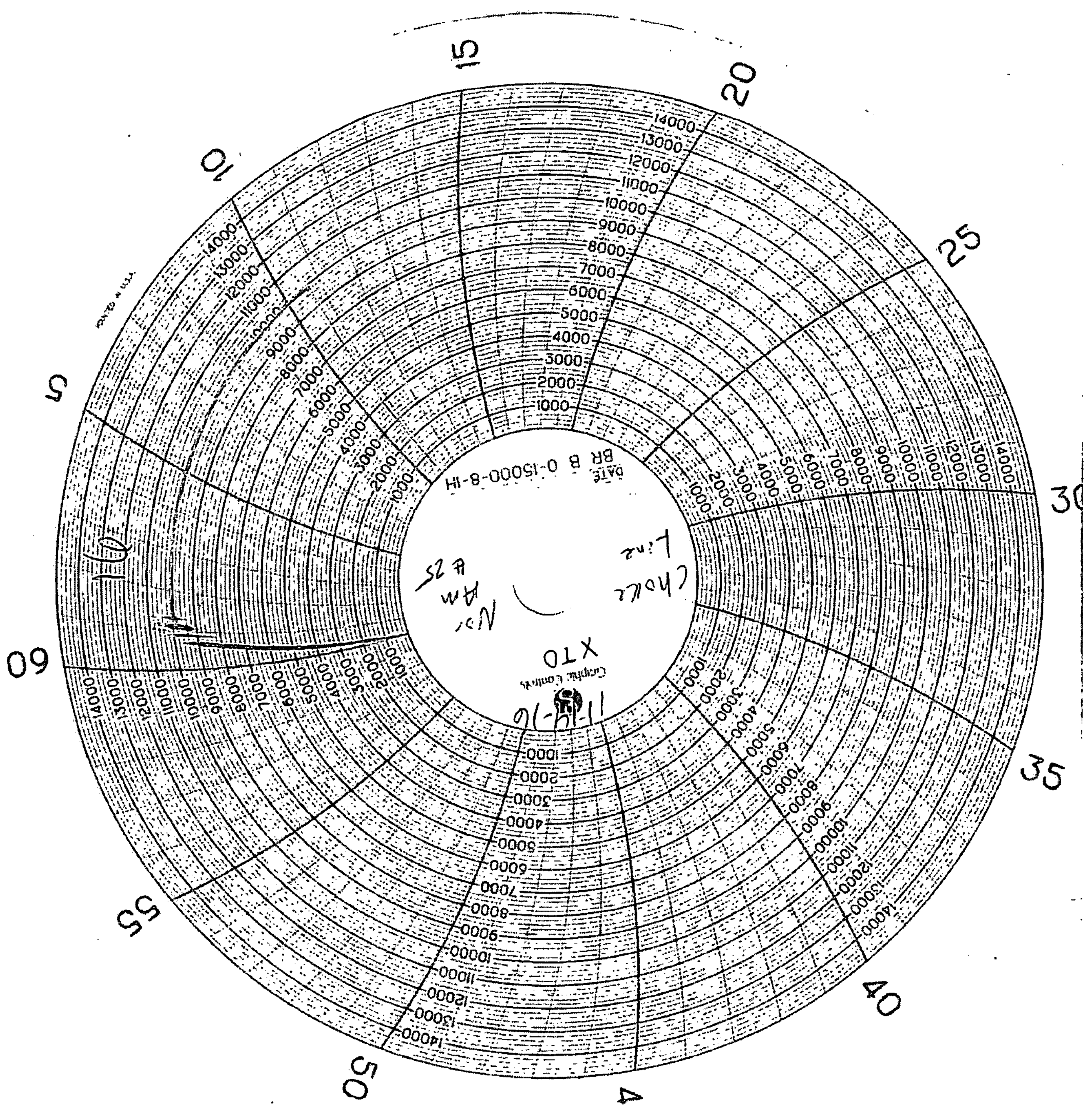
Customer :	AUSTIN DISTRIBUTING	Test Date:	6/8/2014
Customer Ref. :	PENDING	Hose Serial No.:	D-060814-1
Invoice No. :	201709	Created By:	NORMA

Product Description:	FD3.0-2.0R41/16.5KFLGE/E LE

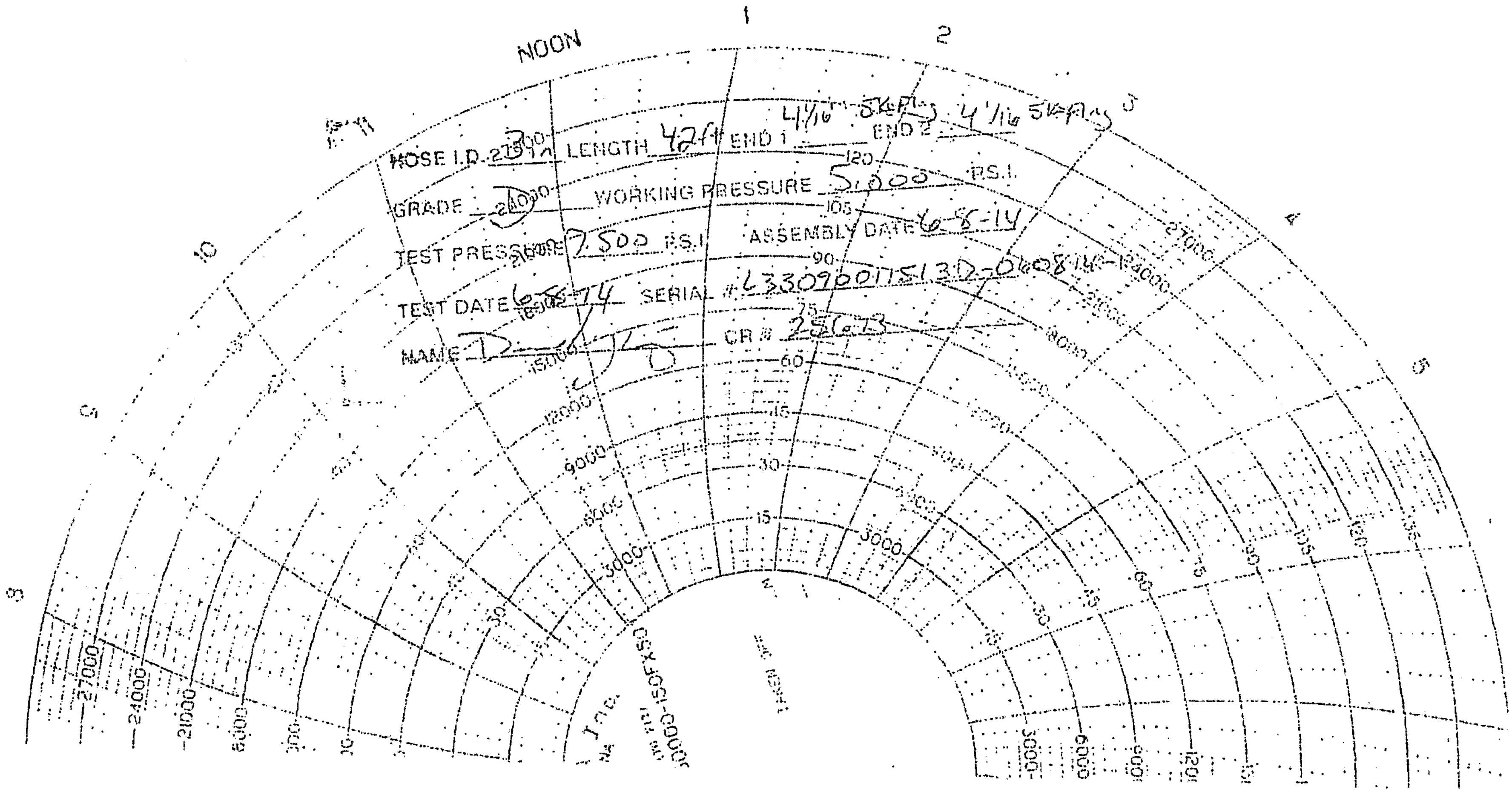
End Fitting 1 :	4 1/16 in.5K FLG	End Fitting 2 :	4 1/16 in.5K FLG
Gates Part No. :	4774-6001	Assembly Code :	L33090011513D-060814-1
Working Pressure :	5,000 PSI	Test Pressure :	7,500 PSI

Gates E & S North America, Inc. certifies that the following hose assembly has been tested to the Gates Oilfield Roughneck Agreement/Specification requirements and passed the 15 minute hydrostatic test per API Spec 7K/Q1, Fifth Edition, June 2010, Test pressure 9.6.7 and per Table 9 to 7,500 psi in accordance with this product number. Hose burst pressure 9.6.7.2 exceeds the minimum of 2.5 times the working pressure per Table 9.

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



DATE
BR B 0-15000-8-1H
XTO
Graphic Controls
Choke Line


NOON
1
2
3
4
5
8
9
10
11
HOSE I.D. 3"
LENGTH 42ft
END 1 4 1/16" 5K FLG
END 2 4 1/16 5K FLG
GRADE D
WORKING PRESSURE 5,000 P.S.I.
TEST PRESSURE 7,500 P.S.I.
ASSEMBLY DATE 6-8-14
TEST DATE 6-8-14
SERIAL # 63309001151 3D-060814-1
NAME
CR # 25673

APD ID: 10400040980 **Submission Date:** 04/23/2019

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: JRU DI 11 WHITLASH A **Well Number:** 108H

Well Type: OIL WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

JRU_DI_11_Whit_108H_ERoad_20190419083028.pdf

Existing Road Purpose: ACCESS,FLUID TRANSPORT **Row(s) Exist?** YES

ROW ID(s)

ID:

Do the existing roads need to be improved? NO

Existing Road Improvement Description:

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:

JRU_DI_11_Road_20190813074810.pdf

New road type: RESOURCE

Length: 7559.18 Feet **Width (ft.):** 50

Max slope (%): 2 **Max grade (%):** 3

Army Corp of Engineers (ACOE) permit required? NO

ACOE Permit Number(s):

New road travel width: 30

New road access erosion control: The access road will be constructed and maintained as necessary to prevent soil erosion and accommodate all-weather traffic. The road will be crowned and ditched with water turnouts installed as necessary to provide for proper drainage along with access road route.

New road access plan or profile prepared? NO

New road access plan attachment:

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: JRU DI 11 WHITLASH A **Well Number:** 108H

Access road engineering design? NO

Access road engineering design attachment:

Turnout? N

Access surfacing type: OTHER

Access topsoil source: ONSITE

Access surfacing type description: Surface material will be native caliche

Access onsite topsoil source depth: 6

Offsite topsoil source description:

Onsite topsoil removal process: Approximately 6 inches of topsoil (root zone) will be stripped from the proposed access road prior to any further construction activity. The topsoil that was stripped will be spread along the edge of the road and within the ditch. The topsoil will be seeded with the proper seed mix designated by the BLM.
Access other construction information: Construction, reclamation, and/or routine maintenance will not be conducted during periods when the soil conditions for construction could lead to impacts to the surrounding environment, or when watershed damage is likely to occur as a result of these activities.
Access miscellaneous information: The James Ranch Unit DI 11 is accessed from the intersection of Potash Mines Road (State Rd. 31) and Cimarron Road. Go East on Cimarron Road approximately 4.2 miles to and arriving at the proposed road, the location is to the Southwest. Transportation Plan identifying existing roads that will be used to access the project area is included from Frank's Surveying marked as, 'Vicinity Map.' There are existing access roads to the proposed James Ranch Unit 11 well locations. All equipment and vehicles will be confined to the routes shown on the Vicinity Map as provided by FSC, Inc. Maintenance of the access roads will continue until abandonment and reclamation of the well pads is completed.
Number of access turnouts: 0 **Access turnout map:**

Drainage Control

New road drainage crossing: OTHER

Drainage Control comments: The access road and associated drainage structures will be constructed and maintained in accordance with road guidelines contained in the joint BLM/USFS publication: Surface Operating Standards for Oil and Gas Exploration and Development, The Gold Book, Fourth Edition and/or BLM Manual Section 9113 concerning road construction standards on projects subject to federal jurisdiction.
Road Drainage Control Structures (DCS) description: No drainage control structures were identified at onsite. Drainage control structures will be applied for as-needed and be in accordance with road guidelines contained in the joint BLM/USFS publication: Surface Operating Standards for Oil and Gas Exploration and Development, The Gold Book, Fourth Edition and/or BLM Manual Section 9113 concerning road construction standards on projects subject to federal jurisdiction.
Road Drainage Control Structures (DCS) attachment:

Access Additional Attachments

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

JRU_DI_11_1_Mile_20190419083122.pdf

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: JRU DI 11 WHITLASH A **Well Number:** 108H

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

Submit or defer a Proposed Production Facilities plan? SUBMIT

Production Facilities description: Production Facilities. One 600' x 600' pad was staked with the BLM for construction and use as a Central Tank Battery (CTB). JRU DI 11 CTB is located in Section 16-T22S-R30E NMPM, Eddy County, New Mexico [Centerpoint: 1104'FWL & 1410'FNL-16-22S-30E]. A plat of the proposed CTB is attached. Only the area necessary to maintain the facility will be disturbed. A 3160-5 sundry notification will be submitted after construction with a site-security diagram and layout of the facility with associated equipment. Flowlines. James Ranch Unit DI 11 CTB 1: Eighty (80) 5601.56' buried 10" or less steel or poly flowlines with a maximum safety pressure rating of 1440psi (operating pressure: 750psi) are requested for the JRU DI11 CTB 1 for future production (oil, gas, water). Eighty (80) additional 5601.56' buried 10" or less steel flowlines with a maximum safety pressure rating of 1440psi (operating pressure: 750psi) are requested for the JRU DI 11 for gas lift. Total Flowlines to the Battery with this application: 160 buried. The anticipated width of the corridor to the CTB is anticipated to be 150' wide. Gas & Oil Pipeline. A gas and oil purchaser has been identified and will be tasked with permitting and building to the JRU DI 11 CTB location. Disposal Facilities. Produced water will be piped from location to a disposal facility as needed. Once wells are drilled and completed, a 3160-5 sundry notification will be submitted to BLM in compliance with Onshore Order 7. Flare. There will be 1 flare associated with the JRU DI 11 project. The flare stack will be 50'x50' and will be located on the JRU DI 11 CTB. Both will be sized and rated based on anticipated reserves and recovery of gas throughout the development area with 150' of distance between all facility equipment, road and well pad locations for safety purposes. Aboveground Structures. All permanent (on site six months or longer) aboveground structures constructed or installed on location and not subject to safety requirements will be painted earth-tone colors such as 'shale green' that reduce the visual impacts of the built environment. Containment Berms. Containment berms will be constructed completely around any production facilities designed to hold fluids. The containment berms will be constructed of compacted subsoil, be sufficiently impervious, hold 1 ½ times the capacity of the largest tank and away from cut or fill areas. Electrical. All electrical poles and lines will be run in proposed lease road corridors. All lines will be primary 12,740 volt to properly run expected production equipment. 5,996.95' of electrical will be run from the anticipated tie-in point with a request for 30' ROW construction and maintenance buffer. This distance is a max. approximation and may vary based on lease road corridors, varying elevations and terrain in the area. A plat of the proposed electrical is attached.

Production Facilities map:

JRU_DI_11_CTB_20190813074858.pdf

JRU_DI_11_FL_20190813074907.pdf

JRU_DI_11_OHE_20190813074922.pdf

Section 5 - Location and Types of Water Supply

Water Source Table

Water source use type: INTERMEDIATE/PRODUCTION CASING, STIMULATION, SURFACE CASING

Water source type: OTHER

Describe type: Fresh Water; Section 21-T23S-R30E

Source latitude:

Source longitude:

Source datum:

Water source permit type: PRIVATE CONTRACT

Source land ownership: FEDERAL

Water source transport method: TRUCKING

Source transportation land ownership: FEDERAL

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: JRU DI 11 WHITLASH A **Well Number:** 108H

Water source volume (barrels): 330000 **Source volume (acre-feet):** 42.53472

Source volume (gal): 13860000

Water source use type: INTERMEDIATE/PRODUCTION CASING, STIMULATION, SURFACE CASING **Water source type:** OTHER

Describe type: Fresh Water; Section 13-T17S-R33E

Source latitude: **Source longitude:**

Source datum:

Water source permit type: PRIVATE CONTRACT

Source land ownership: FEDERAL

Water source transport method: TRUCKING

Source transportation land ownership: FEDERAL

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Source volume (gal): 13860000

Water source and transportation map:

JRU_DI_11_Whit_108H_Wtr_20190419083239.pdf

Water source comments: The well will be drilled using a combination of water mud systems as outlined in the Drilling Program. The water will be obtained from a 3rd party vendor and hauled to the existing frac pit in Section 7 by transport truck using the existing and proposed roads depicted in the attached exhibits. No water well will be drilled on the location. Water for drilling, completion and dust control will be purchased from the following company: Rockhouse Water Water for drilling, completion and dust control will be supplied by Rockhouse Water for sale to BOPCO, L.P. from Section 13-T17S-R33E, Eddy County, New Mexico. In the event that Rockhouse Water does not have the appropriate water for BOPCO at time of drilling and completion from this location, then BOPCO water will come from with the location of the water being in Section 21-T23S-R30E, Eddy County, New Mexico. Anticipated water usage for drilling includes an estimated 35,000 barrels of water to drill a horizontal well in a combination of fresh water and brine as detailed in the mud program in the drilling plans. These volumes are calculated for ~1.5bbls per foot of hole drilled with excess to accommodate any lost circulation or wash out that may occur. Actual water volumes used during operations will depend on the depth of the well, length of horizontal sections, and the losses that may occur during the operation. Temporary water flowlines will be permitted via ROW approval letter and proper grants as-needed based on drilling and completion schedules as needed. Well completion is expected to require approximately 330,000 barrels of water per horizontal well. Actual water volumes used during operations will depend on the depth of the well and length of horizontal sections.

New water well? NO

New Water Well Info

Well latitude: **Well Longitude:** **Well datum:**

Well target aquifer:

Est. depth to top of aquifer(ft): **Est thickness of aquifer:**

Aquifer comments:

Aquifer documentation:

Well depth (ft): **Well casing type:**

Well casing outside diameter (in.): **Well casing inside diameter (in.):**

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: JRU DI 11 WHITLASH A **Well Number:** 108H

New water well casing? **Used casing source:**

Drilling method: **Drill material:**

Grout material: **Grout depth:**

Casing length (ft.): **Casing top depth (ft.):**

Well Production type: **Completion Method:**

Water well additional information:

State appropriation permit:

Additional information attachment:

Section 6 - Construction Materials

Using any construction materials: YES

Construction Materials description: Construction, reclamation, and/or routine maintenance will not be conducted during periods when the soil conditions for construction could lead to impacts to the surrounding environment, or when watershed damage is likely to occur as a result of these activities. Any construction material that may be required for surfacing of the drill pad and access road will be from a contractor having a permitted source of materials within the general area. No construction materials will be removed from federal lands without prior approval from the appropriate surface management agency. All roads and well pads will be constructed of 6" rolled and compacted caliche. Anticipated Caliche Locations: a. Pit 1: State Caliche Pit, Section 32-T21S-R31E b. Pit 2: Private Caliche Pit, Section 16-T23S-R30E

Construction Materials source location attachment:

Section 7 - Methods for Handling Waste

Waste type: DRILLING

Waste content description: Fluid

Amount of waste: 500 barrels

Waste disposal frequency : One Time Only

Safe containment description: Steel mud pits

Safe containmant attachment:

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

Disposal type description:

Disposal location description: R360 Environmental Solutions 4507 W Carlsbad Hwy, Hobbs, NM 88240 (575) 393-1079

Waste type: DRILLING

Waste content description: Cuttings

Amount of waste: 2100 pounds

Waste disposal frequency : One Time Only

Safe containment description: The well will be drilled utilizing a closed-loop mud system. Drill cuttings will be held in roll-off style mud boxes.

Safe containmant attachment:

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: JRU DI 11 WHITLASH A **Well Number:** 108H

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

Disposal location description: R360 Environmental Solutions 4507 W Carlsbad Hwy, Hobbs, NM 88240 (575) 393-1079

Waste type: SEWAGE

Waste content description: Human Waste

Amount of waste: 250 gallons

Waste disposal frequency : Weekly

Safe containment description: Portable, self-contained toilets will be provided for human waste disposal. Upon completion of drilling and completion activities, or as required, the toilet holding tanks will be pumped and the contents thereof disposed of in an approved sewage disposal facility. All state and local laws and regulations pertaining to the disposal of human and solid waste will be complied with. This equipment will be properly maintained during the drilling and completion operations and will be removed when all operations are complete.
Safe containmant attachment:

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

Disposal location description: A licensed 3rd party contractor will be used to haul and dispose of human waste.

Waste type: GARBAGE

Waste content description: Garbage, junk and non-flammable waste materials

Amount of waste: 250 pounds

Waste disposal frequency : Weekly

Safe containment description: All garbage, junk and non-flammable waste materials will be contained in a self-contained, portable dumpster or trash cage, to prevent scattering and will be removed and deposited in an approve sanitary landfill. Immediately after drilling all debris and other waste materials on and around the well location not contained in the trash cage will be cleaned up and removed from the location. No potentially adverse materials or substances will be left on the location.
Safe containmant attachment:

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

Disposal location description: A licensed 3rd party vendor will be contracted to haul and safely dispose of garbage, junk and non-flammable waste materials.

Reserve Pit

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit?

Reserve pit length (ft.) **Reserve pit width (ft.)**

Reserve pit depth (ft.) **Reserve pit volume (cu. yd.)**

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: JRU DI 11 WHITLASH A **Well Number:** 108H

Is at least 50% of the reserve pit in cut?

Reserve pit liner

Reserve pit liner specifications and installation description

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? YES

Description of cuttings location Cuttings. The well will be drilled utilizing a closed-loop mud system. Drill cuttings will be held in roll-off style mud boxes and taken to a New Mexico Oil Conservation Division (NMOCD) approved disposal site. Drilling Fluids. These will be contained in steel mud pits and then taken to a NMOCD approved commercial disposal facility. Produced Fluids. Water produced from the well during completion will be held temporarily in steel tanks and then taken to a NMOCD approved commercial disposal facility. Oil produced during operations will be stored in tanks until sold.

Cuttings area length (ft.) **Cuttings area width (ft.)**

Cuttings area depth (ft.) **Cuttings area volume (cu. yd.)**

Is at least 50% of the cuttings area in cut?

WCuttings area liner

Cuttings area liner specifications and installation description

Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: NO

Ancillary Facilities attachment:

Comments:

Section 9 - Well Site Layout

Well Site Layout Diagram:

JRU_DI_11_Whit_108H_Well_20190419083324.pdf

Comments:

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: JRU DI 11 WHITLASH A **Well Number:** 108H

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance

Multiple Well Pad Name: JAMES RANCH UNIT DI

Multiple Well Pad Number: 11

Recontouring attachment:

Drainage/Erosion control construction: No surface reclamation is planned for this well. XTO Permian Operating. requests a variance to interim reclamation until all wells on the drill island have been drilled and completed, at which time, XTO will contact the appropriate BLM personnel to discuss appropriate interim reclamation plans.

Drainage/Erosion control reclamation: No surface reclamation is planned for this well. XTO Permian Operating. requests a variance to interim reclamation until all wells on the drill island have been drilled and completed, at which time, XTO will contact the appropriate BLM personnel to discuss appropriate interim reclamation plans.

Well pad proposed disturbance (acres): 6.9

Road proposed disturbance (acres): 7.91

Powerline proposed disturbance (acres): 2.49

Pipeline proposed disturbance (acres): 0

Other proposed disturbance (acres): 46.38

Total proposed disturbance: 63.68

Well pad interim reclamation (acres): 0

Road interim reclamation (acres): 0

Powerline interim reclamation (acres): 0

Pipeline interim reclamation (acres): 0

Other interim reclamation (acres): 0

Total interim reclamation: 0

Well pad long term disturbance (acres): 6.9

Road long term disturbance (acres): 7.91

Powerline long term disturbance (acres): 2.49

Pipeline long term disturbance (acres): 0

Other long term disturbance (acres): 46.38

Total long term disturbance: 63.68

Disturbance Comments: No additional surface disturbance is required for this well.

Reconstruction method: No surface reclamation is planned for this well. XTO Permian Operating requests a variance to interim reclamation until all wells on the drill island have been drilled and completed, at which time, XTO Permian Operating will contact the appropriate BLM personnel to discuss appropriate interim reclamation plans.

Topsoil redistribution: No surface reclamation is planned for this well. XTO Permian Operating requests a variance to interim reclamation until all wells on the drill island have been drilled and completed, at which time, XTO Permian Operating will contact the appropriate BLM personnel to discuss appropriate interim reclamation plans.

Soil treatment: No surface reclamation is planned for this well. XTO Permian Operating. requests a variance to interim reclamation until all wells on the drill island have been drilled and completed, at which time, XTO Permian Operating will contact the appropriate BLM personnel to discuss appropriate interim reclamation plans.

Existing Vegetation at the well pad: Soils are classified of Reeves soils. These soils are associated with the loamy ecological site which typically supports black and blue grama and tobosa grasslands with an even distribution of yucca, mesquite, American tarbush, cholla, and cresoste. The current vegetative community: none. The pad is caliche. No additional disturbance is necessary.

Existing Vegetation at the well pad attachment:

Existing Vegetation Community at the road: Soils are classified of Reeves soils. These soils are associated with the loamy ecological site which typically supports black and blue grama and tobosa grasslands with an even distribution of yucca, mesquite, American tarbush, cholla, and cresoste. The current vegetative community: none. The pad is caliche. No additional disturbance is necessary.

Existing Vegetation Community at the road attachment:

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: JRU DI 11 WHITLASH A **Well Number:** 108H

Existing Vegetation Community at the pipeline: Soils are classified of Reeves soils. These soils are associated with the loamy ecological site which typically supports black and blue grama and tobosa grasslands with an even distribution of yucca, mesquite, American tarbush, cholla, and cresoste. The current vegetative community: none. The pad is caliche. No additional disturbance is necessary.

Existing Vegetation Community at the pipeline attachment:

Existing Vegetation Community at other disturbances: Soils are classified of Reeves soils. These soils are associated with the loamy ecological site which typically supports black and blue grama and tobosa grasslands with an even distribution of yucca, mesquite, American tarbush, cholla, and cresoste. The current vegetative community: none. The pad is caliche. No additional disturbance is necessary.

Existing Vegetation Community at other disturbances attachment:

Non native seed used? NO

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project? NO

Seedling transplant description attachment:

Will seed be harvested for use in site reclamation? NO

Seed harvest description:

Seed harvest description attachment:

Seed Management

Seed Table

Seed type:

Seed source:

Seed name:

Source name:

Source address:

Source phone:

Seed cultivar:

Seed use location:

PLS pounds per acre:

Proposed seeding season:

Seed Summary

Total pounds/Acre:

Seed Type	Pounds/Acre

Seed reclamation attachment:

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: JRU DI 11 WHITLASH A **Well Number:** 108H

Operator Contact/Responsible Official Contact Info

First Name: Jeff **Last Name:** Raines

Phone: (432)620-4349 **Email:** jeffrey_raines@xtoenergy.com

Seedbed prep:

Seed BMP:

Seed method:

Existing invasive species? NO

Existing invasive species treatment description:

Existing invasive species treatment attachment:

Weed treatment plan description: Weed control for all phases will be through the use of approved pesticides and herbicides according to applicable State, Federal and local laws.
Weed treatment plan attachment:

Monitoring plan description: Monitoring of invasive and noxious weeds will be visual and as-needed. If it is determined additional methods are required to monitor invasive and noxious weeds, appropriate BLM authorities will be contacted with a plan of action for approval prior to implementation.
Monitoring plan attachment:

Success standards: 100% compliance with applicable regulations.

Pit closure description: There will be no reserve pit as each well will be drilled utilizing a closed loop mud system. The closed loop system will meet the NMOCD requirements 19.15.17.
Pit closure attachment:

Section 11 - Surface Ownership

Disturbance type: OTHER

Describe: Flowline

Surface Owner: STATE GOVERNMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office: NEW MEXICO STATE LAND OFFICE

Military Local Office:

USFWS Local Office:

Other Local Office:

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: JRU DI 11 WHITLASH A **Well Number:** 108H

USFS Region:

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

Disturbance type: WELL PAD

Describe:

Surface Owner: STATE GOVERNMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office: NEW MEXICO STATE LAND OFFICE

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

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

Disturbance type: NEW ACCESS ROAD

Describe:

Surface Owner: STATE GOVERNMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office: NEW MEXICO STATE LAND OFFICE

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: JRU DI 11 WHITLASH A **Well Number:** 108H

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

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

Disturbance type: TRANSMISSION LINE

Describe:

Surface Owner: STATE GOVERNMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office: NEW MEXICO STATE LAND OFFICE

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

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

Disturbance type: OTHER

Describe: Drill Island

Surface Owner: STATE GOVERNMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: JRU DI 11 WHITLASH A **Well Number:** 108H

DOD Local Office:

NPS Local Office:

State Local Office: NEW MEXICO STATE LAND OFFICE

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

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

Disturbance type: OTHER

Describe: CTB

Surface Owner: STATE GOVERNMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office: NEW MEXICO STATE LAND OFFICE

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

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

Section 12 - Other Information

Right of Way needed? YES **Use APD as ROW?** YES

ROW Type(s): 281001 ROW - ROADS,288101 ROW – O&G Facility Sites,289001 ROW- O&G Well Pad,FLPMA (Powerline)

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: JRU DI 11 WHITLASH A **Well Number:** 108H

ROW Applications

SUPO Additional Information:

Use a previously conducted onsite? NO

Previous Onsite information:

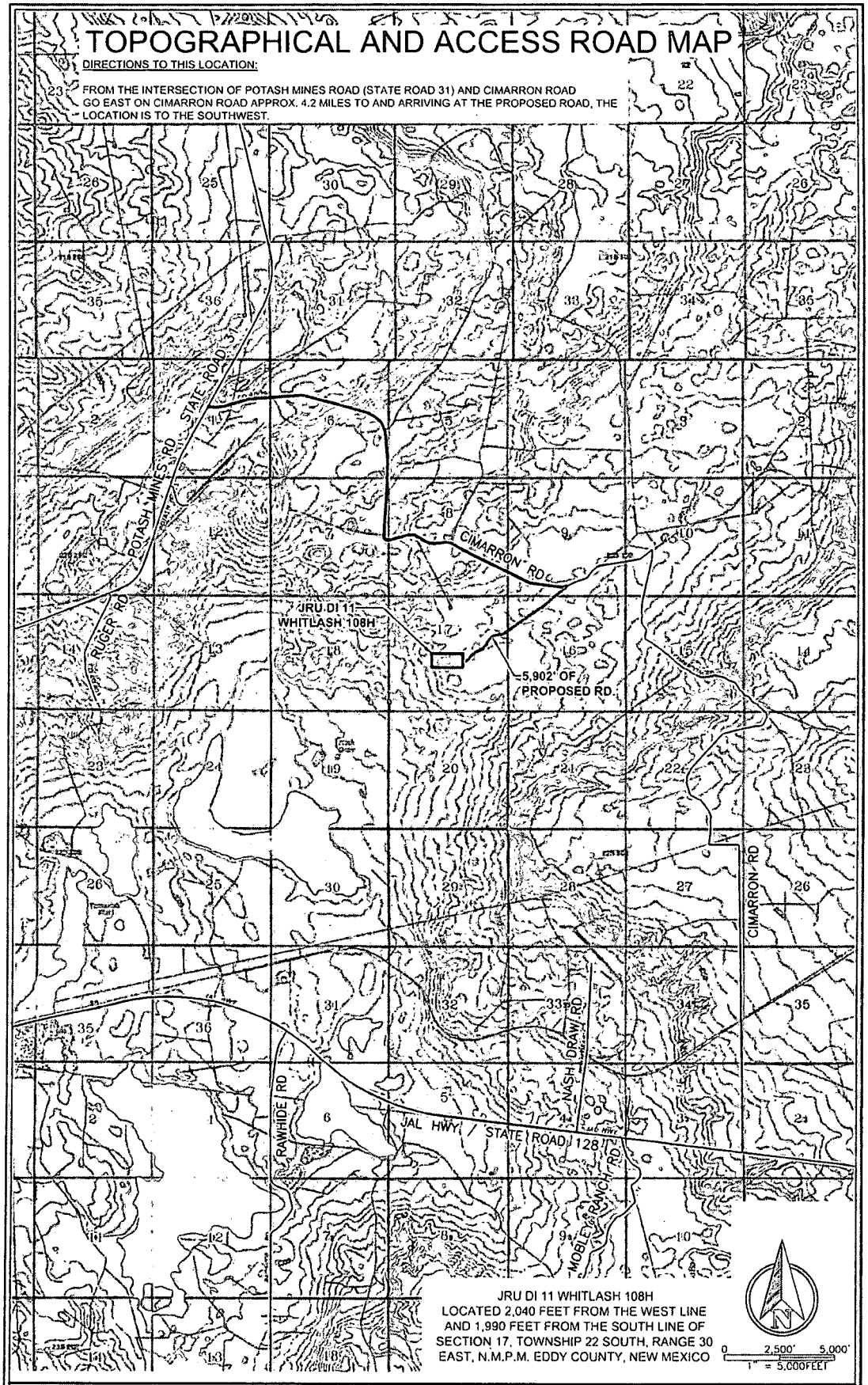
Other SUPO Attachment

JRU_DI_11_DI_20190813075018.pdf
JRU_DI_11_List_20190813075029.pdf
JRU_DI_11_OL_20190813075040.pdf
JRU_DI_11_SUPO_20190813075053.pdf

TOPOGRAPHICAL AND ACCESS ROAD MAP

DIRECTIONS TO THIS LOCATION:

FROM THE INTERSECTION OF POTASH MINES ROAD (STATE ROAD 31) AND CIMARRON ROAD GO EAST ON CIMARRON ROAD APPROX. 4.2 MILES TO AND ARRIVING AT THE PROPOSED ROAD, THE LOCATION IS TO THE SOUTHWEST.



JRU DI 11 WHITLASH 108H
LOCATED 2,040 FEET FROM THE WEST LINE AND 1,990 FEET FROM THE SOUTH LINE OF SECTION 17, TOWNSHIP 22 SOUTH, RANGE 30 EAST, N.M.P.M. EDDY COUNTY, NEW MEXICO

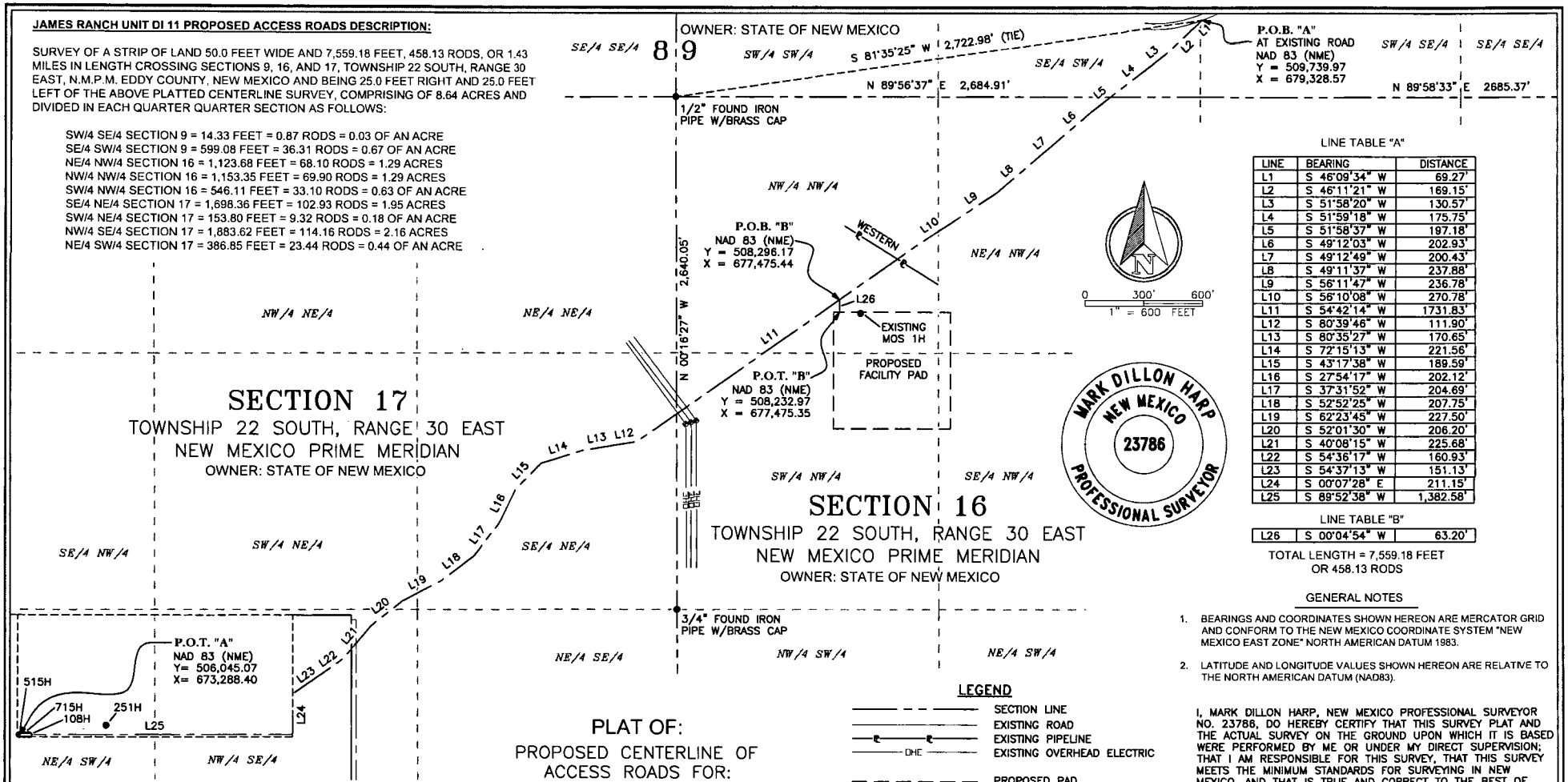
FBC INC
SURVEYORS+ENGINEERS
550 Bailey Ave., 205 - Fort Worth, TX 76107
Ph: 817.349.9800 - Fax: 979.732.5271
TBPE Firm 17957 | TBPLS Firm 10193887
www.fscinc.net

DATE:	4-17-2019	PROJECT NO:	2019041015
DRAWN BY:	JC	SCALE:	1" = 5,000'
CHECKED BY:	DH	SHEET:	1 OF 1
FIELD CREW:	RE	REVISION:	NO

JAMES RANCH UNIT DI 11 PROPOSED ACCESS ROADS DESCRIPTION:

SURVEY OF A STRIP OF LAND 50.0 FEET WIDE AND 7,559.18 FEET, 458.13 RODS, OR 1.43 MILES IN LENGTH CROSSING SECTIONS 9, 16, AND 17, TOWNSHIP 22 SOUTH, RANGE 30 EAST, N.M.P.M. EDDY COUNTY, NEW MEXICO AND BEING 25.0 FEET RIGHT AND 25.0 FEET LEFT OF THE ABOVE PLATTED CENTERLINE SURVEY, COMPRISING OF 8.64 ACRES AND DIVIDED IN EACH QUARTER QUARTER SECTION AS FOLLOWS:

SW/4 SE/4 SECTION 9 = 14.33 FEET = 0.87 RODS = 0.03 OF AN ACRE
SE/4 SW/4 SECTION 9 = 599.08 FEET = 36.31 RODS = 0.67 OF AN ACRE
NE/4 NW/4 SECTION 16 = 1,123.68 FEET = 68.10 RODS = 1.29 ACRES
NW/4 NW/4 SECTION 16 = 1,153.35 FEET = 69.90 RODS = 1.29 ACRES
SW/4 NW/4 SECTION 16 = 546.11 FEET = 33.10 RODS = 0.63 OF AN ACRE
SE/4 NE/4 SECTION 17 = 1,698.36 FEET = 102.93 RODS = 1.95 ACRES
SW/4 NE/4 SECTION 17 = 153.80 FEET = 9.32 RODS = 0.18 OF AN ACRE
NW/4 SE/4 SECTION 17 = 1,883.62 FEET = 114.16 RODS = 2.16 ACRES
NE/4 SW/4 SECTION 17 = 386.85 FEET = 23.44 RODS = 0.44 OF AN ACRE



LINE TABLE "A"

LINE	BEARING	DISTANCE
L1	S 46°09'34" W	69.27'
L2	S 46°11'21" W	169.15'
L3	S 51°58'20" W	130.57'
L4	S 51°59'18" W	175.75'
L5	S 51°58'37" W	197.18'
L6	S 49°12'03" W	202.93'
L7	S 49°12'49" W	200.43'
L8	S 49°11'37" W	237.88'
L9	S 56°11'47" W	236.78'
L10	S 56°10'08" W	270.78'
L11	S 54°42'14" W	1731.83'
L12	S 80°39'46" W	111.90'
L13	S 80°35'27" W	170.65'
L14	S 72°15'13" W	221.56'
L15	S 43°17'38" W	189.59'
L16	S 27°54'17" W	202.12'
L17	S 37°31'52" W	204.69'
L18	S 52°52'25" W	207.75'
L19	S 62°23'45" W	227.50'
L20	S 52°01'30" W	206.20'
L21	S 40°08'15" W	225.68'
L22	S 54°36'17" W	160.93'
L23	S 54°37'13" W	151.13'
L24	S 00°07'28" E	211.15'
L25	S 89°52'38" W	1,382.58'

LINE TABLE "B"

L26	S 00°04'54" W	63.20'

TOTAL LENGTH = 7,559.18 FEET
OR 458.13 RODS

GENERAL NOTES

1. BEARINGS AND COORDINATES SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983.
2. LATITUDE AND LONGITUDE VALUES SHOWN HEREON ARE RELATIVE TO THE NORTH AMERICAN DATUM (NAD83).

LEGEND

	SECTION LINE
	EXISTING ROAD
	EXISTING PIPELINE
DHE	EXISTING OVERHEAD ELECTRIC
	PROPOSED PAD
	PROPOSED ROAD
	PROPOSED PAD EXTENSION
	PROPOSED DRILLING ISLAND
P.O.B.	POINT OF BEGINNING
P.O.T.	POINT OF TERMINUS
●	FOUND MONUMENT AS NOTED
◆	POWER POLE

I, MARK DILLON HARP, NEW MEXICO PROFESSIONAL SURVEYOR NO. 23786, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO, AND THAT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

MARK DILLON HARP
REGISTERED PROFESSIONAL LAND SURVEYOR
STATE OF NEW MEXICO NO. 23786

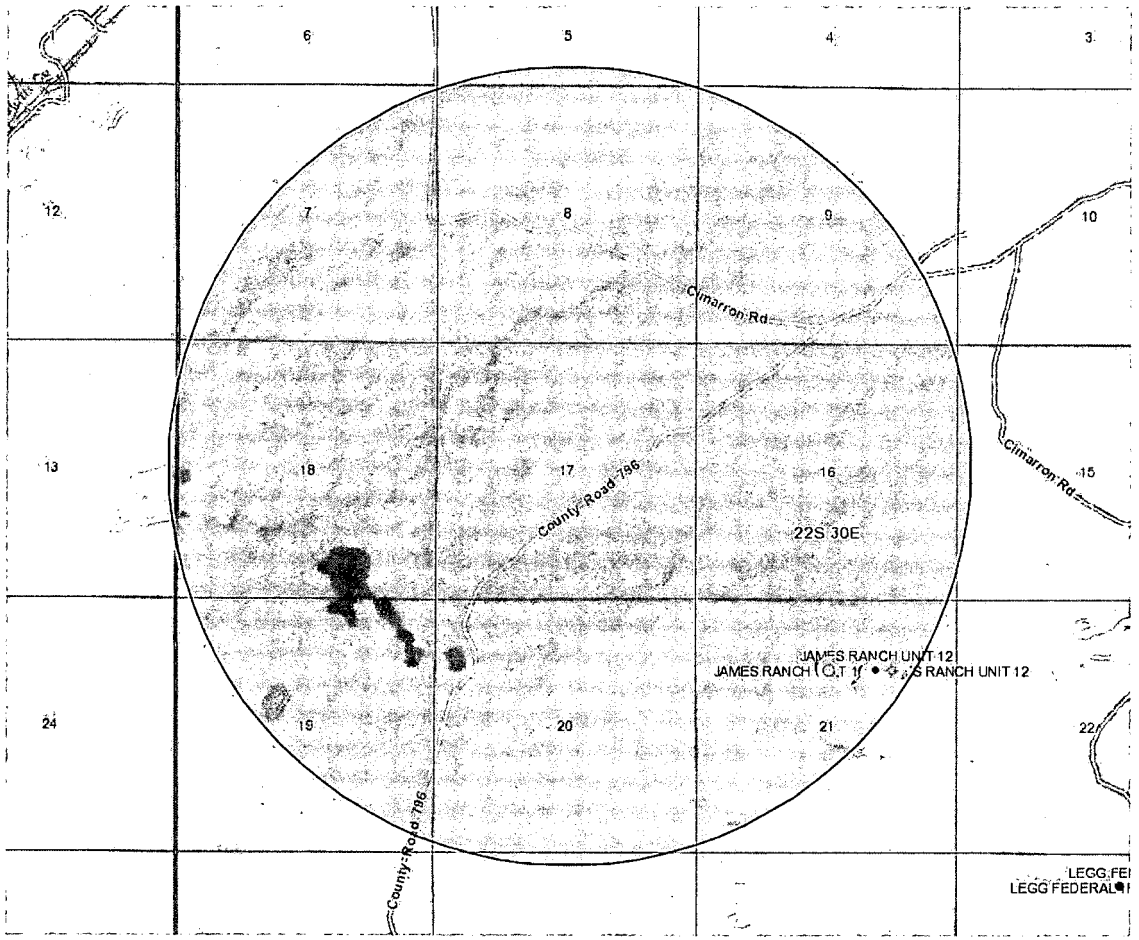
PLAT OF:
PROPOSED CENTERLINE OF
ACCESS ROADS FOR:
XTO PERMIAN OPERATING, LLC.
JAMES RANCH UNIT DI 11
SITUATED IN SECTIONS 9, 16, AND 17,
TOWNSHIP 22 SOUTH, RANGE 30 EAST,
NEW MEXICO PRIME MERIDIAN,
EDDY COUNTY, NEW MEXICO

FSC INC
SURVEYORS+ENGINEERS
550 Bailey Ave., 205 - Fort Worth, TX 76107
Ph: 817.349.9800 - Fax: 979.732.5271
TBPE Firm 17957 | TBPLS Firm 10193887
www.fscinc.net

DATE:	06-26-2019
DRAWN BY:	AW/TM
CHECKED BY:	DH
FIELD CREW:	CY
PROJECT NO:	2017111945
SCALE:	1" = 600'
SHEET:	1 OF 1
REVISION:	2

P:\PROJECTS\2017\2017111945-XTO-JAMES_RANCH_UNIT_DI_11-EDDY\DWG\EXHIBITS\2017111945-XTO-JAMES_RANCH_UNIT_DI_11_ACCESS_ROADS_ROW_50.dwg, Adobe PDF

James Ranch Unit DI 11 1-Mile Map



JAMES RANCH UNIT DI 11 PROPOSED FACILITY PAD DESCRIPTION:

Description of a proposed facility pad totaling 8.26 acres and being situated in Section 16, Township 22 South, Range 30 East, New Mexico Prime Meridian, Eddy County, New Mexico and being more particularly described as follows:

BEGINNING at the southwest corner of the proposed facility pad from which a 3/4" found iron pipe with a brass cap, being the west quarter-corner of said Section 16, bears S 40°35'09" W 1,226.26 feet;

THENCE over and across said Section 16, the following courses and distances:

N 00°00'21" E, a distance of 600.00 feet to a point;

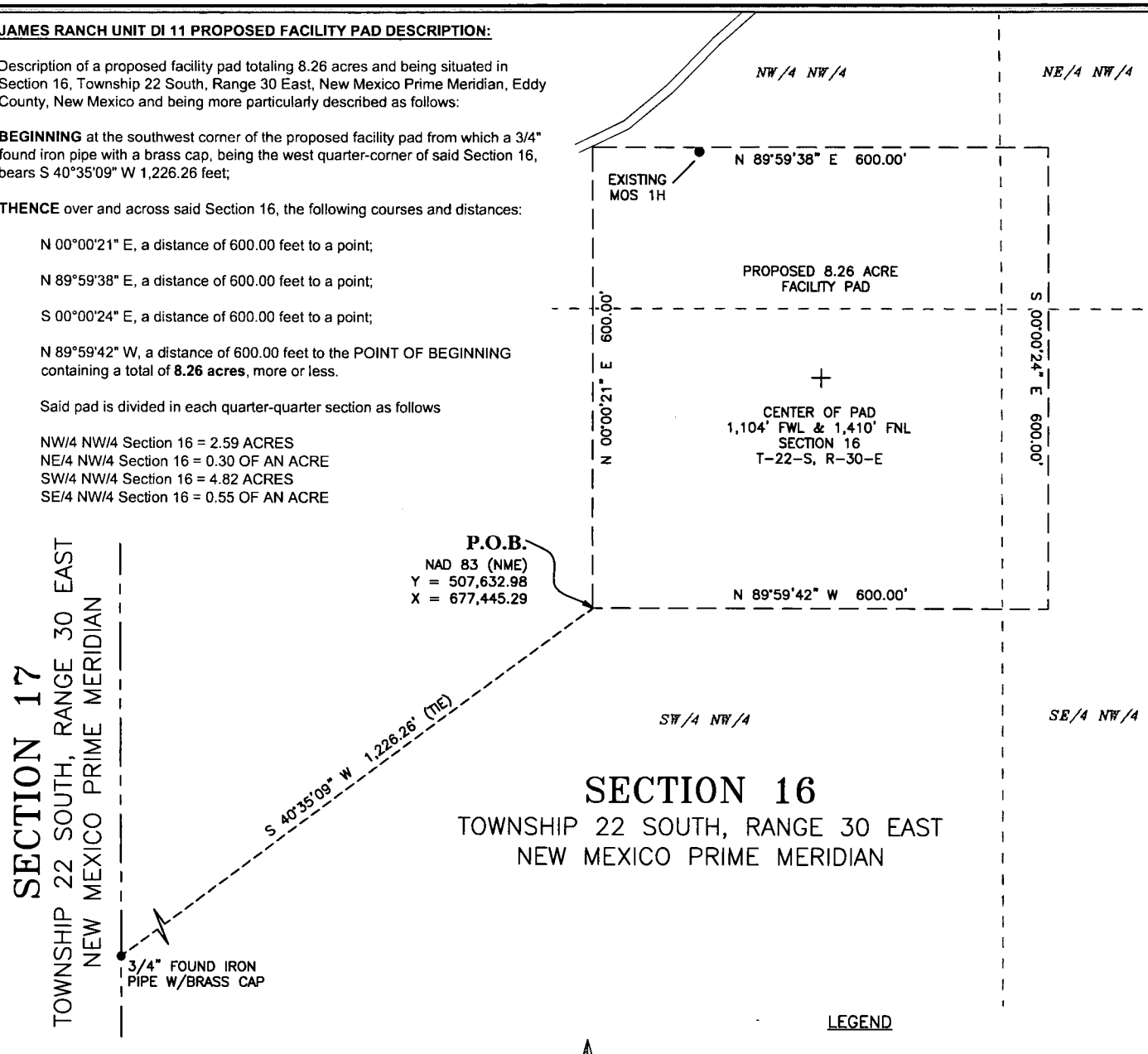
N 89°59'38" E, a distance of 600.00 feet to a point;

S 00°00'24" E, a distance of 600.00 feet to a point;

N 89°59'42" W, a distance of 600.00 feet to the POINT OF BEGINNING containing a total of **8.26 acres**, more or less.

Said pad is divided in each quarter-quarter section as follows

NW/4 NW/4 Section 16 = 2.59 ACRES
NE/4 NW/4 Section 16 = 0.30 OF AN ACRE
SW/4 NW/4 Section 16 = 4.82 ACRES
SE/4 NW/4 Section 16 = 0.55 OF AN ACRE



LEGEND

——— - - ——— SECTION LINE
— — — — — — PROPOSED FACILITY PAD
——————— EXISTING ROAD

P.O.B. POINT OF BEGINNING
● FOUND MONUMENT AS NOTED

GENERAL NOTES

1. BEARINGS AND COORDINATES SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983. DISTANCES ARE SURFACE VALUES.
2. LATITUDE AND LONGITUDE VALUES SHOWN HEREON ARE RELATIVE TO THE NORTH AMERICAN DATUM (NAD83).

0 100' 200'
1" = 200 FEET

I, MARK DILLON HARP, NEW MEXICO PROFESSIONAL SURVEYOR NO. 23786, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO, AND THAT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

MARK DILLON HARP
REGISTERED PROFESSIONAL LAND SURVEYOR
STATE OF NEW MEXICO NO. 23786

MARK DILLON HARP NEW MEXICO 23786 PROFESSIONAL SURVEYOR

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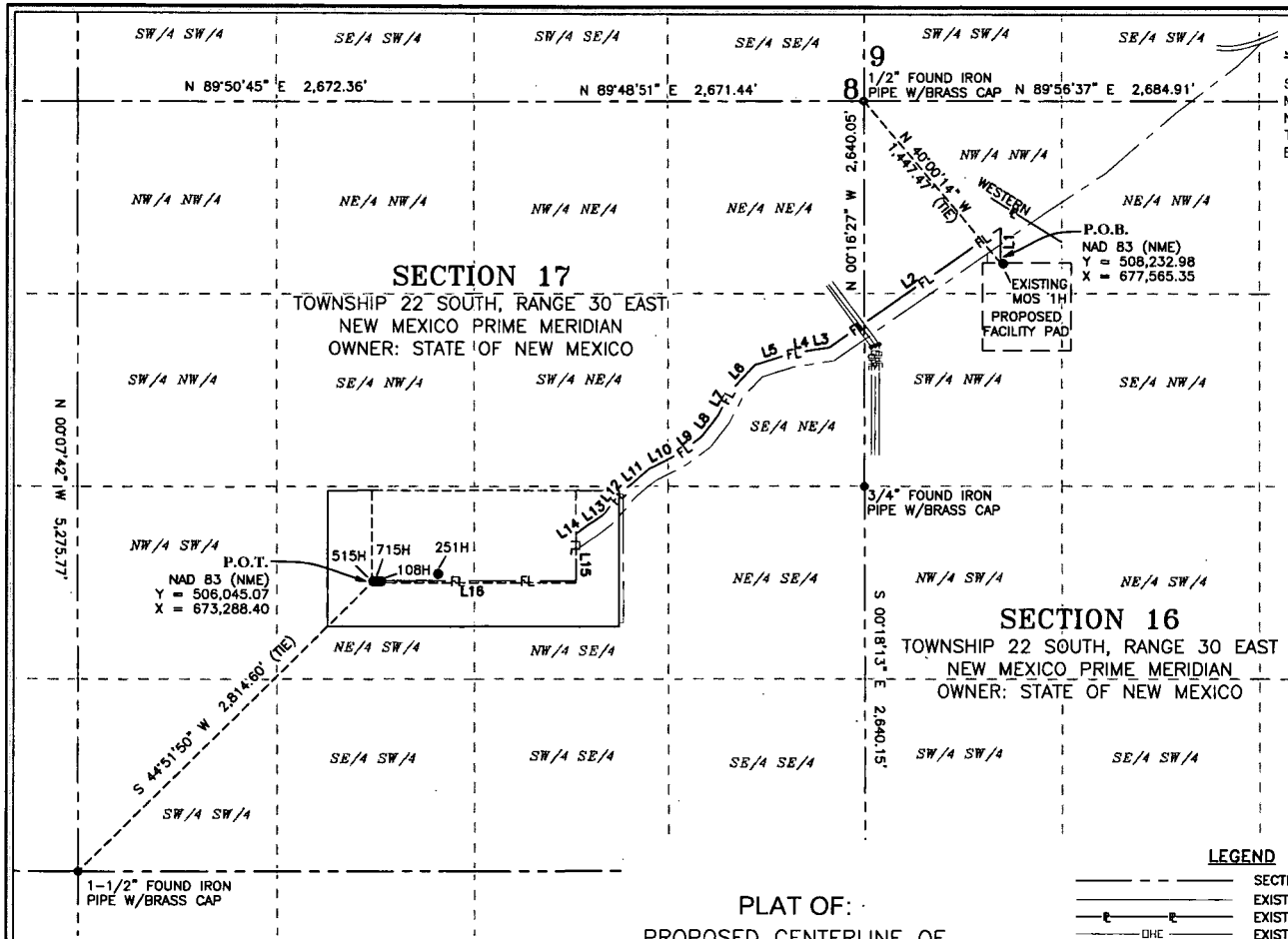
TBPE Firm 17957 | TBPLS Firm 10193887
www.fscinc.net

XTO PERMIAN OPERATING, LLC.

PROPOSED FACILITY PAD
JAMES RANCH UNIT DI 11

SURVEY FOR A PROPOSED FACILITY PAD SITUATED IN THE NW/4 OF SECTION 16, TOWNSHIP 22 SOUTH, RANGE 30 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO

DATE:	08-02-2018	PROJECT NO:	2017111945
DRAWN BY:	AW	SCALE:	1" = 200'
CHECKED BY:	DH	SHEET:	1 OF 1
FIELD CREW:	RE	REVISION:	NO



JAMES RANCH UNIT DI 11 PROPOSED BURIED AND SURFACE FLOW LINE DESCRIPTION:

SURVEY OF A STRIP OF LAND 150 FEET WIDE AND 5,601.56 FEET, 339.49 RODS, OR 1.06 MILES IN LENGTH CROSSING SECTIONS 16 AND 17, TOWNSHIP 22 SOUTH, RANGE 30 EAST, N.M.P.M. EDDY COUNTY, NEW MEXICO AND BEING 75.0 FEET RIGHT AND 75.0 FEET LEFT OF THE ABOVE PLATTED CENTERLINE SURVEY, COMPRISING OF 19.28 ACRES AND DIVIDED IN EACH QUARTER QUARTER SECTION AS FOLLOWS:

NW/4 NW/4 SECTION 16 = 1,013.25 FEET = 61.41 RODS = 3.49 ACRES
SW/4 NW/4 SECTION 16 = 355.64 FEET = 21.55 RODS = 1.22 ACRES
SE/4 NE/4 SECTION 17 = 1,703.01 FEET = 103.22 RODS = 5.86 ACRES
SW/4 NE/4 SECTION 17 = 332.63 FEET = 20.16 RODS = 1.14 ACRES
NW/4 SE/4 SECTION 17 = 1,510.62 FEET = 91.55 RODS = 5.21 ACRES
NE/4 SW/4 SECTION 17 = 686.41 FEET = 41.60 RODS = 2.36 ACRES

0 500' 1,000'
1" = 1,000FEET

LINE TABLE

LINE	BEARING	DISTANCE
L1	N 00°04'54" E	237.36'
L2	S 54°42'14" W	1,423.06'
L3	S 80°39'46" W	91.21'
L4	S 80°35'27" W	177.27'
L5	S 72°15'13" W	251.36'
L6	S 43°17'38" W	224.99'
L7	S 27°54'17" W	206.70'
L8	S 37°31'52" W	184.99'
L9	S 52°52'25" W	188.13'
L10	S 62°23'45" W	228.18'
L11	S 52°01'30" W	223.74'
L12	S 40°08'15" W	223.63'
L13	S 54°36'17" W	149.48'
L14	S 54°37'13" W	87.51'
L15	S 00°07'28" E	321.36'
L16	S 89°52'36" W	1,382.59'

TOTAL LENGTH = 5,601.56 FEET
OR 339.49 RODS

MARK DILLON HARP
NEW MEXICO
23786
PROFESSIONAL SURVEYOR

LEGEND

- SECTION LINE
- EXISTING ROAD
- EXISTING PIPELINE
- OHE — EXISTING OVERHEAD ELECTRIC
- PROPOSED PAD
- PROPOSED PAD EXTENSION
- PROPOSED ACCESS ROAD
- FL — FL — PROPOSED BURIED AND SURFACE FLOW LINE
- P.O.B. POINT OF BEGINNING
- P.O.T. POINT OF TERMINUS
- FOUND MONUMENT AS NOTED
- POWER POLE

GENERAL NOTES

1. BEARINGS AND COORDINATES SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983.
2. LATITUDE AND LONGITUDE VALUES SHOWN HEREON ARE RELATIVE TO THE NORTH AMERICAN DATUM (NAD83).

I, MARK DILLON HARP, NEW MEXICO PROFESSIONAL SURVEYOR NO. 23786, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO, AND THAT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

MARK DILLON HARP
REGISTERED PROFESSIONAL LAND SURVEYOR
STATE OF NEW MEXICO NO. 23786

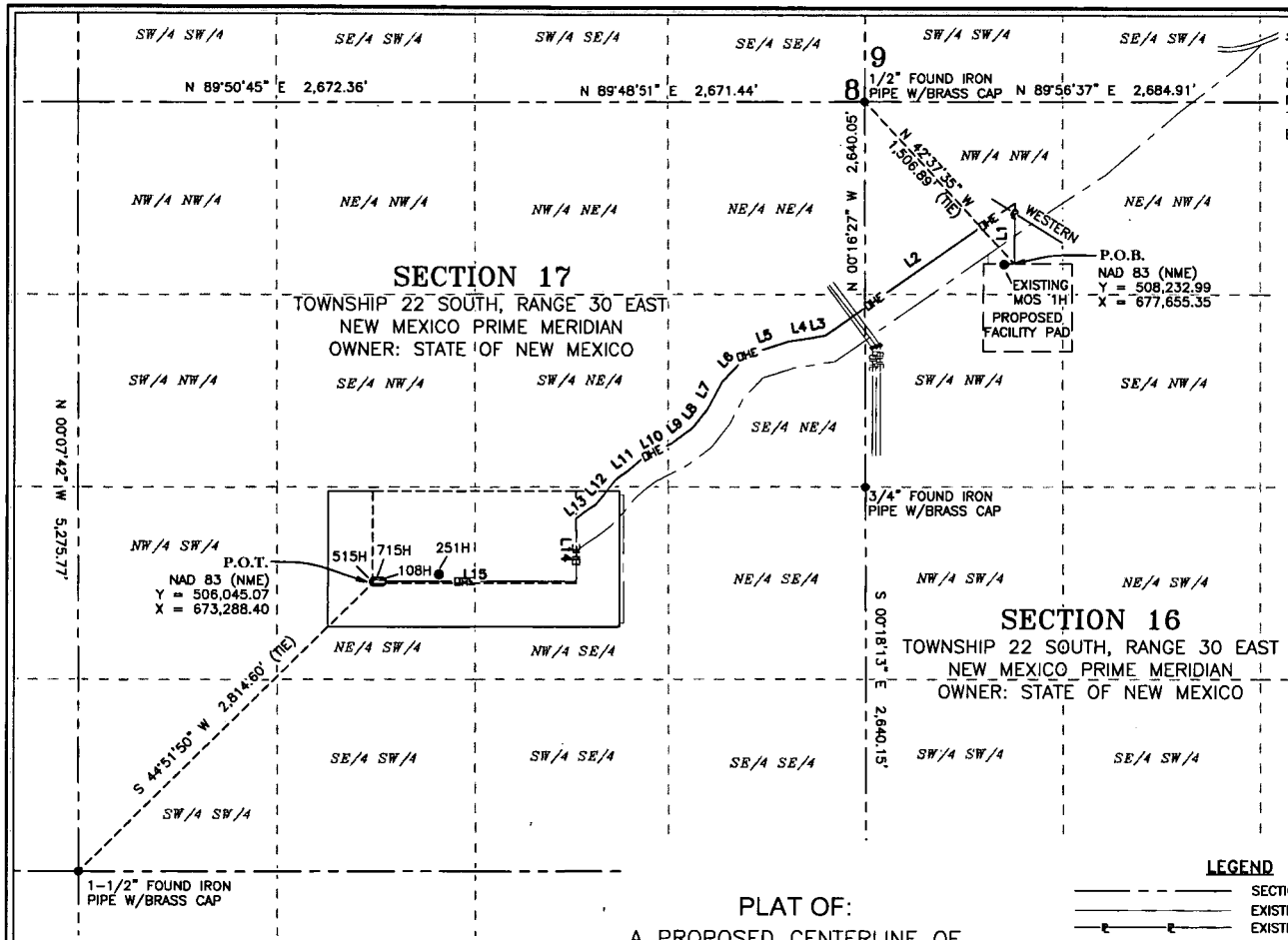
PLAT OF:

PROPOSED CENTERLINE OF
BURIED AND SURFACE FLOW LINE FOR:
XTO PERMIAN OPERATING, LLC.
JAMES RANCH UNIT DI 11
SITUATED IN SECTIONS 16 AND 17,
TOWNSHIP 22 SOUTH, RANGE 30 EAST,
NEW MEXICO PRIME MERIDIAN,
EDDY COUNTY, NEW MEXICO

FSC INC
SURVEYORS+ENGINEERS
550 Bailey Ave., 205 - Fort Worth, TX 76107
Ph: 817.349.9800 - Fax: 979.732.5271
TBPE Firm 17957 | TBPLS Firm 10193887
www.fscinc.net

DATE:	06-19-2019
DRAWN BY:	AW/AI
CHECKED BY:	DH
FIELD CREW:	
PROJECT NO:	2017111945
SCALE:	1" = 1,000'
SHEET:	1 OF 1
REVISION:	3

P:\PROJECTS\2017\2017111945-XTO-JAMES_RANCH_UNIT_DI_11-EDDY\DWG\EXHIBITS\2017111945-XTO-JAMES_RANCH_UNIT_DI_11_FLOW_LINE.dwg, 6/19/2019 10:02:37 AM, Adobe PDF



JAMES RANCH UNIT DI 11 PROPOSED ELECTRIC LINE DESCRIPTION:

SURVEY OF A STRIP OF LAND 30 FEET WIDE AND 5,996.95 FEET, 363.45 RODS, OR 1.14 MILES IN LENGTH CROSSING SECTIONS 16 AND 17, TOWNSHIP 22 SOUTH, RANGE 30 EAST, N.M.P.M. EDDY COUNTY, NEW MEXICO AND BEING 15.0 FEET RIGHT AND 15.0 FEET LEFT OF THE ABOVE PLATTED CENTERLINE SURVEY, COMPRISING OF 4.13 ACRES AND DIVIDED IN EACH QUARTER QUARTER SECTION AS FOLLOWS:

NW/4 NW/4 SECTION 16 = 1,489.08 FEET = 90.25 RODS = 1.03 ACRES
SW/4 NW/4 SECTION 16 = 165.16 FEET = 10.01 RODS = 0.11 OF AN ACRE
SE/4 NE/4 SECTION 17 = 1,707.65 FEET = 103.49 RODS = 1.18 ACRES
SW/4 NE/4 SECTION 17 = 496.95 FEET = 30.12 RODS = 0.34 OF AN ACRE
NW/4 SE/4 SECTION 17 = 1,451.70 FEET = 87.98 RODS = 1.00 ACRES
NE/4 SW/4 SECTION 17 = 686.41 FEET = 41.60 RODS = 0.47 OF AN ACRE

0 500' 1,000'
1" = 1,000FEET

LINE TABLE

LINE	BEARING	DISTANCE
L1	N 00°04'54" E	411.51'
L2	S 54°42'14" W	1,576.61'
L3	S 80°39'46" W	70.52'
L4	S 80°35'27" W	183.88'
L5	S 72°15'13" W	281.16'
L6	S 43°17'38" W	260.39'
L7	S 27°54'17" W	211.29'
L8	S 37°31'52" W	165.29'
L9	S 52°52'25" W	168.51'
L10	S 62°23'45" W	228.85'
L11	S 52°01'30" W	241.28'
L12	S 40°08'15" W	221.58'
L13	S 54°36'25" W	161.92'
L14	S 00°07'28" E	431.56'
L15	S 89°52'38" W	1,382.58'

TOTAL LENGTH = 5,996.95 FEET
OR 363.45 RODS

MARK DILLON HARP
NEW MEXICO
23786
PROFESSIONAL SURVEYOR

GENERAL NOTES

1. BEARINGS AND COORDINATES SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983.
2. LATITUDE AND LONGITUDE VALUES SHOWN HEREON ARE RELATIVE TO THE NORTH AMERICAN DATUM (NAD83).

I, MARK DILLON HARP, NEW MEXICO PROFESSIONAL SURVEYOR NO. 23786, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO, AND THAT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

MARK DILLON HARP
REGISTERED PROFESSIONAL LAND SURVEYOR
STATE OF NEW MEXICO NO. 23786

LEGEND

	SECTION LINE
	EXISTING ROAD
E E	EXISTING PIPELINE
OHE	EXISTING OVERHEAD ELECTRIC
	PROPOSED PAD
	PROPOSED PAD EXPANSION
	PROPOSED ACCESS ROAD
OHE	PROPOSED ELECTRIC LINE
P.O.B.	POINT OF BEGINNING
P.O.T.	POINT OF TERMINUS
●	FOUND MONUMENT AS NOTED
⊕	POWER POLE

PLAT OF:

A PROPOSED CENTERLINE OF
AN OVERHEAD ELECTRIC LINE FOR:
XTO PERMIAN OPERATING, LLC.
JAMES RANCH UNIT DI 11
SITUATED IN SECTIONS 16 AND 17,
TOWNSHIP 22 SOUTH, RANGE 30 EAST,
NEW MEXICO PRIME MERIDIAN,
EDDY COUNTY, NEW MEXICO

FSC INC
SURVEYORS+ENGINEERS
550 Bailey Ave., 205 - Fort Worth, TX 76107
Ph: 817.349.9800 - Fax: 979.732.5271
TBPE Firm 17957 | TBPLS Firm 10193887
www.fscinc.net

DATE:	06-19-2019
DRAWN BY:	AW/AI
CHECKED BY:	DH
FIELD CREW:	
PROJECT NO:	2017111945
SCALE:	1" = 1,000'
SHEET:	1 OF 1
REVISION:	3

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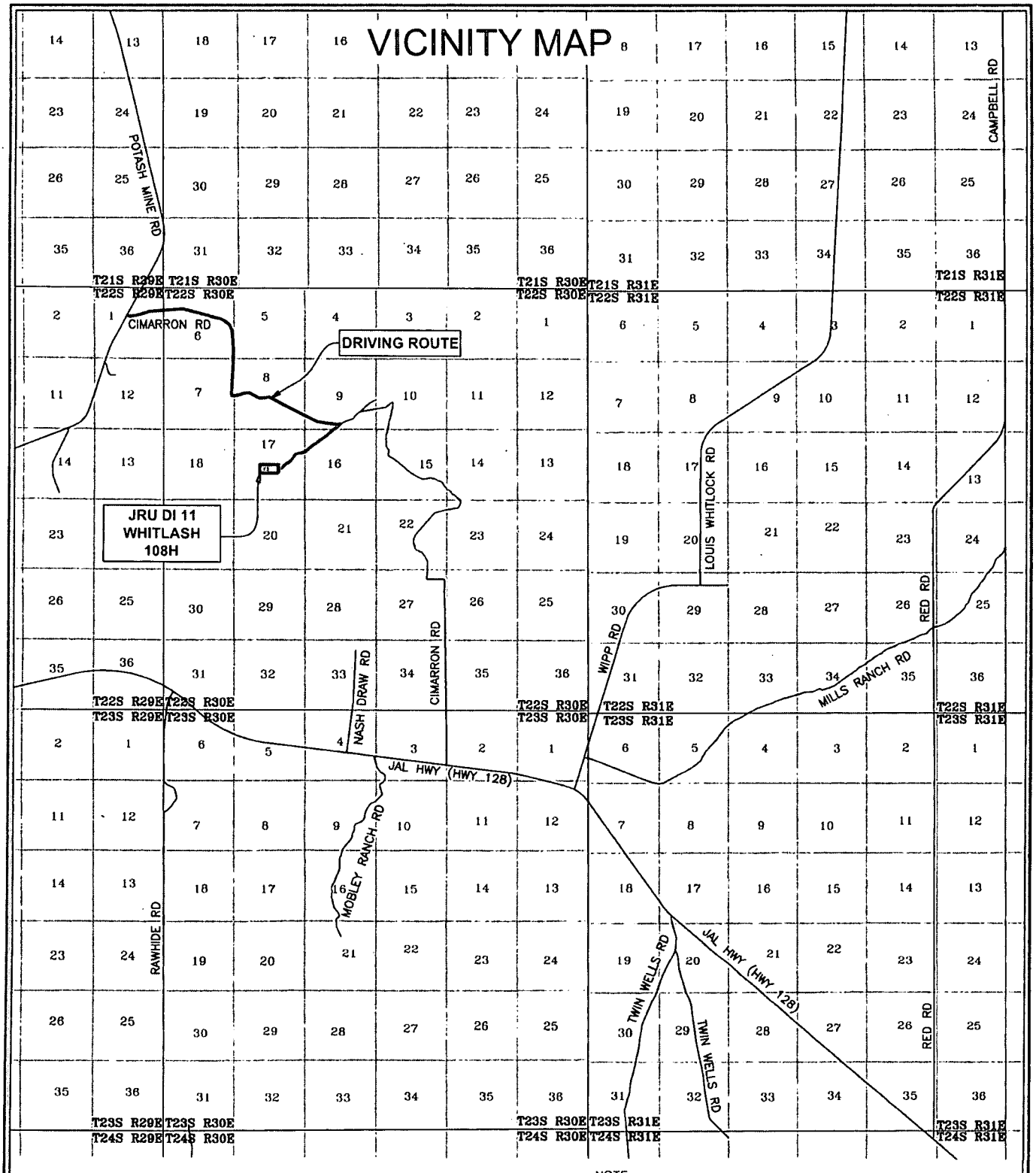
VICINITY MAP



JRU DI 11 WHITLASH 108H
LOCATED 2,040 FEET FROM THE WEST LINE
AND 1,990 FEET FROM THE SOUTH LINE OF
SECTION 17, TOWNSHIP 22 SOUTH, RANGE 30
EAST, N.M.P.M. EDDY COUNTY, NEW MEXICO

0 5,000' 10,000'
1" = 10,000 FEET

NOTE:

1). SEE "TOPOGRAPHICAL AND ACCESS ROAD MAP" FOR DRIVING DIRECTIONS

FSC INC
SURVEYORS+ENGINEERS
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Ph: 817.349.9800 - Fax: 979.732.5271
TBPE Firm 17957 | TBPLS Firm 10193887
www.fscinc.net

DATE:	4-17-2019
DRAWN BY:	JC
CHECKED BY:	AI
FIELD CREW:	RE
PROJECT NO:	2019041015
SCALE:	1"= 10,000'
SHEET:	1 OF 1
REVISION:	NO

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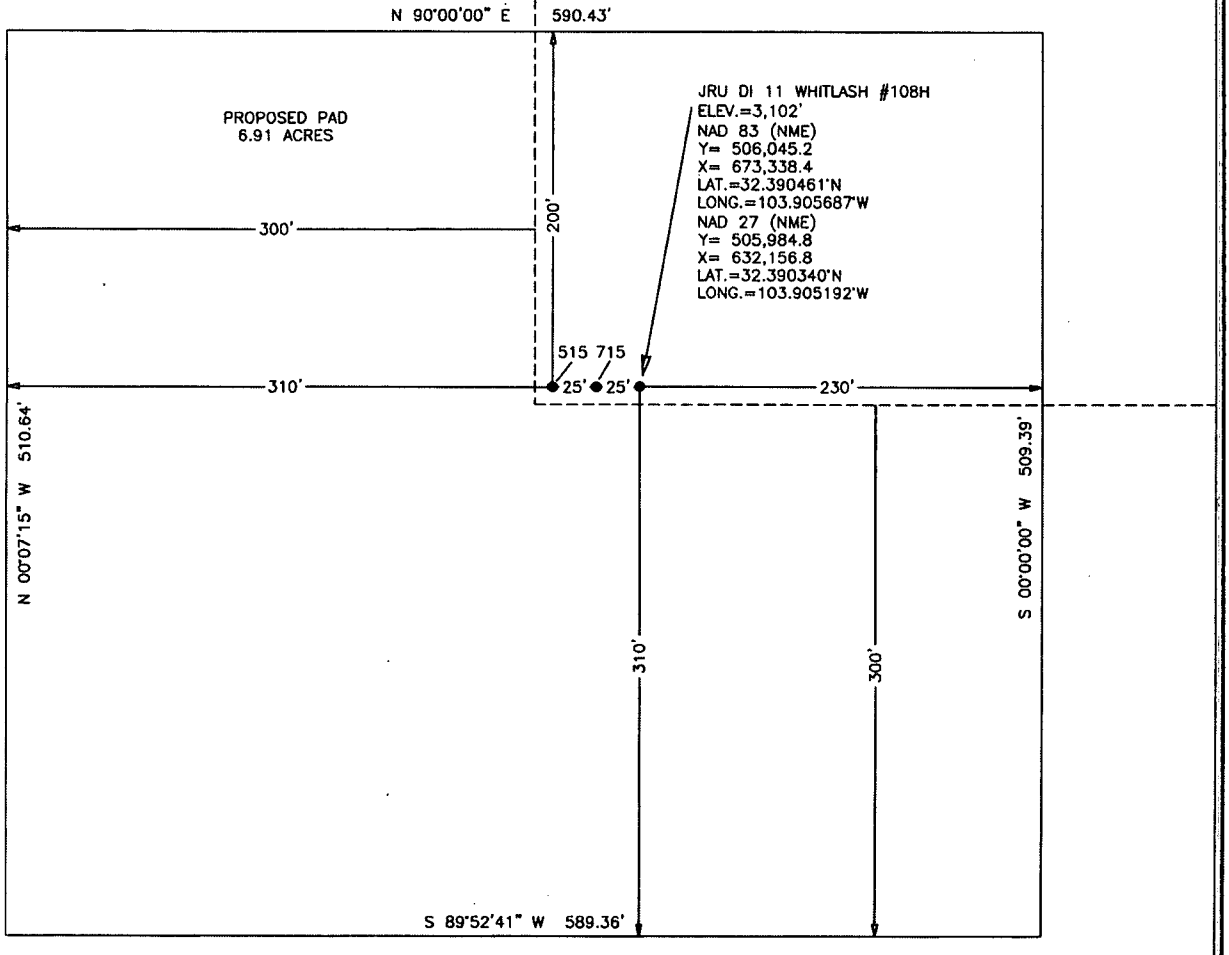

NE/4 SW/4

SECTION 17

TOWNSHIP 22 SOUTH, RANGE 30 EAST
NEW MEXICO PRIME MERIDIAN
OWNER: STATE OF NEW MEXICO

LEGEND

PROPOSED PAD

PROPOSED DRILLING ISLAND

NOTE:

1). SEE "TOPOGRAPHICAL AND ACCESS ROAD MAP" FOR PROPOSED ROAD LOCATION

DIRECTIONS TO THIS LOCATION:

FROM THE INTERSECTION OF POTASH MINES ROAD (STATE ROAD 31) AND CIMARRON ROAD GO EAST ON CIMARRON ROAD APPROX. 4.2 MILES TO AND ARRIVING AT THE PROPOSED ROAD, THE LOCATION IS TO THE SOUTHWEST.

0 50' 100'
1" = 100' FEET

XTO PERMIAN OPERATING, LLC.

WELL SITE PLAN

JRU DI 11 WHITLASH 108H
LOCATED 2,040 FEET FROM THE WEST LINE AND 1,990 FEET FROM THE SOUTH LINE OF SECTION 17, TOWNSHIP 22 SOUTH, RANGE 30 EAST, N.M.P.M. EDDY COUNTY, NEW MEXICO

FSC INC
SURVEYORS+ENGINEERS
550 Bailey Ave., 205 - Fort Worth, TX 76107
Ph: 817.349.9800 - Fax: 979.732.5271
TBPE Firm 17957 | TBPLS Firm 10193887
www.fscinc.net

DATE:	4-18-2019	PROJECT NO:	2019041015
DRAWN BY:	JC	SCALE:	1"=100'
CHECKED BY:	AI	SHEET:	1 OF 1
FIELD CREW:	RE	REVISION:	NONE

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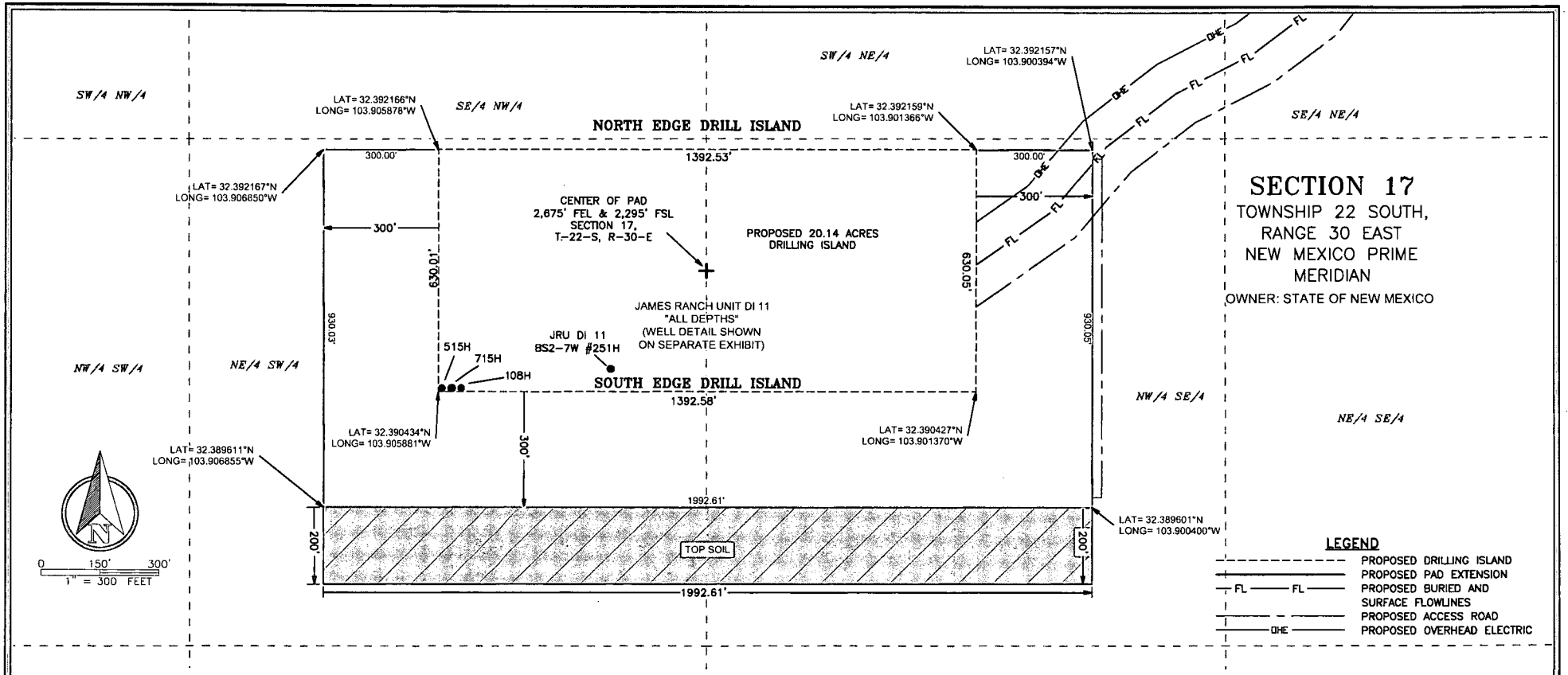

SECTION 17

TOWNSHIP 22 SOUTH,
RANGE 30 EAST
NEW MEXICO PRIME
MERIDIAN

OWNER: STATE OF NEW MEXICO

LEGEND

- PROPOSED DRILLING ISLAND
- PROPOSED PAD EXTENSION
- FL — FL — PROPOSED BURIED AND SURFACE FLOWLINES
- PROPOSED ACCESS ROAD
- OHE — OHE — PROPOSED OVERHEAD ELECTRIC

GENERAL NOTES

1. BEARINGS AND COORDINATES SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983. DISTANCES ARE SURFACE VALUES.
2. LATITUDE AND LONGITUDE VALUES SHOWN HEREON ARE RELATIVE TO THE NORTH AMERICAN DATUM (NAD83).

EXHIBIT OF:

PAD LAYOUT DIAGRAM FOR:

XTO PERMIAN OPERATING, LLC.

JAMES RANCH UNIT DI 11

"ALL DEPTHS"

SITUATED IN SECTION 17
TOWNSHIP 22 SOUTH, RANGE 30 EAST,
NEW MEXICO PRIME MERIDIAN,
EDDY COUNTY, NEW MEXICO

I, MARK DILLON HARP, NEW MEXICO PROFESSIONAL SURVEYOR NO. 23786, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO, AND THAT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

PRELIMINARY, THIS DOCUMENT SHALL NOT BE RECORDED FOR ANY PURPOSE AND SHALL NOT BE USED OR VIEWED OR RELIED UPON AS A FINAL SURVEY DOCUMENT

MARK DILLON HARP
REGISTERED PROFESSIONAL LAND SURVEYOR
STATE OF NEW MEXICO NO. 23786

FSC INC
SURVEYORS+ENGINEERS
550 Bailey Ave., 205 · Fort Worth, TX 76107
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TBPE Firm 17957 | TBPLS Firm 10193887
www.fscinc.net

DATE:	06-13-2019
DRAWN BY:	AI/AW
CHECKED BY:	DH
FIELD CREW:	
PROJECT NO:	2017111945
SCALE:	1" = 300'
SHEET:	1 OF 1
REVISION:	2

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James Ranch Unit DI 11 Full Well List
Correspond Slot Designation to Overall Plat
6/20/2019

James Ranch Unit DI 11 BS2-7W #251H: Slot E8
Surface Hole Location: 2,040' FSL & 2,430' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 660' FSL & 200' FWL, Section 13, T. 22 S. R. 29 E.

JRU DI 11 Ekalaka #110H: Slot A17
Surface Hole Location: 2,450' FSL & 2,449' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 990' FNL & 50' FEL, Section 10, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #111H: Slot B18
Surface Hole Location: 2,335' FSL & 2,419' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 2,310' FNL & 50' FEL, Section 10, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #112H: Slot B16
Surface Hole Location: 2,335' FSL & 2,479' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 1,650' FSL & 50' FEL, Section 10, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #113H: Slot D17
Surface Hole Location: 2,105' FSL & 2,450' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 330' FSL & 50' FEL, Section 10, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #114H: Slot D20
Surface Hole Location: 2,105' FSL & 2,235' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 990' FNL & 50' FEL, Section 15, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #115H: Slot F16
Surface Hole Location: 1,990' FSL & 2,480' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 2,310' FNL & 50' FEL, Section 15, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #116H: Slot F18
Surface Hole Location: 1,990' FSL & 2,420' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 1,650' FSL & 50' FEL, Section 15, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #150H: Slot B12
Surface Hole Location: 2,335' FSL & 2,631' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 440' FNL & 50' FEL, Section 10, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #151H: Slot B13
Surface Hole Location: 2,335' FSL & 2,661' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 2,200' FNL & 50' FEL, Section 10, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #154H: Slot D12
Surface Hole Location: 2,105' FSL & 2,631' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 2,200' FNL & 50' FEL, Section 15, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #152H: Slot B14
Surface Hole Location: 2,335' FSL & 2,660' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 1,320' FSL & 50' FEL, Section 10, T. 22 S. R. 30 E.

James Ranch Unit DI 11 Full Well List
Correspond Slot Designation to Overall Plat
6/20/2019

JRU DI 11 Ekalaka #153H: Slot B15
Surface Hole Location: 2,335' FSL & 2,630' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 440' FNL & 50' FEL, Section 15, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #160H: Slot D13
Surface Hole Location: 2,105' FSL & 2,661' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 1,320' FNL & 50' FEL, Section 10, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #161H: Slot D14
Surface Hole Location: 2,105' FSL & 2,661' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 2,200' FSL & 50' FEL, Section 10, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #162H: Slot D15
Surface Hole Location: 2,105' FSL & 2,631' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 440' FSL & 50' FEL, Section 10, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #163H: Slot F14
Surface Hole Location: 1,990' FSL & 2,661' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 1,320' FNL & 50' FEL, Section 15, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #164H: Slot F15
Surface Hole Location: 1,990' FSL & 2,631' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 2,200' FSL & 50' FEL, Section 15, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #400H: Slot B26
Surface Hole Location: 2,335' FSL & 1,989' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 2,200' FSL & 50' FEL, Section 10, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #401H: Slot B25
Surface Hole Location: 2,335' FSL & 2,019' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 1,320' FSL & 50' FEL, Section 10, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #402H: Slot B24
Surface Hole Location: 2,335' FSL & 2,049' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 440' FSL & 50' FEL, Section 10, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #403H: Slot C26
Surface Hole Location: 2,220' FSL & 1,989' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 440' FNL & 50' FEL, Section 15, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #404H: Slot C25
Surface Hole Location: 2,220' FSL & 2,019' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 1,320' FNL & 50' FEL, Section 15, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #405H: Slot C24
Surface Hole Location: 2,220' FSL & 2,049' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 2,200' FNL & 50' FEL, Section 15, T. 22 S. R. 30 E.

James Ranch Unit DI 11 Full Well List
Correspond Slot Designation to Overall Plat
6/20/2019

JRU DI 11 Ekalaka #406H: Slot D26
Surface Hole Location: 2,105' FSL & 1,990' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 2,200' FSL & 50' FEL, Section 15, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #407H: Slot D25
Surface Hole Location: 2,105' FSL & 2,020' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 1,320' FSL & 50' FEL, Section 15, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #408H: Slot D24
Surface Hole Location: 2,105' FSL & 2,050' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 440' FSL & 50' FEL, Section 15, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #501H: Slot A26
Surface Hole Location: 2,450' FSL & 1,989' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 660' FNL & 50' FEL, Section 10, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #502H: Slot A25
Surface Hole Location: 2,450' FSL & 2,019' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 1,980' FNL & 50' FEL, Section 10, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #503H: Slot A24
Surface Hole Location: 2,450' FSL & 2,049' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 1,980' FSL & 50' FEL, Section 10, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #504H: Slot A23
Surface Hole Location: 2,450' FSL & 2,079' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 660' FSL & 50' FEL, Section 10, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #505H: Slot F26
Surface Hole Location: 1,990' FSL & 1,990' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 660' FNL & 50' FEL, Section 15, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #506H: Slot F25
Surface Hole Location: 1,990' FSL & 2,020' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: ,1980' FNL & 50' FEL, Section 15, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #507H: Slot F24
Surface Hole Location: 1,990' FSL & 2,050' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 1,980' FSL & 50' FEL, Section 15, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #701H: Slot A21
Surface Hole Location: 2,450' FSL & 2,204' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 330' FNL & 50' FEL, Section 10, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #702H: Slot A20
Surface Hole Location: 2,450' FSL & 2,234' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 990' FNL & 50' FEL, Section 10, T. 22 S. R. 30 E.

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JRU DI 11 Ekalaka #703H: Slot A19
Surface Hole Location: 2,450' FSL & 2,264' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 1,650' FNL & 50' FEL, Section 10, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #704H: Slot B21
Surface Hole Location: 2,335' FSL & 2,204' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 2,310' FNL & 50' FEL, Section 10, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #705H: Slot B20
Surface Hole Location: 2,335' FSL & 2,234' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 2,310' FSL & 50' FEL, Section 10, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #706H: Slot B19
Surface Hole Location: 2,335' FSL & 2,264' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 1,650' FSL & 50' FEL, Section 10, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #707H: Slot C19
Surface Hole Location: 2,220' FSL & 2,264' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 990' FSL & 50' FEL, Section 10, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #708H: Slot C20
Surface Hole Location: 2,220' FSL & 2,234' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 330' FSL & 50' FEL, Section 10, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #709H: Slot C21
Surface Hole Location: 2,220' FSL & 2,204' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 330' FNL & 50' FEL, Section 15, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #710H: Slot C22
Surface Hole Location: 2,220' FSL & 2,174' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 990' FNL & 50' FEL, Section 15, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #711H: Slot F19
Surface Hole Location: 1,990' FSL & 2,265' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 1,650' FNL & 50' FEL, Section 15, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #712H: Slot F20
Surface Hole Location: 1,990' FSL & 2,235' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 2,310' FNL & 50' FEL, Section 15, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #713H: Slot F21
Surface Hole Location: 1,990' FSL & 2,205' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 2,310' FSL & 50' FEL, Section 15, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #714H: Slot F22
Surface Hole Location: 1,990' FSL & 2,175' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 1,650' FSL & 50' FEL, Section 15, T. 22 S. R. 30 E.

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JRU DI 11 Ekalaka #901H: Slot A18
Surface Hole Location: 2,450' FSL & 2,419' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 330' FNL & 50' FEL, Section 10, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #902H: Slot A16
Surface Hole Location: 2,450' FSL & 2,479' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 1,650' FNL & 50' FEL, Section 10, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #903H: Slot B17
Surface Hole Location: 2,335' FSL & 2,449' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 2,310' FSL & 50' FEL, Section 10, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #904H: Slot D16
Surface Hole Location: 2,105' FSL & 2,480' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 990' FSL & 50' FEL, Section 10, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #905H: Slot D19
Surface Hole Location: 2,105' FSL & 2,265' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 330' FNL & 50' FEL, Section 15, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #906H: Slot D21
Surface Hole Location: 2,105' FSL & 2,205' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 1,650' FNL & 50' FEL, Section 15, T. 22 S. R. 30 E.

JRU DI 11 Ekalaka #907H: Slot F17
Surface Hole Location: 1,990' FSL & 2,450' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 2,310' FSL & 50' FEL, Section 15, T. 22 S. R. 30 E.

JRU DI 11 Whitlash #108H: Slot F3
Surface Hole Location: 1,990' FSL & 2,040' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 330' FSL & 50' FWL, Section 13, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #110H: Slot A8
Surface Hole Location: 2,450' FSL & 2,420' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 330' FNL & 50' FWL, Section 12, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #111H: Slot A10
Surface Hole Location: 2,450' FSL & 2,480' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 1,650' FNL & 50' FWL, Section 12, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #112H: Slot C9
Surface Hole Location: 2,220' FSL & 2,450' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 2,310' FSL & 50' FWL, Section 12, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #113H: Slot C111
Surface Hole Location: 2,220' FSL & 2,510' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 990' FSL & 50' FWL, Section 12, T. 22 S. R. 29 E.

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JRU DI 11 Whitlash #114H: Slot D9
Surface Hole Location: 2,105' FSL & 2,450' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 330' FNL & 50' FWL, Section 13, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #115H: Slot F8
Surface Hole Location: 1,990' FSL & 2,420' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 1,650' FNL & 50' FWL, Section 13, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #150H: Slot A12
Surface Hole Location: 2,450' FSL & 2,631' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 440' FNL & 50' FWL, Section 12, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #151H: Slot A13
Surface Hole Location: 2,450' FSL & 2,661' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 2,200' FNL & 50' FWL, Section 12, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #152H: Slot A14
Surface Hole Location: 2,450' FSL & 2,660' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 1,320' FSL & 50' FWL, Section 12, T. 22 S. R. 30 E.

JRU DI 11 Whitlash #153H: Slot A15
Surface Hole Location: 2,450' FSL & 2,630' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 440' FNL & 50' FWL, Section 13, T. 22 S. R. 30 E.

JRU DI 11 Whitlash #154H: Slot C12
Surface Hole Location: 2,220' FSL & 2,631' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 2,200' FNL & 50' FWL, Section 13, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #160H: Slot C13
Surface Hole Location: 2,220' FSL & 2,661' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 1,320' FNL & 50' FWL, Section 12, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #161H: Slot C14
Surface Hole Location: 2,220' FSL & 2,660' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 2,200' FSL & 50' FWL, Section 12, T. 22 S. R. 30 E.

JRU DI 11 Whitlash #162H: Slot C15
Surface Hole Location: 2,220' FSL & 2,630' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 440' FSL & 50' FWL, Section 12, T. 22 S. R. 30 E.

JRU DI 11 Whitlash #163H: Slot F12
Surface Hole Location: 1,990' FSL & 2,631' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 1,320' FNL & 50' FWL, Section 13, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #164H: Slot F13
Surface Hole Location: 1,990' FSL & 2,661' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 2,200' FSL & 50' FWL, Section 13, T. 22 S. R. 29 E.

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JRU DI 11 Whitlash #400H: Slot B1
Surface Hole Location: 2,335' FSL & 1,990' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 2,200' FSL & 50' FWL, Section 12, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #401H: Slot B2
Surface Hole Location: 2,335' FSL & 2,020' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 1,320' FSL & 50' FWL, Section 12, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #402H: Slot B3
Surface Hole Location: 2,335' FSL & 2,050' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 440' FSL & 50' FWL, Section 12, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #403H: Slot C1
Surface Hole Location: 2,220' FSL & 1,990' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 440' FNL & 50' FWL, Section 12, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #404H: Slot C2
Surface Hole Location: 2,220' FSL & 2,020' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 1,320' FNL & 50' FWL, Section 12, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #405H: Slot C3
Surface Hole Location: 2,220' FSL & 2,050' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 2,200' FNL & 50' FWL, Section 13, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #406H: Slot D1
Surface Hole Location: 2,105' FSL & 1,990' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 2,200' FSL & 50' FWL, Section 13, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #407H: Slot D2
Surface Hole Location: 2,105' FSL & 2,020' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 1,320' FSL & 50' FWL, Section 13, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #408H: Slot D3
Surface Hole Location: 2,105' FSL & 2,050' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 440' FSL & 50' FWL, Section 13, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #501H: Slot A1
Surface Hole Location: 2,450' FSL & 1,990' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 660' FNL & 50' FWL, Section 12, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #502H: Slot A2
Surface Hole Location: 2,450' FSL & 2,020' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 1,980' FNL & 50' FWL, Section 12, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #503H: Slot A3
Surface Hole Location: 2,450' FSL & 2,050' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 1,980' FSL & 50' FWL, Section 12, T. 22 S. R. 29 E.

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JRU DI 11 Whitlash #504H: Slot D4
Surface Hole Location: 2,105' FSL & 2,205' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 660' FSL & 50' FWL, Section 12, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #505H: Slot D5
Surface Hole Location: 2,105' FSL & 2,235' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 660' FNL & 50' FWL, Section 13, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #506H: Slot D6
Surface Hole Location: 2,105' FSL & 2,265' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 1,980' FNL & 50' FWL, Section 13, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #515H: Slot F1
Surface Hole Location: 1,990' FSL & 1,990' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 330' FSL & 50' FWL, Section 13, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #700H: Slot A4
Surface Hole Location: 2,450' FSL & 2,205' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 330' FNL & 50' FWL, Section 12, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #701H: Slot A5
Surface Hole Location: 2,450' FSL & 2,235' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 990' FNL & 50' FWL, Section 12, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #702H: Slot A6
Surface Hole Location: 2,450' FSL & 2,265' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 1,650' FNL & 50' FWL, Section 12, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #703H: Slot B4
Surface Hole Location: 2,335' FSL & 2,205' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 2,310' FNL & 50' FWL, Section 12, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #704H: Slot B5
Surface Hole Location: 2,335' FSL & 2,235' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 2,310' FSL & 50' FWL, Section 12, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #705H: Slot B6
Surface Hole Location: 2,335' FSL & 2,265' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 1,650' FSL & 50' FWL, Section 12, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #706H: Slot C5
Surface Hole Location: 2,220' FSL & 2,235' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 990' FSL & 50' FWL, Section 12, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #707H: Slot C4
Surface Hole Location: 2,220' FSL & 2,205' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 330' FSL & 50' FWL, Section 12, T. 22 S. R. 29 E.

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JRU DI 11 Whitlash #708H: Slot C7
Surface Hole Location: 2,220' FSL & 2,295' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 330' FNL & 50' FWL, Section 13, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #709H: Slot C6
Surface Hole Location: 2,220' FSL & 2,265' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 990' FNL & 50' FWL, Section 13, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #710H: Slot F4
Surface Hole Location: 1,990' FSL & 2,205' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 1,650' FNL & 50' FWL, Section 13, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #711H: Slot F5
Surface Hole Location: 1,990' FSL & 2,235' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 2,310' FNL & 50' FWL, Section 13, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #712H: Slot F6
Surface Hole Location: 1,990' FSL & 2,265' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 2,310' FSL & 50' FWL, Section 13, T. 22 S. R. 29 E.

JRU DI 11 Whitlash A #715H: Slot F2
Surface Hole Location: 1,990' FSL & 2,015' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 330' FSL & 50' FWL, Section 13, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #901H: Slot A9
Surface Hole Location: 2,450' FSL & 2,450' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 990' FNL & 50' FWL, Section 12, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #902H: Slot C8
Surface Hole Location: 2,220' FSL & 2,420' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 2,310' FNL & 50' FWL, Section 12, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #903H: Slot C10
Surface Hole Location: 2,220' FSL & 2,480' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 1,650' FSL & 50' FWL, Section 12, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #904H: Slot D8
Surface Hole Location: 2,105' FSL & 2,420' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 330' FSL & 50' FWL, Section 12, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #905H: Slot D10
Surface Hole Location: 2,105' FSL & 2,480' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 990' FNL & 50' FWL, Section 13, T. 22 S. R. 29 E.

JRU DI 11 Whitlash #906H: Slot F9
Surface Hole Location: 1,990' FSL & 2,450' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 2,310' FNL & 50' FWL, Section 13, T. 22 S. R. 29 E.

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JRU DI 11 Whitlash #907H: Slot F10
Surface Hole Location: 1,990' FSL & 2,480' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: 1,650' FSL & 50' FWL, Section 13, T. 22 S. R. 29 E.

Future Well #1: Slot B8
Surface Hole Location: 2,335' FSL & 2,420' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: To Be Determined

Future Well #2: Slot B9
Surface Hole Location: 2,335' FSL & 2,450' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: To Be Determined

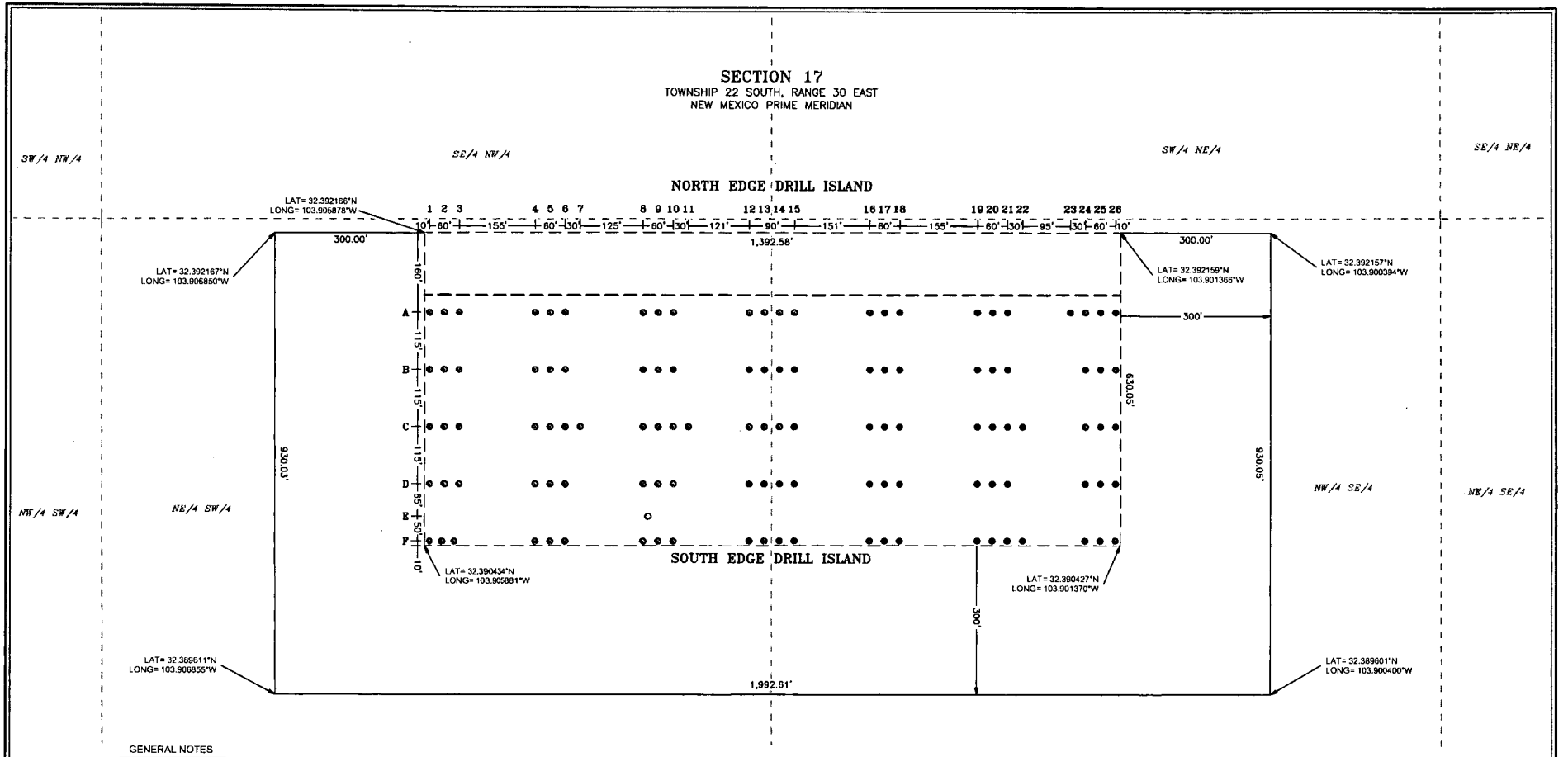
Future Well #3: Slot B10
Surface Hole Location: 2,335' FSL & 2,480' FWL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: To Be Determined

Future Well #4: Slot C16
Surface Hole Location: 2,220' FSL & 2,479' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: To Be Determined

Future Well #5: Slot C17
Surface Hole Location: 2,220' FSL & 2,449' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: To Be Determined

Future Well #6: Slot C18
Surface Hole Location: 2,220' FSL & 2,419' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: To Be Determined

Future Well #7: Slot D18
Surface Hole Location: 2,105' FSL & 2,420' FEL, Section 17, T. 22 S. R. 30 E.
Bottom Hole Location: To Be Determined



GENERAL NOTES

1. BEARINGS AND COORDINATES SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983. DISTANCES ARE SURFACE VALUES.
2. LATITUDE AND LONGITUDE VALUES SHOWN HEREON ARE RELATIVE TO THE NORTH AMERICAN DATUM (NAD83).

I, MARK DILLON HARP, NEW MEXICO PROFESSIONAL SURVEYOR NO. 23786, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO, AND THAT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

MARK DILLON HARP
REGISTERED PROFESSIONAL LAND SURVEYOR
STATE OF NEW MEXICO NO. 23786

MARK DILLON HARP NEW MEXICO 23786 PROFESSIONAL SURVEYOR

EXHIBIT OF:
OVERALL PAD LAYOUT FOR:
XTO PERMIAN OPERATING, LLC.
JAMES RANCH UNIT DI 11
SITUATED IN SECTION 17
TOWNSHIP 22 SOUTH, RANGE 30 EAST,
NEW MEXICO PRIME MERIDIAN,
EDDY COUNTY, NEW MEXICO

0 100' 200'
1" = 200 FEET

LEGEND
- SECTION LINE
- PROPOSED DRILLING ISLAND
- PROPOSED PAD EXPANSION

WELL NAMES
- WHITLASH
- EKALAKA
- BS2-7W
- FUTURE WELL

FSC INC
SURVEYORS+ENGINEERS
550 Bailey Ave., 205 · Fort Worth, TX 76107
Ph: 817.349.9800 · Fax: 979.732.5271
TBPE Firm 17957 | TBPLS Firm 10193887
www.fscinc.net

DATE:	06-06-2019
DRAWN BY:	AW
CHECKED BY:	DH
FIELD CREW:	
PROJECT NO:	2017111945
SCALE:	1" = 200'
SHEET:	1 OF 2
REVISION:	5

P:\PROJECTS\2017\2017111945-XTO-JAMES_RANCH_UNIT_DI_11-EDDY\DWG\EXHIBITS\OVERALL_LAYOUT\2017111945-XTO-JAMES_RANCH_UNIT_DI_11_OVERALL_LAYOUT_STAKING_REQUEST.dwg, 6/6/2019 10:28:43 AM, Adobe PDF

WELL LOCATION INFORMATION

WELL	FOOTAGE CALLS	WELL	FOOTAGE CALLS
A1	1,990' FWL & 2,450' FSL SEC. 17	A14	2,660' FEL & 2,450' FSL SEC. 17
A2	2,020' FWL & 2,450' FSL SEC. 17	A15	2,630' FEL & 2,450' FSL SEC. 17
A3	2,050' FWL & 2,450' FSL SEC. 17	A16	2,479' FEL & 2,450' FSL SEC. 17
A4	2,205' FWL & 2,450' FSL SEC. 17	A17	2,449' FEL & 2,450' FSL SEC. 17
A5	2,235' FWL & 2,450' FSL SEC. 17	A18	2,419' FEL & 2,450' FSL SEC. 17
A6	2,265' FWL & 2,450' FSL SEC. 17	A19	2,264' FEL & 2,450' FSL SEC. 17
A8	2,420' FWL & 2,450' FSL SEC. 17	A20	2,234' FEL & 2,450' FSL SEC. 17
A9	2,450' FWL & 2,450' FSL SEC. 17	A21	2,204' FEL & 2,450' FSL SEC. 17
A10	2,480' FWL & 2,450' FSL SEC. 17	A23	2,079' FEL & 2,450' FSL SEC. 17
A12	2,631' FWL & 2,450' FSL SEC. 17	A24	2,049' FEL & 2,450' FSL SEC. 17
A13	2,661' FWL & 2,450' FSL SEC. 17	A25	2,019' FEL & 2,450' FSL SEC. 17
		A26	1,989' FEL & 2,450' FSL SEC. 17

WELL	FOOTAGE CALLS	WELL	FOOTAGE CALLS
B1	1,990' FWL & 2,335' FSL SEC. 17	B14	2,660' FEL & 2,335' FSL SEC. 17
B2	2,020' FWL & 2,335' FSL SEC. 17	B15	2,630' FEL & 2,335' FSL SEC. 17
B3	2,050' FWL & 2,335' FSL SEC. 17	B16	2,479' FEL & 2,335' FSL SEC. 17
B4	2,205' FWL & 2,335' FSL SEC. 17	B17	2,449' FEL & 2,335' FSL SEC. 17
B5	2,235' FWL & 2,335' FSL SEC. 17	B18	2,419' FEL & 2,335' FSL SEC. 17
B6	2,265' FWL & 2,335' FSL SEC. 17	B19	2,264' FEL & 2,335' FSL SEC. 17
B8	2,420' FWL & 2,335' FSL SEC. 17	B20	2,234' FEL & 2,335' FSL SEC. 17
B9	2,450' FWL & 2,335' FSL SEC. 17	B21	2,204' FEL & 2,335' FSL SEC. 17
B10	2,480' FWL & 2,335' FSL SEC. 17	B24	2,049' FEL & 2,335' FSL SEC. 17
B12	2,631' FWL & 2,335' FSL SEC. 17	B25	2,019' FEL & 2,335' FSL SEC. 17
B13	2,661' FWL & 2,335' FSL SEC. 17	B26	1,989' FEL & 2,335' FSL SEC. 17

WELL	FOOTAGE CALLS	WELL	FOOTAGE CALLS
C1	1,990' FWL & 2,220' FSL SEC. 17	C14	2,660' FEL & 2,220' FSL SEC. 17
C2	2,020' FWL & 2,220' FSL SEC. 17	C15	2,630' FEL & 2,220' FSL SEC. 17
C3	2,050' FWL & 2,220' FSL SEC. 17	C16	2,479' FEL & 2,220' FSL SEC. 17
C4	2,205' FWL & 2,220' FSL SEC. 17	C17	2,449' FEL & 2,220' FSL SEC. 17
C5	2,235' FWL & 2,220' FSL SEC. 17	C18	2,419' FEL & 2,220' FSL SEC. 17
C6	2,265' FWL & 2,220' FSL SEC. 17	C19	2,264' FEL & 2,220' FSL SEC. 17
C7	2,295' FWL & 2,220' FSL SEC. 17	C20	2,234' FEL & 2,220' FSL SEC. 17
C8	2,420' FWL & 2,220' FSL SEC. 17	C21	2,204' FEL & 2,220' FSL SEC. 17
C9	2,450' FWL & 2,220' FSL SEC. 17	C22	2,174' FEL & 2,220' FSL SEC. 17
C10	2,480' FWL & 2,220' FSL SEC. 17	C24	2,049' FEL & 2,220' FSL SEC. 17
C11	2,510' FWL & 2,220' FSL SEC. 17	C25	2,019' FEL & 2,220' FSL SEC. 17
C12	2,631' FWL & 2,220' FSL SEC. 17	C26	1,989' FEL & 2,220' FSL SEC. 17
C13	2,661' FWL & 2,220' FSL SEC. 17		

WELL	FOOTAGE CALLS	WELL	FOOTAGE CALLS
D1	1,990' FWL & 2,105' FSL SEC. 17	D14	2,661' FEL & 2,105' FSL SEC. 17
D2	2,020' FWL & 2,105' FSL SEC. 17	D15	2,631' FEL & 2,105' FSL SEC. 17
D3	2,050' FWL & 2,105' FSL SEC. 17	D16	2,480' FEL & 2,105' FSL SEC. 17
D4	2,205' FWL & 2,105' FSL SEC. 17	D17	2,450' FEL & 2,105' FSL SEC. 17
D5	2,235' FWL & 2,105' FSL SEC. 17	D18	2,420' FEL & 2,105' FSL SEC. 17
D6	2,265' FWL & 2,105' FSL SEC. 17	D19	2,265' FEL & 2,105' FSL SEC. 17
D8	2,420' FWL & 2,105' FSL SEC. 17	D20	2,235' FEL & 2,105' FSL SEC. 17
D9	2,450' FWL & 2,105' FSL SEC. 17	D21	2,205' FEL & 2,105' FSL SEC. 17
D10	2,480' FWL & 2,105' FSL SEC. 17	D24	2,050' FEL & 2,105' FSL SEC. 17
D12	2,631' FWL & 2,105' FSL SEC. 17	D25	2,020' FEL & 2,105' FSL SEC. 17
D13	2,661' FWL & 2,105' FSL SEC. 17	D26	1,990' FEL & 2,105' FSL SEC. 17

WELL	FOOTAGE CALLS	WELL	FOOTAGE CALLS
E8	2,430' FWL & 2,040' FSL SEC. 17	F14	2,661' FEL & 1,990' FSL SEC. 17
F1	1,990' FWL & 1,990' FSL SEC. 17	F15	2,631' FEL & 1,990' FSL SEC. 17
F2	2,015' FWL & 1,990' FSL SEC. 17	F16	2,480' FEL & 1,990' FSL SEC. 17
F3	2,040' FWL & 1,990' FSL SEC. 17	F17	2,450' FEL & 1,990' FSL SEC. 17
F4	2,205' FWL & 1,990' FSL SEC. 17	F18	2,420' FEL & 1,990' FSL SEC. 17
F5	2,235' FWL & 1,990' FSL SEC. 17	F19	2,265' FEL & 1,990' FSL SEC. 17
F6	2,265' FWL & 1,990' FSL SEC. 17	F20	2,235' FEL & 1,990' FSL SEC. 17
F8	2,420' FWL & 1,990' FSL SEC. 17	F21	2,205' FEL & 1,990' FSL SEC. 17
F9	2,450' FWL & 1,990' FSL SEC. 17	F22	2,175' FEL & 1,990' FSL SEC. 17
F10	2,480' FWL & 1,990' FSL SEC. 17	F24	2,050' FEL & 1,990' FSL SEC. 17
F12	2,631' FWL & 1,990' FSL SEC. 17	F25	2,020' FEL & 1,990' FSL SEC. 17
F13	2,661' FWL & 1,990' FSL SEC. 17	F26	1,990' FEL & 1,990' FSL SEC. 17

GENERAL NOTES

1. BEARINGS AND COORDINATES SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983. DISTANCES ARE SURFACE VALUES.
2. LATITUDE AND LONGITUDE VALUES SHOWN HEREON ARE RELATIVE TO THE NORTH AMERICAN DATUM (NAD83).

I, MARK DILLON HARP, NEW MEXICO PROFESSIONAL SURVEYOR NO. 23786, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO, AND THAT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

MARK DILLON HARP
REGISTERED PROFESSIONAL LAND SURVEYOR
STATE OF NEW MEXICO NO. 23786

MARK DILLON HARP NEW MEXICO 23786 PROFESSIONAL SURVEYOR

EXHIBIT OF:
OVERALL PAD LAYOUT FOR:
XTO PERMIAN OPERATING, LLC.
JAMES RANCH UNIT DI 11
SITUATED IN SECTION 17
TOWNSHIP 22 SOUTH, RANGE 30 EAST,
NEW MEXICO PRIME MERIDIAN,
EDDY COUNTY, NEW MEXICO

FBC INC SURVEYORS+ENGINEERS
550 Bailey Ave., 205 - Fort Worth, TX 76107
Ph: 817.349.9800 - Fax: 979.732.5271
TBPE Firm 17957 | TBPLS Firm 10193887
www.fbcinc.net

DATE:	06-06-2019	PROJECT NO:	2017111945
DRAWN BY:	AW	SCALE:	1" = 200'
CHECKED BY:	DH	SHEET:	2 OF 2
FIELD CREW:		REVISION:	4

P:\PROJECTS\2017\2017111945-XTO-JAMES_RANCH_UNIT_DI_11-EDDY\DWG\EXHIBITS\OVERALL_LAYOUT\2017111945-XTO-JAMES_RANCH_UNIT_DI_11_OVERALL_LAYOUT_STAKING_REQUEST.dwg, 6/6/2019 10:29:10 AM, Adobe PDF

Well Site Locations

The James Ranch Unit DI 11 Program will develop economic quantities of oil and gas in the James Ranch Unit with multiple primary formations targeted. Well locations are determined based on cross-section variations and details. Locations will be selected to minimize the likelihood of encountering faults and/or drilling hazards while still targeting suitably productive zones.

If drilling results in an unproductive well, the well will be plugged and abandoned as soon as practical after the conclusion of production testing. Productive wells may be shut-in temporarily for BLM authorization for production activities and facilities.

Surface Use Plan

1. **Existing Roads**
   A. The James Ranch Unit DI 11 is accessed from the intersection of Potash Mines Road (State Rd. 31) and Cimarron Road. Go East on Cimarron Road approximately 4.2 miles to and arriving at the proposed road, the location is to the Southwest. Transportation Plan identifying existing roads that will be used to access the project area is included from Frank's Surveying marked as, 'Vicinity Map.'
   B. There are existing access roads to the proposed James Ranch Unit 11 well locations. All equipment and vehicles will be confined to the routes shown on the Vicinity Map as provided by FSC, Inc. Maintenance of the access roads will continue until abandonment and reclamation of the well pads is completed.

2. **New or Upgraded Access Roads**
   A. **New Roads**. 7559.18' of new road will be necessary to access the James Ranch Unit DI 11 location.
   B. **Well Pads**. The well pads selected for development will determine which existing roads will be upgraded and which new roads will be built. The lease flow diagram shows the location of proposed roads that will need to be constructed to access the well pads.
   C. **Anticipated Traffic**. After well completion, travel to each well site will included one lease operator truck and two oil trucks per day until the Central Tank Battery is completed. Upon completion of the Central Tank Battery, one lease operator truck will continue to travel to each well site to monitor the working order of the wells and to check well equipment for proper operation. Two oil trucks will continue to travel to the Central Tank Battery only for oil hauling. Additional traffic will include one maintenance truck periodically throughout the year for pad upkeep and weed removal. Well service trips will include only the traffic necessary to work on the wells or provide chemical treatments periodically and as needed throughout the year.
   D. **Routing**. All equipment and vehicles will be confined to the travel routes laid out in the vicinity map provided by FSC, Inc. unless otherwise approved by the BLM and applied for by XTO Permian Operating, LLC.
   E. **Road Dimensions**. The maximum width of the driving surface of new roads will be 30 feet. The roads will be crowned and ditched with a 2% slope from the tip of the crown to the edge of the driving surface. The ditches will be 1 foot deep with 3:1 slopes. The driving surface will be made of 6" rolled and compacted caliche.

Level Ground Section

F. **Surface Material**. Surface material will be native caliche. The average grade of all roads will be approximately 3%.
G. **Fence Cuts**: No.
H. **Fences**: No.
I. **Cattle Guards**: No.
J. **Turnouts**: No.
K. **Culverts**: No.
L. **Cuts and Fills**: Not significant.
M. **Topsoil**. Approximately 6 inches of topsoil (root zone) will be stripped from the proposed access road prior to any further construction activity. The topsoil that was stripped will be spread along the edge of the road and within the ditch. The topsoil will be seeded with the proper seed mix designated by the BLM.
N. **Maintenance**. The access road will be constructed and maintained as necessary to prevent soil erosion and accommodate all-weather traffic. The road will be crowned and ditched with water turnouts installed as necessary to provide for proper drainage along with access road route.
O. **Drainage**. The access road and associated drainage structures will be constructed and maintained in accordance with road guidelines contained in the joint BLM/USFS publication: Surface Operating Standards for Oil and Gas Exploration and Development, The Gold Book, Fourth Edition and/or BLM Manual Section 9113 concerning road construction standards on projects subject to federal jurisdiction.

3. Location of Existing Wells

A. See attached 1-mile radius well map.

4. Ancillary Facilities

A. **Ancillary Facilities**. No off-pad ancillary facilities are planned during the exploration phase including, but not limited to: campsites, airstrips or staging areas.

5. Location of Proposed Production Facilities

- **Production Facilities**. One 600' x 600' pad was staked with the BLM for construction and use as a Central Tank Battery (CTB). JRU DI 11 CTB is located in Section 16-T22S-R30E NMPM, Eddy County, New Mexico [Centerpoint: 1104'FWL & 1410'FNL-16-22S-30E]. A plat of the proposed CTB is attached. Only the area necessary to maintain the facility will be disturbed. A 3160-5 sundry notification will be submitted after construction with a site-security diagram and layout of the facility with associated equipment.
- **Flowlines**.
  James Ranch Unit DI 11 CTB 1: Eighty (80) 5601.56' buried 10" or less steel or poly flowlines with a maximum safety pressure rating of 1440psi (operating pressure: 750psi) are requested for the JRU DI11 CTB 1 for future production (oil, gas, water). Eighty (80) additional 5601.56' buried 10" or less steel flowlines with a maximum safety pressure rating of 1440psi (operating pressure: 750psi) are requested for the JRU DI 11 for gas lift. Total Flowlines to the Battery with this application: 160 buried. The anticipated width of the corridor to the CTB is anticipated to be 150' wide
- **Gas & Oil Pipeline**. A gas and oil purchaser has been identified and will be tasked with permitting and building to the JRU DI 11 CTB location.
- **Disposal Facilities**. Produced water will be piped from location to a disposal facility as needed. Once wells are drilled and completed, a 3160-5 sundry notification will be submitted to BLM in compliance with Onshore Order 7.
- **Flare**. There will be 1 flare associated with the JRU DI 11 project. The flare stack will be 50'x50' and will be located on the JRU DI 11 CTB. Both will be sized and rated based on anticipated reserves and recovery of gas throughout the development area with 150' of distance between all facility equipment, road and well pad locations for safety purposes.

- **Aboveground Structures**. All permanent (on site six months or longer) aboveground structures constructed or installed on location and not subject to safety requirements will be painted earth-tone colors such as 'shale green' that reduce the visual impacts of the built environment.
- **Containment Berms**. Containment berms will be constructed completely around any production facilities designed to hold fluids. The containment berms will be constructed of compacted subsoil, be sufficiently impervious, hold 1 ½ times the capacity of the largest tank and away from cut or fill areas.
- **Electrical**. All electrical poles and lines will be run in proposed lease road corridors. All lines will be primary 12,740 volt to properly run expected production equipment. 5,996.95' of electrical will be run from the anticipated tie-in point with a request for 30' ROW construction and maintenance buffer. This distance is a max. approximation and may vary based on lease road corridors, varying elevations and terrain in the area. A plat of the proposed electrical is attached.

Copy This for APD. Removed from .pdf APD Submission.

Production Facilities. One 600' x 600' pad was staked with the BLM for construction and use as a Central Tank Battery (CTB). JRU DI 11 CTB is located in Section 16-T22S-R30E NMPM, Eddy County, New Mexico [Centerpoint: 1104'FWL & 1410'FNL-16-22S-30E]. A plat of the proposed CTB is attached. Only the area necessary to maintain the facility will be disturbed. A 3160-5 sundry notification will be submitted after construction with a site-security diagram and layout of the facility with associated equipment. **Flowlines. James Ranch Unit DI 11 CTB 1**: Eighty (80) 5601.56' buried 10" or less steel or poly flowlines with a maximum safety pressure rating of 1440psi (operating pressure: 750psi) are requested for the JRU DI11 CTB 1 for future production (oil, gas, water). Eighty (80) additional 5601.56' buried 10" or less steel flowlines with a maximum safety pressure rating of 1440psi (operating pressure: 750psi) are requested for the JRU DI 11 for gas lift. Total Flowlines to the Battery with this application: 160 buried. The anticipated width of the corridor to the CTB is anticipated to be 150' wide. **Gas & Oil Pipeline**. A gas and oil purchaser has been identified and will be tasked with permitting and building to the JRU DI 11 CTB location. **Disposal Facilities**. Produced water will be piped from location to a disposal facility as needed. Once wells are drilled and completed, a 3160-5 sundry notification will be submitted to BLM in compliance with Onshore Order 7. **Flare**. There will be 1 flare associated with the JRU DI 11 project. The flare stack will be 50'x50' and will be located on the JRU DI 11 CTB. Both will be sized and rated based on anticipated reserves and recovery of gas throughout the development area with 150' of distance between all facility equipment, road and well pad locations for safety purposes. **Aboveground Structures**. All permanent (on site six months or longer) aboveground structures constructed or installed on location and not subject to safety requirements will be painted earth-tone colors such as 'shale green' that reduce the visual impacts of the built environment. **Containment Berms**. Containment berms will be constructed completely around any production facilities designed to hold fluids. The containment berms will be constructed of compacted subsoil, be sufficiently impervious, hold 1 ½ times the capacity of the largest tank and away from cut or fill areas. **Electrical**. All electrical poles and lines will be run in proposed lease road corridors. All lines will be primary 12,740 volt to properly run expected production equipment. 5,996.95' of electrical will be run from the anticipated tie-in point with a request for 30' ROW construction and maintenance buffer. This distance is a max. approximation and may vary based on lease road corridors, varying elevations and terrain in the area. A plat of the proposed electrical is attached.

1. **Location and Types of Water Supply**
   The well will be drilled using a combination of water mud systems as outlined in the Drilling Program. The water will be obtained from a 3rd party vendor and hauled to the existing frac pit in Section 7 by transport truck using the existing and proposed roads depicted in the attached exhibits. No water well will be drilled on the location.

   Water for drilling, completion and dust control will be purchased from the following company:
   Rockhouse Water

Water for drilling, completion and dust control will be supplied by Rockhouse Water for sale to XTO Permian Operating, LLC. from Section 13-T17S-R33E, Eddy County, New Mexico. In the event that Rockhouse Water does not have the appropriate water for XTO at time of drilling and completion from this location, then XTO water will come from with the location of the water being in Section 21-T23S-R30E, Eddy County, New Mexico.

Anticipated water usage for drilling includes an estimated 35,000 barrels of water to drill a horizontal well in a combination of fresh water and brine as detailed in the mud program in the drilling plans. These volumes are calculated for ~1.5bbls per foot of hole drilled with excess to accommodate any lost circulation or wash out that may occur. Actual water volumes used during operations will depend on the depth of the well, length of horizontal sections, and the losses that may occur during the operation.

Temporary water flowlines will be permitted via ROW approval letter and proper grants as-needed based on drilling and completion schedules as needed. Well completion is expected to require approximately 330,000 barrels of water per horizontal well. Actual water volumes used during operations will depend on the depth of the well and length of horizontal sections.

2. **Construction Activities**
    - Construction, reclamation, and/or routine maintenance will not be conducted during periods when the soil conditions for construction could lead to impacts to the surrounding environment, or when watershed damage is likely to occur as a result of these activities.
    - Any construction material that may be required for surfacing of the drill pad and access road will be from a contractor having a permitted source of materials within the general area. No construction materials will be removed from federal lands without prior approval from the appropriate surface management agency. All roads and well pads will be constructed of 6" rolled and compacted caliche.
    - Anticipated Caliche Locations:
        i. Pit 1: State Caliche Pit, Section 32-21S-31E
        ii. Pit 2: Private Caliche Pit, Section 16-23S-30E

3. **Methods for Handling Waste**
    - **Cuttings.** The well will be drilled utilizing a closed-loop mud system. Drill cuttings will be held in roll-off style mud boxes and taken to a New Mexico Oil Conservation Division (NMOCD) approved disposal site.
    - **Drilling Fluids.** These will be contained in steel mud pits and then taken to a NMOCD approved commercial disposal facility.
    - **Produced Fluids.** Water produced from the well during completion will be held temporarily in steel tanks and then taken to a NMOCD approved commercial disposal facility. Oil produced during operations will be stored in tanks until sold.
    - **Sewage.** Portable, self-contained toilets will be provided for human waste disposal. Upon completion of drilling and completion activities, or as required, the toilet holding tanks will be pumped and the contents thereof disposed of in an approved sewage disposal facility. All state and local laws and regulations pertaining to the disposal of human and solid waste will be complied with. This equipment will be properly maintained during the drilling and completion operations and will be removed when all operations are complete.
    - **Garbage and Other Waste Materials.** All garbage, junk and non-flammable waste materials will be contained in a self-contained, portable dumpster or trash cage, to prevent scattering and will be removed and deposited in an approve sanitary landfill. Immediately after drilling all debris and other waste materials on and around the well location not contained in the trash cage will be cleaned up and removed from the location. No potentially adverse materials or substances will be left on the location.

- **Debris**. Immediately after removal of the drilling rig, all debris and other waste materials not contained in the trash cage will be cleaned and removed from the well location. No potential adverse materials or substances will be left on location.
- **Hazardous Materials.**
    i. All drilling wastes identified as hazardous substances by the Comprehensive Environmental Response Compensation Liability Act (CERCLA) removed from the location and not reused at another drilling location will be disposed of at a hazardous waste facility approved by the U.S. Environmental Protection Agency (EPA).
    ii. XTO Permian Operating, LLC. and its contractors will comply with all applicable Federal, State and local laws and regulations, existing or hereafter enacted promulgated, with regard to any hazardous material, as defined in this paragraph, that will be used, produced, transported or stored on the oil and gas lease. "Hazardous material" means any substance, pollutant or contaminant that is listed as hazardous under the CERCLA of 1980, as amended, 42 U.S.C 9601 et seq., and its regulation. The definition of hazardous substances under CERLCA includes any 'hazardous waste" as defined in the RCRA of 1976, as amended, 42 U.S.C. 6901 et seq., and its regulations. The term hazardous material also includes any nuclear or nuclear by-product material as defined by the Atomic Energy Act of 1954, as amended, 42 U.C.S. 2011 et seq. The term does not include petroleum, including crude oil or any fraction thereof that is not otherwise specifically listed or designated as a hazardous substance under CERCLA Section 101 (14) U.S.C. 9601 (14) nor does the term include natural gas.
    iii. No hazardous substances or wastes will be stored on the location after completion of the well.
    iv. Chemicals brought to location will be on the Toxic Substance Control Act (TSCA) approved inventory list.
    v. All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in Notice to Lessees (NTL) 3A will be reported to the BLM Carlsbad Field Office. Major events will be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days.

4. Well Site Layout

A. **Rig Plat Diagrams**: There is 1 well pad in the James Ranch Unit DI 11 lease anticipated. This will allow enough space for cuts and fills and storm water control. Interim reclamation of these pads is anticipated after the drilling and completion of all wells on the pad. The well pad is anticipated to be: 510'x590' to support a minimum of 3 wells initially prior to constructing the rest of the wells anticipated for the drill island.
B. **Closed-Loop System**: There will be no reserve pit as each well will be drilled utilizing a closed loop mud system. The closed loop system will meet the NMOCD requirements 19.15.17.
C. **V-Door Orientation**: This well was staked with a V-Door orientation North.
D. A 600' x 600' area has been staked and flagged around the drill island. A plat for the well has been attached.
E. All equipment and vehicles will be confined to the approved disturbed areas of this APD (i.e., access road, well pad and topsoil storage areas).

5. Plans for Surface Reclamation:

No surface reclamation is planned for this well. XTO Permian Operating, LLC. requests a variance to interim reclamation until all wells on the drill island have been drilled and completed, at which time, to XTO Permian Operating, LLC will contact the appropriate BLM personnel to discuss appropriate interim reclamation plans. Surface Ownership.

A. The James Ranch Unit DI 11 surface project area is 100% of the surface is under the administrative jurisdiction of the New Mexico State Land Office.
B. The surface is multiple-use with the primary uses of the region for grazing and for the production of oil and gas.

12. **Other Information**

Drill Island

- **Drill Island.** The proposed drill island is requested as use for oil and gas operations inside of the Secretary's Order of Potash Area (SOPA). The island requested will be used for surface hole locations for wells productive of oil and gas with no surface hole planned outside of the boundary of the onsited and approved drill island. The total penetrable space of the drill island is: 1392'x630'. The well pad associated with the drill island is 1993'x930', overlapping the drillable area of 1392'x630', and will be used for well locations for wells productive of oil and gas with no surface hole planned outside of the boundary of the approved drill island.

  James Ranch Unit DI 11 Centerpoint: 2675' FEL & 2295' FSL, Sec. 17-22S-30E, NMPM, Eddy County, New Mexico

  The total size of the drill island is anticipated to be to: 1392'x630' or 20.14 acres.
  The total size of the well pad, including drill island space, will be: 1993'x930' or 42.55 acres.

  A current detailed plat of the drill island is attached depicting the anticipated wells on the island. Shallow and deep designation areas were determined post-onsite based on ¼ mile or ½ mile from the edge of the drill island to existing mine workings as depicted in BLM shape files.

  It was determined during the onsite that no surface disturbance will be associated off of the drill island to the North. However, pad overlap (not well penetrations) can extend over the South, West, and Eastern portions of the drill island for best management practices and to maximize the use of the drill island for oil and gas development. This area is anticipated to be 300' off of the drill island for drilling, completion, and long-term maintenance operations and corridors, including flowlines and OHE, to prevent infrastructure placement on the drill island.

  Topsoil will be stored in a 200'x1993' space along the South of the drill island and will be used for reclamation projects with approval of the BLM via 3160-5 sundry notice prior to being removed from stockpile.

- **Well Sites**. One (1) 1993'x930' well pad has been staked on the drill island, known as James Ranch Unit DI 11. Surveys of the drill island location have been completed by FSC, Inc., a registered professional land surveyor and are attached to this application. Center stake surveys with access roads have been completed on State lands with Jeffery Robertson, Bureau of Land Management Natural Resource Specialist, and the following individuals: Jim Rutley, Bureau of Land Management Geologist and Kyle Rybacki, Bureau of Land Management Cave/Karst specialist, in attendance. Well pads are allowed to fall off of the proposed edge of the drill island 300' to the South, West, and East while surface holes must remain on the drill island.
  - The wellbore paths will not leave the 1392'x630' drill island until the salt zone is cased and protected pursuant to NMOCD Order R-111-P.
  - A full list of XTO Permian Operating, LLC wells anticipated to be located on James Ranch Unit DI 11 is attached.
  - Approval of the drill island does not constitute approval to drill. An APD must be submitted and approved for each well located on the drill island prior to any surface disturbance or drilling activity.

- **Cultural Resources – Archaeology**: A third party archaeologist has conducted an archaeological survey of the drill island and surrounding area. A copy of the report has been submitted to the BLM.

- **Dwellings and Structures.** There are no dwellings or structures within 2 miles of this location.

Soils and Vegetation

- **Environmental Setting**. Soils are classified of Reeves soils. These soils are associated with the loamy ecological site which typically supports black and blue grama and tobosa grasslands with an even distribution of yucca, mesquite, American tarbush, cholla, and cresoste. The current vegetative community: none. The pad is caliche. No additional disturbance is necessary.

- **Traffic**. No truck traffic will be operated during periods or in areas of saturated ground when surface rutting could occur. The access road will be constructed and maintained as necessary to prevent soil erosion and accommodate all-weather traffic. The road will be crowned and ditched with water turnouts installed as necessary to provide for proper drainage along the access road route.

- **Water**. There is no permanent or live water in the immediate or within the project area.

13. Bond Coverage

Bond Coverage is Nationwide. Bond Number: COB000050

Operator's Representatives:

The XTO Permian Operating, LLC. representatives for ensuring compliance of the surface use plan are listed below:

Surface:

Jimie Scott
Construction Lead
XTO Energy, Incorporated
6401 Holiday Hill Road, Bldg 5
Midland, Texas 79707
432-488-9955
james_scott@xtoenergy.com

AFMSS

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

PWD Data Report

09/05/2019

APD ID: 10400040980 **Submission Date:** 04/23/2019

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: JRU DI 11 WHITLASH A **Well Number:** 108H

Well Type: OIL WELL **Well Work Type:** Drill

Section 1 - General

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

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

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

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: JRU DI 11 WHITLASH A **Well Number:** 108H

Lined pit Monitor description:

Lined pit Monitor attachment:

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

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

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

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

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

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

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

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

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

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: JRU DI 11 WHITLASH A **Well Number:** 108H

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

Section 4 - Injection

Would you like to utilize Injection PWD options? NO

Produced Water Disposal (PWD) Location:

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

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

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

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

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection attachment:

Underground Injection Control (UIC) Permit?

UIC Permit attachment:

Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? NO

Produced Water Disposal (PWD) Location:

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

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 - Other

Would you like to utilize Other PWD options? NO

Produced Water Disposal (PWD) Location:

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

Other PWD discharge volume (bbl/day):

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: JRU DI 11 WHITLASH A **Well Number:** 108H

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:

AFMSS

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

Bond Info Data Report

09/05/2019

APD ID: 10400040980

Submission Date: 04/23/2019

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: JRU DI 11 WHITLASH A

Well Number: 108H

Well Type: OIL WELL

Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

Bond Information

Federal/Indian APD: FED

BLM Bond number: COB000050

BIA Bond number:

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond attachment:

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment:

XTO ENERGY

XTO Energy

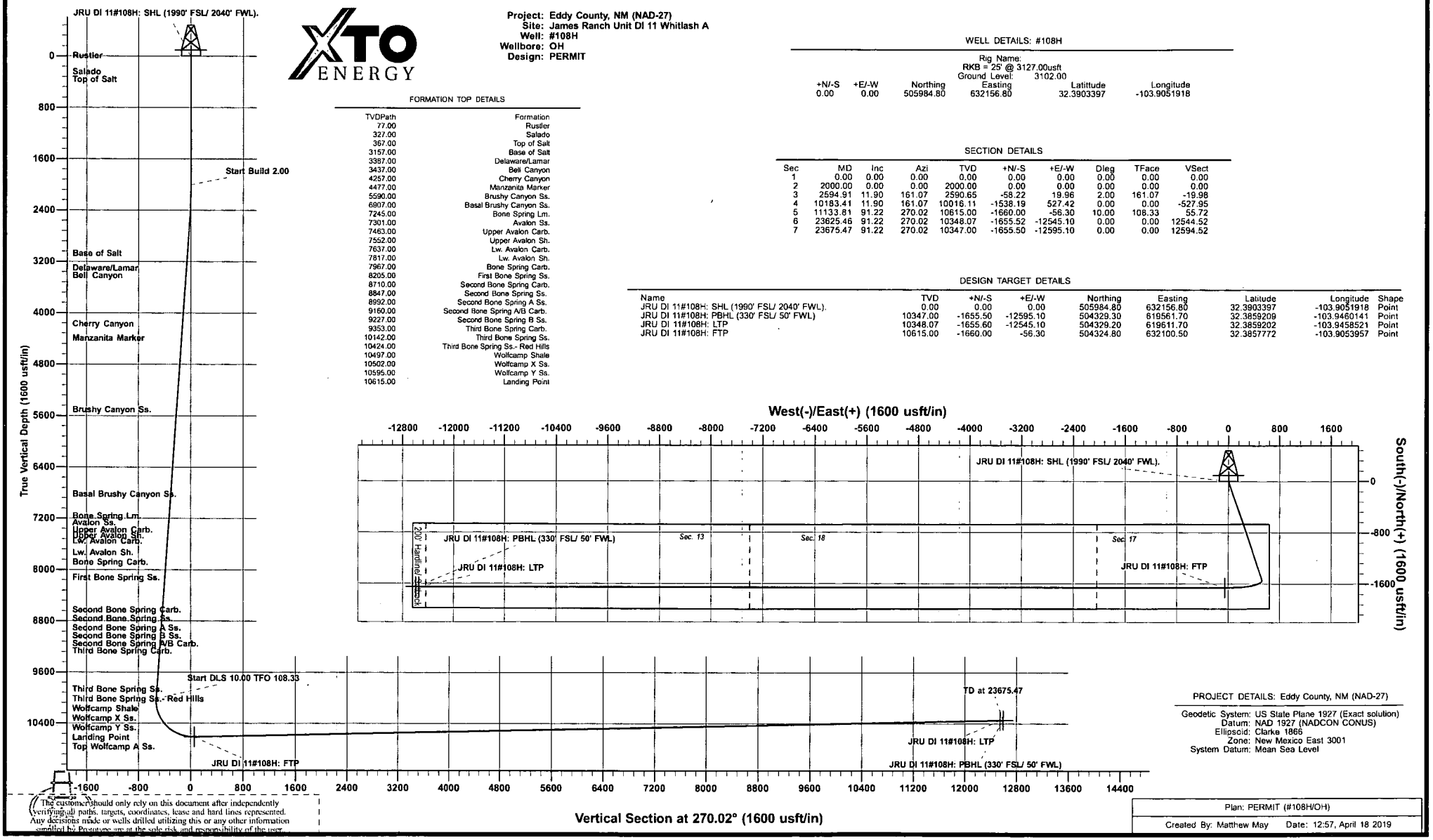
Eddy County, NM (NAD-27)
James Ranch Unit DI 11 Whitlash A
#108H

OH

Plan: PERMIT

Standard Planning Report

18 April, 2019



Project: Eddy County, NM (NAD-27)
Site: James Ranch Unit DI 11 Whitlash A
Well: #108H
Wellbore: OH
Design: PERMIT

FORMATION TOP DETAILS

TVDPath	Formation
77.00	Rustler
327.00	Salado
367.00	Top of Salt
3157.00	Base of Salt
3387.00	Delaware/Lamar
3437.00	Bell Canyon
4257.00	Cherry Canyon
4477.00	Manzanita Marker
5590.00	Brushy Canyon Ss.
6807.00	Basal Brushy Canyon Ss.
7245.00	Bone Spring Lm.
7301.00	Avalon Ss.
7463.00	Upper Avalon Carb.
7552.00	Upper Avalon Sh.
7637.00	Lw. Avalon Carb.
7817.00	Lw. Avalon Sh.
7967.00	Bone Spring Carb.
8205.00	First Bone Spring Ss.
8710.00	Second Bone Spring Carb.
8847.00	Second Bone Spring Ss.
8992.00	Second Bone Spring A Ss.
9160.00	Second Bone Spring A/B Carb.
9227.00	Second Bone Spring B Ss.
9353.00	Third Bone Spring Carb.
10142.00	Third Bone Spring Ss.
10424.00	Third Bone Spring Ss.- Red Hills
10497.00	Wolfcamp Shale
10502.00	Wolfcamp X Ss.
10595.00	Wolfcamp Y Ss.
10615.00	Landing Point

WELL DETAILS: #108H

Rig Name:
RKB = 25' @ 3127.00usft
Ground Level: 3102.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	505984.80	632156.80	32.3903397	-103.9051918

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	0.00
3	2594.91	11.90	161.07	2590.65	-58.22	19.96	2.00	161.07	-19.98
4	10183.41	11.90	161.07	10016.11	-1538.19	527.42	0.00	0.00	-527.95
5	11133.81	91.22	270.02	10615.00	-1660.00	-56.30	10.00	108.33	55.72
6	23625.46	91.22	270.02	10348.07	-1655.52	-12545.10	0.00	0.00	12544.52
7	23675.47	91.22	270.02	10347.00	-1655.50	-12595.10	0.00	0.00	12594.52

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
JRU DI 11#108H: SHL (1990' FSL/ 2040' FWL).	0.00	0.00	0.00	505984.80	632156.80	32.3903397	-103.9051918	Point
JRU DI 11#108H: PBHL (330' FSL/ 50' FWL)	10347.00	-1655.50	-12595.10	504329.30	619561.70	32.3859209	-103.9460141	Point
JRU DI 11#108H: LTP	10348.07	-1655.60	-12545.10	504329.20	619611.70	32.3859202	-103.9458521	Point
JRU DI 11#108H: FTP	10615.00	-1660.00	-56.30	504324.80	632100.50	32.3857772	-103.9053957	Point

PROJECT DETAILS: Eddy County, NM (NAD-27)

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level

Plan: PERMIT (#108H/OH)
Created By: Matthew May Date: 12:57, April 18 2019

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

RECEIVED
SEP 06 2019
DISTRICT II-ARTESIA O.C.D.

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

[1] API Number	[2] Pool Code	[3] Pool Name
30-015-		

[4] Property Code	[5] Property Name	[6] Well Number
	JRU DI 11 WHITLASH A	108H

[7] OGRID No.	[8] Operator Name	[9] Elevation
260737	XTO PERMIAN OPERATING, LLC.	3,102'

[10] Surface Location

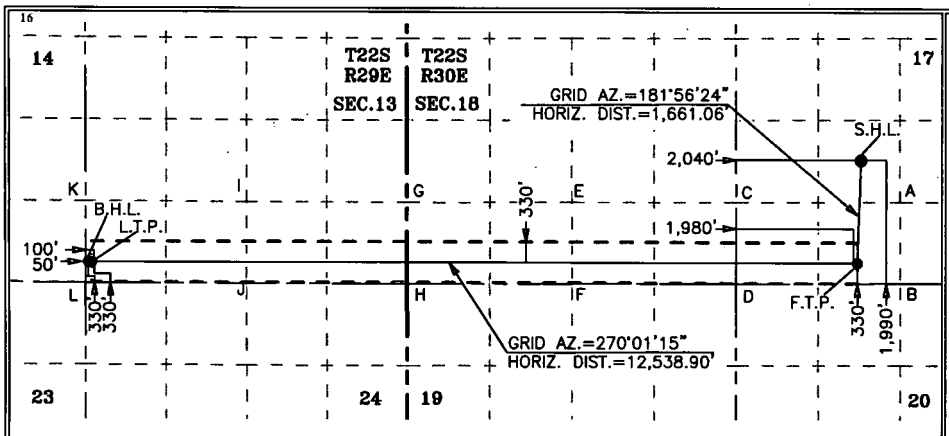
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
K	17	22S	30 E		1,990	SOUTH	2,040	WEST	EDDY

[11] 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
M	13	22 S	29 E		330	SOUTH	50	WEST	EDDY

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] 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.



CORNER COORDINATES TABLE
NAD 27 NME

A	Y= 505,315.5 N,	X= 632,795.5 E
B	Y= 503,996.5 N,	X= 632,800.0 E
C	Y= 505,308.8 N,	X= 630,118.4 E
D	Y= 503,989.8 N,	X= 630,121.2 E
E	Y= 505,305.2 N,	X= 627,441.2 E
F	Y= 503,986.2 N,	X= 627,444.6 E
G	Y= 505,301.6 N,	X= 624,753.5 E
H	Y= 503,982.7 N,	X= 624,758.1 E
I	Y= 505,309.6 N,	X= 622,132.5 E
J	Y= 503,991.1 N,	X= 622,135.0 E
K	Y= 505,317.7 N,	X= 619,511.5 E
L	Y= 503,999.5 N,	X= 619,511.7 E

CORNER COORDINATES TABLE
NAD 83 NME

A	Y= 505,375.8 N,	X= 673,977.1 E
B	Y= 504,056.8 N,	X= 673,981.7 E
C	Y= 505,369.1 N,	X= 671,300.0 E
D	Y= 504,050.1 N,	X= 671,302.9 E
E	Y= 505,365.5 N,	X= 668,622.8 E
F	Y= 504,046.5 N,	X= 668,626.3 E
G	Y= 505,361.9 N,	X= 665,935.1 E
H	Y= 504,043.0 N,	X= 665,939.8 E
I	Y= 505,370.0 N,	X= 663,314.1 E
J	Y= 504,051.4 N,	X= 663,316.6 E
K	Y= 505,378.1 N,	X= 660,693.1 E
L	Y= 504,059.8 N,	X= 660,693.3 E

GEODETIC COORDINATES
NAD 27 NME
SURFACE LOCATION
Y= 505,984.8
X= 632,156.8
LAT.= 32.390340°N
LONG.= 103.905192°W

LAST TAKE POINT
NAD 27 NME
Y= 504,329.2
X= 619,611.7
LAT.= 32.385920°N
LONG.= 103.945852°W

GEODETIC COORDINATES
NAD 83 NME
SURFACE LOCATION
Y= 506,045.2
X= 673,338.4
LAT.= 32.390461°N
LONG.= 103.905687°W

LAST TAKE POINT
NAD 83 NME
Y= 504,389.5
X= 660,793.3
LAT.= 32.386041°N
LONG.= 103.946348°W

FIRST TAKE POINT
NAD 27 NME
Y= 504,324.8
X= 632,100.5
LAT.= 32.385777°N
LONG.= 103.905396°W

BOTTOM HOLE LOCATION
NAD 27 NME
Y= 504,329.3
X= 619,561.7
LAT.= 32.385921°N
LONG.= 103.946014°W

FIRST TAKE POINT
NAD 83 NME
Y= 504,385.1
X= 673,282.2
LAT.= 32.385899°N
LONG.= 103.905891°W

BOTTOM HOLE LOCATION
NAD 83 NME
Y= 504,389.6
X= 660,743.3
LAT.= 32.386042°N
LONG.= 103.946510°W

[17] OPERATOR CERTIFICATION

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.

Signature Date

Printed Name

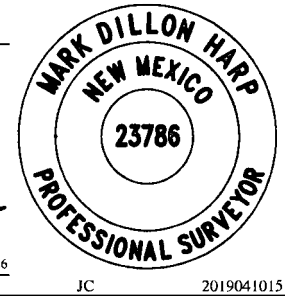
E-mail Address

[18] SURVEYOR CERTIFICATION

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.

4-18-2019
Date of Survey

Signatue and Seal of Professional Surveyor:



MARK DILLON HARP 23786
Certificate Number

JC 2019041015

XTO ENERGY

Planning Report

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #108H
Company:	XTO Energy	**TVD Reference:**	RKB = 25' @ 3127.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 25' @ 3127.00usft
Site:	James Ranch Unit DI 11 Whitlash A	**North Reference:**	Grid
Well:	#108H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

Project Eddy County, NM (NAD-27)

Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site James Ranch Unit DI 11 Whitlash A

Site Position:		**Northing:**	505,984.80 usft	**Latitude:**	32.3903397
From:	Map	**Easting:**	632,156.80 usft	**Longitude:**	-103.9051918
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.23 °

Well #108H

Well Position	**+N/-S**	0.00 usft	**Northing:**	505,984.80 usft	**Latitude:**	32.3903397
	+E/-W	0.00 usft	**Easting:**	632,156.80 usft	**Longitude:**	-103.9051918
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	0.00 usft	**Ground Level:**	3,102.00 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	04/18/19	6.92	60.14	47,815

Design PERMIT

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00
Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**	
	0.00	0.00	0.00	270.02	

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,594.91	11.90	161.07	2,590.65	-58.22	19.96	2.00	2.00	0.00	161.07	
10,183.41	11.90	161.07	10,016.11	-1,538.19	527.42	0.00	0.00	0.00	0.00	
11,133.81	91.22	270.02	10,615.00	-1,660.00	-56.30	10.00	8.35	11.46	108.33	JRU DI 11#108H: F
23,625.46	91.22	270.02	10,348.07	-1,655.52	-12,545.10	0.00	0.00	0.00	0.00	JRU DI 11#108H: L
23,675.47	91.22	270.02	10,347.00	-1,655.50	-12,595.10	0.00	0.00	0.00	0.00	JRU DI 11#108H: P

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #108H
Company:	XTO Energy	**TVD Reference:**	RKB = 25' @ 3127.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 25' @ 3127.00usft
Site:	James Ranch Unit DI 11 Whitlash A	**North Reference:**	Grid
Well:	#108H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	2.00	161.07	2,099.98	-1.65	0.57	-0.57	2.00	2.00	0.00
2,200.00	4.00	161.07	2,199.84	-6.60	2.26	-2.27	2.00	2.00	0.00
2,300.00	6.00	161.07	2,299.45	-14.85	5.09	-5.10	2.00	2.00	0.00
2,400.00	8.00	161.07	2,398.70	-26.37	9.04	-9.05	2.00	2.00	0.00
2,500.00	10.00	161.07	2,497.47	-41.17	14.12	-14.13	2.00	2.00	0.00
2,594.91	11.90	161.07	2,590.65	-58.22	19.96	-19.98	2.00	2.00	0.00
2,600.00	11.90	161.07	2,595.62	-59.21	20.30	-20.32	0.00	0.00	0.00
2,700.00	11.90	161.07	2,693.48	-78.72	26.99	-27.02	0.00	0.00	0.00
2,800.00	11.90	161.07	2,791.33	-98.22	33.68	-33.71	0.00	0.00	0.00
2,900.00	11.90	161.07	2,889.18	-117.72	40.36	-40.41	0.00	0.00	0.00
3,000.00	11.90	161.07	2,987.03	-137.23	47.05	-47.10	0.00	0.00	0.00
3,100.00	11.90	161.07	3,084.88	-156.73	53.74	-53.79	0.00	0.00	0.00
3,200.00	11.90	161.07	3,182.73	-176.23	60.43	-60.49	0.00	0.00	0.00
3,300.00	11.90	161.07	3,280.58	-195.73	67.11	-67.18	0.00	0.00	0.00
3,400.00	11.90	161.07	3,378.44	-215.24	73.80	-73.88	0.00	0.00	0.00
3,500.00	11.90	161.07	3,476.29	-234.74	80.49	-80.57	0.00	0.00	0.00
3,600.00	11.90	161.07	3,574.14	-254.24	87.17	-87.26	0.00	0.00	0.00
3,700.00	11.90	161.07	3,671.99	-273.75	93.86	-93.96	0.00	0.00	0.00
3,800.00	11.90	161.07	3,769.84	-293.25	100.55	-100.65	0.00	0.00	0.00
3,900.00	11.90	161.07	3,867.69	-312.75	107.24	-107.35	0.00	0.00	0.00
4,000.00	11.90	161.07	3,965.55	-332.25	113.92	-114.04	0.00	0.00	0.00
4,100.00	11.90	161.07	4,063.40	-351.76	120.61	-120.73	0.00	0.00	0.00
4,200.00	11.90	161.07	4,161.25	-371.26	127.30	-127.43	0.00	0.00	0.00
4,300.00	11.90	161.07	4,259.10	-390.76	133.98	-134.12	0.00	0.00	0.00
4,400.00	11.90	161.07	4,356.95	-410.27	140.67	-140.82	0.00	0.00	0.00
4,500.00	11.90	161.07	4,454.80	-429.77	147.36	-147.51	0.00	0.00	0.00
4,600.00	11.90	161.07	4,552.65	-449.27	154.05	-154.20	0.00	0.00	0.00
4,700.00	11.90	161.07	4,650.51	-468.77	160.73	-160.90	0.00	0.00	0.00
4,800.00	11.90	161.07	4,748.36	-488.28	167.42	-167.59	0.00	0.00	0.00
4,900.00	11.90	161.07	4,846.21	-507.78	174.11	-174.29	0.00	0.00	0.00
5,000.00	11.90	161.07	4,944.06	-527.28	180.80	-180.98	0.00	0.00	0.00
5,100.00	11.90	161.07	5,041.91	-546.78	187.48	-187.67	0.00	0.00	0.00
5,200.00	11.90	161.07	5,139.76	-566.29	194.17	-194.37	0.00	0.00	0.00

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #108H
Company:	XTO Energy	**TVD Reference:**	RKB = 25' @ 3127.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 25' @ 3127.00usft
Site:	James Ranch Unit DI 11 Whitlash A	**North Reference:**	Grid
Well:	#108H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,300.00	11.90	161.07	5,237.62	-585.79	200.86	-201.06	0.00	0.00	0.00
5,400.00	11.90	161.07	5,335.47	-605.29	207.54	-207.75	0.00	0.00	0.00
5,500.00	11.90	161.07	5,433.32	-624.80	214.23	-214.45	0.00	0.00	0.00
5,600.00	11.90	161.07	5,531.17	-644.30	220.92	-221.14	0.00	0.00	0.00
5,700.00	11.90	161.07	5,629.02	-663.80	227.61	-227.84	0.00	0.00	0.00
5,800.00	11.90	161.07	5,726.87	-683.30	234.29	-234.53	0.00	0.00	0.00
5,900.00	11.90	161.07	5,824.72	-702.81	240.98	-241.22	0.00	0.00	0.00
6,000.00	11.90	161.07	5,922.58	-722.31	247.67	-247.92	0.00	0.00	0.00
6,100.00	11.90	161.07	6,020.43	-741.81	254.35	-254.61	0.00	0.00	0.00
6,200.00	11.90	161.07	6,118.28	-761.32	261.04	-261.31	0.00	0.00	0.00
6,300.00	11.90	161.07	6,216.13	-780.82	267.73	-268.00	0.00	0.00	0.00
6,400.00	11.90	161.07	6,313.98	-800.32	274.42	-274.69	0.00	0.00	0.00
6,500.00	11.90	161.07	6,411.83	-819.82	281.10	-281.39	0.00	0.00	0.00
6,600.00	11.90	161.07	6,509.69	-839.33	287.79	-288.08	0.00	0.00	0.00
6,700.00	11.90	161.07	6,607.54	-858.83	294.48	-294.78	0.00	0.00	0.00
6,800.00	11.90	161.07	6,705.39	-878.33	301.16	-301.47	0.00	0.00	0.00
6,900.00	11.90	161.07	6,803.24	-897.84	307.85	-308.16	0.00	0.00	0.00
7,000.00	11.90	161.07	6,901.09	-917.34	314.54	-314.86	0.00	0.00	0.00
7,100.00	11.90	161.07	6,998.94	-936.84	321.23	-321.55	0.00	0.00	0.00
7,200.00	11.90	161.07	7,096.79	-956.34	327.91	-328.25	0.00	0.00	0.00
7,300.00	11.90	161.07	7,194.65	-975.85	334.60	-334.94	0.00	0.00	0.00
7,400.00	11.90	161.07	7,292.50	-995.35	341.29	-341.63	0.00	0.00	0.00
7,500.00	11.90	161.07	7,390.35	-1,014.85	347.97	-348.33	0.00	0.00	0.00
7,600.00	11.90	161.07	7,488.20	-1,034.36	354.66	-355.02	0.00	0.00	0.00
7,700.00	11.90	161.07	7,586.05	-1,053.86	361.35	-361.72	0.00	0.00	0.00
7,800.00	11.90	161.07	7,683.90	-1,073.36	368.04	-368.41	0.00	0.00	0.00
7,900.00	11.90	161.07	7,781.76	-1,092.86	374.72	-375.10	0.00	0.00	0.00
8,000.00	11.90	161.07	7,879.61	-1,112.37	381.41	-381.80	0.00	0.00	0.00
8,100.00	11.90	161.07	7,977.46	-1,131.87	388.10	-388.49	0.00	0.00	0.00
8,200.00	11.90	161.07	8,075.31	-1,151.37	394.78	-395.19	0.00	0.00	0.00
8,300.00	11.90	161.07	8,173.16	-1,170.88	401.47	-401.88	0.00	0.00	0.00
8,400.00	11.90	161.07	8,271.01	-1,190.38	408.16	-408.57	0.00	0.00	0.00
8,500.00	11.90	161.07	8,368.86	-1,209.88	414.85	-415.27	0.00	0.00	0.00
8,600.00	11.90	161.07	8,466.72	-1,229.38	421.53	-421.96	0.00	0.00	0.00
8,700.00	11.90	161.07	8,564.57	-1,248.89	428.22	-428.66	0.00	0.00	0.00
8,800.00	11.90	161.07	8,662.42	-1,268.39	434.91	-435.35	0.00	0.00	0.00
8,900.00	11.90	161.07	8,760.27	-1,287.89	441.59	-442.04	0.00	0.00	0.00
9,000.00	11.90	161.07	8,858.12	-1,307.40	448.28	-448.74	0.00	0.00	0.00
9,100.00	11.90	161.07	8,955.97	-1,326.90	454.97	-455.43	0.00	0.00	0.00
9,200.00	11.90	161.07	9,053.83	-1,346.40	461.66	-462.13	0.00	0.00	0.00
9,300.00	11.90	161.07	9,151.68	-1,365.90	468.34	-468.82	0.00	0.00	0.00
9,400.00	11.90	161.07	9,249.53	-1,385.41	475.03	-475.51	0.00	0.00	0.00
9,500.00	11.90	161.07	9,347.38	-1,404.91	481.72	-482.21	0.00	0.00	0.00
9,600.00	11.90	161.07	9,445.23	-1,424.41	488.40	-488.90	0.00	0.00	0.00
9,700.00	11.90	161.07	9,543.08	-1,443.92	495.09	-495.60	0.00	0.00	0.00
9,800.00	11.90	161.07	9,640.93	-1,463.42	501.78	-502.29	0.00	0.00	0.00
9,900.00	11.90	161.07	9,738.79	-1,482.92	508.47	-508.98	0.00	0.00	0.00
10,000.00	11.90	161.07	9,836.64	-1,502.42	515.15	-515.68	0.00	0.00	0.00
10,100.00	11.90	161.07	9,934.49	-1,521.93	521.84	-522.37	0.00	0.00	0.00
10,183.41	11.90	161.07	10,016.11	-1,538.19	527.42	-527.95	0.00	0.00	0.00
10,200.00	11.48	169.01	10,032.35	-1,541.43	528.29	-528.83	10.00	-2.50	47.83
10,250.00	11.64	194.13	10,081.37	-1,551.22	528.00	-528.55	10.00	0.31	50.26
10,300.00	13.73	215.00	10,130.17	-1,560.97	523.37	-523.91	10.00	4.18	41.73
10,350.00	17.05	229.19	10,178.39	-1,570.63	514.41	-514.96	10.00	6.65	28.37

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #108H
Company:	XTO Energy	**TVD Reference:**	RKB = 25' @ 3127.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 25' @ 3127.00usft
Site:	James Ranch Unit DI 11 Whitlash A	**North Reference:**	Grid
Well:	#108H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,400.00	21.04	238.51	10,225.65	-1,580.12	501.20	-501.75	10.00	7.96	18.65
10,450.00	25.37	244.88	10,271.61	-1,589.36	483.84	-484.39	10.00	8.66	12.74
10,500.00	29.90	249.46	10,315.90	-1,598.28	462.46	-463.02	10.00	9.06	9.16
10,550.00	34.55	252.92	10,358.19	-1,606.82	437.22	-437.78	10.00	9.30	6.92
10,600.00	39.27	255.65	10,398.16	-1,614.91	408.32	-408.88	10.00	9.45	5.45
10,650.00	44.05	257.87	10,435.51	-1,622.49	375.98	-376.54	10.00	9.56	4.44
10,700.00	48.86	259.74	10,469.95	-1,629.50	340.43	-341.00	10.00	9.63	3.73
10,750.00	53.70	261.35	10,501.21	-1,635.89	301.96	-302.53	10.00	9.68	3.22
10,800.00	58.56	262.77	10,529.07	-1,641.61	260.86	-261.43	10.00	9.72	2.84
10,850.00	63.43	264.05	10,553.30	-1,646.62	217.43	-218.00	10.00	9.75	2.56
10,900.00	68.32	265.23	10,573.73	-1,650.87	172.01	-172.58	10.00	9.77	2.35
10,950.00	73.21	266.32	10,590.20	-1,654.34	124.94	-125.52	10.00	9.78	2.20
11,000.00	78.11	267.37	10,602.58	-1,657.00	76.59	-77.17	10.00	9.79	2.09
11,050.00	83.01	268.37	10,610.79	-1,658.83	27.32	-27.90	10.00	9.80	2.01
11,100.00	87.91	269.36	10,614.74	-1,659.82	-22.50	21.92	10.00	9.81	1.97
11,133.81	91.22	270.02	10,615.00	-1,660.00	-56.30	55.72	10.00	9.81	1.96
11,200.00	91.22	270.02	10,613.59	-1,659.98	-122.48	121.90	0.00	0.00	0.00
11,300.00	91.22	270.02	10,611.45	-1,659.94	-222.46	221.88	0.00	0.00	0.00
11,400.00	91.22	270.02	10,609.31	-1,659.90	-322.43	321.85	0.00	0.00	0.00
11,500.00	91.22	270.02	10,607.18	-1,659.87	-422.41	421.83	0.00	0.00	0.00
11,600.00	91.22	270.02	10,605.04	-1,659.83	-522.39	521.81	0.00	0.00	0.00
11,700.00	91.22	270.02	10,602.90	-1,659.80	-622.36	621.79	0.00	0.00	0.00
11,800.00	91.22	270.02	10,600.76	-1,659.76	-722.34	721.76	0.00	0.00	0.00
11,900.00	91.22	270.02	10,598.63	-1,659.73	-822.32	821.74	0.00	0.00	0.00
12,000.00	91.22	270.02	10,596.49	-1,659.69	-922.30	921.72	0.00	0.00	0.00
12,100.00	91.22	270.02	10,594.35	-1,659.65	-1,022.27	1,021.69	0.00	0.00	0.00
12,200.00	91.22	270.02	10,592.22	-1,659.62	-1,122.25	1,121.67	0.00	0.00	0.00
12,300.00	91.22	270.02	10,590.08	-1,659.58	-1,222.23	1,221.65	0.00	0.00	0.00
12,400.00	91.22	270.02	10,587.94	-1,659.55	-1,322.20	1,321.63	0.00	0.00	0.00
12,500.00	91.22	270.02	10,585.81	-1,659.51	-1,422.18	1,421.60	0.00	0.00	0.00
12,600.00	91.22	270.02	10,583.67	-1,659.47	-1,522.16	1,521.58	0.00	0.00	0.00
12,700.00	91.22	270.02	10,581.53	-1,659.44	-1,622.14	1,621.56	0.00	0.00	0.00
12,800.00	91.22	270.02	10,579.40	-1,659.40	-1,722.11	1,721.53	0.00	0.00	0.00
12,900.00	91.22	270.02	10,577.26	-1,659.37	-1,822.09	1,821.51	0.00	0.00	0.00
13,000.00	91.22	270.02	10,575.12	-1,659.33	-1,922.07	1,921.49	0.00	0.00	0.00
13,100.00	91.22	270.02	10,572.99	-1,659.29	-2,022.05	2,021.47	0.00	0.00	0.00
13,200.00	91.22	270.02	10,570.85	-1,659.26	-2,122.02	2,121.44	0.00	0.00	0.00
13,300.00	91.22	270.02	10,568.71	-1,659.22	-2,222.00	2,221.42	0.00	0.00	0.00
13,400.00	91.22	270.02	10,566.57	-1,659.19	-2,321.98	2,321.40	0.00	0.00	0.00
13,500.00	91.22	270.02	10,564.44	-1,659.15	-2,421.95	2,421.37	0.00	0.00	0.00
13,600.00	91.22	270.02	10,562.30	-1,659.12	-2,521.93	2,521.35	0.00	0.00	0.00
13,700.00	91.22	270.02	10,560.16	-1,659.08	-2,621.91	2,621.33	0.00	0.00	0.00
13,800.00	91.22	270.02	10,558.03	-1,659.04	-2,721.89	2,721.31	0.00	0.00	0.00
13,900.00	91.22	270.02	10,555.89	-1,659.01	-2,821.86	2,821.28	0.00	0.00	0.00
14,000.00	91.22	270.02	10,553.75	-1,658.97	-2,921.84	2,921.26	0.00	0.00	0.00
14,100.00	91.22	270.02	10,551.62	-1,658.94	-3,021.82	3,021.24	0.00	0.00	0.00
14,200.00	91.22	270.02	10,549.48	-1,658.90	-3,121.79	3,121.21	0.00	0.00	0.00
14,300.00	91.22	270.02	10,547.34	-1,658.86	-3,221.77	3,221.19	0.00	0.00	0.00
14,400.00	91.22	270.02	10,545.21	-1,658.83	-3,321.75	3,321.17	0.00	0.00	0.00
14,500.00	91.22	270.02	10,543.07	-1,658.79	-3,421.73	3,421.15	0.00	0.00	0.00
14,600.00	91.22	270.02	10,540.93	-1,658.76	-3,521.70	3,521.12	0.00	0.00	0.00
14,700.00	91.22	270.02	10,538.80	-1,658.72	-3,621.68	3,621.10	0.00	0.00	0.00
14,800.00	91.22	270.02	10,536.66	-1,658.68	-3,721.66	3,721.08	0.00	0.00	0.00
14,900.00	91.22	270.02	10,534.52	-1,658.65	-3,821.63	3,821.05	0.00	0.00	0.00

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #108H
Company:	XTO Energy	**TVD Reference:**	RKB = 25' @ 3127.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 25' @ 3127.00usft
Site:	James Ranch Unit DI 11 Whitlash A	**North Reference:**	Grid
Well:	#108H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
15,000.00	91.22	270.02	10,532.38	-1,658.61	-3,921.61	3,921.03	0.00	0.00	0.00
15,100.00	91.22	270.02	10,530.25	-1,658.58	-4,021.59	4,021.01	0.00	0.00	0.00
15,200.00	91.22	270.02	10,528.11	-1,658.54	-4,121.57	4,120.99	0.00	0.00	0.00
15,300.00	91.22	270.02	10,525.97	-1,658.51	-4,221.54	4,220.96	0.00	0.00	0.00
15,400.00	91.22	270.02	10,523.84	-1,658.47	-4,321.52	4,320.94	0.00	0.00	0.00
15,500.00	91.22	270.02	10,521.70	-1,658.43	-4,421.50	4,420.92	0.00	0.00	0.00
15,600.00	91.22	270.02	10,519.56	-1,658.40	-4,521.47	4,520.89	0.00	0.00	0.00
15,700.00	91.22	270.02	10,517.43	-1,658.36	-4,621.45	4,620.87	0.00	0.00	0.00
15,800.00	91.22	270.02	10,515.29	-1,658.33	-4,721.43	4,720.85	0.00	0.00	0.00
15,900.00	91.22	270.02	10,513.15	-1,658.29	-4,821.41	4,820.83	0.00	0.00	0.00
16,000.00	91.22	270.02	10,511.02	-1,658.25	-4,921.38	4,920.80	0.00	0.00	0.00
16,100.00	91.22	270.02	10,508.88	-1,658.22	-5,021.36	5,020.78	0.00	0.00	0.00
16,200.00	91.22	270.02	10,506.74	-1,658.18	-5,121.34	5,120.76	0.00	0.00	0.00
16,300.00	91.22	270.02	10,504.60	-1,658.15	-5,221.31	5,220.74	0.00	0.00	0.00
16,400.00	91.22	270.02	10,502.47	-1,658.11	-5,321.29	5,320.71	0.00	0.00	0.00
16,500.00	91.22	270.02	10,500.33	-1,658.07	-5,421.27	5,420.69	0.00	0.00	0.00
16,600.00	91.22	270.02	10,498.19	-1,658.04	-5,521.25	5,520.67	0.00	0.00	0.00
16,700.00	91.22	270.02	10,496.06	-1,658.00	-5,621.22	5,620.64	0.00	0.00	0.00
16,800.00	91.22	270.02	10,493.92	-1,657.97	-5,721.20	5,720.62	0.00	0.00	0.00
16,900.00	91.22	270.02	10,491.78	-1,657.93	-5,821.18	5,820.60	0.00	0.00	0.00
17,000.00	91.22	270.02	10,489.65	-1,657.90	-5,921.15	5,920.58	0.00	0.00	0.00
17,100.00	91.22	270.02	10,487.51	-1,657.86	-6,021.13	6,020.55	0.00	0.00	0.00
17,200.00	91.22	270.02	10,485.37	-1,657.82	-6,121.11	6,120.53	0.00	0.00	0.00
17,300.00	91.22	270.02	10,483.24	-1,657.79	-6,221.09	6,220.51	0.00	0.00	0.00
17,400.00	91.22	270.02	10,481.10	-1,657.75	-6,321.06	6,320.48	0.00	0.00	0.00
17,500.00	91.22	270.02	10,478.96	-1,657.72	-6,421.04	6,420.46	0.00	0.00	0.00
17,600.00	91.22	270.02	10,476.83	-1,657.68	-6,521.02	6,520.44	0.00	0.00	0.00
17,700.00	91.22	270.02	10,474.69	-1,657.64	-6,620.99	6,620.42	0.00	0.00	0.00
17,800.00	91.22	270.02	10,472.55	-1,657.61	-6,720.97	6,720.39	0.00	0.00	0.00
17,900.00	91.22	270.02	10,470.41	-1,657.57	-6,820.95	6,820.37	0.00	0.00	0.00
18,000.00	91.22	270.02	10,468.28	-1,657.54	-6,920.93	6,920.35	0.00	0.00	0.00
18,100.00	91.22	270.02	10,466.14	-1,657.50	-7,020.90	7,020.32	0.00	0.00	0.00
18,200.00	91.22	270.02	10,464.00	-1,657.46	-7,120.88	7,120.30	0.00	0.00	0.00
18,300.00	91.22	270.02	10,461.87	-1,657.43	-7,220.86	7,220.28	0.00	0.00	0.00
18,400.00	91.22	270.02	10,459.73	-1,657.39	-7,320.83	7,320.26	0.00	0.00	0.00
18,500.00	91.22	270.02	10,457.59	-1,657.36	-7,420.81	7,420.23	0.00	0.00	0.00
18,600.00	91.22	270.02	10,455.46	-1,657.32	-7,520.79	7,520.21	0.00	0.00	0.00
18,700.00	91.22	270.02	10,453.32	-1,657.29	-7,620.77	7,620.19	0.00	0.00	0.00
18,800.00	91.22	270.02	10,451.18	-1,657.25	-7,720.74	7,720.16	0.00	0.00	0.00
18,900.00	91.22	270.02	10,449.05	-1,657.21	-7,820.72	7,820.14	0.00	0.00	0.00
19,000.00	91.22	270.02	10,446.91	-1,657.18	-7,920.70	7,920.12	0.00	0.00	0.00
19,100.00	91.22	270.02	10,444.77	-1,657.14	-8,020.67	8,020.10	0.00	0.00	0.00
19,200.00	91.22	270.02	10,442.64	-1,657.11	-8,120.65	8,120.07	0.00	0.00	0.00
19,300.00	91.22	270.02	10,440.50	-1,657.07	-8,220.63	8,220.05	0.00	0.00	0.00
19,400.00	91.22	270.02	10,438.36	-1,657.03	-8,320.61	8,320.03	0.00	0.00	0.00
19,500.00	91.22	270.02	10,436.22	-1,657.00	-8,420.58	8,420.00	0.00	0.00	0.00
19,600.00	91.22	270.02	10,434.09	-1,656.96	-8,520.56	8,519.98	0.00	0.00	0.00
19,700.00	91.22	270.02	10,431.95	-1,656.93	-8,620.54	8,619.96	0.00	0.00	0.00
19,800.00	91.22	270.02	10,429.81	-1,656.89	-8,720.51	8,719.94	0.00	0.00	0.00
19,900.00	91.22	270.02	10,427.68	-1,656.85	-8,820.49	8,819.91	0.00	0.00	0.00
20,000.00	91.22	270.02	10,425.54	-1,656.82	-8,920.47	8,919.89	0.00	0.00	0.00
20,100.00	91.22	270.02	10,423.40	-1,656.78	-9,020.45	9,019.87	0.00	0.00	0.00
20,200.00	91.22	270.02	10,421.27	-1,656.75	-9,120.42	9,119.84	0.00	0.00	0.00
20,300.00	91.22	270.02	10,419.13	-1,656.71	-9,220.40	9,219.82	0.00	0.00	0.00

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #108H
Company:	XTO Energy	**TVD Reference:**	RKB = 25' @ 3127.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 25' @ 3127.00usft
Site:	James Ranch Unit DI 11 Whitlash A	**North Reference:**	Grid
Well:	#108H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
20,400.00	91.22	270.02	10,416.99	-1,656.68	-9,320.38	9,319.80	0.00	0.00	0.00
20,500.00	91.22	270.02	10,414.86	-1,656.64	-9,420.36	9,419.78	0.00	0.00	0.00
20,600.00	91.22	270.02	10,412.72	-1,656.60	-9,520.33	9,519.75	0.00	0.00	0.00
20,700.00	91.22	270.02	10,410.58	-1,656.57	-9,620.31	9,619.73	0.00	0.00	0.00
20,800.00	91.22	270.02	10,408.45	-1,656.53	-9,720.29	9,719.71	0.00	0.00	0.00
20,900.00	91.22	270.02	10,406.31	-1,656.50	-9,820.26	9,819.68	0.00	0.00	0.00
21,000.00	91.22	270.02	10,404.17	-1,656.46	-9,920.24	9,919.66	0.00	0.00	0.00
21,100.00	91.22	270.02	10,402.03	-1,656.42	-10,020.22	10,019.64	0.00	0.00	0.00
21,200.00	91.22	270.02	10,399.90	-1,656.39	-10,120.20	10,119.62	0.00	0.00	0.00
21,300.00	91.22	270.02	10,397.76	-1,656.35	-10,220.17	10,219.59	0.00	0.00	0.00
21,400.00	91.22	270.02	10,395.62	-1,656.32	-10,320.15	10,319.57	0.00	0.00	0.00
21,500.00	91.22	270.02	10,393.49	-1,656.28	-10,420.13	10,419.55	0.00	0.00	0.00
21,600.00	91.22	270.02	10,391.35	-1,656.24	-10,520.10	10,519.53	0.00	0.00	0.00
21,700.00	91.22	270.02	10,389.21	-1,656.21	-10,620.08	10,619.50	0.00	0.00	0.00
21,800.00	91.22	270.02	10,387.08	-1,656.17	-10,720.06	10,719.48	0.00	0.00	0.00
21,900.00	91.22	270.02	10,384.94	-1,656.14	-10,820.04	10,819.46	0.00	0.00	0.00
22,000.00	91.22	270.02	10,382.80	-1,656.10	-10,920.01	10,919.43	0.00	0.00	0.00
22,100.00	91.22	270.02	10,380.67	-1,656.07	-11,019.99	11,019.41	0.00	0.00	0.00
22,200.00	91.22	270.02	10,378.53	-1,656.03	-11,119.97	11,119.39	0.00	0.00	0.00
22,300.00	91.22	270.02	10,376.39	-1,655.99	-11,219.94	11,219.37	0.00	0.00	0.00
22,400.00	91.22	270.02	10,374.26	-1,655.96	-11,319.92	11,319.34	0.00	0.00	0.00
22,500.00	91.22	270.02	10,372.12	-1,655.92	-11,419.90	11,419.32	0.00	0.00	0.00
22,600.00	91.22	270.02	10,369.98	-1,655.89	-11,519.88	11,519.30	0.00	0.00	0.00
22,700.00	91.22	270.02	10,367.84	-1,655.85	-11,619.85	11,619.27	0.00	0.00	0.00
22,800.00	91.22	270.02	10,365.71	-1,655.81	-11,719.83	11,719.25	0.00	0.00	0.00
22,900.00	91.22	270.02	10,363.57	-1,655.78	-11,819.81	11,819.23	0.00	0.00	0.00
23,000.00	91.22	270.02	10,361.43	-1,655.74	-11,919.78	11,919.21	0.00	0.00	0.00
23,100.00	91.22	270.02	10,359.30	-1,655.71	-12,019.76	12,019.18	0.00	0.00	0.00
23,200.00	91.22	270.02	10,357.16	-1,655.67	-12,119.74	12,119.16	0.00	0.00	0.00
23,300.00	91.22	270.02	10,355.02	-1,655.63	-12,219.72	12,219.14	0.00	0.00	0.00
23,400.00	91.22	270.02	10,352.89	-1,655.60	-12,319.69	12,319.11	0.00	0.00	0.00
23,500.00	91.22	270.02	10,350.75	-1,655.56	-12,419.67	12,419.09	0.00	0.00	0.00
23,600.00	91.22	270.02	10,348.61	-1,655.53	-12,519.65	12,519.07	0.00	0.00	0.00
23,625.46	91.22	270.02	10,348.07	-1,655.52	-12,545.10	12,544.52	0.00	0.00	0.00
23,675.47	91.22	270.02	10,347.00	-1,655.50	-12,595.10	12,594.52	0.00	0.00	0.00

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Site:	James Ranch Unit DI 11 Whitlash A	**North Reference:**	Grid
Well:	#108H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
JRU DI 11#108H: SHL - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	505,984.80	632,156.80	32.3903397	-103.9051918
JRU DI 11#108H: PBH - plan hits target center - Point	0.00	0.00	10,347.00	-1,655.50	-12,595.10	504,329.30	619,561.70	32.3859209	-103.9460141
JRU DI 11#108H: LTP - plan misses target center by 0.08usft at 23625.46usft MD (10348.07 TVD, -1655.52 N, -12545.10 E) - Point	0.00	0.00	10,348.07	-1,655.60	-12,545.10	504,329.20	619,611.70	32.3859202	-103.9458521
JRU DI 11#108H: FTP - plan hits target center - Point	0.00	0.00	10,615.00	-1,660.00	-56.30	504,324.80	632,100.50	32.3857772	-103.9053957

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
77.00	77.00	Rustler			
327.00	327.00	Salado			
367.00	367.00	Top of Salt			
3,173.70	3,157.00	Base of Salt			
3,408.75	3,387.00	Delaware/Lamar			
3,459.85	3,437.00	Bell Canyon			
4,297.85	4,257.00	Cherry Canyon			
4,522.68	4,477.00	Manzanita Marker			
5,660.12	5,590.00	Brushy Canyon Ss.			
7,006.04	6,907.00	Basal Brushy Canyon Ss.			
7,351.46	7,245.00	Bone Spring Lm.			
7,408.69	7,301.00	Avalon Ss.			
7,574.25	7,463.00	Upper Avalon Carb.			
7,665.20	7,552.00	Upper Avalon Sh.			
7,752.07	7,637.00	Lw. Avalon Carb.			
7,936.02	7,817.00	Lw. Avalon Sh.			
8,089.31	7,967.00	Bone Spring Carb.			
8,332.54	8,205.00	First Bone Spring Ss.			
8,848.63	8,710.00	Second Bone Spring Carb.			
8,988.63	8,847.00	Second Bone Spring Ss.			
9,136.82	8,992.00	Second Bone Spring A Ss.			
9,308.51	9,160.00	Second Bone Spring A/B Carb.			
9,376.98	9,227.00	Second Bone Spring B Ss.			
9,505.74	9,353.00	Third Bone Spring Carb.			
10,312.19	10,142.00	Third Bone Spring Ss.			
10,634.19	10,424.00	Third Bone Spring Ss.- Red Hills			
10,742.94	10,497.00	Wolfcamp Shale			
10,751.33	10,502.00	Wolfcamp X Ss.			
10,967.48	10,595.00	Wolfcamp Y Ss.			
11,133.81	10,615.00	Landing Point			

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Wellbore:	OH		
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