

<b>Well Name:</b> POKER LAKE UNIT 21 BD	<b>Well Location:</b> T25S / R30E / SEC 28 / NENW / 32.108013 / -103.887633	<b>County or Parish/State:</b> EDDY / NM
<b>Well Number:</b> 503H	<b>Type of Well:</b> OIL WELL	<b>Allottee or Tribe Name:</b>
<b>Lease Number:</b> NMNM05039A	<b>Unit or CA Name:</b> POKER LAKE UNIT	<b>Unit or CA Number:</b> NMNM71016X
<b>US Well Number:</b>	<b>Operator:</b> XTO PERMIAN OPERATING LLC	

### Notice of Intent

**Sundry ID:** 2842251

**Type of Submission:** Notice of Intent

**Type of Action:** APD Change

**Date Sundry Submitted:** 03/18/2025

**Time Sundry Submitted:** 02:48

**Date proposed operation will begin:** 03/25/2025

**Procedure Description:** Poker Lake Unit 21 BD 503H XTO Permian Operating, LLC. respectfully requests approval to make the following changes to the approved APD. Changes to include KOP, FTP, LTP, BHL, proposed total depth, and dedicated acreage. FROM: TO: KOP: 136' FNL & 2222' FWL OF SECTION 28-T25S-R30E 615' FSL & 2337' FEL OF SECTION 21-T25S-R30E FTP: 100' FNL & 1210' FWL OF SECTION 28-T25S-R30E 100' FNL & 2339' FEL OF SECTION 28-T25S-R30E LTP: 100' FSL & 1210' FWL OF SECTION 33-T25S-R30E 2440' FNL & 2306' FEL OF SECTION 4-T26S-R30E BHL: 50' FSL & 1210' FWL OF SECTION 33-T25S-R30E 2590' FNL & 2305' FEL OF SECTION 4-T26S-R30E The proposed total depth is changing from 20321' MD; 9401' TVD to 23273' MD; 9602' TVD. Dedicated Acreage is changing from 320 Acres to 400 Acres. There is no new surface disturbance.

### NOI Attachments

#### Procedure Description

PLU\_21\_BD\_503H\_Sundry\_Docs\_20250331134742.pdf

Well Name: POKER LAKE UNIT 21 BD **Well Location:** T25S / R30E / SEC 28 / NENW / 32.108013 / -103.887633 **County or Parish/State:** EDDY / NM

**Well Number:** 503H **Type of Well:** OIL WELL **Allottee or Tribe Name:**

**Lease Number:** NMNM05039A **Unit or CA Name:** POKER LAKE UNIT **Unit or CA Number:** NMNM71016X

**US Well Number:** **Operator:** XTO PERMIAN OPERATING LLC

### Conditions of Approval

#### Additional

253028\_Poker\_Lake\_Unit\_21\_BD\_503H\_05\_05\_2025\_JAM\_COAs\_20250505083634.pdf

### Operator

*I certify that the foregoing is true and correct. 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. Electronic submission of Sundry Notices through this system satisfies regulations requiring a*

**Operator Electronic Signature:** SAMANTHA WEIS

**Signed on:** MAR 31, 2025 01:49 PM

**Name:** XTO PERMIAN OPERATING LLC

**Title:** Permitting Advisor

**Street Address:** 22777 SPRINGWOODS VILLAGE PARKWAY

**City:** SPRING

**State:** TX

**Phone:** (832) 625-7361

**Email address:** SAMANTHA.R.BARTNIK@EXXONMOBIL.COM

### Field

**Representative Name:**

**Street Address:**

**City:**

**State:**

**Zip:**

**Phone:**

**Email address:**

### BLM Point of Contact

**BLM POC Name:** CHRISTOPHER WALLS

**BLM POC Title:** Petroleum Engineer

**BLM POC Phone:** 5752342234

**BLM POC Email Address:** cwalls@blm.gov

**Disposition:** Approved

**Disposition Date:** 05/05/2025

**Signature:** Chris Walls

Form 3160-5 (June 2019)	UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT	FORM APPROVED OMB No. 1004-0137 Expires: October 31, 2021
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b> <i>Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.</i>		5. Lease Serial No. NMNM05039A
		6. If Indian, Allottee or Tribe Name

<b>SUBMIT IN TRIPLICATE - Other instructions on page 2</b>		7. If Unit of CA/Agreement, Name and/or No. POKER LAKE UNIT/NMNM71016X
1. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		8. Well Name and No. POKER LAKE UNIT 21 BD/503H
2. Name of Operator XTO PERMIAN OPERATING LLC		9. API Well No.
3a. Address 6401 HOLIDAY HILL ROAD BLDG 5, MIDLAND,	3b. Phone No. (include area code) (432) 683-2277	10. Field and Pool or Exploratory Area CORRAL CANYON/BONE SPRING SOUTH
4. Location of Well (Footage, Sec., T.,R.,M., or Survey Description) SEC 28/T25S/R30E/NMP		11. Country or Parish, State EDDY/NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA				
TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Hydraulic Fracturing	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other
	<input checked="" type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

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

Poker Lake Unit 21 BD 503H

XTO Permian Operating, LLC. respectfully requests approval to make the following changes to the approved APD. Changes to include KOP, FTP, LTP, BHL, proposed total depth, and dedicated acreage.

FROM: TO:

KOP: 136' FNL & 2222' FWL OF SECTION 28-T25S-R30E 615 FSL & 2337 FEL OF SECTION 21-T25S-R30E  
FTP: 100' FNL & 1210' FWL OF SECTION 28-T25S-R30E 100' FNL & 2339' FEL OF SECTION 28-T25S-R30E  
LTP: 100' FSL & 1210' FWL OF SECTION 33-T25S-R30E 2440' FNL & 2306' FEL OF SECTION 4-T26S-R30E  
BHL: 50' FSL & 1210' FWL OF SECTION 33-T25S-R30E 2590' FNL & 2305' FEL OF SECTION 4-T26S-R30E

Continued on page 3 additional information	
14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed) SAMANTHA WEIS / Ph: (832) 625-7361	Title Permitting Advisor
Signature (Electronic Submission)	Date 03/31/2025

<b>THE SPACE FOR FEDERAL OR STATE OFICE USE</b>		
Approved by CHRISTOPHER WALLS / Ph: (575) 234-2234 / Approved	Title Petroleum Engineer	Date 05/05/2025
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.	Office CARLSBAD	

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

(Instructions on page 2)

## GENERAL INSTRUCTIONS

This form is designed for submitting proposals to perform certain well operations and reports of such operations when completed as indicated on Federal and Indian lands pursuant to applicable Federal law and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local area or regional procedures and practices, are either shown below, will be issued by or may be obtained from the local Federal office.

## SPECIFIC INSTRUCTIONS

*Item 4* - Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult the local Federal office for specific instructions.

*Item 13*: Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by the local Federal office. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to the top of any tubing left in the hole; method of closing top of well and date well site conditioned for final inspection looking for approval of the abandonment. If the proposal will involve **hydraulic fracturing operations**, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

## NOTICES

The privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 351 et seq., 25 U.S.C. 396; 43 CFR 3160.

PRINCIPAL PURPOSE: The information is used to: (1) Evaluate, when appropriate, approve applications, and report completion of subsequent well operations, on a Federal or Indian lease; and (2) document for administrative use, information for the management, disposal and use of National Resource lands and resources, such as: (a) evaluating the equipment and procedures to be used during a proposed subsequent well operation and reviewing the completed well operations for compliance with the approved plan; (b) requesting and granting approval to perform those actions covered by 43 CFR 3162.3-2, 3162.3-3, and 3162.3-4; (c) reporting the beginning or resumption of production, as required by 43 CFR 3162.4-1(c) and (d) analyzing future applications to drill or modify operations in light of data obtained and methods used.

ROUTINE USES: Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions in connection with congressional inquiries or to consumer reporting agencies to facilitate collection of debts owed the Government.

EFFECT OF NOT PROVIDING THE INFORMATION: Filing of this notice and report and disclosure of the information is mandatory for those subsequent well operations specified in 43 CFR 3162.3-2, 3162.3-3, 3162.3-4.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM collects this information to evaluate proposed and/or completed subsequent well operations on Federal or Indian oil and gas leases.

Response to this request is mandatory.

The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

**BURDEN HOURS STATEMENT:** Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Collection Clearance Officer (WO-630), 1849 C St., N.W., Mail Stop 401 LS, Washington, D.C. 20240



## Additional Information

### Additional Remarks

The proposed total depth is changing from 20321 MD; 9401 TVD to 23273 MD; 9602 TVD.

Dedicated Acreage is changing from 320 Acres to 400 Acres.

There is no new surface disturbance.

### Location of Well

0. SHL: NENW / 136 FNL / 2222 FWL / TWSP: 25S / RANGE: 30E / SECTION: 28 / LAT: 32.108013 / LONG: -103.887633 ( TVD: 0 feet, MD: 0 feet )

PPP: NWNW / 100 FNL / 1210 FWL / TWSP: 25S / RANGE: 30E / SECTION: 28 / LAT: 32.108096 / LONG: -103.890901 ( TVD: 9401 feet, MD: 9900 feet )

BHL: SWSW / 50 FSL / 1210 FWL / TWSP: 25S / RANGE: 30E / SECTION: 33 / LAT: 32.079243 / LONG: -103.890979 ( TVD: 9401 feet, MD: 20321 feet )

CONFIDENTIAL

## PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

<b>OPERATOR'S NAME:</b>	XTO Permian Operating LLC
<b>WELL NAME &amp; NO.:</b>	Poker Lake Unit 21 BD 503H
<b>LOCATION:</b>	Section 28, T.25S., R.30E.
<b>COUNTY:</b>	Eddy County

COA

H2S	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Potash	<input checked="" type="radio"/> None	<input type="radio"/> Secretary	<input type="radio"/> R-111-P
Cave/Karst Potential	<input checked="" type="radio"/> Low	<input type="radio"/> Medium	<input type="radio"/> High
Cave/Karst Potential	<input type="radio"/> Critical		
Variance	<input type="radio"/> None	<input checked="" type="radio"/> Flex Hose	<input type="radio"/> Other
Wellhead	<input type="radio"/> Conventional	<input checked="" type="radio"/> Multibowl	<input type="radio"/> Both
Wellhead Variance	<input type="radio"/> Diverter		
Other	<input type="checkbox"/> 4 String	<input type="checkbox"/> Capitan Reef	<input type="checkbox"/> WIPP
Other	<input checked="" type="checkbox"/> Fluid Filled	<input type="checkbox"/> Pilot Hole	<input type="checkbox"/> Open Annulus
Cementing	<input checked="" type="checkbox"/> Contingency Cement Squeeze	<input type="checkbox"/> EchoMeter	<input type="checkbox"/> Primary Cement Squeeze
Special Requirements	<input type="checkbox"/> Water Disposal	<input type="checkbox"/> COM	<input checked="" type="checkbox"/> Unit
Special Requirements	<input type="checkbox"/> Batch Sundry		
Special Requirements Variance	<input checked="" type="checkbox"/> Break Testing	<input checked="" type="checkbox"/> Offline Cementing	<input type="checkbox"/> Casing Clearance

### A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated AT SPUD. As a result, the Hydrogen Sulfide area must meet 43 CFR part 3170 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

**B. CASING**

1. The **9-5/8** inch surface casing shall be set at approximately **1000** feet (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface. The surface hole shall be **12-1/4** inch in diameter.
  - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
  - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
  - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
  - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the **7-5/8** inch intermediate casing is:
  - Cement to surface. If cement does not circulate see B.1.a, c-d above.

**Operator has proposed to pump down 9-5/8" X 7-5/8" annulus after primary cementing stage. Operator must run Echo-meter to verify Cement Slurry/Fluid top in the annulus Or operator shall run a CBL from TD of the 7-5/8" casing to surface after the second stage BH to verify TOC.**

**Submit results to the BLM. No displacement fluid/wash out shall be utilized at the top of the cement slurry between second stage BH and top out. Operator must run one CBL per Well Pad.**

**If cement does not reach surface, the next casing string must come to surface.**

**Operator must use a limited flush fluid volume of 1 bbl following backside cementing procedures.**

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:
  - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

### C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'
2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the **9-5/8** inch surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **10,000 (10M) psi. Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) 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. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
  - e. Whenever any seal subject to test pressure is broken, all the tests in **43 CFR 3172** i must be followed.

### D. SPECIAL REQUIREMENT (S)

#### Unit Wells

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

#### Commercial Well Determination

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

## E. SPECIAL REQUIREMENT (S)

### **BOPE Break Testing Variance**

- BOPE Break Testing is ONLY permitted for 5M BOPE or less. (**Annular preventer must be tested to a minimum of 70% of BOPE working pressure and shall be higher than the MASP**)
- BOPE Break Testing is NOT permitted to drilling the production hole section.
- Variance only pertains to the intermediate hole-sections and no deeper than the Bone Springs formation.
- While in transfer between wells, the BOPE shall be secured by the hydraulic carrier or cradle.
- Any well control event while drilling require notification to the BLM Petroleum Engineer (**575-706-2779**) prior to the commencement of any BOPE Break Testing operations.
- A full BOPE test is required prior to drilling the first deep intermediate hole section. If any subsequent hole interval is deeper than the first, a full BOPE test will be required. (200' TVD tolerance between intermediate shoes is allowable).
- The BLM is to be contacted (575-361-2822 Eddy County) 4 hours prior to BOPE tests.
- As a minimum, a full BOPE test shall be performed at 21-day intervals.
- In the event any repairs or replacement of the BOPE is required, the BOPE shall test as per **43 CFR 3172**.
- If in the event break testing is not utilized, then a full BOPE test would be conducted.

### **Offline Cementing**

Contact the BLM prior to the commencement of any offline cementing procedure.

## **GENERAL REQUIREMENTS**

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

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

☒ Eddy County

**EMAIL** or call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,

**[BLM\\_NM\\_CFO\\_DrillingNotifications@BLM.GOV](mailto:BLM_NM_CFO_DrillingNotifications@BLM.GOV)**

(575) 361-2822

☒ Lea County

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240,  
(575) 689-5981

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
  - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
  - b. When the operator proposes to set surface casing with Spudder Rig
    - i. Notify the BLM when moving in and removing the Spudder Rig.
    - ii. Notify the BLM when moving in the 2<sup>nd</sup> Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
    - iii. BOP/BOPE test to be conducted per **43 CFR 3172** as soon as 2<sup>nd</sup> Rig is rigged up on well.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
3. For intervals in which cement to surface is required, cement to surface should be verified with a visual check and density or pH check to differentiate cement from spacer and drilling mud. The results should be documented in the driller's log and daily reports.

#### A. CASING

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



2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends of both lead and tail cement, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. 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.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. 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.
8. Whenever a casing string is cemented in the R-111-Q potash area, the NMOCD requirements shall be followed.

## **B. PRESSURE CONTROL**

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in **43 CFR 3172**.

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
  - i. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
  - ii. 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.
  - iii. Manufacturer representative shall install the test plug for the initial BOP test.
  - iv. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.
  - v. 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.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
  - i. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead cement), whichever is greater. However,

if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

- ii. 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 cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve open. (only applies to single stage cement jobs, prior to the cement setting up.)
- iii. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to **43 CFR 3172** with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for 8 hours or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
- iv. 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.
- v. The results of the test shall be reported to the appropriate BLM office.
- vi. 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.
- vii. 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.
- viii. 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 **43 CFR 3172**.

**C. DRILLING MUD**

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

**D. WASTE MATERIAL AND FLUIDS**

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

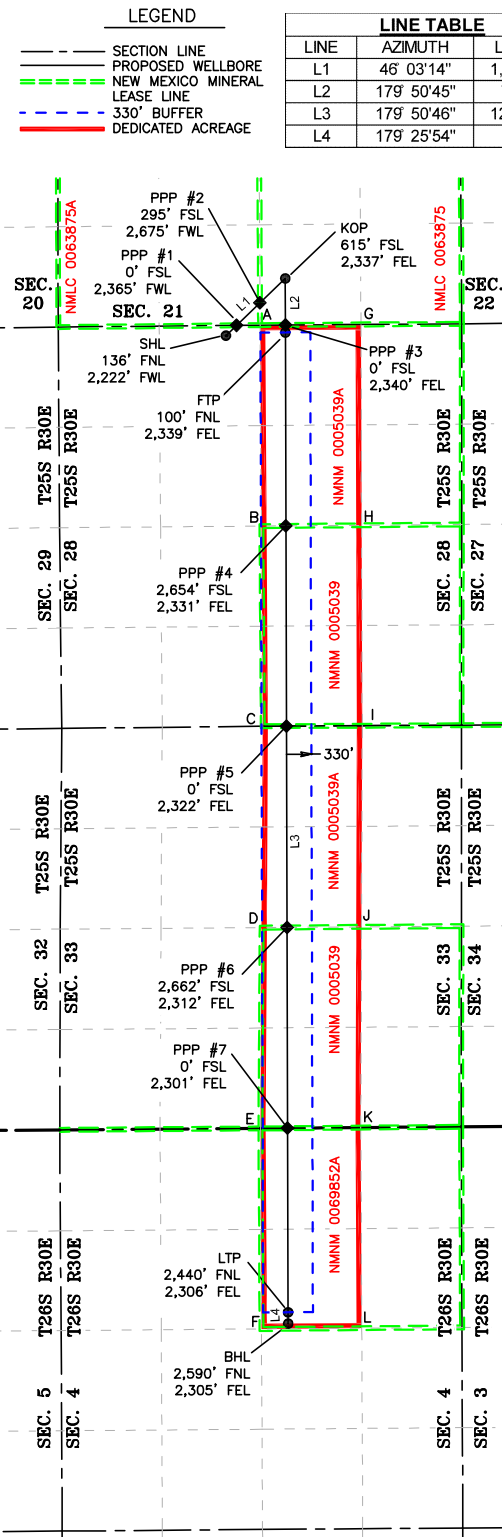
JS 5/5/2025

<b>C-102</b>  Submit Electronically Via OCD Permitting	<b>State of New Mexico</b> <b>Energy, Minerals &amp; Natural Resources Department</b> <b>OIL CONSERVATION DIVISION</b>	Revised July 9, 2024							
		<div style="border: 1px solid black; padding: 2px;">Submittal Type:</div> <div style="display: flex; justify-content: space-between;"><div><input type="checkbox"/> Initial Submittal</div><div><input checked="" type="checkbox"/> Amended Report</div><div><input type="checkbox"/> As Drilled</div></div>							
<b>WELL LOCATION INFORMATION</b>									
API Number 30-015	Pool Code 13354	Pool Name Corral Canyon; Bone Spring, South							
Property Code	Property Name POKER LAKE UNIT 21 BD	Well Number 503H							
ORGID No. 373075	Operator Name XTO PERMIAN OPERATING, LLC.	Ground Level Elevation 3,225'							
Surface Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input checked="" type="checkbox"/> Federal		Mineral Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input checked="" type="checkbox"/> Federal							
<b>Surface Location</b>									
UL C	Section 28	Township 25 S	Range 30 E	Lot	Ft. from N/S 136' FNL	Ft. from E/W 2,222' FWL	Latitude 32.108013	Longitude -103.887633	County EDDY
<b>Bottom Hole Location</b>									
UL G	Section 4	Township 26 S	Range 30 E	Lot	Ft. from N/S 2,590' FNL	Ft. from E/W 2,305' FEL	Latitude 32.072003	Longitude -103.885146	County EDDY
Dedicated Acres 400	Infill or Defining Well DEFINING	Defining Well API	Overlapping Spacing Unit (Y/N) N	Consolidation Code U					
Order Numbers.			Well setbacks are under Common Ownership: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						
<b>Kick Off Point (KOP)</b>									
UL O	Section 21	Township 25 S	Range 30 E	Lot	Ft. from N/S 615' FSL	Ft. from E/W 2,337' FEL	Latitude 32.110087	Longitude -103.885084	County EDDY
<b>First Take Point (FTP)</b>									
UL B	Section 28	Township 25 S	Range 30 E	Lot	Ft. from N/S 100' FNL	Ft. from E/W 2,339' FEL	Latitude 32.108121	Longitude -103.885087	County EDDY
<b>Last Take Point (LTP)</b>									
UL G	Section 4	Township 26 S	Range 30 E	Lot	Ft. from N/S 2,440' FNL	Ft. from E/W 2,306' FEL	Latitude 32.072415	Longitude -103.885148	County EDDY
Unitized Area or Area of Uniform Interest NMNM-071016X		Spacing Unit Type <input checked="" type="checkbox"/> Horizontal <input type="checkbox"/> Vertical				Ground Floor Elevation: 3,225'			
<b>OPERATOR CERTIFICATIONS</b>  <i>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.</i>  <i>If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling form the division.</i>  <div style="display: flex; justify-content: space-between;"><div><u>Samantha Weis</u></div><div>3/31/2025</div></div> <div style="display: flex; justify-content: space-between;"><div>Signature</div><div>Date</div></div> <div>Samantha Weis</div> <div>Printed Name</div> <div>samantha.r.bartnik@exxonmobil.com</div> <div>Email Address</div>					<b>SURVEYOR CERTIFICATIONS</b>  <i>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.</i>  I, TIM C. PAPPAS, NEW MEXICO PROFESSIONAL SURVEYOR NO. 21209, 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. <div style="text-align: right;"> 31 March 2025</div> <div style="display: flex; justify-content: space-between;"><div>Signature and Seal of Professional Surveyor</div><div></div></div> <div style="display: flex; justify-content: space-between;"><div>Certificate Number</div><div>Date of Survey</div></div> <div style="display: flex; justify-content: space-between;"><div>TIM C. PAPPAS 21209</div><div>3/31/2025</div></div>				
Note: 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.									
<div style="display: flex; justify-content: space-between; align-items: center;"><div style="text-align: left;"><b>FSC INC</b> SURVEYORS • ENGINEERS</div><div style="text-align: center;"><small>2821 West 7th Street., Ste 200 - Fort Worth, TX 76107 Ph: 817.349.9800 - Fax: 979.732.5271 TBPE Firm 17957   TBPLS Firm 10193887 www.fscinc.net</small></div><div style="text-align: right; font-size: x-small;">DATE: 3-31-2025 DRAWN BY: LM CHECKED BY: CH FIELD CREW: IR</div><div style="text-align: right; font-size: x-small;">PROJECT NO: 2023040205 SCALE: SHEET: 1 OF 2 REVISION:</div></div>									

## ACREAGE DEDICATION PLATS

This grid represents a standard section. You may superimpose a non-standard section, or a larger area, over this grid. Operators must outline the dedicated acreage in a red box, clearly show the well surface location and bottom hole location, if it is directionally drilled, with the dimensions from the section lines in the cardinal directions. If this is a horizontal wellbore show on this plat the location of the First Take Point and Last Take Point, and the point within the Completed interval (other than the First Take Point or Last Take Point) that is the closest to any outer boundary of the tract.

Surveyors shall use the latest United States government survey or dependent resurvey. Well locations will be in reference to the New Mexico Principal Meridian. If the land is not surveyed, contact the OCD Engineering Bureau. Independent subdivision surveys will not be acceptable.



LINE TABLE		
LINE	AZIMUTH	LENGTH
L1	46° 03'14"	1,0910.82'
L2	179° 50'45"	715.23'
L3	179° 50'46"	12,989.12'
L4	179° 25'54"	150.00'

COORDINATE TABLE					
SHL (NAD 83 NME)			LTP (NAD 83 NME)		
Y =	403,316.8	N	Y =	390,370.2	N
X =	679,337.7	E	X =	680,161.1	E
LAT. =	32.108013	"N	LAT. =	32.072415	"N
LONG. =	103.887633	"W	LONG. =	103.885148	"W
KOP (NAD 83 NME)			BHL (NAD 83 NME)		
Y =	404,074.5	N	Y =	390,220.2	N
X =	680,123.8	E	X =	680,162.1	E
LAT. =	32.110087	"N	LAT. =	32.072003	"N
LONG. =	103.885084	"W	LONG. =	103.885146	"W
FTP (NAD 83 NME)					
Y =	403,359.3	N			
X =	680,125.7	E			
LAT. =	32.108121	"N			
LONG. =	103.885087	"W			
SHL (NAD 27 NME)			LTP (NAD 27 NME)		
Y =	403,258.5	N	Y =	390,312.3	N
X =	638,152.7	E	X =	638,975.6	E
LAT. =	32.107888	"N	LAT. =	32.072290	"N
LONG. =	103.887151	"W	LONG. =	103.884667	"W
KOP (NAD 27 NME)			BHL (NAD 27 NME)		
Y =	404,016.2	N	Y =	390,162.3	N
X =	638,938.8	E	X =	638,976.6	E
LAT. =	32.109962	"N	LAT. =	32.071877	"N
LONG. =	103.884602	"W	LONG. =	103.884666	"W
FTP (NAD 27 NME)					
Y =	403,301.0	N			
X =	638,940.7	E			
LAT. =	32.107996	"N			
LONG. =	103.884605	"W			
PPP #1 (NAD 83 NME)			PPP #1 (NAD 27 NME)		
Y =	403,454.1	N	Y =	403,395.8	N
X =	679,480.2	E	X =	638,295.2	E
LAT. =	32.108389	"N	LAT. =	32.108264	"N
LONG. =	103.887171	"W	LONG. =	103.886689	"W
PPP #2 (NAD 83 NME)			PPP #2 (NAD 27 NME)		
Y =	403,752.3	N	Y =	403,694.0	N
X =	679,789.5	E	X =	638,604.5	E
LAT. =	32.109205	"N	LAT. =	32.109080	"N
LONG. =	103.886188	"W	LONG. =	103.885686	"W
PPP #3 (NAD 83 NME)			PPP #3 (NAD 27 NME)		
Y =	403,459.3	N	Y =	403,401.0	N
X =	680,125.5	E	X =	638,940.5	E
LAT. =	32.108396	"N	LAT. =	32.108271	"N
LONG. =	103.885087	"W	LONG. =	103.884605	"W
PPP #4 (NAD 83 NME)			PPP #4 (NAD 27 NME)		
Y =	400,794.9	N	Y =	400,736.7	N
X =	680,132.7	E	X =	638,947.6	E
LAT. =	32.101071	"N	LAT. =	32.100946	"N
LONG. =	103.885099	"W	LONG. =	103.884617	"W
PPP #5 (NAD 83 NME)			PPP #5 (NAD 27 NME)		
Y =	398,140.7	N	Y =	398,082.5	N
X =	680,139.9	E	X =	638,954.7	E
LAT. =	32.093775	"N	LAT. =	32.093650	"N
LONG. =	103.885112	"W	LONG. =	103.884630	"W
PPP #6 (NAD 83 NME)			PPP #6 (NAD 27 NME)		
Y =	395,471.9	N	Y =	395,413.8	N
X =	680,147.2	E	X =	638,961.9	E
LAT. =	32.086439	"N	LAT. =	32.086314	"N
LONG. =	103.885124	"W	LONG. =	103.884643	"W
PPP #7 (NAD 83 NME)			PPP #7 (NAD 27 NME)		
Y =	392,810.2	N	Y =	392,752.2	N
X =	680,154.4	E	X =	638,969.0	E
LAT. =	32.079122	"N	LAT. =	32.078997	"N
LONG. =	103.885136	"W	LONG. =	103.884655	"W

CORNER COORDINATES (NAD83 NME)				
A - Y =	403,457.2	N	A - X =	679,791.0
B - Y =	400,792.3	N	B - X =	679,808.6
C - Y =	398,139.1	N	C - X =	679,826.0
D - Y =	395,469.4	N	D - X =	679,810.7
E - Y =	392,807.4	N	E - X =	679,795.4
F - Y =	390,149.1	N	F - X =	679,809.3
G - Y =	403,465.5	N	G - X =	681,128.1
H - Y =	400,802.9	N	H - X =	681,136.1
I - Y =	398,145.7	N	I - X =	681,144.0
J - Y =	395,479.4	N	J - X =	681,135.0
K - Y =	392,817.9	N	K - X =	681,125.6
L - Y =	390,159.5	N	L - X =	681,138.4

CORNER COORDINATES (NAD27 NME)				
A - Y =	403,398.9	N	A - X =	638,606.0
B - Y =	400,734.1	N	B - X =	638,623.5
C - Y =	398,080.9	N	C - X =	638,640.8
D - Y =	395,411.3	N	D - X =	638,625.4
E - Y =	392,749.4	N	E - X =	638,610.1
F - Y =	390,091.2	N	F - X =	638,623.8
G - Y =	403,407.2	N	G - X =	639,943.0
H - Y =	400,744.7	N	H - X =	639,951.0
I - Y =	398,087.5	N	I - X =	639,958.8
J - Y =	395,421.3	N	J - X =	639,949.7
K - Y =	392,759.9	N	K - X =	639,940.2
L - Y =	390,101.6	N	L - X =	639,952.9



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DATE: 3-31-2025 PROJECT NO: 2023040205  
DRAWN BY: LM SCALE: 1" = 2,000'  
CHECKED BY: CH SHEET: 2 OF 2  
FIELD CREW: IR REVISION: 1



## Eddy County, NM

**3. Primary Casing Design****Primary Design:**

Hole Size	MD	Casing TVD	OD Csg	Weight	Grade	Collar	New/Used	SF Burst	SF Collapse	SF Tension
12.25	0' – 1282'	1280'	9-5/8"	40	J55	BTC	New	10.05	4.63	4.82
8.75	0' – 8810'	8686'	7-5/8"	29.7	L80-IC	Tenaris Wedge 511	New	3.32	1.57	2.43
6.75	0' – 8610'	8486'	5-1/2"	20	P110-CY	TPN	New	1.18	3.02	2.64
6.75	8610' – 23273'	9602'	5-1/2"	20	P110-IC	Tenaris Wedge 441	New	1.18	2.96	2.65

**Section 3 Summary:**

The planned kick off point is located at: 9010' MD / 8886' TVD.

**Wellhead:**

A multi-bowl wellhead system will be utilized. The well design chosen is: 3-String Slim Non-Potash

Wellhead will be installed by manufacturer's representatives.

Manufacturer will monitor welding process to ensure appropriate temperature of seal.

**4. Cement Program**

Primary Cementing								
Hole Section	Slurry Type	No. Sacks	Density (ppg)	Yield (ft3/sack)	TOC (ft)	Casing Setting Depth (MD)	Excess (%)	Slurry Description
Surface 1	Lead	292	12.4	2.11	0	1,282	100%	
Surface 1	Tail	141	14.8	1.33	982	1,282	100%	
Intermediate 1	Lead							
Intermediate 1	Tail	237	14.8	1.45	6271	8,810	35%	
Production 1	Lead							
Production 1	Tail	1128	13.2	1.44	8310	23,273	30%	
Remedial Cementing								
Casing	Slurry Type	No. Sacks	Density (ppg)	Yield (ft3/sack)	Cemented Interval	Excess (%)	Slurry Description	
Intermediate 1	Bradenhead Squeeze	652	14.8	1.45	0 - 6271'	50%	Intermediate Class C Bradenhead Squeeze Cement	

**Section 4 Summary:**

\*Bradenhead Squeeze 2nd Stage Offline

## 5. Pressure Control Equipment

### Section 5 Summary:

Once the permanent WH is installed on the casing, the blow out preventer equipment (BOP) will consist of a minimum 5M Hydril and a minimum 10M triple Ram BOP.

All BOP testing will be done by an independent service company. Operator will Test as per 43CFR-3172

### Requested Variances

#### 4A) Offline Cementing Variance

XOM requests the option to offline cement and remediate (if needed) surface and intermediate casing strings where batch drilling is approved and if unplanned remediation is needed. XOM will ensure well is static with no pressure on the csg annulus, as with all other casing strings where batch drilling operations occur before moving off the rig. Offline cement operations will then be conducted after the rig is moved off the current well to the next well in the batch sequence. The TA cap will also be installed when applicable per wellhead manufacturer's procedure and pressure inside the casing will be monitored via the valve on the TA cap as per standard batch drilling ops.

#### 5A) Break Test Variance

A break testing variance is requested to ONLY test broken pressure seals on the BOP equipment when moving from wellhead to wellhead for the intermediate hole sections which is in compliance with API Standard 53. The maximum anticipated surface pressure at the deepest intermediate casing point is less than 4800psi.

#### 5B) Flex Hose Variance

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.

#### 5C) 10M Annular Variance

XOM requests a variance to use a 5000 psi annular BOP with a 10,000 psi BOP stack. The component and compatibility tables attached along with the general well control plans demonstrate how the 5000 psi annular BOP will be protected from pressures that exceed its rated working pressure (RWP). The pressure at which the control of the wellbore is transferred from the annular preventer to another available preventer will not exceed 3500 psi (70% of the RWP of the 5000 psi annular BOP).

#### 8A) Open Hole Logging Variance

Open hole logging will not be done on this well.

#### 10A) Spudder Rig Variance

XOM requests the option to utilize a spudder rig (Atlas Copco RD20 or Equivalent) to set and cement surface casing.

#### 10B) Batch Drilling Variance

XOM requests a variance to be able to batch drill this well. In doing so, XOM will set casing and ensure that the well is cemented properly (unless approval is given for offline cementing) and the well is static. XOM will contact the BLM to skid the rig to drill the remaining wells on the pad. Once surface and intermediate strings are all completed, XOM will begin drilling the production hole on each of the wells.

**6. Proposed Mud Circulation System**

INTERVAL	Hole Size	Mud Type	MW	Viscosity	Fluid Loss	Comments
			(ppg)	(sec/qt)	(cc)	
0' – 1282'	12.25"	FW/Native	8.3 - 8.7	35-40	NC	Fresh Water or Native Water
1282' – 8810'	8.75"	BDE/OBM or FW/Brine	9.5 - 10	30-32	NC	Fluid type will be based upon on well conditions. A fully saturated system will be used across the salt interval.
8810' – 8610'	6.75"	OBM	9 - 9.6	50-60	NC - 20	OBM or Cut Brine depending on Well Conditions
8610' – 23273'	6.75"	OBM	9 - 9.6	50-60	NC - 20	OBM or Cut Brine depending on Well Conditions

**Section 6 Summary:**

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

Spud with fresh water/native mud. Drill out from under surface casing with a fully saturated brine while drilling through the salt formation. Use fibrous materials as needed to control seepage and lost circulation. Pump viscous sweeps as needed for hole cleaning. Pump speed will be recorded on a daily drilling report after mudding up. An EDR (Electronic Drilling Recorder) will be used to detect changes in loss or gain of mud volume. A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system.

**7. Auxiliary Well Control and Monitoring Equipment****Section 7 Summary:**

A Kelly cock will be in the drill string at all times.

A full opening drill pipe stabbing valve having appropriate connections will be on the rig floor at all times.

H2S monitors will be on location when drilling below the 9-5/8" casing.

**8. Logging, Coring and Testing Program****Section 8 Summary:**

Open hole logging will not be done on this well.

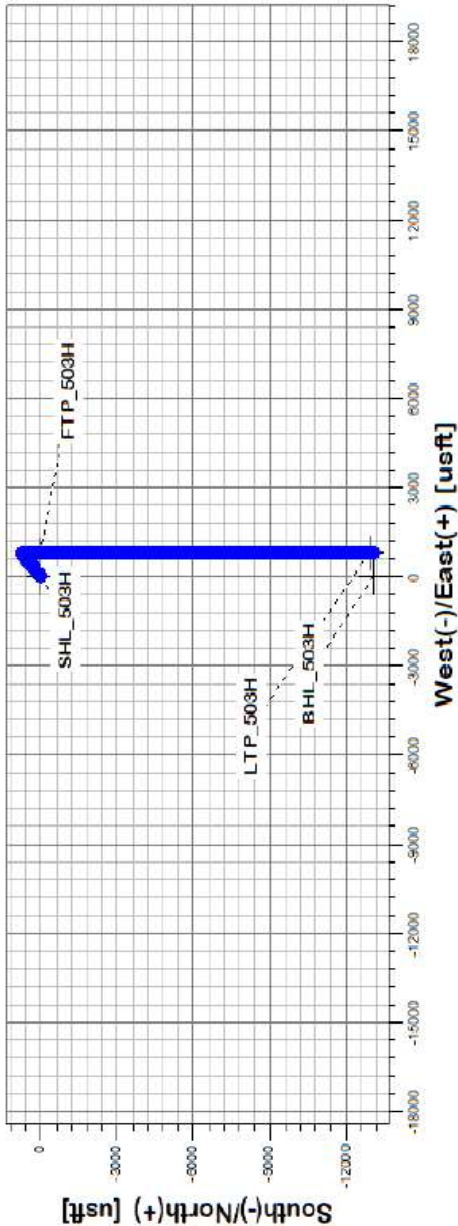
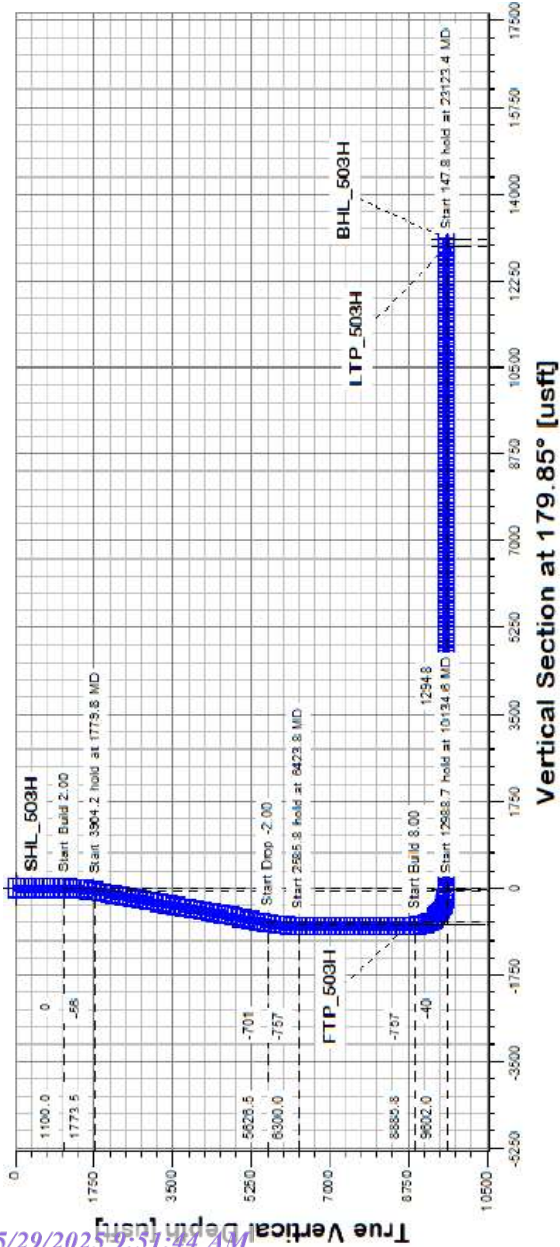
**9. Abnormal Pressures and Temperatures / Potential Hazards****Section 9 Summary:**

The estimated bottom hole temperature of 161F to 181F. No H2S is expected but monitors will be in place to detect any H2S occurrences. Should these circumstances be encountered the operator and drilling contractor are prepared to take all necessary steps to ensure safety of all personnel and environment. Lost circulation is possible throughout the well.

**10. Anticipated Starting Date and Duration of Operations****Section 10 Summary:**

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

Poker Lake Unit 21 BD 503H



Formation	TVDSS (feet)	TVD (feet)
Rustler	2,264'	993'
Salado	1,950'	1,307'
Base of Salt	-303	3560
Delaware	-531'	3,788'
Cherry Canyon	-1,474'	4,731'
Brushy Canyon	-3,014'	6271
Basal Brushy Canyon	-4,064'	7321
Bone Spring Lm.	-4,313'	7570
Avalon	-4,476'	7,733'
Lower Avalon	-4,900'	8157
1st Bone Spring Lime	-5,039'	8296
1st Bone Spring Sand	-5245	8502
2nd Bone Spring Shale	-5,529'	8,786'
2nd Bone Spring Lime	-5,744'	9,001'
2nd Bone Spring Sand	-6,166'	9,423'
2nd Bone Spring T/B Carb	-6,267'	9,524'
2nd Bone Spring Sand (Lwr)	-6345	9602
2nd BS Sand Lower Landing	-6,345'	9,602'
3rd Bone Spring Lime	-6,411'	9,668'
Harkey	-6,778'	10,035'

# Long Lead\_Well Planning

PLU 21 BD

Poker Lake Unit 21 BD 503H

Poker Lake Unit 21 BD 503H

OH

Plan: Plan 1

## Standard Planning Report

20 February, 2025



Planning Report

<b>Database:</b>	EDM 5000.17 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Poker Lake Unit 21 BD 503H
<b>Company:</b>	Long Lead_Well Planning	<b>TVD Reference:</b>	RKB (+32) @ 3257.0usft
<b>Project:</b>	PLU 21 BD	<b>MD Reference:</b>	RKB (+32) @ 3257.0usft
<b>Site:</b>	Poker Lake Unit 21 BD 503H	<b>North Reference:</b>	Grid
<b>Well:</b>	Poker Lake Unit 21 BD 503H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan 1		

<b>Project</b>	PLU 21 BD		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	New Mexico East 3001		

<b>Site</b>	Poker Lake Unit 21 BD 503H		
<b>Site Position:</b>		<b>Northing:</b>	403,258.50 usft
<b>From:</b>	Map	<b>Easting:</b>	638,152.70 usft
<b>Position Uncertainty:</b>	3.0 usft	<b>Slot Radius:</b>	13-3/16 "
		<b>Latitude:</b>	32° 6' 28.396 N
		<b>Longitude:</b>	103° 53' 13.742 W

<b>Well</b>	Poker Lake Unit 21 BD 503H		
<b>Well Position</b>	<b>+N/-S</b>	0.0 usft	<b>Northing:</b> 403,258.50 usft
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b> 638,152.70 usft
<b>Position Uncertainty</b>	0.0 usft	<b>Wellhead Elevation:</b>	usft
<b>Grid Convergence:</b>	0.24 °	<b>Ground Level:</b>	3,225.0 usft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2020	2/19/2025	6.25	59.63	47,011.77400792

<b>Design</b>	Plan 1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	179.85

<b>Plan Survey Tool Program</b>		<b>Date</b>	2/20/2025	
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.0	23,273.4 Plan 1 (OH)	XOM_R2OWSG MWD+IFR1+I	
			OWSG MWD + IFR1 + Multi-St	

Planning Report

<b>Database:</b>	EDM 5000.17 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Poker Lake Unit 21 BD 503H
<b>Company:</b>	Long Lead_Well Planning	<b>TVD Reference:</b>	RKB (+32) @ 3257.0usft
<b>Project:</b>	PLU 21 BD	<b>MD Reference:</b>	RKB (+32) @ 3257.0usft
<b>Site:</b>	Poker Lake Unit 21 BD 503H	<b>North Reference:</b>	Grid
<b>Well:</b>	Poker Lake Unit 21 BD 503H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan 1		

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
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,779.8	13.60	46.02	1,773.5	55.8	57.8	2.00	2.00	0.00	46.02	
5,744.0	13.60	46.02	5,626.5	702.9	728.3	0.00	0.00	0.00	0.00	
6,423.8	0.00	0.00	6,300.0	758.7	786.1	2.00	-2.00	0.00	180.00	
9,009.6	0.00	0.00	8,885.8	758.7	786.1	0.00	0.00	0.00	0.00	
10,134.6	90.00	179.85	9,602.0	42.5	788.0	8.00	8.00	0.00	179.85	FTP_503H
23,123.4	90.00	179.85	9,602.0	-12,946.2	822.9	0.00	0.00	0.00	0.00	LTP_503H
23,273.4	90.00	179.85	9,602.0	-13,096.2	823.3	0.00	0.00	0.00	0.00	BHL_503H

## Planning Report

Database: EDM 5000.17 Single User Db  
 Company: Long Lead\_Well Planning  
 Project: PLU 21 BD  
 Site: Poker Lake Unit 21 BD 503H  
 Well: Poker Lake Unit 21 BD 503H  
 Wellbore: OH  
 Design: Plan 1

Local Co-ordinate Reference: Well Poker Lake Unit 21 BD 503H  
 TVD Reference: RKB (+32) @ 3257.0usft  
 MD Reference: RKB (+32) @ 3257.0usft  
 North Reference: Grid  
 Survey Calculation Method: Minimum Curvature

## 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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>SHL_503H</b>									
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
993.0	0.00	0.00	993.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>Rustler</b>									
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	2.00	46.02	1,200.0	1.2	1.3	-1.2	2.00	2.00	0.00
1,300.0	4.00	46.02	1,299.8	4.8	5.0	-4.8	2.00	2.00	0.00
1,307.2	4.14	46.02	1,307.0	5.2	5.4	-5.2	2.00	2.00	0.00
<b>Salado</b>									
1,400.0	6.00	46.02	1,399.5	10.9	11.3	-10.9	2.00	2.00	0.00
1,500.0	8.00	46.02	1,498.7	19.4	20.1	-19.3	2.00	2.00	0.00
1,600.0	10.00	46.02	1,597.5	30.2	31.3	-30.1	2.00	2.00	0.00
1,700.0	12.00	46.02	1,695.6	43.5	45.0	-43.4	2.00	2.00	0.00
1,779.8	13.60	46.02	1,773.5	55.8	57.8	-55.6	2.00	2.00	0.00
1,800.0	13.60	46.02	1,793.1	59.0	61.2	-58.9	0.00	0.00	0.00
1,900.0	13.60	46.02	1,890.3	75.4	78.1	-75.2	0.00	0.00	0.00
2,000.0	13.60	46.02	1,987.5	91.7	95.0	-91.5	0.00	0.00	0.00
2,100.0	13.60	46.02	2,084.7	108.0	111.9	-107.7	0.00	0.00	0.00
2,200.0	13.60	46.02	2,181.9	124.4	128.8	-124.0	0.00	0.00	0.00
2,300.0	13.60	46.02	2,279.1	140.7	145.8	-140.3	0.00	0.00	0.00
2,400.0	13.60	46.02	2,376.3	157.0	162.7	-156.6	0.00	0.00	0.00
2,500.0	13.60	46.02	2,473.5	173.3	179.6	-172.9	0.00	0.00	0.00
2,600.0	13.60	46.02	2,570.7	189.7	196.5	-189.1	0.00	0.00	0.00
2,700.0	13.60	46.02	2,667.8	206.0	213.4	-205.4	0.00	0.00	0.00
2,800.0	13.60	46.02	2,765.0	222.3	230.3	-221.7	0.00	0.00	0.00
2,900.0	13.60	46.02	2,862.2	238.6	247.2	-238.0	0.00	0.00	0.00
3,000.0	13.60	46.02	2,959.4	255.0	264.2	-254.3	0.00	0.00	0.00
3,100.0	13.60	46.02	3,056.6	271.3	281.1	-270.5	0.00	0.00	0.00
3,200.0	13.60	46.02	3,153.8	287.6	298.0	-286.8	0.00	0.00	0.00
3,300.0	13.60	46.02	3,251.0	303.9	314.9	-303.1	0.00	0.00	0.00
3,400.0	13.60	46.02	3,348.2	320.3	331.8	-319.4	0.00	0.00	0.00
3,500.0	13.60	46.02	3,445.4	336.6	348.7	-335.7	0.00	0.00	0.00
3,600.0	13.60	46.02	3,542.6	352.9	365.7	-352.0	0.00	0.00	0.00
3,617.9	13.60	46.02	3,560.0	355.8	368.7	-354.9	0.00	0.00	0.00
<b>Base of Salt</b>									
3,700.0	13.60	46.02	3,639.8	369.2	382.6	-368.2	0.00	0.00	0.00
3,800.0	13.60	46.02	3,737.0	385.6	399.5	-384.5	0.00	0.00	0.00
3,852.4	13.60	46.02	3,788.0	394.1	408.4	-393.1	0.00	0.00	0.00
<b>Delaware</b>									
3,900.0	13.60	46.02	3,834.2	401.9	416.4	-400.8	0.00	0.00	0.00
4,000.0	13.60	46.02	3,931.4	418.2	433.3	-417.1	0.00	0.00	0.00
4,100.0	13.60	46.02	4,028.6	434.5	450.2	-433.4	0.00	0.00	0.00
4,200.0	13.60	46.02	4,125.8	450.9	467.1	-449.6	0.00	0.00	0.00
4,300.0	13.60	46.02	4,223.0	467.2	484.1	-465.9	0.00	0.00	0.00

## Planning Report

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<b>Company:</b>	Long Lead_Well Planning	<b>TVD Reference:</b>	RKB (+32) @ 3257.0usft
<b>Project:</b>	PLU 21 BD	<b>MD Reference:</b>	RKB (+32) @ 3257.0usft
<b>Site:</b>	Poker Lake Unit 21 BD 503H	<b>North Reference:</b>	Grid
<b>Well:</b>	Poker Lake Unit 21 BD 503H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan 1		

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)
4,400.0	13.60	46.02	4,320.2	483.5	501.0	-482.2	0.00	0.00	0.00
4,500.0	13.60	46.02	4,417.4	499.8	517.9	-498.5	0.00	0.00	0.00
4,600.0	13.60	46.02	4,514.6	516.2	534.8	-514.8	0.00	0.00	0.00
4,700.0	13.60	46.02	4,611.8	532.5	551.7	-531.1	0.00	0.00	0.00
4,800.0	13.60	46.02	4,709.0	548.8	568.6	-547.3	0.00	0.00	0.00
4,822.6	13.60	46.02	4,731.0	552.5	572.5	-551.0	0.00	0.00	0.00
Cherry Canyon									
4,900.0	13.60	46.02	4,806.2	565.2	585.5	-563.6	0.00	0.00	0.00
5,000.0	13.60	46.02	4,903.4	581.5	602.5	-579.9	0.00	0.00	0.00
5,100.0	13.60	46.02	5,000.6	597.8	619.4	-596.2	0.00	0.00	0.00
5,200.0	13.60	46.02	5,097.8	614.1	636.3	-612.5	0.00	0.00	0.00
5,300.0	13.60	46.02	5,195.0	630.5	653.2	-628.7	0.00	0.00	0.00
5,400.0	13.60	46.02	5,292.2	646.8	670.1	-645.0	0.00	0.00	0.00
5,500.0	13.60	46.02	5,389.4	663.1	687.0	-661.3	0.00	0.00	0.00
5,600.0	13.60	46.02	5,486.6	679.4	704.0	-677.6	0.00	0.00	0.00
5,700.0	13.60	46.02	5,583.8	695.8	720.9	-693.9	0.00	0.00	0.00
5,744.0	13.60	46.02	5,626.5	702.9	728.3	-701.0	0.00	0.00	0.00
5,800.0	12.48	46.02	5,681.1	711.7	737.4	-709.8	2.00	-2.00	0.00
5,900.0	10.48	46.02	5,779.1	725.5	751.7	-723.6	2.00	-2.00	0.00
6,000.0	8.48	46.02	5,877.7	737.0	763.6	-735.0	2.00	-2.00	0.00
6,100.0	6.48	46.02	5,976.9	746.0	772.9	-744.0	2.00	-2.00	0.00
6,200.0	4.48	46.02	6,076.4	752.6	779.8	-750.6	2.00	-2.00	0.00
6,300.0	2.48	46.02	6,176.2	756.8	784.2	-754.8	2.00	-2.00	0.00
6,394.8	0.58	46.02	6,271.0	758.6	786.0	-756.5	2.00	-2.00	0.00
Brushy Canyon									
6,400.0	0.48	46.02	6,276.2	758.6	786.0	-756.6	2.00	-2.00	0.00
6,423.8	0.00	0.00	6,300.0	758.7	786.1	-756.6	2.00	-2.00	0.00
6,500.0	0.00	0.00	6,376.2	758.7	786.1	-756.6	0.00	0.00	0.00
6,600.0	0.00	0.00	6,476.2	758.7	786.1	-756.6	0.00	0.00	0.00
6,700.0	0.00	0.00	6,576.2	758.7	786.1	-756.6	0.00	0.00	0.00
6,800.0	0.00	0.00	6,676.2	758.7	786.1	-756.6	0.00	0.00	0.00
6,900.0	0.00	0.00	6,776.2	758.7	786.1	-756.6	0.00	0.00	0.00
7,000.0	0.00	0.00	6,876.2	758.7	786.1	-756.6	0.00	0.00	0.00
7,100.0	0.00	0.00	6,976.2	758.7	786.1	-756.6	0.00	0.00	0.00
7,200.0	0.00	0.00	7,076.2	758.7	786.1	-756.6	0.00	0.00	0.00
7,300.0	0.00	0.00	7,176.2	758.7	786.1	-756.6	0.00	0.00	0.00
7,400.0	0.00	0.00	7,276.2	758.7	786.1	-756.6	0.00	0.00	0.00
7,444.8	0.00	0.00	7,321.0	758.7	786.1	-756.6	0.00	0.00	0.00
Basal Brushy Canyon									
7,500.0	0.00	0.00	7,376.2	758.7	786.1	-756.6	0.00	0.00	0.00
7,600.0	0.00	0.00	7,476.2	758.7	786.1	-756.6	0.00	0.00	0.00
7,693.8	0.00	0.00	7,570.0	758.7	786.1	-756.6	0.00	0.00	0.00
Bone Spring Lm.									
7,700.0	0.00	0.00	7,576.2	758.7	786.1	-756.6	0.00	0.00	0.00
7,800.0	0.00	0.00	7,676.2	758.7	786.1	-756.6	0.00	0.00	0.00
7,856.8	0.00	0.00	7,733.0	758.7	786.1	-756.6	0.00	0.00	0.00
Avalon									
7,900.0	0.00	0.00	7,776.2	758.7	786.1	-756.6	0.00	0.00	0.00
8,000.0	0.00	0.00	7,876.2	758.7	786.1	-756.6	0.00	0.00	0.00
8,100.0	0.00	0.00	7,976.2	758.7	786.1	-756.6	0.00	0.00	0.00
8,200.0	0.00	0.00	8,076.2	758.7	786.1	-756.6	0.00	0.00	0.00
8,280.8	0.00	0.00	8,157.0	758.7	786.1	-756.6	0.00	0.00	0.00
Lower Avalon									

## Planning Report

<b>Database:</b>	EDM 5000.17 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Poker Lake Unit 21 BD 503H
<b>Company:</b>	Long Lead_Well Planning	<b>TVD Reference:</b>	RKB (+32) @ 3257.0usft
<b>Project:</b>	PLU 21 BD	<b>MD Reference:</b>	RKB (+32) @ 3257.0usft
<b>Site:</b>	Poker Lake Unit 21 BD 503H	<b>North Reference:</b>	Grid
<b>Well:</b>	Poker Lake Unit 21 BD 503H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan 1		

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)
8,300.0	0.00	0.00	8,176.2	758.7	786.1	-756.6	0.00	0.00	0.00
8,400.0	0.00	0.00	8,276.2	758.7	786.1	-756.6	0.00	0.00	0.00
8,419.8	0.00	0.00	8,296.0	758.7	786.1	-756.6	0.00	0.00	0.00
<b>1st Bone Spring Lime</b>									
8,500.0	0.00	0.00	8,376.2	758.7	786.1	-756.6	0.00	0.00	0.00
8,600.0	0.00	0.00	8,476.2	758.7	786.1	-756.6	0.00	0.00	0.00
8,625.8	0.00	0.00	8,502.0	758.7	786.1	-756.6	0.00	0.00	0.00
<b>1st Bone Spring Sand</b>									
8,700.0	0.00	0.00	8,576.2	758.7	786.1	-756.6	0.00	0.00	0.00
8,800.0	0.00	0.00	8,676.2	758.7	786.1	-756.6	0.00	0.00	0.00
8,900.0	0.00	0.00	8,776.2	758.7	786.1	-756.6	0.00	0.00	0.00
8,909.8	0.00	0.00	8,786.0	758.7	786.1	-756.6	0.00	0.00	0.00
<b>2nd Bone Spring Shale</b>									
9,000.0	0.00	0.00	8,876.2	758.7	786.1	-756.6	0.00	0.00	0.00
9,009.6	0.00	0.00	8,885.8	758.7	786.1	-756.6	0.00	0.00	0.00
9,100.0	7.23	179.85	8,975.9	753.0	786.1	-750.9	8.00	8.00	0.00
9,125.3	9.26	179.85	9,001.0	749.4	786.1	-747.3	8.00	8.00	0.00
<b>2nd Bone Spring Lime</b>									
9,200.0	15.23	179.85	9,073.9	733.5	786.1	-731.5	8.00	8.00	0.00
9,300.0	23.23	179.85	9,168.3	700.6	786.2	-698.6	8.00	8.00	0.00
9,400.0	31.23	179.85	9,257.1	654.9	786.4	-652.9	8.00	8.00	0.00
9,500.0	39.23	179.85	9,338.8	597.3	786.5	-595.2	8.00	8.00	0.00
9,600.0	47.23	179.85	9,411.6	528.8	786.7	-526.8	8.00	8.00	0.00
9,617.1	48.60	179.85	9,423.0	516.2	786.7	-514.1	8.00	8.00	0.00
<b>2nd Bone Spring Sand</b>									
9,700.0	55.23	179.85	9,474.1	450.9	786.9	-448.9	8.00	8.00	0.00
9,797.3	63.01	179.85	9,524.0	367.5	787.1	-365.5	8.00	8.00	0.00
<b>2nd Bone Spring T/B Carb</b>									
9,800.0	63.23	179.85	9,525.2	365.1	787.1	-363.0	8.00	8.00	0.00
9,900.0	71.23	179.85	9,563.9	273.0	787.4	-270.9	8.00	8.00	0.00
10,000.0	79.23	179.85	9,589.4	176.3	787.6	-174.3	8.00	8.00	0.00
10,100.0	87.23	179.85	9,601.2	77.1	787.9	-75.0	8.00	8.00	0.00
10,134.6	90.00	179.85	9,602.0	42.5	788.0	-40.4	8.00	8.00	0.00
<b>2nd Bone Spring Sand (Lwr) - 2nd BS Sand Lower Landing - FTP_503H</b>									
10,200.0	90.00	179.85	9,602.0	-22.9	788.2	24.9	0.00	0.00	0.00
10,300.0	90.00	179.85	9,602.0	-122.9	788.4	124.9	0.00	0.00	0.00
10,400.0	90.00	179.85	9,602.0	-222.9	788.7	224.9	0.00	0.00	0.00
10,500.0	90.00	179.85	9,602.0	-322.9	789.0	324.9	0.00	0.00	0.00
10,600.0	90.00	179.85	9,602.0	-422.9	789.3	424.9	0.00	0.00	0.00
10,700.0	90.00	179.85	9,602.0	-522.9	789.5	524.9	0.00	0.00	0.00
10,800.0	90.00	179.85	9,602.0	-622.9	789.8	624.9	0.00	0.00	0.00
10,900.0	90.00	179.85	9,602.0	-722.9	790.1	724.9	0.00	0.00	0.00
11,000.0	90.00	179.85	9,602.0	-822.9	790.3	824.9	0.00	0.00	0.00
11,100.0	90.00	179.85	9,602.0	-922.9	790.6	924.9	0.00	0.00	0.00
11,200.0	90.00	179.85	9,602.0	-1,022.9	790.9	1,024.9	0.00	0.00	0.00
11,300.0	90.00	179.85	9,602.0	-1,122.9	791.1	1,124.9	0.00	0.00	0.00
11,400.0	90.00	179.85	9,602.0	-1,222.9	791.4	1,224.9	0.00	0.00	0.00
11,500.0	90.00	179.85	9,602.0	-1,322.9	791.7	1,324.9	0.00	0.00	0.00
11,600.0	90.00	179.85	9,602.0	-1,422.9	791.9	1,424.9	0.00	0.00	0.00
11,700.0	90.00	179.85	9,602.0	-1,522.9	792.2	1,524.9	0.00	0.00	0.00
11,800.0	90.00	179.85	9,602.0	-1,622.9	792.5	1,624.9	0.00	0.00	0.00
11,900.0	90.00	179.85	9,602.0	-1,722.9	792.7	1,724.9	0.00	0.00	0.00
12,000.0	90.00	179.85	9,602.0	-1,822.9	793.0	1,824.9	0.00	0.00	0.00

## Planning Report

<b>Database:</b>	EDM 5000.17 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Poker Lake Unit 21 BD 503H
<b>Company:</b>	Long Lead_Well Planning	<b>TVD Reference:</b>	RKB (+32) @ 3257.0usft
<b>Project:</b>	PLU 21 BD	<b>MD Reference:</b>	RKB (+32) @ 3257.0usft
<b>Site:</b>	Poker Lake Unit 21 BD 503H	<b>North Reference:</b>	Grid
<b>Well:</b>	Poker Lake Unit 21 BD 503H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan 1		

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)
12,100.0	90.00	179.85	9,602.0	-1,922.9	793.3	1,924.9	0.00	0.00	0.00
12,200.0	90.00	179.85	9,602.0	-2,022.9	793.5	2,024.9	0.00	0.00	0.00
12,300.0	90.00	179.85	9,602.0	-2,122.9	793.8	2,124.9	0.00	0.00	0.00
12,400.0	90.00	179.85	9,602.0	-2,222.9	794.1	2,224.9	0.00	0.00	0.00
12,500.0	90.00	179.85	9,602.0	-2,322.9	794.4	2,324.9	0.00	0.00	0.00
12,600.0	90.00	179.85	9,602.0	-2,422.9	794.6	2,424.9	0.00	0.00	0.00
12,700.0	90.00	179.85	9,602.0	-2,522.9	794.9	2,524.9	0.00	0.00	0.00
12,800.0	90.00	179.85	9,602.0	-2,622.9	795.2	2,624.9	0.00	0.00	0.00
12,900.0	90.00	179.85	9,602.0	-2,722.9	795.4	2,724.9	0.00	0.00	0.00
13,000.0	90.00	179.85	9,602.0	-2,822.9	795.7	2,824.9	0.00	0.00	0.00
13,100.0	90.00	179.85	9,602.0	-2,922.9	796.0	2,924.9	0.00	0.00	0.00
13,200.0	90.00	179.85	9,602.0	-3,022.9	796.2	3,024.9	0.00	0.00	0.00
13,300.0	90.00	179.85	9,602.0	-3,122.9	796.5	3,124.9	0.00	0.00	0.00
13,400.0	90.00	179.85	9,602.0	-3,222.9	796.8	3,224.9	0.00	0.00	0.00
13,500.0	90.00	179.85	9,602.0	-3,322.9	797.0	3,324.9	0.00	0.00	0.00
13,600.0	90.00	179.85	9,602.0	-3,422.9	797.3	3,424.9	0.00	0.00	0.00
13,700.0	90.00	179.85	9,602.0	-3,522.9	797.6	3,524.9	0.00	0.00	0.00
13,800.0	90.00	179.85	9,602.0	-3,622.9	797.8	3,624.9	0.00	0.00	0.00
13,900.0	90.00	179.85	9,602.0	-3,722.9	798.1	3,724.9	0.00	0.00	0.00
14,000.0	90.00	179.85	9,602.0	-3,822.9	798.4	3,824.9	0.00	0.00	0.00
14,100.0	90.00	179.85	9,602.0	-3,922.9	798.7	3,924.9	0.00	0.00	0.00
14,200.0	90.00	179.85	9,602.0	-4,022.9	798.9	4,024.9	0.00	0.00	0.00
14,300.0	90.00	179.85	9,602.0	-4,122.9	799.2	4,124.9	0.00	0.00	0.00
14,400.0	90.00	179.85	9,602.0	-4,222.9	799.5	4,224.9	0.00	0.00	0.00
14,500.0	90.00	179.85	9,602.0	-4,322.9	799.7	4,324.9	0.00	0.00	0.00
14,600.0	90.00	179.85	9,602.0	-4,422.9	800.0	4,424.9	0.00	0.00	0.00
14,700.0	90.00	179.85	9,602.0	-4,522.9	800.3	4,524.9	0.00	0.00	0.00
14,800.0	90.00	179.85	9,602.0	-4,622.9	800.5	4,624.9	0.00	0.00	0.00
14,900.0	90.00	179.85	9,602.0	-4,722.9	800.8	4,724.9	0.00	0.00	0.00
15,000.0	90.00	179.85	9,602.0	-4,822.9	801.1	4,824.9	0.00	0.00	0.00
15,100.0	90.00	179.85	9,602.0	-4,922.9	801.3	4,924.9	0.00	0.00	0.00
15,200.0	90.00	179.85	9,602.0	-5,022.9	801.6	5,024.9	0.00	0.00	0.00
15,300.0	90.00	179.85	9,602.0	-5,122.9	801.9	5,124.9	0.00	0.00	0.00
15,400.0	90.00	179.85	9,602.0	-5,222.9	802.1	5,224.9	0.00	0.00	0.00
15,500.0	90.00	179.85	9,602.0	-5,322.9	802.4	5,324.9	0.00	0.00	0.00
15,600.0	90.00	179.85	9,602.0	-5,422.9	802.7	5,424.9	0.00	0.00	0.00
15,700.0	90.00	179.85	9,602.0	-5,522.9	803.0	5,524.9	0.00	0.00	0.00
15,800.0	90.00	179.85	9,602.0	-5,622.9	803.2	5,624.9	0.00	0.00	0.00
15,900.0	90.00	179.85	9,602.0	-5,722.9	803.5	5,724.9	0.00	0.00	0.00
16,000.0	90.00	179.85	9,602.0	-5,822.9	803.8	5,824.9	0.00	0.00	0.00
16,100.0	90.00	179.85	9,602.0	-5,922.9	804.0	5,924.9	0.00	0.00	0.00
16,200.0	90.00	179.85	9,602.0	-6,022.9	804.3	6,024.9	0.00	0.00	0.00
16,300.0	90.00	179.85	9,602.0	-6,122.9	804.6	6,124.9	0.00	0.00	0.00
16,400.0	90.00	179.85	9,602.0	-6,222.9	804.8	6,224.9	0.00	0.00	0.00
16,500.0	90.00	179.85	9,602.0	-6,322.9	805.1	6,324.9	0.00	0.00	0.00
16,600.0	90.00	179.85	9,602.0	-6,422.9	805.4	6,424.9	0.00	0.00	0.00
16,700.0	90.00	179.85	9,602.0	-6,522.9	805.6	6,524.9	0.00	0.00	0.00
16,800.0	90.00	179.85	9,602.0	-6,622.9	805.9	6,624.9	0.00	0.00	0.00
16,900.0	90.00	179.85	9,602.0	-6,722.9	806.2	6,724.9	0.00	0.00	0.00
17,000.0	90.00	179.85	9,602.0	-6,822.8	806.4	6,824.9	0.00	0.00	0.00
17,100.0	90.00	179.85	9,602.0	-6,922.8	806.7	6,924.9	0.00	0.00	0.00
17,200.0	90.00	179.85	9,602.0	-7,022.8	807.0	7,024.9	0.00	0.00	0.00
17,300.0	90.00	179.85	9,602.0	-7,122.8	807.3	7,124.9	0.00	0.00	0.00
17,400.0	90.00	179.85	9,602.0	-7,222.8	807.5	7,224.9	0.00	0.00	0.00



## Planning Report

<b>Database:</b>	EDM 5000.17 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Poker Lake Unit 21 BD 503H
<b>Company:</b>	Long Lead_Well Planning	<b>TVD Reference:</b>	RKB (+32) @ 3257.0usft
<b>Project:</b>	PLU 21 BD	<b>MD Reference:</b>	RKB (+32) @ 3257.0usft
<b>Site:</b>	Poker Lake Unit 21 BD 503H	<b>North Reference:</b>	Grid
<b>Well:</b>	Poker Lake Unit 21 BD 503H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan 1		

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)
17,500.0	90.00	179.85	9,602.0	-7,322.8	807.8	7,324.9	0.00	0.00	0.00
17,600.0	90.00	179.85	9,602.0	-7,422.8	808.1	7,424.9	0.00	0.00	0.00
17,700.0	90.00	179.85	9,602.0	-7,522.8	808.3	7,524.9	0.00	0.00	0.00
17,800.0	90.00	179.85	9,602.0	-7,622.8	808.6	7,624.9	0.00	0.00	0.00
17,900.0	90.00	179.85	9,602.0	-7,722.8	808.9	7,724.9	0.00	0.00	0.00
18,000.0	90.00	179.85	9,602.0	-7,822.8	809.1	7,824.9	0.00	0.00	0.00
18,100.0	90.00	179.85	9,602.0	-7,922.8	809.4	7,924.9	0.00	0.00	0.00
18,200.0	90.00	179.85	9,602.0	-8,022.8	809.7	8,024.9	0.00	0.00	0.00
18,300.0	90.00	179.85	9,602.0	-8,122.8	809.9	8,124.9	0.00	0.00	0.00
18,400.0	90.00	179.85	9,602.0	-8,222.8	810.2	8,224.9	0.00	0.00	0.00
18,500.0	90.00	179.85	9,602.0	-8,322.8	810.5	8,324.9	0.00	0.00	0.00
18,600.0	90.00	179.85	9,602.0	-8,422.8	810.7	8,424.9	0.00	0.00	0.00
18,700.0	90.00	179.85	9,602.0	-8,522.8	811.0	8,524.9	0.00	0.00	0.00
18,800.0	90.00	179.85	9,602.0	-8,622.8	811.3	8,624.9	0.00	0.00	0.00
18,900.0	90.00	179.85	9,602.0	-8,722.8	811.6	8,724.9	0.00	0.00	0.00
19,000.0	90.00	179.85	9,602.0	-8,822.8	811.8	8,824.9	0.00	0.00	0.00
19,100.0	90.00	179.85	9,602.0	-8,922.8	812.1	8,924.9	0.00	0.00	0.00
19,200.0	90.00	179.85	9,602.0	-9,022.8	812.4	9,024.9	0.00	0.00	0.00
19,300.0	90.00	179.85	9,602.0	-9,122.8	812.6	9,124.9	0.00	0.00	0.00
19,400.0	90.00	179.85	9,602.0	-9,222.8	812.9	9,224.9	0.00	0.00	0.00
19,500.0	90.00	179.85	9,602.0	-9,322.8	813.2	9,324.9	0.00	0.00	0.00
19,600.0	90.00	179.85	9,602.0	-9,422.8	813.4	9,424.9	0.00	0.00	0.00
19,700.0	90.00	179.85	9,602.0	-9,522.8	813.7	9,524.9	0.00	0.00	0.00
19,800.0	90.00	179.85	9,602.0	-9,622.8	814.0	9,624.9	0.00	0.00	0.00
19,900.0	90.00	179.85	9,602.0	-9,722.8	814.2	9,724.9	0.00	0.00	0.00
20,000.0	90.00	179.85	9,602.0	-9,822.8	814.5	9,824.9	0.00	0.00	0.00
20,100.0	90.00	179.85	9,602.0	-9,922.8	814.8	9,924.9	0.00	0.00	0.00
20,200.0	90.00	179.85	9,602.0	-10,022.8	815.0	10,024.9	0.00	0.00	0.00
20,300.0	90.00	179.85	9,602.0	-10,122.8	815.3	10,124.9	0.00	0.00	0.00
20,400.0	90.00	179.85	9,602.0	-10,222.8	815.6	10,224.9	0.00	0.00	0.00
20,500.0	90.00	179.85	9,602.0	-10,322.8	815.9	10,324.9	0.00	0.00	0.00
20,600.0	90.00	179.85	9,602.0	-10,422.8	816.1	10,424.9	0.00	0.00	0.00
20,700.0	90.00	179.85	9,602.0	-10,522.8	816.4	10,524.9	0.00	0.00	0.00
20,800.0	90.00	179.85	9,602.0	-10,622.8	816.7	10,624.9	0.00	0.00	0.00
20,900.0	90.00	179.85	9,602.0	-10,722.8	816.9	10,724.9	0.00	0.00	0.00
21,000.0	90.00	179.85	9,602.0	-10,822.8	817.2	10,824.9	0.00	0.00	0.00
21,100.0	90.00	179.85	9,602.0	-10,922.8	817.5	10,924.9	0.00	0.00	0.00
21,200.0	90.00	179.85	9,602.0	-11,022.8	817.7	11,024.9	0.00	0.00	0.00
21,300.0	90.00	179.85	9,602.0	-11,122.8	818.0	11,124.9	0.00	0.00	0.00
21,400.0	90.00	179.85	9,602.0	-11,222.8	818.3	11,224.9	0.00	0.00	0.00
21,500.0	90.00	179.85	9,602.0	-11,322.8	818.5	11,324.9	0.00	0.00	0.00
21,600.0	90.00	179.85	9,602.0	-11,422.8	818.8	11,424.9	0.00	0.00	0.00
21,700.0	90.00	179.85	9,602.0	-11,522.8	819.1	11,524.9	0.00	0.00	0.00
21,800.0	90.00	179.85	9,602.0	-11,622.8	819.3	11,624.9	0.00	0.00	0.00
21,900.0	90.00	179.85	9,602.0	-11,722.8	819.6	11,724.9	0.00	0.00	0.00
22,000.0	90.00	179.85	9,602.0	-11,822.8	819.9	11,824.9	0.00	0.00	0.00
22,100.0	90.00	179.85	9,602.0	-11,922.8	820.2	11,924.9	0.00	0.00	0.00
22,200.0	90.00	179.85	9,602.0	-12,022.8	820.4	12,024.9	0.00	0.00	0.00
22,300.0	90.00	179.85	9,602.0	-12,122.8	820.7	12,124.9	0.00	0.00	0.00
22,400.0	90.00	179.85	9,602.0	-12,222.8	821.0	12,224.9	0.00	0.00	0.00
22,500.0	90.00	179.85	9,602.0	-12,322.8	821.2	12,324.9	0.00	0.00	0.00
22,600.0	90.00	179.85	9,602.0	-12,422.8	821.5	12,424.9	0.00	0.00	0.00
22,700.0	90.00	179.85	9,602.0	-12,522.8	821.8	12,524.9	0.00	0.00	0.00
22,800.0	90.00	179.85	9,602.0	-12,622.8	822.0	12,624.9	0.00	0.00	0.00

Planning Report

Database:	EDM 5000.17 Single User Db	Local Co-ordinate Reference:	Well Poker Lake Unit 21 BD 503H
Company:	Long Lead_Well Planning	TVD Reference:	RKB (+32) @ 3257.0usft
Project:	PLU 21 BD	MD Reference:	RKB (+32) @ 3257.0usft
Site:	Poker Lake Unit 21 BD 503H	North Reference:	Grid
Well:	Poker Lake Unit 21 BD 503H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1		

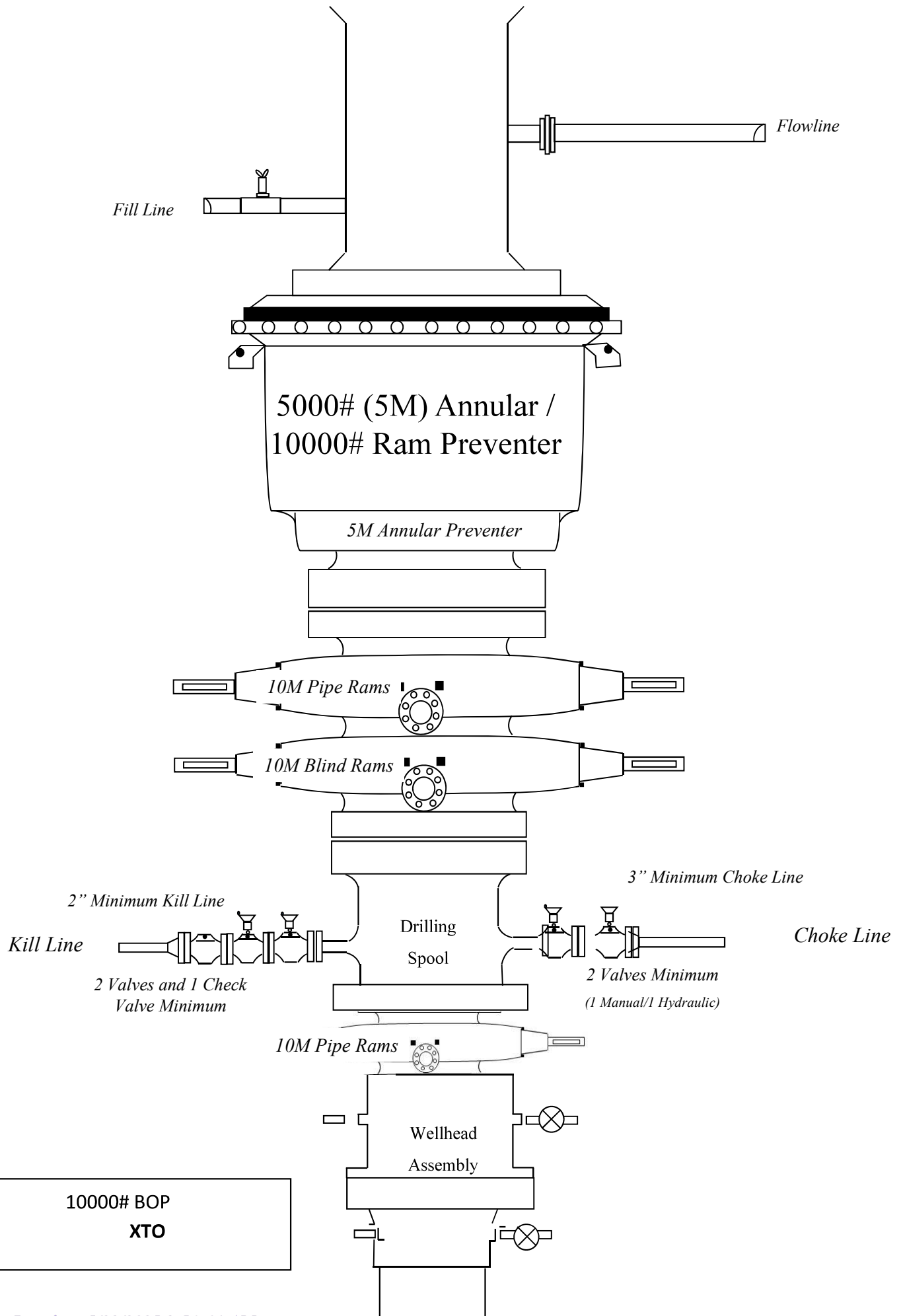
Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
22,900.0	90.00	179.85	9,602.0	-12,722.8	822.3	12,724.9	0.00	0.00	0.00
23,000.0	90.00	179.85	9,602.0	-12,822.8	822.6	12,824.9	0.00	0.00	0.00
23,100.0	90.00	179.85	9,602.0	-12,922.8	822.8	12,924.9	0.00	0.00	0.00
23,123.4	90.00	179.85	9,602.0	-12,946.2	822.9	12,948.3	0.00	0.00	0.00
LTP_503H									
23,200.0	90.00	179.85	9,602.0	-13,022.8	823.1	13,024.9	0.00	0.00	0.00
23,273.4	90.00	179.85	9,602.0	-13,096.2	823.3	13,098.3	0.00	0.00	0.00
BHL_503H									

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
SHL_503H - plan hits target center - Point	0.00	0.00	0.0	0.0	0.0	403,258.50	638,152.70	32° 6' 28.396 N	103° 53' 13.742 W
BHL_503H - plan misses target center by 0.6usft at 23273.4usft MD (9602.0 TVD, -13096.2 N, 823.3 E) - Point	0.00	0.00	9,602.0	-13,096.2	823.9	390,162.30	638,976.60	32° 4' 18.759 N	103° 53' 4.796 W
FTP_503H - plan hits target center - Point	0.00	0.00	9,602.0	42.5	788.0	403,301.00	638,940.70	32° 6' 28.784 N	103° 53' 4.578 W
LTP_503H - plan hits target center - Point	0.00	0.00	9,602.0	-12,946.2	822.9	390,312.30	638,975.60	32° 4' 20.243 N	103° 53' 4.801 W

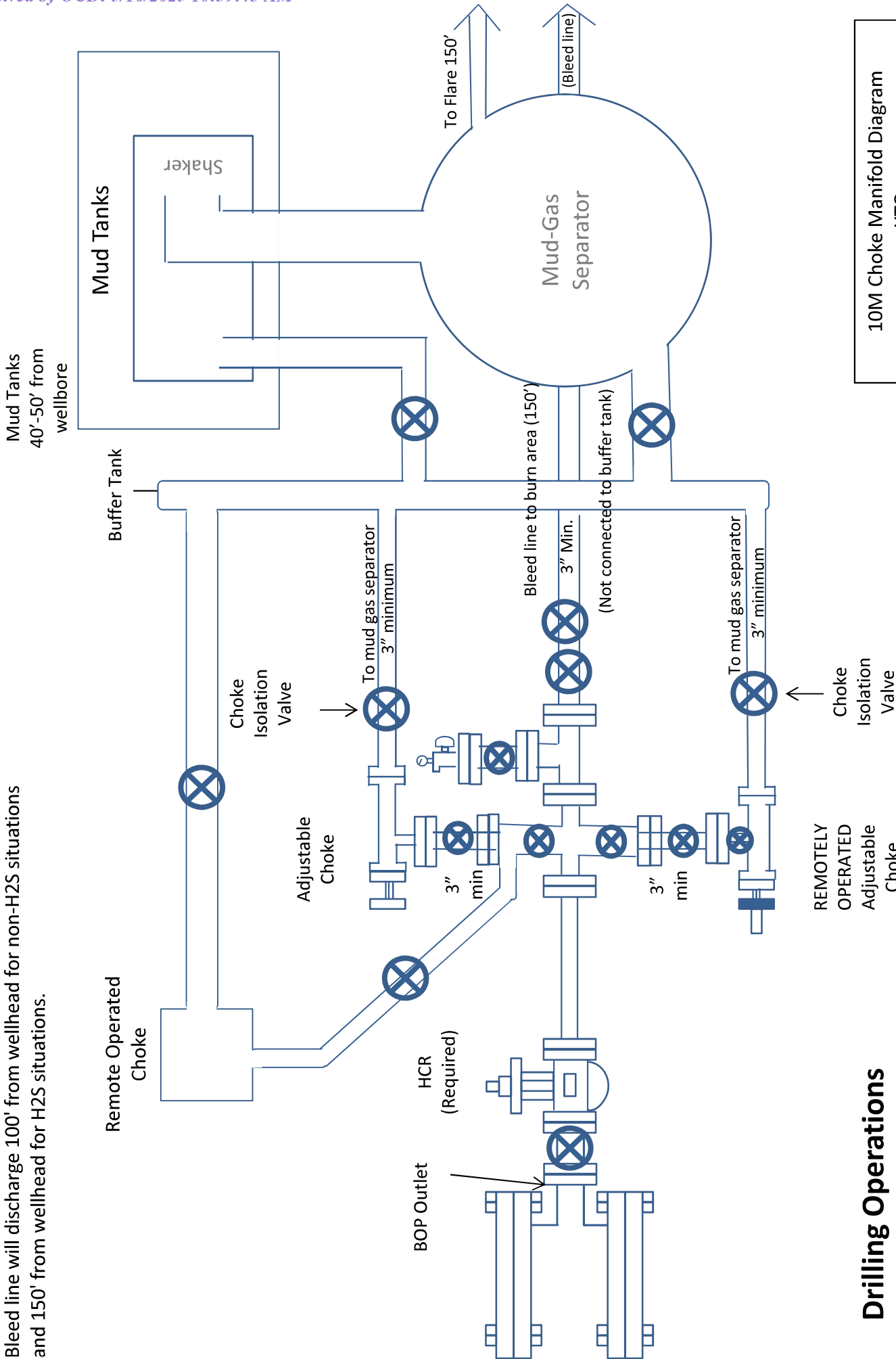
## Planning Report

<b>Database:</b>	EDM 5000.17 Single User Db	<b>Local Co-ordinate Reference:</b>	Well Poker Lake Unit 21 BD 503H
<b>Company:</b>	Long Lead_Well Planning	<b>TVD Reference:</b>	RKB (+32) @ 3257.0usft
<b>Project:</b>	PLU 21 BD	<b>MD Reference:</b>	RKB (+32) @ 3257.0usft
<b>Site:</b>	Poker Lake Unit 21 BD 503H	<b>North Reference:</b>	Grid
<b>Well:</b>	Poker Lake Unit 21 BD 503H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan 1		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
993.0	993.0	Rustler				
1,307.2	1,307.0	Salado				
3,617.9	3,560.0	Base of Salt				
3,852.4	3,788.0	Delaware				
4,822.6	4,731.0	Cherry Canyon				
6,394.8	6,271.0	Brushy Canyon				
7,444.8	7,321.0	Basal Brushy Canyon				
7,693.8	7,570.0	Bone Spring Lm.				
7,856.8	7,733.0	Avalon				
8,280.8	8,157.0	Lower Avalon				
8,419.8	8,296.0	1st Bone Spring Lime				
8,625.8	8,502.0	1st Bone Spring Sand				
8,909.8	8,786.0	2nd Bone Spring Shale				
9,125.3	9,001.0	2nd Bone Spring Lime				
9,617.1	9,423.0	2nd Bone Spring Sand				
9,797.3	9,524.0	2nd Bone Spring T/B Carb				
10,134.6	9,602.0	2nd Bone Spring Sand (Lwr)				
10,134.6	9,602.0	2nd BS Sand Lower Landing				



Bleed line will discharge 100' from wellhead for non-H2S situations and 150' from wellhead for H2S situations.



10M Choke Manifold Diagram  
XTO

**Drilling Operations  
Choke Manifold  
10M Service**



# TenarisHydril Wedge 511



Coupling	Pipe Body
Grade: L80-IC	Grade: L80-IC
Body: Red	1st Band: Red
1st Band: Brown	2nd Band: Brown
2nd Band: -	3rd Band: Pale Green
3rd Band: -	4th Band: -
	5th Band: -
	6th Band: -

Outside Diameter	7.625 in.	Wall Thickness	0.375 in.	Grade	L80-IC
Min. Wall Thickness	87.50 %	Pipe Body Drift	API Standard	Type	Casing
Connection OD Option	REGULAR				

## Pipe Body Data

Geometry		Performance	
Nominal OD	7.625 in.	Wall Thickness	0.375 in.
Nominal Weight	29.70 lb/ft	Plain End Weight	29.06 lb/ft
Drift	6.750 in.	OD Tolerance	API
Nominal ID	6.875 in.		
		Body Yield Strength	683 x1000 lb
		Min. Internal Yield Pressure	6890 psi
		SMYS	80,000 psi
		Collapse Pressure	5900 psi

## Connection Data

Geometry		Performance		Make-Up Torques	
Connection OD	7.625 in.	Tension Efficiency	61.10 %	Minimum	5900 ft-lb
Connection ID	6.787 in.	Joint Yield Strength	417 x1000 lb	Optimum	7100 ft-lb
Make-up Loss	3.704 in.	Internal Pressure Capacity	6890 psi	Maximum	10,300 ft-lb
Threads per inch	3.28	Compression Efficiency	73.80 %		
Connection OD Option	Regular	Compression Strength	504 x1000 lb	Operation Limit Torques	
		Max. Allowable Bending	29.33 °/100 ft	Operating Torque	35,000 ft-lb
		External Pressure Capacity	5900 psi	Yield Torque	52,000 ft-lb

## Notes

For the latest performance data, always visit our website: [www.tenaris.com](http://www.tenaris.com)  
For further information on concepts indicated in this datasheet, download the Datasheet Manual from [www.tenaris.com](http://www.tenaris.com)

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TPN™



Coupling	Pipe Body
Grade: P110-CY	Grade: P110-CY
Body: White	1st Band: White
1st Band: Grey	2nd Band: Grey
2nd Band: -	3rd Band: -
3rd Band: -	4th Band: -
	5th Band: -
	6th Band: -

Outside Diameter	5,500 in.	Wall Thickness	0,361 in.	Grade	P110-CY
Min. Wall Thickness	87,50 %	Pipe Body Drift	API Standard	Type	Casing
Connection OD Option	REGULAR				

Pipe Body Data

Geometry				Performance	
Nominal OD	5,500 in.	Wall Thickness	0.361 in.	Body Yield Strength	641 x1000 lb
Nominal Weight	20.00 lb/ft	Plain End Weight	19.83 lb/ft	Min. Internal Yield Pressure	12,640 psi
Drift	4.653 in.	OD Tolerance	API	SMYS	110,000 psi
Nominal ID	4,778 in.			Collapse Pressure	11,100 psi

Connection Data

Geometry		Performance		Make-Up Torques	
Connection OD	6,300 in.	Tension Efficiency	100 %	Minimum	13,860 ft-lb
Coupling Length	8,408 in.	Joint Yield Strength	641 x1000 lb	Optimum	15,400 ft-lb
Connection ID	4,778 in.	Internal Pressure Capacity	12,640 psi	Maximum	16,940 ft-lb
Make-up Loss	4,204 in.	Compression Efficiency	100 %		
Threads per inch	5	Compression Strength	641 x1000 lb	Operation Limit Torques	
Connection OD Option	Regular	Max. Allowable Bending	92 °/100 ft	Operating Torque	26,350 ft-lb
		External Pressure Capacity	11,100 psi	Yield Torque	29,300 ft-lb

Notes

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PI/CIII



# TenarisHydril Wedge 441®



Coupling	Pipe Body
Grade: P110-4C	Grade: P110-4C
Body: White	1st Band: White
1st Band: -	2nd Band: Pale Green
2nd Band: -	3rd Band: -
3rd Band: -	4th Band: -
	5th Band: -
	6th Band: -

Outside Diameter	5.500 in.	Wall Thickness	0.361 in.	Grade	P110-4C
Min. Wall Thickness	87.50 %	Pipe Body Drift	API Standard	Type	Casing
Connection OD Option	REGULAR				

## Pipe Body Data

Geometry		Performance	
Nominal OD	5.500 in.	Wall Thickness	0.361 in.
Nominal Weight	20.00 lb/ft	Plain End Weight	19.83 lb/ft
Drift	4.653 in.	OD Tolerance	API
Nominal ID	4.778 in.		
		Body Yield Strength	641 x1000 lb
		Min. Internal Yield Pressure	12,640 psi
		SMYS	110,000 psi
		Collapse Pressure	12,300 psi

## Connection Data

Geometry		Performance		Make-Up Torques	
Connection OD	5.852 in.	Tension Efficiency	81.50 %	Minimum	15,000 ft-lb
Coupling Length	8.714 in.	Joint Yield Strength	522 x1000 lb	Optimum	16,000 ft-lb
Connection ID	4.778 in.	Internal Pressure Capacity	12,640 psi	Maximum	19,200 ft-lb
Make-up Loss	3.780 in.	Compression Efficiency	81.50 %		
Threads per inch	3.40	Compression Strength	522 x1000 lb	Operation Limit Torques	
Connection OD Option	Regular	Max. Allowable Bending	74,98 °/100 ft	Operating Torque	32,000 ft-lb
		External Pressure Capacity	12,300 psi	Yield Torque	38,000 ft-lb
				Buck-On	
				Minimum	19,200 ft-lb
				Maximum	20,700 ft-lb

## Notes

This connection is fully interchangeable with:  
Wedge 441® - 5.5 in. - 0.304 (17.00) in. (lb/ft)  
Wedge 461® - 5.5 in. - 0.304 (17.00) / 0.361 (20.00) / 0.415 (23.00) in. (lb/ft)  
Connections with Dopeless® Technology are fully compatible with the same connection in its doped version  
Connection performance values are related to structural capabilities. For sealability-related performance information, request the Connection Service Envelope from your local Tenaris Representative.

For the latest performance data, always visit our website: [www.tenaris.com](http://www.tenaris.com)  
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HBE0000479

CACTUS WELLHEAD LLC

20" x 9-5/8" x 7-5/8" x 5-1/2" MBU-T-CFL-R-DBLO Wellhead  
With 11" 10M x 7-1/16" 15M CTH-DBLHPS Tubing Head  
and 9-5/8", 7-5/8" & 5-1/2" Pin Bottom Mandrel Casing Hangers

XTO respectfully requests approval to utilize a spudder rig to pre-set surface casing.

Description of Operations:

1. Spudder rig will move in to drill the surface hole and pre-set surface casing on the well.
  - a. After drilling the surface hole section, the spudder rig will run casing and cement following all of the applicable rules and regulations (OnShore Order 2, all COAs and NMOCD regulations).
  - b. The spudder rig will utilize fresh water-based mud to drill the surface hole to TD. Solids control will be handled entirely on a closed loop basis. No earth pits will be used.
2. The wellhead will be installed and tested as soon as the surface casing is cut off and WOC time has been reached.
3. A blind flange at the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with needle valves installed on two wing valves.
  - a. A means for intervention will be maintained while the drilling rig is not over the well.
4. Spudder rig operations are expected to take 2-3 days per well on the pad.
5. The BLM will be contacted and notified 24 hours prior to commencing spudder rig operations.
6. Drilling Operations will begin with a larger rig and a BOP stack equal to or greater than the pressure rating that was permitted will be nipped up and tested on the wellhead before drilling operations resume on each well.
  - a. The larger rig will move back onto the location within 90 days from the point at which the wells are secured and the spudder rig is moved off location.
  - b. The BLM will be notified 24 hours before the larger rig moves back on the pre-set locations
7. XTO will have supervision on the rig to ensure compliance with all BLM and NMOCD regulations and to oversee operations.
8. Once the rig is removed, XTO will secure the wellhead area by placing a guard rail around the cellar area.

**Subject:** Request for a Variance Allowing break Testing of the Blowout Preventer Equipment (BOPE)

XTO Energy requests a variance to ONLY test broken pressure seals on the BOPE and function test BOP when skidding a drilling rig between multiple wells on a pad.

**Background**

Onshore Oil and Gas Order CFR Title 43 Part 3170, Drilling Operations, Sections III.A.2.i.iv.B states that the BOP test must be performed whenever any seal subject to test pressure is broken. The current interpretation of the Bureau of Land Management (BLM) requires a complete BOP test and not just a test of the affected component. CFR Title 43 Part 3170 states, "Some situation may exist either on a well-by-well basis or field-wide basis whereby it is commonly accepted practice to vary a particular minimum standard(s) established in this order. This situation can be resolved by requesting a variance...". XTO Energy feels the break testing the BOPE is such a situation. Therefore, as per CFR Title 43 Part 3170, XTO Energy submits this request for the variance.

**Supporting Documentation**

CFR Title 43 Part 3170 became effective on December 19, 1988 and has remained the standard for regulating BLM onshore drilling operations for over 30 years. During this time there have been significant changes in drilling technology. BLM continues to use the variance request process to allow for the use of modern technology and acceptable engineering practices that have arisen since CFR Title 43 Part 3170 was originally released. The XTO Energy drilling rig fleet has many modern upgrades that allow the intact BOP stack to be moved between well slots on a multi-well pad, as well as, wellhead designs that incorporate quick connects facilitating release of the BOP from the wellhead without breaking any BOP stack components apart. These technologies have been used extensively offshore, and other regulators, API, and many operators around the world have endorsed break testing as safe and reliable.



Figure 1: Winch System attached to BOP Stack

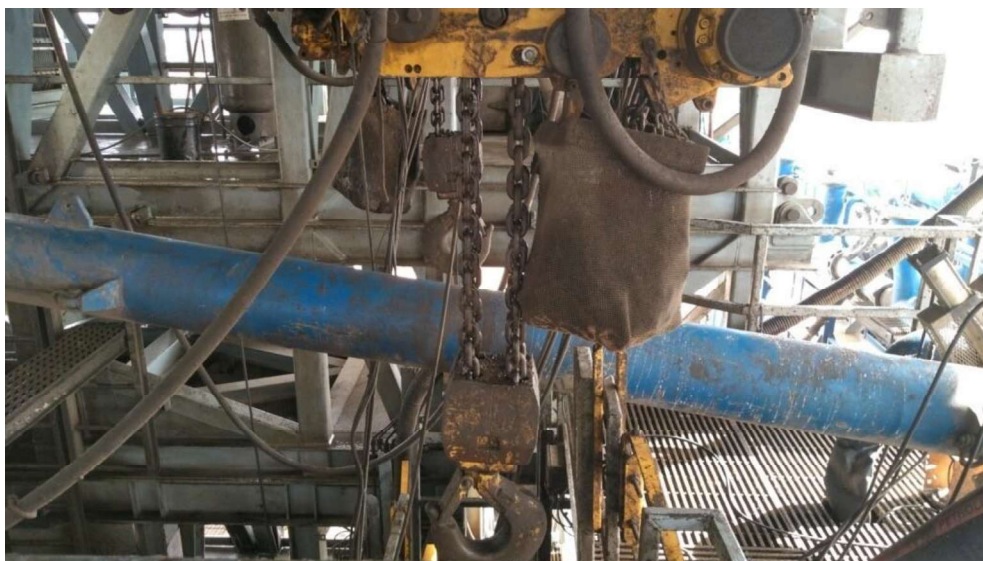


Figure 2: BOP Winch System

American Petroleum Institute (API) standards, specification and recommended practices are considered the industry standard and are consistently utilized and referenced by the industry. CFR Title 43 Part 3170 recognizes API recommended Practices (RP) 53 in its original development. API Standard 53, *Well Control Equipment Systems for Drilling Wells* (Fifth Edition, December 2018, Annex C, Table C.4) recognizes break testing as an acceptable practice. Specifically, API Standard 53, Section 5.3.7.1 states “A pressure test of the pressure containing component shall be performed following the disconnection or repair, limited to the affected component.” See Table C.4 below for reference.

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API STANDARD 53

Table C.4—Initial Pressure Testing, Surface BOP Stacks

Component to be Pressure Tested	Pressure Test—Low Pressure <sup>a,c</sup> psig (MPa)	Pressure Test—High Pressure <sup>a,c</sup>	
		Change Out of Component, Elastomer, or Ring Gasket	No Change Out of Component, Elastomer, or Ring Gasket
Annular preventer <sup>b</sup>	250 to 350 (1.72 to 2.41)	RWP of annular preventer	MASP or 70% annular RWP, whichever is lower.
Fixed pipe, variable bore, blind, and BSR preventers <sup>b,d</sup>	250 to 350 (1.72 to 2.41)	RWP of ram preventer or wellhead system, whichever is lower	ITP
Choke and kill line and BOP side outlet valves below ram preventers (both sides)	250 to 350 (1.72 to 2.41)	RWP of side outlet valve or wellhead system, whichever is lower	ITP
Choke manifold—upstream of chokes <sup>e</sup>	250 to 350 (1.72 to 2.41)	RWP of ram preventers or wellhead system, whichever is lower	ITP
Choke manifold—downstream of chokes <sup>e</sup>	250 to 350 (1.72 to 2.41)	RWP of valve(s), line(s), or MASP for the well program, whichever is lower	
Kelly, kelly valves, drill pipe safety valves, IBOPs	250 to 350 (1.72 to 2.41)	MASP for the well program	

<sup>a</sup> Pressure test evaluation periods shall be a minimum of five minutes.

No visible leaks.

The pressure shall remain stable during the evaluation period. The pressure shall not decrease below the intended test pressure.

<sup>b</sup> Annular(s) and VBR(s) shall be pressure tested on the largest and smallest OD drill pipe to be used in well program.

<sup>c</sup> For pad drilling operations, moving from one wellhead to another within the 21 days, pressure testing is required for pressure-containing and pressure-controlling connections when the integrity of a pressure seal is broken.

<sup>d</sup> For surface offshore operations, the ram BOPs shall be pressure tested with the ram locks engaged and the closing and locking pressure vented during the initial test. For land operations, the ram BOPs shall be pressure tested with the ram locks engaged and the closing and locking pressure vented at commissioning and annually.

<sup>e</sup> Adjustable chokes are not required to be full sealing devices. Pressure testing against a closed choke is not required.



The Bureau of Safety and Environmental Enforcement (BSEE), Department of Interior, has also utilized the API standards, specification and best practices in the development of its offshore oil and gas regulations and incorporates them by reference within its regulations.

Break testing has been approved by the BLM in the past with other operators based on the detailed information provided in this document.

XTO Energy feels break testing and our current procedures meet the intent of CFR Title 43 Part 317 0and often exceed it. There has been no evidence that break testing results in more components failing than seen on full BOP tests. XTO Energy's internal standards requires complete BOPE tests more often than that of CFR Title 43 Part 3170 (Every 21 days). In addition to function testing the annular, pipe rams and blind rams after

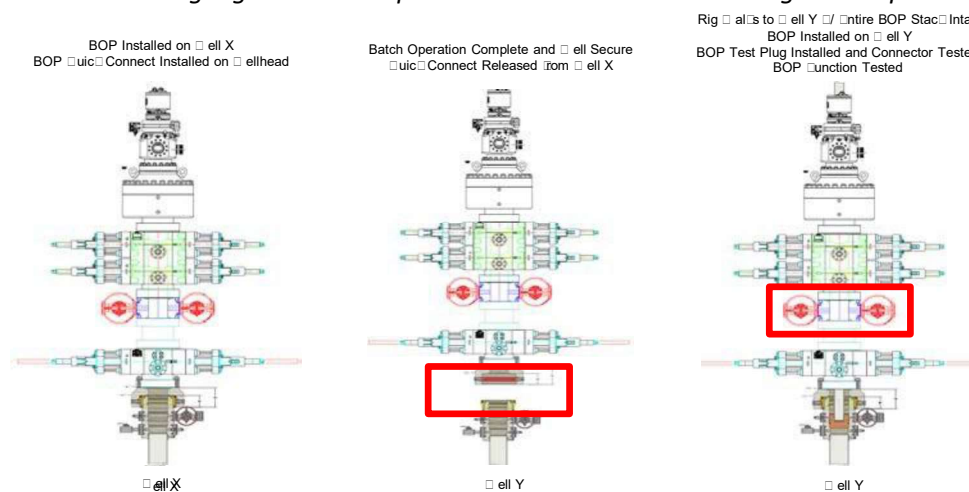
each BOP nipple up, XTO Energy performs a choke drill with the rig crew prior to drilling out every casing shoe. This is additional training for the rig crew that exceeds the requirements of the CFR Title 43 Part 3170.

### **Procedures**

1. XTO Energy will use this document for our break testing plan for New Mexico Delaware basin. The summary below will be referenced in the APD or Sundry Notice and receive approval prior to implementing this variance.
2. XTO Energy will perform BOP break testing on multi-wells pads where multiple intermediate sections can be drilled and cased within the 21-day BOP test window.
  - a. A full BOP test will be conducted on the first well on the pad.
  - b. The first intermediate hole section drilled on the pad will be the deepest. All of the remaining hole sections will be the same depth or shallower.
    - i. Our Lower WC targets set the intermediate casing shoe no deeper than the Wolfcamp B.
    - ii. Our Upper WC targets set the intermediate casing shoe shallower than the Wolfcamp B.
  - c. A Full BOP test will be required if the intermediate hole section being drilled has a MASP over 5M.
  - d. A full BOP test will be required prior to drilling any production hole.
3. After performing a complete BOP test on the first well, the intermediate hole section will be drilled and cased, two breaks would be made on the BOP equipment.
  - a. Between the HCV valve and choke line connection
  - b. Between the BOP quick connect and the wellhead
4. The BOP is then lifted and removed from the wellhead by a hydraulic system.
5. After skidding to the next well, the BOP is moved to the wellhead by the same hydraulic system and installed.
6. The connections mentioned in 3a and 3b will then be reconnected.
7. Install test plug into the wellhead using test joint or drill pipe.
8. A shell test is performed against the upper pipe rams testing the two breaks.
9. The shell test will consist of a 250 psi low test and a high test to the value submitted in the APD or Sundry (e.g. 5,000 psi or 10,000psi).
10. Function test will be performed on the following components: lower pipe rams, blind rams, and annular.

11. For a multi-well pad the same two breaks on the BOP would be made and on the next wells and steps 4 through 10 would be repeated.
12. A second break test would only be done if the intermediate hole section being drilled could not be completed within the 21 day BOP test window.

*Note: Picture below highlights BOP components that will be tested during batch operations*



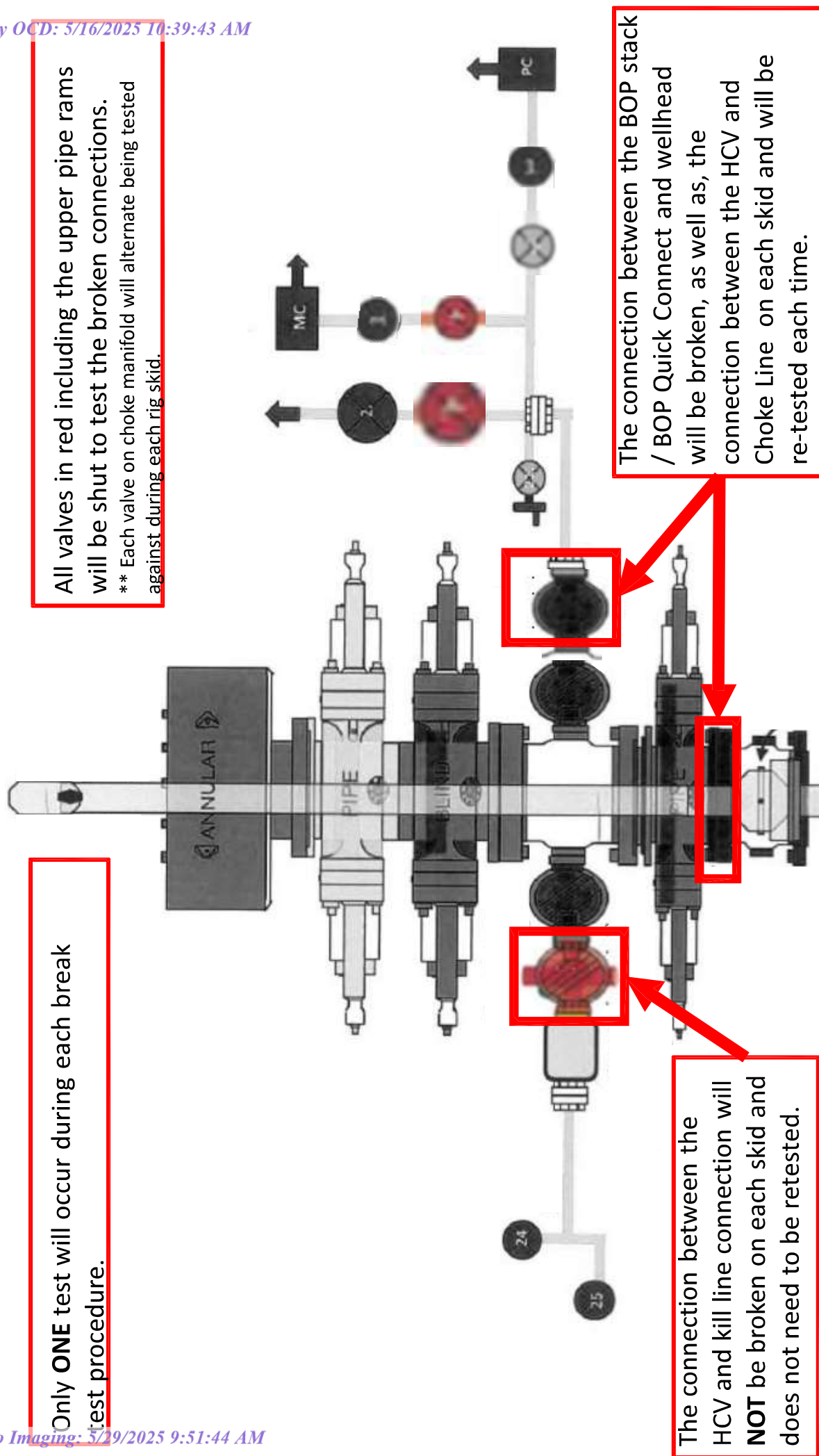
### Summary

A variance is requested to **ONLY** test broken pressure seals on the BOP equipment when moving from wellhead to wellhead which is in compliance with API Standard 53. API Standard 53 states, that for pad drilling operation, moving from one wellhead to another within 21 days, pressure testing is required for pressure-containing and pressure-controlling connections when the integrity of a pressure seal is broken.

The BOP will be secured by a hydraulic carrier or cradle. The BLM will be contacted if a Well Control event occurs prior to the commencement of a BOPE Break Testing operation.

Based on discussions with the BLM on February 27th 2020 and the supporting documentation submitted to the BLM, we will request permission to **ONLY** retest broken pressure seals if the following conditions are met:

1. After a full BOP test is conducted on the first well on the pad.
2. The first intermediate hole section drilled on the pad will be the deepest. All of the remaining hole sections will be the same depth or shallower.
3. Full BOP test will be required if the intermediate hole section being drilled has a MASP over 5M.
4. Full BOP test will be required prior to drilling the production hole.



**BLACK GOLD®**

**GATES ENGINEERING & SERVICES NORTH AMERICA**  
**7603 Prairie Oak Dr.**  
**Houston, TX. 77086**

**PHONE: +1 (281) 602-4100****FAX: +1 (281) 602-4147****EMAIL: gesna.quality@gates.com****WEB: www.gates.com/oilandgas**

*NEW CHOKE HOSE  
INSTALLED 02-10-2024*

## CERTIFICATE OF CONFORMANCE

This is to verify that the items detailed below meet the requirements of the Customer's Purchase Order referenced herein, and are in Conformance with applicable specifications, and that Records of Required Tests are on file and subject to examination. The following items were inspected and hydrostatically tested at **Gates Engineering & Services North America** facilities in Houston, TX, USA.

**CUSTOMER:** NABORS DRILLING TECHNOLOGIES USA DBA NABORS DRILLING USA  
**CUSTOMER P.O.#:** 15582803 (TAG NABORS PO #15582803 SN 74621 ASSET 66-1531)  
**CUSTOMER P/N:** IMR RETEST SN 74621 ASSET #66-1531

**PART DESCRIPTION:** RETEST OF CUSTOMER 3" X 45 FT 16C CHOKE & KILL HOSE ASSEMBLY C/W 4 1/16" 10K FLANGES

**SALES ORDER #:** 529480  
**QUANTITY:** 1  
**SERIAL #:** 74621 H3-012524-1

**SIGNATURE:***F. OSMOS***TITLE:****QUALITY ASSURANCE****DATE:****1/25/2024**





H3-15/16

1/25/2024 11:48:06 AM

# TEST REPORT

**CUSTOMER**

Company: Nabors Industries Inc.

Production description: 74621/66-1531

Sales order #: 529480

Customer reference: FG1213

**TEST OBJECT**

Serial number: H3-012524-1

Lot number:

Description: 74621/66-1531

Hose ID: 3" 16C CK

Part number:

**TEST INFORMATION**

Test procedure: GTS-04-053

Test pressure: 15000.00 psi

Test pressure hold: 3600.00 sec

Work pressure: 10000.00 psi

Work pressure hold: 900.00 sec

Length difference: 0.00 %

Length difference: 0.00 inch

Fitting 1: 3.0 x 4-1/16 10K

Part number:

Description:

Fitting 2: 3.0 x 4-1/16 10K

Part number:

Description:

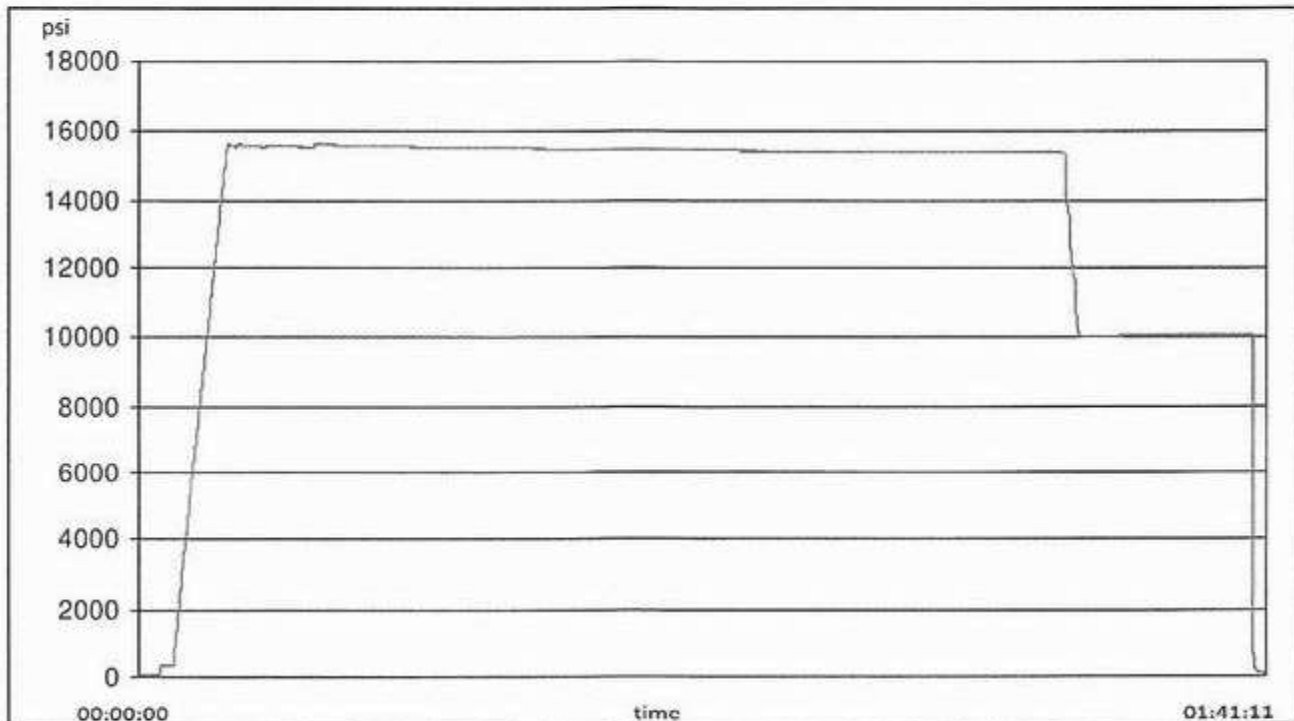
Visual check:

Pressure test result: PASS

Length measurement result:

Length: 45 feet

Test operator: Travis





H3-15/16

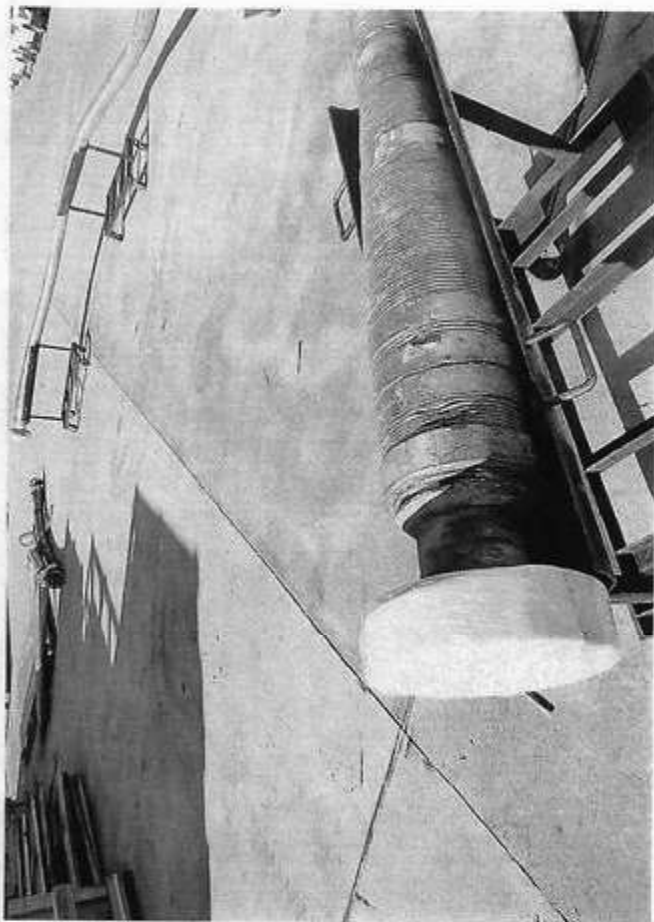
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TEST REPORT

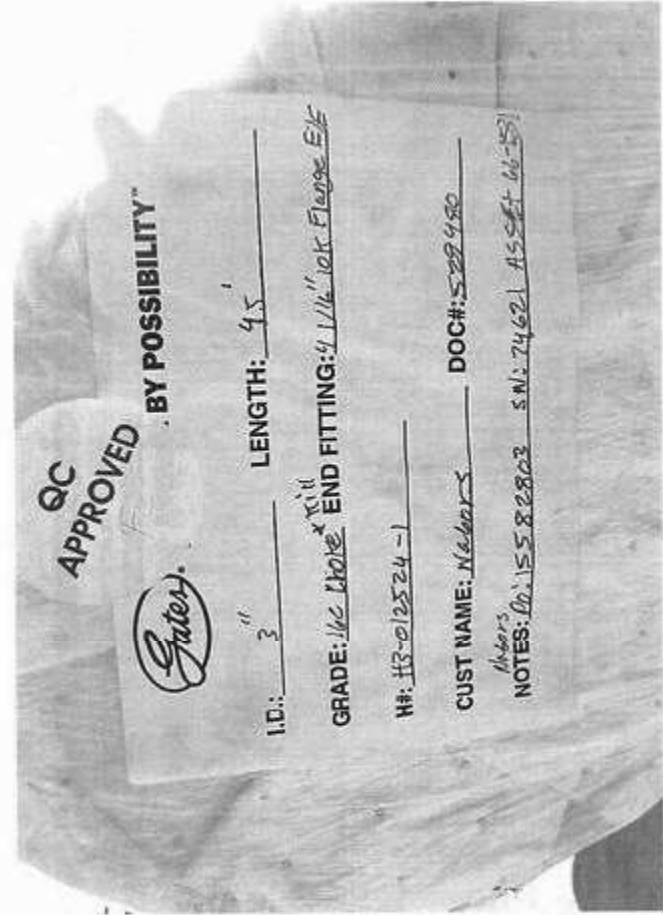
GAUGE TRACEABILITY

Description	Serial number	Calibration date	Calibration due date
S-25-A-W	110D3PHO	2023-06-06	2024-06-06
S-25-A-W	110IQWDG	2023-05-16	2024-05-16

Comment







**XTO Permian Operating, LLC Offline Cementing Variance Request**

XTO requests the option to cement the surface and intermediate casing strings offline as a prudent batch drilling efficiency of acreage development.

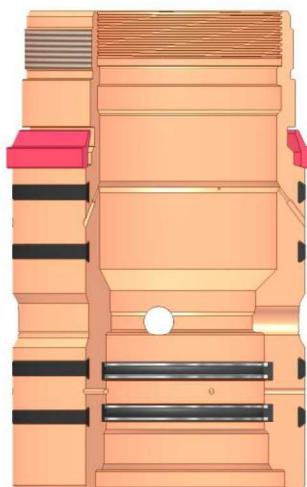
**1. Cement Program**

No changes to the cement program will take place for offline cementing.

**2. Offline Cementing Procedure**

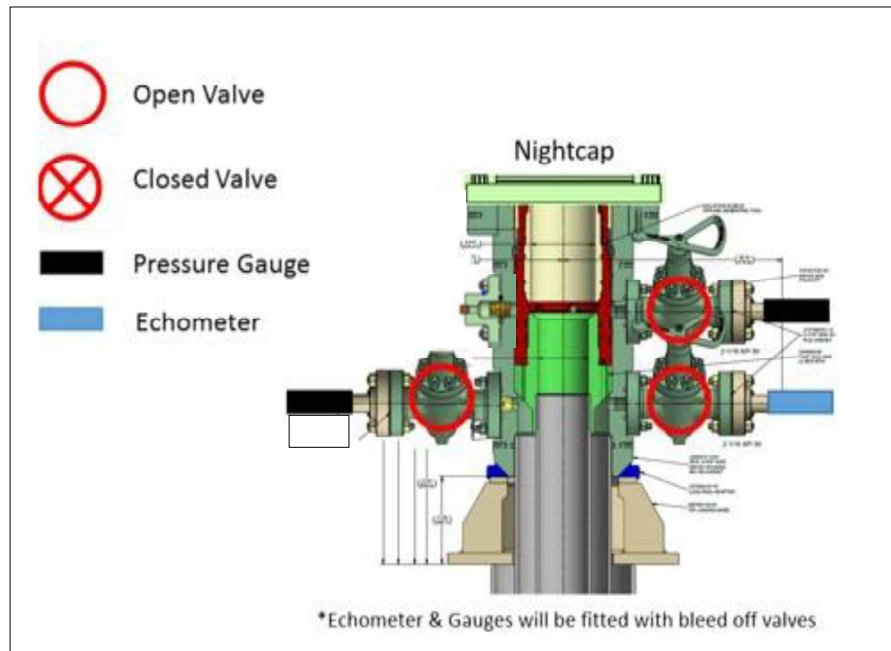
The operational sequence will be as follows. If a well control event occurs, the BLM will be contacted for approval prior to conducting offline cementing operations.

1. Run casing as per normal operations. While running casing, conduct negative pressure test and confirm integrity of the float equipment (float collar and shoe)
2. Land casing with mandrel
3. Fill pipe with kill weight fluid, do not circulate through floats and confirm well is static
4. Set annular packoff shown below and pressure test to confirm integrity of the seal. Pressure ratings of wellhead components and valves is 5,000 psi.
5. After confirmation of both annular barriers and internal barriers, nipple down BOP and install cap flange.
  - a. If any barrier fails to test, the BOP stack will not be nippedled down until after the cement job is completed with cement 500ft above the highest formation capable of flow with kill weight mud above or after it has achieved 50-psi compressive strength if kill weight fluid cannot be verified.



Annular packoff with both external and internal seals

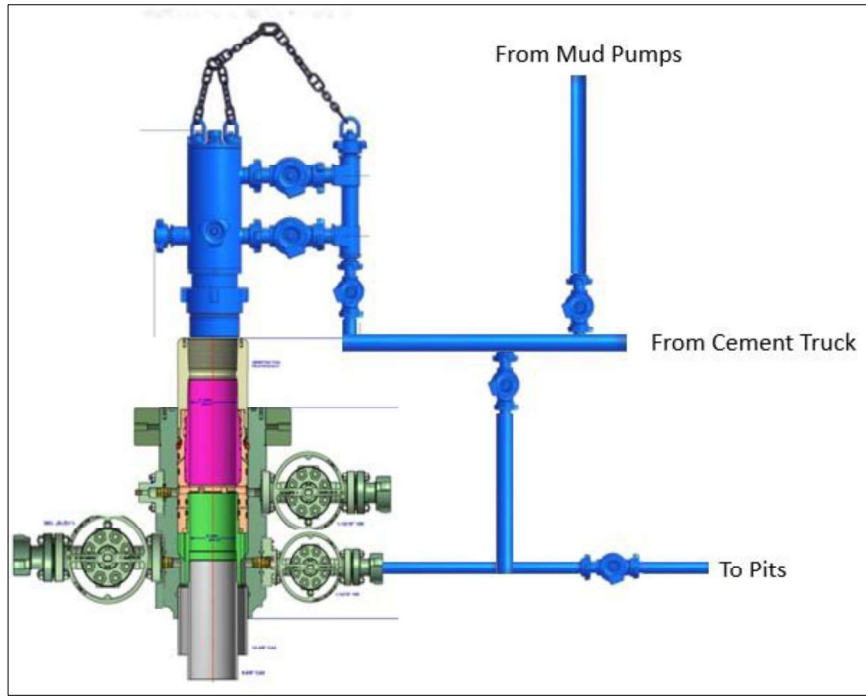
## XTO Permian Operating, LLC Offline Cementing Variance Request



Wellhead diagram during skidding operations

6. Skid rig to next well on pad.
7. Confirm well is static before removing cap flange, flange will not be removed and offline cementing operations will not commence until well is under control. If well is not static, casing outlet valves will provide access to both the casing ID and annulus. Rig or third party pump truck will kill well prior to cementing or nipping up for further remediation.
  - a. Well Control Plan
    - i. The Drillers Method will be the primary well control method to regain control of the wellbore prior to cementing, if wellbore conditions do not permit the drillers method other methods of well control may be used
    - ii. Rig pumps or a 3<sup>rd</sup> party pump will be tied into the upper casing valve to pump down the casing ID
    - iii. A high pressure return line will be rigged up to lower casing valve and run to choke manifold to control annular pressure
    - iv. Once influx is circulated out of the hole, kill weight mud will be circulated
    - v. Well will be confirmed static
    - vi. Once confirmed static, cap flange will be removed to allow for offline cementing operations to commence
8. Install offline cement tool
9. Rig up cement equipment

## XTO Permian Operating, LLC Offline Cementing Variance Request



Wellhead diagram during offline cementing operations

10. Circulate bottoms up with cement truck
  - a. If gas is present on bottoms up, well will be shut in and returns rerouted through gas buster to handle entrained gas
  - b. Max anticipated time before circulating with cement truck is 6 hrs
11. Perform cement job taking returns from the annulus wellhead valve
12. Confirm well is static and floats are holding after cement job
13. Remove cement equipment, offline cement tools and install night cap with pressure gauge for monitoring.

Sante Fe Main Office  
Phone: (505) 476-3441

General Information  
Phone: (505) 629-6116

Online Phone Directory  
<https://www.emnrd.nm.gov/oed/contact-us>

State of New Mexico  
Energy, Minerals and Natural Resources  
Oil Conservation Division  
1220 S. St Francis Dr.  
Santa Fe, NM 87505

CONDITIONS

Action 464140

CONDITIONS

Operator: XTO PERMIAN OPERATING LLC. 6401 HOLIDAY HILL ROAD MIDLAND, TX 79707	OGRID: 373075
	Action Number: 464140
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
ward.rikala	Any previous COA's not addressed within the updated COA's still apply.	5/29/2025