## Sundry Print Report

County or Parish/State: EDDY /

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

SAWTOOTH

Well Number: 707H

Well Name: JAMES RANCH UNIT DI 7 Well Location: T23S / R31E / SEC 6 /

LOT 2 / 32.340066 / -103.814093

Unit or CA Name: JAMES RANCH UNIT Unit or CA Number:

Allottee or Tribe Name:

Type of Well: OIL WELL

NMNM70965X

**US Well Number: 3001554874 Operator: XTO PERMIAN OPERATING** 

LLC

#### **Notice of Intent**

Lease Number: NMNM02953C

Sundry ID: 2785621

Type of Submission: Notice of Intent Type of Action: APD Change

Date Sundry Submitted: 04/17/2024 Time Sundry Submitted: 01:18

Date proposed operation will begin: 05/15/2024

Procedure Description: XTO Permian Operating, LLC. respectfully requests approval to make the following changes to the approved APD as follows: SHL, FTP, LTP, BHL, total depth (measured) and TVD. The formation and pool will remain Los Medanos; Bone Springs. The casing and cement program are updated and are in the attached drilling plan. FROM: TO: SHL: 250' FNL & 1741' FEL of Section 6-T23S-R31E 155' FNL & 2050' FEL of Section 6-T23S-R31E FTP: 700' FSL & 990' FEL of Section 31-T22-R31E 330' FNL & 990' FEL of Section 6-T23S-R31E PPP 1-1: 1320' FSL & 996' FEL of Section 6-T23S-R31E 1320' FSL & 995' FEL of Section 6-T23S-R31E PPP 1-2: 0' FNL & 996' FEL of Section 6-T23S-R31E 0' FNL & 997' FEL of Section 6-T23S-R31E PPP 1-3: 1320' FNL & 996' FEL of Section 7-T23S-R31E 1320' FNL & 997' FEL of Section 7-T23S-R31E LTP: 2540' FNL & 990' FEL of Section 18-T23S-R31E 2540' FNL & 990' FEL of Section 18-T23-R31E BHL: 2590' FNL & 990' FEL of Section 18-T23S-R31E 2590' FNL & 990' FEL of Section 18-T23S-R31E Total depth will be changing from 24259' MD; 9878' TVD (Bone Spring) to 22510' MD; 9879' TVD (Bone Spring). Pool will remain Los Medanos; Bone Spring (40295). ATTACHMENTS: C-102, Drilling Plan, Directional Plan, MBS, Casing Spec Sheets

#### **NOI Attachments**

### **Procedure Description**

Wedge\_461\_5.500\_0.361\_P110\_CY\_01292024\_20240417131802.pdf

Wedge\_441\_5.500\_0.361\_P110\_CY\_12142023\_20240417131752.pdf

Talon\_HTQ\_RD\_5.5000\_20.0000\_0.3610\_\_P110\_RY\_20240417131739.pdf

Freedom\_5.5000\_20.0000\_0.3610\_\_P110\_RY\_20240417131725.pdf

4\_String\_Slimhole\_SDT\_3301\_1\_20240417131507.pdf

County or Parish/State: Page 2 of well Name: JAMES RANCH UNIT DI 7 Well Location: T23S / R31E / SEC 6 / NM

SAWTOOTH LOT 2 / 32.340066 / -103.814093

Well Number: 707H Type of Well: OIL WELL **Allottee or Tribe Name:** 

Lease Number: NMNM02953C Unit or CA Name: JAMES RANCH UNIT Unit or CA Number:

NMNM70965X

**US Well Number: 3001554874 Operator: XTO PERMIAN OPERATING** 

LLC

JRU\_DI\_7\_Sawtooth\_707H\_Directional\_Plan\_8\_29\_2023\_20240417131452.pdf

JRU\_DI7\_Sawtooth\_707H\_Drilling\_Plan\_\_04\_16\_2024\_20240417131439.pdf

JRU\_DI\_7\_SAWTOOTH\_707H\_C\_102\_signed\_4\_1\_2024\_20240417131403.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: RANELL (RUSTY) KLEIN Signed on: MAY 10, 2024 09:15 AM

Name: XTO PERMIAN OPERATING LLC

Title: Regulatory Analyst

Street Address: 6401 HOLIDAY HILL ROAD BLDG 5

City: MIDLAND State: TX

Phone: (432) 620-6700

Email address: RANELL.KLEIN@EXXONMOBIL.COM

#### **Field**

**Representative Name:** 

**Street Address:** 

State: City: 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: 06/05/2024

Signature: Chris Walls

Page 2 of 2

Form 3160-5 (June 2019)

## UNITED STATES DEPARTMENT OF THE INTERIOR

| FORM APPROVEI          | )  |
|------------------------|----|
| OMB No. 1004-013       | 7  |
| Expires: October 31, 2 | 02 |

| BUREAU OF LAND MANAGEMENT 5                |  |                           | 5. Lease Serial No.                 |  |
|--|--|---------------------------|-------------------------------------|--|
| Do not use this t                          | NOTICES AND REPORTS ON Viter for the form for proposals to drill or the form 3160-3 (APD) for su                           | to re-enter an            | 6. If Indian, Allottee of           | r Tribe Name                             |
| SUBMIT IN                                  | TRIPLICATE - Other instructions on pa  | ge 2                      | 7. If Unit of CA/Agree              | ement, Name and/or No.                   |
| 1. Type of Well                            | _  |                           | 8. Well Name and No.                |  |
| Oil Well Gas V                             | Vell Other   |                           |                                     |  |
| 2. Name of Operator                        |  |                           | 9. API Well No.                     |  |
| 3a. Address                                | 3b. Phone No   | o. (include area code)    | 10. Field and Pool or I             | Exploratory Area                         |
| 4. Location of Well (Footage, Sec., T., F  | R.,M., or Survey Description)  |                           | 11. Country or Parish,              | State                                    |
| 12. CHE                                    | CK THE APPROPRIATE BOX(ES) TO IN   | NDICATE NATURE OF 1       | NOTICE, REPORT OR OTH               | HER DATA                                 |
| TYPE OF SUBMISSION                         |  | TYPE OI                   | F ACTION                            |  |
| Notice of Intent                           | Acidize Dee  | epen                      | Production (Start/Resume)           | Water Shut-Off                           |
| Notice of intent                           | Alter Casing Hyd   | draulic Fracturing        | Reclamation                         | Well Integrity                           |
| Subsequent Report                          | Casing Repair New  | w Construction            | Recomplete                          | Other                                    |
|  |  | g and Abandon             | Temporarily Abandon                 |  |
| Final Abandonment Notice                   | Convert to Injection Plu<br>Departion: Clearly state all pertinent details,  | g Back                    | Water Disposal                      |  |
| is ready for final inspection.)            | tices must be filed only after all requirement   |                           | , C C C C C C C C C C C C C C C C C |  |
| 14. I hereby certify that the foregoing is | true and correct. Name (Printed/Typed)   | Title                     |                                     |  |
|  |  | Title                     |                                     |  |
| Signature                                  |  | Date                      |                                     |  |
|  | THE SPACE FOR FEI  | DERAL OR STATE            | OFICE USE                           |  |
| Approved by                                |  |                           |                                     |  |
|  |  | Title                     |                                     | Date                                     |
|  | hed. Approval of this notice does not warra<br>equitable title to those rights in the subject<br>iduct operations thereon. | ant or                    | [-                                  |  |
| Title 19 II C C Section 1001 and Title 4   | 2 II C C Section 1212, make it a arima for   | any naraan linayyinaly an | d vvillfully, to make to ony, do    | mortment or against of the United States |

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

(Form 3160-5, page 2)

#### **Additional Information**

#### **Additional Remarks**

Total depth will be changing from 24259 MD; 9878 TVD (Bone Spring) to 22510 MD; 9879 TVD (Bone Spring). Pool will remain Los Medanos; Bone Spring (40295).

ATTACHMENTS: C-102, Drilling Plan, Directional Plan, MBS, Casing Spec Sheets

#### **Location of Well**

0. SHL: LOT 2 / 250 FNL / 1741 FEL / TWSP: 23S / RANGE: 31E / SECTION: 6 / LAT: 32.340066 / LONG: -103.814093 ( TVD: 0 feet, MD: 0 feet ) PPP: SESE / 0 FNL / 996 FEL / TWSP: 23S / RANGE: 31E / SECTION: 7 / LAT: 32.326242 / LONG: -103.811633 ( TVD: 9878 feet, MD: 17100 feet ) PPP: NENE / 1320 FNL / 996 FEL / TWSP: 23S / RANGE: 31E / SECTION: 7 / LAT: 32.322612 / LONG: -103.811626 ( TVD: 9878 feet, MD: 18420 feet ) PPP: SESE / 700 FSL / 990 FEL / TWSP: 22S / RANGE: 31E / SECTION: 31 / LAT: 32.342677 / LONG: -103.811666 ( TVD: 9878 feet, MD: 10500 feet ) BHL: SENE / 2590 FNL / 990 FEL / TWSP: 23S / RANGE: 31E / SECTION: 18 / LAT: 32.304609 / LONG: -103.811591 ( TVD: 9878 feet, MD: 24259 feet )



# TenarisHydril Wedge 461®



| 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 | Туре  | Casing  |
| Connection OD Option | REGULAR   |                 |              |       |         |

#### Pipe Body Data

| Geometry       |             |                  |             |
|----------------|-------------|------------------|-------------|
| 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.   |                  |             |

| Performance                  |              |
|------------------------------|--------------|
| Body Yield Strength          | 641 x1000 lb |
| Min. Internal Yield Pressure | 12,640 psi   |
| SMYS                         | 110,000 psi  |
| Collapse Pressure            | 11,100 psi   |

#### **Connection Data**

| 6.300 in. |
|-----------|
| 7.714 in. |
| 4.778 in. |
| 3.775 in. |
| 3.40      |
| Regular   |
|           |

| Performance                |              |
|----------------------------|--------------|
| Tension Efficiency         | 100 %        |
| Joint Yield Strength       | 641 x1000 lb |
| Internal Pressure Capacity | 12,640 psi   |
| Compression Efficiency     | 100 %        |
| Compression Strength       | 641 x1000 lb |
| Max. Allowable Bending     | 92 °/100 ft  |
| External Pressure Capacity | 11,100 psi   |
| Coupling Face Load         | 290,000 lb   |

| Make-Up Torques         |              |
|-------------------------|--------------|
| Minimum                 | 17,000 ft-lb |
| Optimum                 | 18,000 ft-lb |
| Maximum                 | 21,600 ft-lb |
| Operation Limit Torques |              |
| Operating Torque        | 39,000 ft-lb |
| Yield Torque            | 46,000 ft-lb |
| Buck-On                 |              |
| Minimum                 | 21,600 ft-lb |
| Maximum                 | 23,100 ft-lb |
|                         |              |

#### Notes

This connection is fully interchangeable with:
Wedge 441® - 5.5 in. - 0.304 (17.00) / 0.361 (20.00) in. (lb/ft)
Wedge 461® - 5.5 in. - 0.304 (17.00) / 0.415 (23.00) / 0.476 (26.00) in. (lb/ft)
Connections with Dopeless® Technology are fully compatible with the same connection in its doped version
In October 2019, TenarisHydril Wedge XP® 2.0 was renamed TenarisHydril Wedge 461™. Product dimensions and properties remain identical and both connections are fully interchangeable.

For the lastest performance data, always visit our website: www.tenaris.com
For further information on concepts indicated in this datasheet, download the Datasheet Manual from www.tenaris.com

Tenaris has issued this document for general information only, and the information in this document, including, without limitation, any pictures, drawings or designs ("Information") is not intended to constitute professional or any other type of advice or recommendation and is provided on an "as is" basis. No warranty is given. Tenaris has not independently verified any information—if any- provided by the user in connection with, or for the purpose of, the Information contained hereunder. The use of the Information is at user's own risk and Tenaris does not assume any responsibility or liability of any kind for any loss, damage or injury resulting from, or in connection with any Information contained hereunder or any use thereof. The Information in this document is subject to change or modification without notice. Tenaris's products and services are subject to Tenaris's standard terms and conditions or otherwise to the terms resulting from the respective contracts of sale or services, as the case may be, between petitioner and Tenaris. For more complete information please contact a Tenaris's representative or visit our website at www.tenaris.com. ©Tenaris 2024. All rights reserved.



# TenarisHydril Wedge 441®



| 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 | Туре  | Casing  |
| Connection OD Option | REGULAR   |                 |              |       |         |

#### Pipe Body Data

| Geometry       |             |                  |             |
|----------------|-------------|------------------|-------------|
| 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.   |                  |             |

| Performance                  |              |
|------------------------------|--------------|
| Body Yield Strength          | 641 x1000 lb |
| Min. Internal Yield Pressure | 12,640 psi   |
| SMYS                         | 110,000 psi  |
| Collapse Pressure            | 11,100 psi   |

#### **Connection Data**

| Geometry             |           |
|----------------------|-----------|
| Connection OD        | 5.852 in. |
| Coupling Length      | 8.714 in. |
| Connection ID        | 4.778 in. |
| Make-up Loss         | 3.780 in. |
| Threads per inch     | 3.40      |
| Connection OD Option | Regular   |

| Performance                |                |
|----------------------------|----------------|
| Tension Efficiency         | 81.50 %        |
| Joint Yield Strength       | 522 x1000 lb   |
| Internal Pressure Capacity | 12,640 psi     |
| Compression Efficiency     | 81.50 %        |
| Compression Strength       | 522 x1000 lb   |
| Max. Allowable Bending     | 72.59 °/100 ft |
| External Pressure Capacity | 11,100 psi     |

| Make-Up Torques               |                              |
|-------------------------------|------------------------------|
| Minimum                       | 15,000 ft-lb                 |
| Optimum                       | 16,000 ft-lb                 |
| Maximum                       | 19,200 ft-lb                 |
| Operation Limit Torques       |                              |
|                               |                              |
| Operating Torque              | 32,000 ft-lb                 |
| Operating Torque Yield Torque | 32,000 ft-lb<br>38,000 ft-lb |
|                               |                              |
| Yield Torque                  |                              |

#### 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

For the lastest performance data, always visit our website: www.tenaris.com
For further information on concepts indicated in this datasheet, download the Datasheet Manual from www.tenaris.com

Tenaris has issued this document for general information only, and the information in this document, including, without limitation, any pictures, drawings or designs ("Information") is not intended to constitute professional or any other type of advice or recommendation and is provided on an "as is" basis. No warranty is given. Tenaris has not independently verified any information —if any-provided by the user in connection with, or for the purpose of, the Information contained hereunder. The use of the Information is at user's own risk and Tenaris does not assume any responsibility or liability of any kind for any loss, damage or injury resulting from, or in connection with any Information contained hereunder or any use thereof. The Information in this document is subject to change or modification without notice. Tenaris's products and services are subject to Tenaris's translated terms and conditions or otherwise to the terms resulting from the respective contracts of sale or services, as the case may be, between petitioner and Tenaris. For more complete information please contact a Tenaris's representative or visit our website at www.tenaris.com. ©Tenaris 2023. All rights reserved.

11/29/2021 4·16·04 PM

## U. S. Steel Tubular Products 5.500" 20.00lb/ft (0.361" Wall)

## P110 RY USS-TALON HTQ™ RD

| MECHANICAL PROPERTIES            | Pipe    | USS-TALON HTQ™ RD |            | [6] |
|----------------------------------|---------|-------------------|------------|-----|
| Minimum Yield Strength           | 110,000 |                   | psi        |     |
| Maximum Yield Strength           | 125,000 |                   | psi        |     |
| Minimum Tensile Strength         | 125,000 |                   | psi        |     |
| DIMENSIONS                       | Pipe    | USS-TALON HTQ™ RD |            |     |
| Outside Diameter                 | 5.500   | 5.900             | in.        |     |
| Wall Thickness                   | 0.361   |                   | in.        |     |
| Inside Diameter                  | 4.778   | 4.778             | in.        |     |
| Standard Drift                   | 4.653   | 4.653             | in.        |     |
| Alternate Drift                  |         |                   | in.        |     |
| Nominal Linear Weight, T&C       | 20.00   |                   | lb/ft      |     |
| Plain End Weight                 | 19.83   |                   | lb/ft      |     |
| SECTION AREA                     | Pipe    | USS-TALON HTQ™ RD |            |     |
| Critical Area                    | 5.828   | 5.828             | sq. in.    |     |
| Joint Efficiency                 |         | 100.0             | %          | [2] |
| PERFORMANCE                      | Pipe    | USS-TALON HTQ™ RD |            |     |
| Minimum Collapse Pressure        | 11,100  | 11,100            | psi        |     |
| Minimum Internal Yield Pressure  | 12,640  | 12,640            | psi        |     |
| Minimum Pipe Body Yield Strength | 641,000 |                   | lb         |     |
| Joint Strength                   |         | 641,000           | lb         |     |
| Compression Rating               |         | 641,000           | lb         |     |
| Reference Length                 |         | 21,370            | ft         | [5] |
| Maximum Uniaxial Bend Rating     |         | 91.7              | deg/100 ft | [3] |
| MAKE-UP DATA                     | Pipe    | USS-TALON HTQ™ RD |            |     |
| Make-Up Loss                     |         | 5.58              | in.        |     |
| Minimum Make-Up Torque           |         | 17,000            | ft-lb      | [4] |
| Maximum Make-Up Torque           |         | 20,000            | ft-lb      | [4] |
| Maximum Operating Torque         |         | 39,500            | ft-lb      | [4] |

#### **Notes**

- 1. Other than proprietary collapse and connection values, performance properties have been calculated using standard equations defined by API 5C3 and do not incorporate any additional design or safety factors. Calculations assume nominal pipe OD, nominal wall thickness, and Specified Minimum Yield Strength (SMYS).
- 2. Joint efficiencies are calculated by dividing the connection critical area by the pipe body area.
- Uniaxial bend rating shown is structural only.
- 4. Torques have been calculated assuming a thread compound friction factor of 1.0 and are recommended only. Field make-up torques may require adjustment based on actual field conditions (e.g. make-up speed, temperature, thread compound, etc.).
- 5. Reference length is calculated by Joint Strength divided by Nominal Linear Weight, T&C with a 1.5 Safety factor.
- Coupling must meet minimum mechanical properties of the pipe.

#### **Legal Notice**

All material contained in this publication is for general information only. This material should not therefore be used or relied upon for any specific application without independent competent professional examination and verification of accuracy, suitability and applicability. Anyone making use of this material does so at their own risk and assumes any and all liability resulting from such use. U. S. Steel disclaims any and all expressed or implied warranties of fitness for any general or particular application.

U. S. Steel Tubular Products 460 Wildwood Forest Drive, Suite 300S Spring, Texas 77380 1-877-893-9461 connections@uss.com www.usstubular.com

## U. S. Steel Tubular Products 5.500" 20.00lb/ft (0.361" Wall)

11/8/2023 1:08:50 PM

## P110 RY USS-FREEDOM HTQ®

|                                  |         |                              |            | l |
|----------------------------------|---------|------------------------------|------------|---|
| MECHANICAL PROPERTIES            | Pipe    | USS-FREEDOM HTQ <sup>®</sup> |            |   |
| Minimum Yield Strength           | 110,000 |                              | psi        |   |
| Maximum Yield Strength           | 125,000 |                              | psi        |   |
| Minimum Tensile Strength         | 125,000 |                              | psi        |   |
| DIMENSIONS                       | Pipe    | USS-FREEDOM HTQ <sup>®</sup> |            |   |
| Outside Diameter                 | 5.500   | 6.300                        | in.        |   |
| Wall Thickness                   | 0.361   |                              | in.        |   |
| Inside Diameter                  | 4.778   | 4.778                        | in.        |   |
| Standard Drift                   | 4.653   | 4.653                        | in.        |   |
| Alternate Drift                  |         |                              | in.        |   |
| Nominal Linear Weight, T&C       | 20.00   |                              | lb/ft      |   |
| Plain End Weight                 | 19.83   |                              | lb/ft      |   |
| SECTION AREA                     | Pipe    | USS-FREEDOM HTQ <sup>®</sup> |            |   |
| Critical Area                    | 5.828   | 5.828                        | sq. in.    |   |
| Joint Efficiency                 |         | 100.0                        | %          |   |
| PERFORMANCE                      | Pipe    | USS-FREEDOM HTQ®             |            |   |
| Minimum Collapse Pressure        | 11,100  | 11,100                       | psi        |   |
| Minimum Internal Yield Pressure  | 12,640  | 12,640                       | psi        |   |
| Minimum Pipe Body Yield Strength | 641,000 |                              | lb         |   |
| Joint Strength                   |         | 641,000                      | lb         |   |
| Compression Rating               |         | 641,000                      | lb         |   |
| Reference Length [4]             |         | 21,370                       | ft         |   |
| Maximum Uniaxial Bend Rating [2] |         | 91.7                         | deg/100 ft |   |
| MAKE-UP DATA                     | Pipe    | USS-FREEDOM HTQ <sup>®</sup> |            |   |
| Make-Up Loss                     |         | 4.13                         | in.        |   |
| Minimum Make-Up Torque [3]       |         | 15,000                       | ft-lb      |   |
| Maximum Make-Up Torque [3]       |         | 21,000                       | ft-lb      |   |
| Maximum Operating Torque[3]      |         | 29,500                       | ft-lb      |   |

#### **Notes**

- 1. Other than proprietary collapse and connection values, performance properties have been calculated using standard equations defined by API 5C3 and do not incorporate any additional design or safety factors. Calculations assume nominal pipe OD, nominal wall thickness, and Specified Minimum Yield Strength (SMYS).
- 2. Uniaxial bending rating shown is structural only, and equal to compression efficiency.
- 3. Torques have been calculated assuming a thread compound friction factor of 1.0 and are recommended only. Field make-up torques may require adjustment based on actual field conditions (e.g. make-up speed, temperature, thread compound, etc.).
- Reference length is calculated by joint strength divided by plain end weight with 1.5 safety factor.

#### **Legal Notice**

All material contained in this publication is for general information only. This material should not therefore be used or relied upon for any specific application without independent competent professional examination and verification of accuracy, suitability and applicability. Anyone making use of this material does so at their own risk and assumes any and all liability resulting from such use. U. S. Steel disclaims any and all expressed or implied warranties of fitness for any general or particular application.

U. S. Steel Tubular Products 460 Wildwood Forest Drive, Suite 300S Spring, Texas 77380 1-877-893-9461 connections@uss.com www.usstubular.com

ALL DIMENSIONS APPROXIMA

| CACTUS W | ELLHEAD LLC |
|----------|-------------|
|----------|-------------|

(20") x 13-3/8" x 9-5/8" x 7-5/8" x 5-1/2" MBU-4T-CFL-R-DBLO With 13-5/8" 10M x 7-1/16" 15M CTH-DBLHPS-SB Tubing Head And Drilling & Skid Configurations

| XTO ENERGY INC<br>DELAWARE BASIN |     |      |  |  |  |  |
|----------------------------------|-----|------|--|--|--|--|
| DRAWN                            | VJK | 31MA |  |  |  |  |
| APPRV/                           |     |      |  |  |  |  |

DRAWING NO. SDT-3301

FORMATION CONTAINED HEREIN IS THE PROPERTY OF CACTUS WELLHEAD, LLC. REPRODUCTION, SCLOSURE, OR USE THEREOF IS PERMISSIBLE ONLY AS PROVIDED BY CONTRACT OR AS EXPRESSLY UTHORIZED BY CACTUS WELLHEAD, LLC.

## Long Lead\_Well Planning

EDDY
JRU DI 7 Pad C
JRU DI 7 Sawtooth 707H - Slot JRU DI 7 Sawtooth 707H

JRU DI 7 Sawtooth 707H

Plan: JRU DI 7 Sawtooth 707H

## **Standard Planning Report**

29 August, 2023

#### Planning Report

TVD Reference:

Database: Company: LMRKPROD3

**EDDY** 

Long Lead\_Well Planning

**Local Co-ordinate Reference:** 

Site JRU DI 7 Pad C

JRU DI 7 Sawtooth 707H Default @

3361.0usft

JRU DI 7 Sawtooth 707H Default @ 3361.0usft

MD Reference:

**Survey Calculation Method:** 

North Reference:

True

Minimum Curvature

Project:

Project

Map Zone:

JRU DI 7 Pad C Site:

Well: Wellbore: Design:

JRU DI 7 Sawtooth 707H JRU DI 7 Sawtooth 707H JRU DI 7 Sawtooth 707H

EDDY

Map System: Geo Datum:

US State Plane 1927 (Exact solution) NAD 1927 (NADCON CONUS)

New Mexico East 3001

System Datum:

Mean Sea Level

JRU DI 7 Pad C Site

Site Position: From:

**Position Uncertainty:** 

**Position Uncertainty** 

Мар

Northing: Easting: Slot Radius: 487,872.70 usft 660,827.30 usft 13-3/16 "

Latitude: Longitude:

32° 20' 24.731 N 103° 48' 45.353 W

Well JRU DI 7 Sawtooth 707H - Slot JRU DI 7 Sawtooth 707H

0.0 usft

0.0 usft

**Well Position** +N/-S

0.3 usft +E/-W -620.1 usft Northing: Easting:

Wellhead Elevation:

487,870.00 usft 660,207.20 usft usft Latitude: Longitude:

32° 20' 24.734 N 103° 48' 52.581 W

**Ground Level:** 3.329.0 usft

**Grid Convergence:** 0.28

JRU DI 7 Sawtooth 707H Wellbore

Declination Field Strength Magnetics **Model Name** Sample Date **Dip Angle** (nT) (°) (°) 8/29/2023 47.308.98828368 IGRF2020 6.41 59.90

Design

JRU DI 7 Sawtooth 707H

Audit Notes:

Version: Phase: Vertical Section: Depth From (TVD)

(usft)

22,509.9

PLAN +N/-S (usft)

Tie On Depth: +E/-W (usft)

-620.1

0.0 Direction

(°) 179.90

**Plan Survey Tool Program** 

0.0

**Depth From** 

(usft)

1

Depth To

Date

Survey (Wellbore) JRU DI 7 Sawtooth 707H (JRU D

(usft)

0.0

8/29/2023

**Tool Name** 

0.3

Remarks

XOM\_R2OWSG MWD+IFR1+ OWSG MWD + IFR1 + Multi-St

#### **Planning Report**

Database: LMRKPROD3

Company: Long Lead\_Well Planning

Project: EDDY

Site: JRU DI 7 Pad C

 Well:
 JRU DI 7 Sawtooth 707H

 Wellbore:
 JRU DI 7 Sawtooth 707H

 Design:
 JRU DI 7 Sawtooth 707H

Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference:

**Survey Calculation Method:** 

Site JRU DI 7 Pad C

JRU DI 7 Sawtooth 707H Default @

3361.0usft

JRU DI 7 Sawtooth 707H Default @

3361.0usft True

| lan Sections                |                    |                |                             |                 |                 |                               |                              |                             |            |        |
|-----------------------------|--------------------|----------------|-----------------------------|-----------------|-----------------|-------------------------------|------------------------------|-----------------------------|------------|--------|
| Measured<br>Depth<br>(usft) | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(usft) | +N/-S<br>(usft) | +E/-W<br>(usft) | Dogleg<br>Rate<br>(°/100usft) | Build<br>Rate<br>(°/100usft) | Turn<br>Rate<br>(°/100usft) | TFO<br>(°) | Target |
| 0.0                         | 0.00               | 0.00           | 0.0                         | 0.3             | -620.1          | 0.00                          | 0.00                         | 0.00                        | 0.00       |        |
| 1,200.0                     | 0.00               | 0.00           | 1,200.0                     | 0.3             | -620.1          | 0.00                          | 0.00                         | 0.00                        | 0.00       |        |
| 1,867.7                     | 13.35              | 99.38          | 1,861.7                     | -12.3           | -543.7          | 2.00                          | 2.00                         | 0.00                        | 99.38      |        |
| 5,852.1                     | 13.35              | 99.38          | 5,738.3                     | -162.3          | 364.3           | 0.00                          | 0.00                         | 0.00                        | 0.00       |        |
| 6,519.8                     | 0.00               | 360.00         | 6,400.0                     | -174.9          | 440.8           | 2.00                          | -2.00                        | 0.00                        | 180.00     |        |
| 9,282.6                     | 0.00               | 360.00         | 9,162.8                     | -174.9          | 440.8           | 0.00                          | 0.00                         | 0.00                        | 360.00     |        |
| 10,407.6                    | 90.00              | 179.90         | 9,879.0                     | -891.1          | 442.0           | 8.00                          | 8.00                         | 15.99                       | 179.90     |        |
| 22,459.9                    | 90.00              | 179.90         | 9,879.0                     | -12,943.4       | 462.2           | 0.00                          | 0.00                         | 0.00                        | 0.00 LTP   | 17-1   |
| 22,509.9                    | 90.00              | 179.90         | 9,879.0                     | -12,993.4       | 462.3           | 0.00                          | 0.00                         | 0.00                        | 0.00 BHL   | 17-1   |

#### **Planning Report**

Database: LMRKPROD3

Company: Long Lead\_Well Planning

Project: EDDY

Site: JRU DI 7 Pad C

 Well:
 JRU DI 7 Sawtooth 707H

 Wellbore:
 JRU DI 7 Sawtooth 707H

 Design:
 JRU DI 7 Sawtooth 707H

Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference:

**Survey Calculation Method:** 

Site JRU DI 7 Pad C

JRU DI 7 Sawtooth 707H Default @

3361.0usft

JRU DI 7 Sawtooth 707H Default @

3361.0usft True

| lanned Survey               |                    |                |                             |                  |                 |                               |                               |                              |                             |
|-----------------------------|--------------------|----------------|-----------------------------|------------------|-----------------|-------------------------------|-------------------------------|------------------------------|-----------------------------|
| Measured<br>Depth<br>(usft) | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(usft) | +N/-S<br>(usft)  | +E/-W<br>(usft) | Vertical<br>Section<br>(usft) | Dogleg<br>Rate<br>(°/100usft) | Build<br>Rate<br>(°/100usft) | Turn<br>Rate<br>(°/100usft) |
| 0.0                         | 0.00               | 0.00           | 0.0                         | 0.3              | -620.1          | 0.0                           | 0.00                          | 0.00                         | 0.00                        |
| 1,200.0                     | 0.00               | 0.00           | 1,200.0                     | 0.3              | -620.1          | 0.0                           | 0.00                          | 0.00                         | 0.00                        |
| 1,300.0                     | 2.00               | 99.38          | 1,300.0                     | 0.0              | -618.4          | 0.3                           | 2.00                          | 2.00                         | 0.00                        |
| 1,400.0                     | 4.00               | 99.38          | 1,399.8                     | -0.8             | -613.2          | 1.1                           | 2.00                          | 2.00                         | 0.00                        |
|                             |                    |                | ,                           |                  |                 |                               |                               |                              |                             |
| 1,500.0                     | 6.00               | 99.38          | 1,499.5                     | -2.2             | -604.6          | 2.6                           | 2.00                          | 2.00                         | 0.00                        |
| 1,600.0                     | 8.00               | 99.38          | 1,598.7                     | -4.2             | -592.6          | 4.6                           | 2.00                          | 2.00                         | 0.00                        |
| 1,700.0                     | 10.00              | 99.38          | 1,697.5                     | -6.8             | -577.2          | 7.2                           | 2.00                          | 2.00                         | 0.00                        |
| 1,800.0                     | 12.00              | 99.38          | 1,795.6                     | -9.9             | -558.3          | 10.3                          | 2.00                          | 2.00                         | 0.00                        |
| 1.867.7                     | 13.35              | 99.38          | 1,861.7                     | -12.3            | -543.7          | 12.8                          | 2.00                          | 2.00                         | 0.00                        |
| ,                           |                    |                |                             |                  |                 |                               |                               |                              |                             |
| 1,900.0                     | 13.35              | 99.38          | 1,893.1                     | -13.5            | -536.3          | 14.0                          | 0.00                          | 0.00                         | 0.00                        |
| 2,000.0                     | 13.35              | 99.38          | 1,990.4                     | -17.3            | -513.5          | 17.8                          | 0.00                          | 0.00                         | 0.00                        |
| 2,100.0                     | 13.35              | 99.38          | 2,087.7                     | -21.1            | -490.7          | 21.6                          | 0.00                          | 0.00                         | 0.00                        |
| 2,200.0                     | 13.35              | 99.38          | 2,185.0                     | -24.8            | -468.0          | 25.4                          | 0.00                          | 0.00                         | 0.00                        |
| 2,300.0                     | 13.35              | 99.38          | 2,282.3                     | -28.6            | -445.2          | 29.2                          | 0.00                          | 0.00                         | 0.00                        |
| 2,400.0                     | 13.35              | 99.38          | 2,379.6                     | -32.4            | -422.4          | 33.0                          | 0.00                          | 0.00                         | 0.00                        |
|                             |                    |                |                             |                  |                 |                               |                               |                              |                             |
| 2,500.0                     | 13.35              | 99.38          | 2,476.9                     | -36.1            | -399.6          | 36.8                          | 0.00                          | 0.00                         | 0.00                        |
| 2,600.0                     | 13.35              | 99.38          | 2,574.2                     | -39.9            | -376.8          | 40.6                          | 0.00                          | 0.00                         | 0.00                        |
| 2,700.0                     | 13.35              | 99.38          | 2,671.5                     | -43.6            | -354.0          | 44.4                          | 0.00                          | 0.00                         | 0.00                        |
| 2,800.0                     | 13.35              | 99.38          | 2,768.8                     | -47.4            | -331.2          | 48.2                          | 0.00                          | 0.00                         | 0.00                        |
| 2,900.0                     | 13.35              | 99.38          | 2,866.1                     | -51.2            | -308.4          | 52.0                          | 0.00                          | 0.00                         | 0.00                        |
| •                           |                    |                |                             |                  |                 |                               |                               |                              |                             |
| 3,000.0                     | 13.35              | 99.38          | 2,963.4                     | -54.9            | -285.6          | 55.8                          | 0.00                          | 0.00                         | 0.00                        |
| 3,100.0                     | 13.35              | 99.38          | 3,060.6                     | -58.7            | -262.9          | 59.6                          | 0.00                          | 0.00                         | 0.00                        |
| 3,200.0                     | 13.35              | 99.38          | 3,157.9                     | -62.5            | -240.1          | 63.4                          | 0.00                          | 0.00                         | 0.00                        |
| 3,300.0                     | 13.35              | 99.38          | 3,255.2                     | -66.2            | -217.3          | 67.3                          | 0.00                          | 0.00                         | 0.00                        |
| 3,400.0                     | 13.35              | 99.38          | 3,352.5                     | -70.0            | -194.5          | 71.1                          | 0.00                          | 0.00                         | 0.00                        |
|                             |                    |                |                             |                  |                 |                               |                               |                              |                             |
| 3,500.0                     | 13.35              | 99.38          | 3,449.8                     | -73.8            | -171.7          | 74.9                          | 0.00                          | 0.00                         | 0.00                        |
| 3,600.0                     | 13.35              | 99.38          | 3,547.1                     | -77.5            | -148.9          | 78.7                          | 0.00                          | 0.00                         | 0.00                        |
| 3,700.0                     | 13.35              | 99.38          | 3,644.4                     | -81.3            | -126.1          | 82.5                          | 0.00                          | 0.00                         | 0.00                        |
| 3,800.0                     | 13.35              | 99.38          | 3,741.7                     | -85.1            | -103.3          | 86.3                          | 0.00                          | 0.00                         | 0.00                        |
| 3,900.0                     | 13.35              | 99.38          | 3,839.0                     | -88.8            | -80.5           | 90.1                          | 0.00                          | 0.00                         | 0.00                        |
| 4,000.0                     | 13.35              | 99.38          | 3,936.3                     | -92.6            | -57.7           | 93.9                          | 0.00                          | 0.00                         | 0.00                        |
| 4,100.0                     | 13.35              | 99.38          | 4,033.6                     | -96.4            | -35.0           | 97.7                          | 0.00                          | 0.00                         | 0.00                        |
|                             |                    |                |                             |                  |                 |                               |                               |                              |                             |
| 4,200.0                     | 13.35              | 99.38          | 4,130.9                     | -100.1           | -12.2           | 101.5                         | 0.00                          | 0.00                         | 0.00                        |
| 4,300.0                     | 13.35              | 99.38          | 4,228.2                     | -103.9           | 10.6            | 105.3                         | 0.00                          | 0.00                         | 0.00                        |
| 4,400.0                     | 13.35              | 99.38          | 4,325.5                     | -107.6           | 33.4            | 109.1                         | 0.00                          | 0.00                         | 0.00                        |
| 4,500.0                     | 13.35              | 99.38          | 4,422.8                     | -111.4           | 56.2            | 112.9                         | 0.00                          | 0.00                         | 0.00                        |
| 4,600.0                     | 13.35              | 99.38          | 4,520.1                     | -115.2           | 79.0            | 116.7                         | 0.00                          | 0.00                         | 0.00                        |
| 4,700.0                     | 13.35              | 99.38          | 4,617.4                     | -118.9           | 101.8           | 120.5                         | 0.00                          | 0.00                         | 0.00                        |
|                             |                    |                | ,                           |                  |                 |                               |                               |                              |                             |
| 4,800.0                     | 13.35              | 99.38          | 4,714.7                     | -122.7           | 124.6           | 124.3                         | 0.00                          | 0.00                         | 0.00                        |
| 4,900.0                     | 13.35              | 99.38          | 4,812.0                     | -126.5           | 147.4           | 128.1                         | 0.00                          | 0.00                         | 0.00                        |
| 5,000.0                     | 13.35              | 99.38          | 4,909.3                     | -130.2           | 170.1           | 131.9                         | 0.00                          | 0.00                         | 0.00                        |
| 5,100.0                     | 13.35              | 99.38          | 5,006.6                     | -134.0           | 192.9           | 135.7                         | 0.00                          | 0.00                         | 0.00                        |
| 5,200.0                     | 13.35              | 99.38          | 5,103.9                     | -137.8           | 215.7           | 139.5                         | 0.00                          | 0.00                         | 0.00                        |
| 5,300.0                     | 13.35              | 99.38          | 5,201.2                     | -141.5           | 238.5           | 143.3                         | 0.00                          | 0.00                         | 0.00                        |
| 5,400.0                     | 13.35              | 99.38          | 5,201.2                     | -141.5<br>-145.3 | 236.5<br>261.3  | 143.3                         | 0.00                          | 0.00                         | 0.00                        |
|                             |                    |                |                             |                  |                 |                               |                               |                              |                             |
| 5,500.0                     | 13.35              | 99.38          | 5,395.7                     | -149.1           | 284.1           | 151.0                         | 0.00                          | 0.00                         | 0.00                        |
| 5,600.0                     | 13.35              | 99.38          | 5,493.0                     | -152.8           | 306.9           | 154.8                         | 0.00                          | 0.00                         | 0.00                        |
| 5,700.0                     | 13.35              | 99.38          | 5,590.3                     | -156.6           | 329.7           | 158.6                         | 0.00                          | 0.00                         | 0.00                        |
| 5,800.0                     | 13.35              | 99.38          | 5,687.6                     | -160.4           | 352.5           | 162.4                         | 0.00                          | 0.00                         | 0.00                        |
| 5,852.1                     | 13.35              | 99.38          | 5,738.3                     | -162.3           | 364.3           | 164.4                         | 0.00                          | 0.00                         | 0.00                        |
|                             |                    |                |                             |                  |                 |                               |                               |                              |                             |
| 5,900.0                     | 12.40              | 99.38          | 5,785.0                     | -164.1           | 374.9           | 166.1                         | 2.00                          | -2.00                        | 0.00                        |
| 6,000.0                     | 10.40              | 99.38          | 5,883.0                     | -167.3           | 394.4           | 169.4                         | 2.00                          | -2.00                        | 0.00                        |

#### **Planning Report**

Database: LMRKPROD3

Company: Long Lead\_Well Planning

Project: EDDY

Site: JRU DI 7 Pad C

 Well:
 JRU DI 7 Sawtooth 707H

 Wellbore:
 JRU DI 7 Sawtooth 707H

 Design:
 JRU DI 7 Sawtooth 707H

Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference:

**Survey Calculation Method:** 

Site JRU DI 7 Pad C

JRU DI 7 Sawtooth 707H Default @

3361.0usft

JRU DI 7 Sawtooth 707H Default @

3361.0usft True

| lanned Survey               |                    |                  |                             |                     |                 |                               |                               |                              |                             |
|-----------------------------|--------------------|------------------|-----------------------------|---------------------|-----------------|-------------------------------|-------------------------------|------------------------------|-----------------------------|
| Measured<br>Depth<br>(usft) | Inclination<br>(°) | Azimuth<br>(°)   | Vertical<br>Depth<br>(usft) | +N/-S<br>(usft)     | +E/-W<br>(usft) | Vertical<br>Section<br>(usft) | Dogleg<br>Rate<br>(°/100usft) | Build<br>Rate<br>(°/100usft) | Turn<br>Rate<br>(°/100usft) |
| 6,100.0                     | 8.40               | 99.38            | 5,981.7                     | -169.9              | 410.5           | 172.1                         | 2.00                          | -2.00                        | 0.00                        |
| 6,200.0                     | 6.40               | 99.38            | 6,080.9                     | -172.0              | 423.2           | 174.2                         | 2.00                          | -2.00                        | 0.00                        |
| 6,300.0                     | 4.40               | 99.38            | 6,180.4                     | -173.6              | 432.4           | 175.7                         | 2.00                          | -2.00                        | 0.00                        |
| 6,400.0                     | 2.40               | 99.38            | 6,280.2                     | -174.5              | 438.3           | 176.7                         | 2.00                          | -2.00                        | 0.00                        |
| 6,500.0                     | 0.40               | 99.38            | 6,380.2                     | -174.9              | 440.7           | 177.1                         | 2.00                          | -2.00                        | 0.00                        |
| 6,519.8                     | 0.00               | 360.00           | 6,400.0                     | -174.9              | 440.8           | 177.1                         | 2.00                          | -2.00                        | 0.00                        |
| 9,282.6                     | 0.00               | 360.00           | 9,162.8                     | -174.9              | 440.8           | 177.1                         | 0.00                          | 0.00                         | 0.00                        |
| 9,300.0                     | 1.39               | 179.90           | 9,180.2                     | -175.2              | 440.8           | 177.3                         | 8.00                          | 8.00                         | 0.00                        |
|                             |                    |                  |                             |                     |                 |                               |                               |                              |                             |
| 9,400.0                     | 9.39               | 179.90           | 9,279.7                     | -184.5              | 440.8           | 186.7                         | 8.00                          | 8.00                         | 0.00                        |
| 9,500.0<br>9,600.0          | 17.39              | 179.90<br>179.90 | 9,376.9<br>9,469.9          | -207.7<br>-244.1    | 440.8<br>440.9  | 209.9<br>246.3                | 8.00<br>8.00                  | 8.00                         | 0.00<br>0.00                |
| 9,800.0                     | 25.39<br>33.39     | 179.90           | 9,469.9                     | -244.1              | 440.9<br>441.0  | 246.3<br>295.3                | 8.00                          | 8.00<br>8.00                 | 0.00                        |
| 9,800.0                     | 33.39<br>41.39     | 179.90           | 9,636.4                     | -293.2<br>-353.8    | 441.0<br>441.1  | 295.3<br>356.0                | 8.00                          | 8.00                         | 0.00                        |
| 9,600.0                     | 41.39              | 179.90           | 9,030.4                     |                     | 441.1           | 330.0                         | 6.00                          |                              | 0.00                        |
| 9,843.1                     | 44.84              | 179.90           | 9,667.8                     | -383.3              | 441.1           | 385.4                         | 8.00                          | 8.00                         | 0.00                        |
| FTP 17-1                    |                    |                  |                             |                     |                 |                               |                               |                              |                             |
| 9,900.0                     | 49.39              | 179.90           | 9,706.5                     | -425.0              | 441.2           | 427.1                         | 8.00                          | 8.00                         | 0.00                        |
| 10,000.0                    | 57.39              | 179.90           | 9,766.1                     | -505.2              | 441.3           | 507.4                         | 8.00                          | 8.00                         | 0.00                        |
| 10,100.0                    | 65.39              | 179.90           | 9,813.9                     | -592.9              | 441.5           | 595.1                         | 8.00                          | 8.00                         | 0.00                        |
| 10,200.0                    | 73.39              | 179.90           | 9,849.1                     | -686.4              | 441.6           | 688.6                         | 8.00                          | 8.00                         | 0.00                        |
| 10,300.0                    | 81.39              | 179.90           | 9,870.9                     | -783.9              | 441.8           | 786.1                         | 8.00                          | 8.00                         | 0.00                        |
| 10,400.0                    | 89.39              | 179.90           | 9,879.0                     | -883.5              | 441.9           | 885.7                         | 8.00                          | 8.00                         | 0.00                        |
| 10,407.6                    | 90.00              | 179.90           | 9,879.0                     | -891.1              | 442.0           | 893.3                         | 8.00                          | 8.00                         | 0.00                        |
| 10,500.0                    | 90.00              | 179.90           | 9,879.0                     | -983.5              | 442.1           | 985.7                         | 0.00                          | 0.00                         | 0.00                        |
| 10,600.0                    | 90.00              | 179.90           | 9,879.0                     | -1,083.5            | 442.3           | 1,085.7                       | 0.00                          | 0.00                         | 0.00                        |
|                             |                    |                  |                             |                     |                 |                               |                               |                              |                             |
| 10,700.0                    | 90.00              | 179.90           | 9,879.0                     | -1,183.5            | 442.4           | 1,185.7                       | 0.00                          | 0.00                         | 0.00                        |
| 10,800.0                    | 90.00              | 179.90           | 9,879.0                     | -1,283.5            | 442.6           | 1,285.7                       | 0.00                          | 0.00                         | 0.00                        |
| 10,900.0                    | 90.00              | 179.90           | 9,879.0                     | -1,383.5            | 442.8           | 1,385.7                       | 0.00                          | 0.00                         | 0.00                        |
| 11,000.0                    | 90.00              | 179.90           | 9,879.0                     | -1,483.5            | 442.9           | 1,485.7                       | 0.00                          | 0.00                         | 0.00                        |
| 11,100.0                    | 90.00              | 179.90           | 9,879.0                     | -1,583.5            | 443.1           | 1,585.7                       | 0.00                          | 0.00                         | 0.00                        |
| 11,200.0                    | 90.00              | 179.90           | 9,879.0                     | -1,683.5            | 443.3           | 1,685.7                       | 0.00                          | 0.00                         | 0.00                        |
| 11,300.0                    | 90.00              | 179.90           | 9,879.0                     | -1,783.5            | 443.5           | 1,785.7                       | 0.00                          | 0.00                         | 0.00                        |
| 11,400.0                    | 90.00              | 179.90           | 9,879.0                     | -1,883.5            | 443.6           | 1,885.7                       | 0.00                          | 0.00                         | 0.00                        |
| 11,500.0                    | 90.00              | 179.90           | 9,879.0                     | -1,983.5            | 443.8           | 1,985.7                       | 0.00                          | 0.00                         | 0.00                        |
| 11,600.0                    | 90.00              | 179.90           | 9,879.0                     | -2,083.5            | 444.0           | 2,085.7                       | 0.00                          | 0.00                         | 0.00                        |
| 11,700.0                    | 90.00              | 179.90           | 9,879.0                     | -2,183.5            | 444.1           | 2,185.7                       | 0.00                          | 0.00                         | 0.00                        |
| 11,800.0                    | 90.00              | 179.90           | 9,879.0                     | -2,183.5            | 444.3           | 2,185.7                       | 0.00                          | 0.00                         | 0.00                        |
| 11,900.0                    | 90.00              | 179.90           | 9,879.0                     | -2,383.5            | 444.5           | 2,385.7                       | 0.00                          | 0.00                         | 0.00                        |
| 12,000.0                    | 90.00              | 179.90           | 9,879.0                     | -2,483.5            | 444.6           | 2,485.7                       | 0.00                          | 0.00                         | 0.00                        |
| 12,100.0                    | 90.00              | 179.90           | 9,879.0                     | -2,583.5            | 444.8           | 2,585.7                       | 0.00                          | 0.00                         | 0.00                        |
|                             |                    |                  |                             |                     |                 |                               |                               |                              |                             |
| 12,200.0                    | 90.00              | 179.90           | 9,879.0                     | -2,683.5            | 445.0           | 2,685.7                       | 0.00                          | 0.00                         | 0.00                        |
| 12,300.0                    | 90.00              | 179.90           | 9,879.0                     | -2,783.5            | 445.1           | 2,785.7                       | 0.00                          | 0.00                         | 0.00                        |
| 12,400.0                    | 90.00              | 179.90           | 9,879.0                     | -2,883.5            | 445.3           | 2,885.7                       | 0.00                          | 0.00                         | 0.00                        |
| 12,500.0<br>12,600.0        | 90.00              | 179.90<br>179.90 | 9,879.0                     | -2,983.5<br>3.083.5 | 445.5<br>445.6  | 2,985.7                       | 0.00                          | 0.00                         | 0.00                        |
|                             | 90.00              |                  | 9,879.0                     | -3,083.5            | 445.6           | 3,085.7                       | 0.00                          | 0.00                         | 0.00                        |
| 12,700.0                    | 90.00              | 179.90           | 9,879.0                     | -3,183.5            | 445.8           | 3,185.7                       | 0.00                          | 0.00                         | 0.00                        |
| 12,800.0                    | 90.00              | 179.90           | 9,879.0                     | -3,283.5            | 446.0           | 3,285.7                       | 0.00                          | 0.00                         | 0.00                        |
| 12,900.0                    | 90.00              | 179.90           | 9,879.0                     | -3,383.5            | 446.1           | 3,385.7                       | 0.00                          | 0.00                         | 0.00                        |
| 13,000.0                    | 90.00              | 179.90           | 9,879.0                     | -3,483.5            | 446.3           | 3,485.7                       | 0.00                          | 0.00                         | 0.00                        |
| 13,100.0                    | 90.00              | 179.90           | 9,879.0                     | -3,583.5            | 446.5           | 3,585.7                       | 0.00                          | 0.00                         | 0.00                        |
| 13,200.0                    | 90.00              | 179.90           | 9,879.0                     | -3,683.5            | 446.6           | 3,685.7                       | 0.00                          | 0.00                         | 0.00                        |
| 13,300.0                    | 90.00              | 179.90           | 9,879.0                     | -3,783.5            | 446.8           | 3,785.7                       | 0.00                          | 0.00                         | 0.00                        |
| 13,400.0                    | 90.00              | 179.90           | 9,879.0                     | -3,883.5            | 447.0           | 3,885.7                       | 0.00                          | 0.00                         | 0.00                        |

#### **Planning Report**

Database: LMRKPROD3

Company: Long Lead\_Well Planning

Project: EDDY

Site: JRU DI 7 Pad C

 Well:
 JRU DI 7 Sawtooth 707H

 Wellbore:
 JRU DI 7 Sawtooth 707H

 Design:
 JRU DI 7 Sawtooth 707H

Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference:

Survey Calculation Method:

Site JRU DI 7 Pad C

JRU DI 7 Sawtooth 707H Default @

3361.0usft

JRU DI 7 Sawtooth 707H Default @

3361.0usft True

| anned Survey                |                    |                |                             |                      |                 |                               |                               |                              |                             |
|-----------------------------|--------------------|----------------|-----------------------------|----------------------|-----------------|-------------------------------|-------------------------------|------------------------------|-----------------------------|
| Measured<br>Depth<br>(usft) | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(usft) | +N/-S<br>(usft)      | +E/-W<br>(usft) | Vertical<br>Section<br>(usft) | Dogleg<br>Rate<br>(°/100usft) | Build<br>Rate<br>(°/100usft) | Turn<br>Rate<br>(°/100usft) |
|                             |                    |                |                             |                      |                 | , ,                           | , ,                           | , ,                          | , ,                         |
| 13,500.0                    | 90.00              | 179.90         | 9,879.0                     | -3,983.5             | 447.1           | 3,985.7                       | 0.00                          | 0.00                         | 0.00                        |
| 13,600.0                    | 90.00              | 179.90         | 9,879.0                     | -4,083.5             | 447.3           | 4,085.7                       | 0.00                          | 0.00                         | 0.00                        |
| 13,700.0                    | 90.00              | 179.90         | 9,879.0                     | -4,183.5             | 447.5           | 4,185.7                       | 0.00                          | 0.00                         | 0.00                        |
| 13,800.0                    | 90.00              | 179.90         | 9,879.0                     | -4,283.5             | 447.6           | 4,285.7                       | 0.00                          | 0.00                         | 0.00                        |
| 13,900.0                    | 90.00              | 179.90         | 9,879.0                     | -4,383.5             | 447.8           | 4,385.7                       | 0.00                          | 0.00                         | 0.00                        |
| 14,000.0                    | 90.00              | 179.90         | 9,879.0                     | -4,483.5             | 448.0           | 4,485.7                       | 0.00                          | 0.00                         | 0.00                        |
| 14,100.0                    | 90.00              | 179.90         | 9,879.0                     | -4,583.5             | 448.1           | 4,585.7                       | 0.00                          | 0.00                         | 0.00                        |
| 14 200 0                    | 00.00              | 179.90         | 9,879.0                     | 4 602 F              | 448.3           | 4,685.7                       | 0.00                          | 0.00                         | 0.00                        |
| 14,200.0<br>14,300.0        | 90.00              | 179.90         | 9,879.0<br>9,879.0          | -4,683.5             |                 | 4,005.7                       | 0.00                          | 0.00                         | 0.00                        |
|                             | 90.00              |                | ,                           | -4,783.5             | 448.5           | ,                             |                               |                              |                             |
| 14,400.0                    | 90.00              | 179.90         | 9,879.0                     | -4,883.5             | 448.7           | 4,885.7                       | 0.00                          | 0.00                         | 0.00                        |
| 14,500.0                    | 90.00              | 179.90         | 9,879.0                     | -4,983.5             | 448.8           | 4,985.7                       | 0.00                          | 0.00                         | 0.00                        |
| 14,600.0                    | 90.00              | 179.90         | 9,879.0                     | -5,083.5             | 449.0           | 5,085.7                       | 0.00                          | 0.00                         | 0.00                        |
| 14,700.0                    | 90.00              | 179.90         | 9,879.0                     | -5,183.5             | 449.2           | 5,185.7                       | 0.00                          | 0.00                         | 0.00                        |
| 14,800.0                    | 90.00              | 179.90         | 9,879.0                     | -5,283.5             | 449.3           | 5,285.7                       | 0.00                          | 0.00                         | 0.00                        |
| 14,900.0                    | 90.00              | 179.90         | 9,879.0                     | -5,383.5             | 449.5           | 5,385.7                       | 0.00                          | 0.00                         | 0.00                        |
| 15,000.0                    | 90.00              | 179.90         | 9,879.0                     | -5,483.5             | 449.7           | 5,485.7                       | 0.00                          | 0.00                         | 0.00                        |
| 15,100.0                    | 90.00              | 179.90         | 9,879.0                     | -5,583.5             | 449.8           | 5,585.7                       | 0.00                          | 0.00                         | 0.00                        |
| 45 000 0                    | 00.00              | 470.00         | 0.070.0                     | E 000 E              | 450.0           | F 00F 7                       | 0.00                          | 0.00                         | 0.00                        |
| 15,200.0                    | 90.00              | 179.90         | 9,879.0                     | -5,683.5             | 450.0           | 5,685.7                       | 0.00                          | 0.00                         | 0.00                        |
| 15,300.0                    | 90.00              | 179.90         | 9,879.0                     | -5,783.5             | 450.2           | 5,785.7                       | 0.00                          | 0.00                         | 0.00                        |
| 15,400.0                    | 90.00              | 179.90         | 9,879.0                     | -5,883.5             | 450.3           | 5,885.7                       | 0.00                          | 0.00                         | 0.00                        |
| 15,500.0                    | 90.00              | 179.90         | 9,879.0                     | -5,983.5             | 450.5           | 5,985.7                       | 0.00                          | 0.00                         | 0.00                        |
| 15,600.0                    | 90.00              | 179.90         | 9,879.0                     | -6,083.5             | 450.7           | 6,085.7                       | 0.00                          | 0.00                         | 0.00                        |
| 15,700.0                    | 90.00              | 179.90         | 9,879.0                     | -6,183.5             | 450.8           | 6,185.7                       | 0.00                          | 0.00                         | 0.00                        |
| 15,800.0                    | 90.00              | 179.90         | 9,879.0                     | -6,283.5             | 451.0           | 6,285.7                       | 0.00                          | 0.00                         | 0.00                        |
| 15,900.0                    | 90.00              | 179.90         | 9,879.0                     | -6,383.5             | 451.2           | 6,385.7                       | 0.00                          | 0.00                         | 0.00                        |
| 16,000.0                    | 90.00              | 179.90         | 9,879.0                     | -6,483.5             | 451.3           | 6,485.7                       | 0.00                          | 0.00                         | 0.00                        |
| 16,100.0                    | 90.00              | 179.90         | 9,879.0                     | -6,583.5             | 451.5           | 6,585.7                       | 0.00                          | 0.00                         | 0.00                        |
| 16 200 0                    | 00.00              | 170.00         | 0.070.0                     | 6 600 F              | 454.7           | 6 605 7                       | 0.00                          | 0.00                         | 0.00                        |
| 16,200.0                    | 90.00              | 179.90         | 9,879.0                     | -6,683.5             | 451.7           | 6,685.7                       |                               | 0.00                         | 0.00                        |
| 16,300.0                    | 90.00              | 179.90         | 9,879.0                     | -6,783.5             | 451.8           | 6,785.7                       | 0.00                          | 0.00                         | 0.00                        |
| 16,400.0                    | 90.00              | 179.90         | 9,879.0                     | -6,883.5             | 452.0           | 6,885.7                       | 0.00                          | 0.00                         | 0.00                        |
| 16,500.0                    | 90.00              | 179.90         | 9,879.0                     | -6,983.5             | 452.2           | 6,985.7                       | 0.00                          | 0.00                         | 0.00                        |
| 16,600.0                    | 90.00              | 179.90         | 9,879.0                     | -7,083.5             | 452.3           | 7,085.7                       | 0.00                          | 0.00                         | 0.00                        |
| 16,700.0                    | 90.00              | 179.90         | 9,879.0                     | -7,183.5             | 452.5           | 7,185.7                       | 0.00                          | 0.00                         | 0.00                        |
| 16,800.0                    | 90.00              | 179.90         | 9,879.0                     | -7,283.5             | 452.7           | 7,285.7                       | 0.00                          | 0.00                         | 0.00                        |
| 16,900.0                    | 90.00              | 179.90         | 9,879.0                     | -7,383.5             | 452.8           | 7,385.7                       | 0.00                          | 0.00                         | 0.00                        |
| 17,000.0                    | 90.00              | 179.90         | 9,879.0                     | -7,483.5             | 453.0           | 7,485.7                       | 0.00                          | 0.00                         | 0.00                        |
| 17,100.0                    | 90.00              | 179.90         | 9,879.0                     | -7,583.5             | 453.2           | 7,585.7                       | 0.00                          | 0.00                         | 0.00                        |
| 17.200.0                    | 90.00              | 179.90         | 9,879.0                     | -7.683.5             | 453.3           | 7,685.7                       | 0.00                          | 0.00                         | 0.00                        |
| 17,200.0                    | 90.00              | 179.90         | 9,879.0<br>9,879.0          | -7,683.5<br>-7.783.5 | 453.3<br>453.5  | 7,785.7                       | 0.00                          | 0.00                         | 0.00                        |
| 17,300.0                    | 90.00              | 179.90         | 9,879.0<br>9,879.0          | -7,783.5<br>-7,883.5 | 453.5<br>453.7  | 7,785.7<br>7,885.7            | 0.00                          | 0.00                         | 0.00                        |
| 17,400.0                    | 90.00              | 179.90         | 9,879.0                     | -7,003.5<br>-7,983.5 | 453.7<br>453.9  | 7,005.7<br>7,985.7            | 0.00                          | 0.00                         | 0.00                        |
| 17,500.0                    | 90.00              | 179.90         | 9,879.0<br>9,879.0          | -7,983.5<br>-8,083.5 | 453.9<br>454.0  | 7,985.7<br>8,085.7            | 0.00                          | 0.00                         | 0.00                        |
| 0.000,71                    | 90.00              | 179.90         | 9,079.0                     | -0,003.3             | 454.0           | 0,000.7                       | 0.00                          | 0.00                         | 0.00                        |
| 17,700.0                    | 90.00              | 179.90         | 9,879.0                     | -8,183.5             | 454.2           | 8,185.7                       | 0.00                          | 0.00                         | 0.00                        |
| 17,800.0                    | 90.00              | 179.90         | 9,879.0                     | -8,283.5             | 454.4           | 8,285.7                       | 0.00                          | 0.00                         | 0.00                        |
| 17,900.0                    | 90.00              | 179.90         | 9,879.0                     | -8,383.5             | 454.5           | 8,385.7                       | 0.00                          | 0.00                         | 0.00                        |
| 18,000.0                    | 90.00              | 179.90         | 9,879.0                     | -8,483.5             | 454.7           | 8,485.7                       | 0.00                          | 0.00                         | 0.00                        |
| 18,100.0                    | 90.00              | 179.90         | 9,879.0                     | -8,583.5             | 454.9           | 8,585.7                       | 0.00                          | 0.00                         | 0.00                        |
| 18,200.0                    | 90.00              | 179.90         | 9,879.0                     | -8,683.5             | 455.0           | 8,685.7                       | 0.00                          | 0.00                         | 0.00                        |
| 18,300.0                    |                    | 179.90         | 9,879.0<br>9,879.0          |                      |                 |                               |                               |                              |                             |
|                             | 90.00              |                |                             | -8,783.5             | 455.2           | 8,785.7                       | 0.00                          | 0.00                         | 0.00                        |
| 18,400.0                    | 90.00              | 179.90         | 9,879.0                     | -8,883.5             | 455.4           | 8,885.7                       | 0.00                          | 0.00                         | 0.00                        |
| 18,500.0                    | 90.00              | 179.90         | 9,879.0                     | -8,983.5             | 455.5<br>455.7  | 8,985.7                       | 0.00                          | 0.00                         | 0.00                        |
| 18,600.0                    | 90.00              | 179.90         | 9,879.0                     | -9,083.5             | 455.7           | 9,085.7                       | 0.00                          | 0.00                         | 0.00                        |

#### **Planning Report**

Database: LMRKPROD3

Company: Long Lead\_Well Planning

Project: EDDY

Site: JRU DI 7 Pad C

 Well:
 JRU DI 7 Sawtooth 707H

 Wellbore:
 JRU DI 7 Sawtooth 707H

 Design:
 JRU DI 7 Sawtooth 707H

Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference:

Survey Calculation Method:

Site JRU DI 7 Pad C

JRU DI 7 Sawtooth 707H Default @

3361.0usft

JRU DI 7 Sawtooth 707H Default @

3361.0usft True

| Measured        |                    |                | Vertical        |                 |                 | Vertical          | Dogleg              | Build               | Turn                |
|-----------------|--------------------|----------------|-----------------|-----------------|-----------------|-------------------|---------------------|---------------------|---------------------|
| Depth<br>(usft) | Inclination<br>(°) | Azimuth<br>(°) | Depth<br>(usft) | +N/-S<br>(usft) | +E/-W<br>(usft) | Section<br>(usft) | Rate<br>(°/100usft) | Rate<br>(°/100usft) | Rate<br>(°/100usft) |
| 18,700.0        | 90.00              | 179.90         | 9,879.0         | -9,183.5        | 455.9           | 9,185.7           | 0.00                | 0.00                | 0.00                |
| 18,800.0        | 90.00              | 179.90         | 9,879.0         | -9,283.5        | 456.0           | 9,285.7           | 0.00                | 0.00                | 0.00                |
| 18,900.0        | 90.00              | 179.90         | 9,879.0         | -9,383.5        | 456.2           | 9,385.7           | 0.00                | 0.00                | 0.00                |
| 19,000.0        | 90.00              | 179.90         | 9,879.0         | -9,483.5        | 456.4           | 9,485.7           | 0.00                | 0.00                | 0.00                |
| 19,100.0        | 90.00              | 179.90         | 9,879.0         | -9,583.5        | 456.5           | 9,585.7           | 0.00                | 0.00                | 0.00                |
| 19,200.0        | 90.00              | 179.90         | 9,879.0         | -9,683.5        | 456.7           | 9,685.7           | 0.00                | 0.00                | 0.00                |
| 19,300.0        | 90.00              | 179.90         | 9,879.0         | -9,783.5        | 456.9           | 9,785.7           | 0.00                | 0.00                | 0.00                |
| 19,400.0        | 90.00              | 179.90         | 9,879.0         | -9,883.5        | 457.0           | 9,885.7           | 0.00                | 0.00                | 0.00                |
| 19,500.0        | 90.00              | 179.90         | 9,879.0         | -9,983.5        | 457.2           | 9,985.7           | 0.00                | 0.00                | 0.00                |
| 19,600.0        | 90.00              | 179.90         | 9,879.0         | -10,083.5       | 457.4           | 10,085.7          | 0.00                | 0.00                | 0.00                |
| 19,700.0        | 90.00              | 179.90         | 9,879.0         | -10,183.5       | 457.5           | 10,185.7          | 0.00                | 0.00                | 0.00                |
| 19,800.0        | 90.00              | 179.90         | 9,879.0         | -10,283.5       | 457.7           | 10,285.7          | 0.00                | 0.00                | 0.00                |
| 19,900.0        | 90.00              | 179.90         | 9,879.0         | -10,383.5       | 457.9           | 10,385.7          | 0.00                | 0.00                | 0.00                |
| 20,000.0        | 90.00              | 179.90         | 9,879.0         | -10,483.5       | 458.0           | 10,485.7          | 0.00                | 0.00                | 0.00                |
| 20,100.0        | 90.00              | 179.90         | 9,879.0         | -10,583.5       | 458.2           | 10,585.7          | 0.00                | 0.00                | 0.00                |
| 20,200.0        | 90.00              | 179.90         | 9,879.0         | -10,683.5       | 458.4           | 10,685.7          | 0.00                | 0.00                | 0.00                |
| 20,300.0        | 90.00              | 179.90         | 9,879.0         | -10,783.5       | 458.5           | 10,785.7          | 0.00                | 0.00                | 0.00                |
| 20,400.0        | 90.00              | 179.90         | 9,879.0         | -10,883.5       | 458.7           | 10,885.7          | 0.00                | 0.00                | 0.00                |
| 20,500.0        | 90.00              | 179.90         | 9,879.0         | -10,983.5       | 458.9           | 10,985.7          | 0.00                | 0.00                | 0.00                |
| 20,600.0        | 90.00              | 179.90         | 9,879.0         | -11,083.5       | 459.1           | 11,085.7          | 0.00                | 0.00                | 0.00                |
| 20,700.0        | 90.00              | 179.90         | 9,879.0         | -11,183.5       | 459.2           | 11,185.7          | 0.00                | 0.00                | 0.00                |
| 20,800.0        | 90.00              | 179.90         | 9,879.0         | -11,283.5       | 459.4           | 11,285.7          | 0.00                | 0.00                | 0.00                |
| 20,900.0        | 90.00              | 179.90         | 9,879.0         | -11,383.5       | 459.6           | 11,385.7          | 0.00                | 0.00                | 0.00                |
| 21,000.0        | 90.00              | 179.90         | 9,879.0         | -11,483.5       | 459.7           | 11,485.7          | 0.00                | 0.00                | 0.00                |
| 21,100.0        | 90.00              | 179.90         | 9,879.0         | -11,583.5       | 459.9           | 11,585.7          | 0.00                | 0.00                | 0.00                |
| 21,200.0        | 90.00              | 179.90         | 9,879.0         | -11,683.5       | 460.1           | 11,685.7          | 0.00                | 0.00                | 0.00                |
| 21,300.0        | 90.00              | 179.90         | 9,879.0         | -11,783.5       | 460.2           | 11,785.7          | 0.00                | 0.00                | 0.00                |
| 21,400.0        | 90.00              | 179.90         | 9,879.0         | -11,883.5       | 460.4           | 11,885.7          | 0.00                | 0.00                | 0.00                |
| 21,500.0        | 90.00              | 179.90         | 9,879.0         | -11,983.5       | 460.6           | 11,985.7          | 0.00                | 0.00                | 0.00                |
| 21,600.0        | 90.00              | 179.90         | 9,879.0         | -12,083.5       | 460.7           | 12,085.7          | 0.00                | 0.00                | 0.00                |
| 21,700.0        | 90.00              | 179.90         | 9,879.0         | -12,183.5       | 460.9           | 12,185.7          | 0.00                | 0.00                | 0.00                |
| 21,800.0        | 90.00              | 179.90         | 9,879.0         | -12,283.5       | 461.1           | 12,285.7          | 0.00                | 0.00                | 0.00                |
| 21,900.0        | 90.00              | 179.90         | 9,879.0         | -12,383.5       | 461.2           | 12,385.7          | 0.00                | 0.00                | 0.00                |
| 22,000.0        | 90.00              | 179.90         | 9,879.0         | -12,483.5       | 461.4           | 12,485.7          | 0.00                | 0.00                | 0.00                |
| 22,100.0        | 90.00              | 179.90         | 9,879.0         | -12,583.5       | 461.6           | 12,585.7          | 0.00                | 0.00                | 0.00                |
| 22,200.0        | 90.00              | 179.90         | 9,879.0         | -12,683.5       | 461.7           | 12,685.7          | 0.00                | 0.00                | 0.00                |
| 22,300.0        | 90.00              | 179.90         | 9,879.0         | -12,783.5       | 461.9           | 12,785.7          | 0.00                | 0.00                | 0.00                |
| 22,400.0        | 90.00              | 179.90         | 9,879.0         | -12,883.5       | 462.1           | 12,885.7          | 0.00                | 0.00                | 0.00                |
| 22,459.9        | 90.00              | 179.90         | 9,879.0         | -12,943.4       | 462.2           | 12,945.6          | 0.00                | 0.00                | 0.00                |
| LTP 17-1        |                    |                |                 |                 |                 |                   |                     |                     |                     |
| 22,500.0        | 90.00              | 179.90         | 9,879.0         | -12,983.5       | 462.2           | 12,985.7          | 0.00                | 0.00                | 0.00                |
| 22,509.9        | 90.00              | 179.90         | 9,879.0         | -12,993.4       | 462.3           | 12,995.6          | 0.00                | 0.00                | 0.00                |
| BHL 17-1        |                    |                |                 |                 |                 |                   |                     |                     |                     |

#### Planning Report

LMRKPROD3 Database:

Company: Long Lead\_Well Planning **Local Co-ordinate Reference:** 

TVD Reference:

MD Reference:

Site JRU DI 7 Pad C

JRU DI 7 Sawtooth 707H Default @

3361.0usft

JRU DI 7 Sawtooth 707H Default @

32° 18' 16.644 N

103° 48' 39.967 W

3361.0usft

661,352.40

True Minimum Curvature

**EDDY** Project:

LTP 17-1

- plan hits target center

- Rectangle (sides W5.0 H5.0 D0.0)

JRU DI 7 Pad C Site:

Well: JRU DI 7 Sawtooth 707H Wellbore: JRU DI 7 Sawtooth 707H Design: JRU DI 7 Sawtooth 707H

360.00

9,879.0

-12,943.4

North Reference: **Survey Calculation Method:** 

**Design Targets Target Name** - hit/miss target Dip Angle Dip Dir. TVD +N/-S +E/-W Northing Easting - Shape (°) (°) (usft) (usft) (usft) (usft) (usft) Latitude Longitude BHL 17-1 474,881.70 103° 48' 39.967 W 0.00 0.00 9,879.0 -12,993.4 462.2 661,352.70 32° 18' 16.149 N - plan hits target center - Rectangle (sides W5.0 H5.0 D0.0) 360.00 9,879.0 -174.9 440.8 487,699.90 661,268.90 32° 20' 23.000 N 103° 48' 40.215 W - plan misses target center by 296.7usft at 9843.1usft MD (9667.8 TVD, -383.3 N, 441.1 E) - Rectangle (sides W5.0 H5.0 D0.0)

462.2

474,931.70

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

XTO Energy Inc. JRU DI 7 Sawtooth FED COM 707H Projected TD: 22510' MD / 9879' TVD SHL: 155' FNL & 2050' FEL , Section 6, T23S, R31E BHL: 2590' FNL & 990' FEL , Section 18, T23S, R31E EDDY County, NM

#### 1. Geologic Name of Surface Formation

Quaternary

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

| - "                | 147 U.B. (L. (TL/B.) | 141 / 10:110  |
|--------------------|----------------------|---------------|
| Formation          | Well Depth (TVD)     | Water/Oil/Gas |
| Rustler            | 291'                 | Water         |
| Top of Salt        | 613'                 | Water         |
| Base of Salt       | 3757'                | Water         |
| Delaware           | 3964'                | Water         |
| Brushy Canyon      | 6516'                | Water/Oil/Gas |
| Bone Spring        | 7829'                | Water         |
| 1st Bone Spring Ss | 8860'                | Water/Oil/Gas |
| 2nd Bone Spring Ss | 9821'                | Water/Oil/Gas |
| Target/Land Curve  | 9878'                | Water/Oil/Gas |

No other formations are expected to yield oil, gas or fresh water in measurable volumes. The surface fresh water sands will be protected by setting 13.375 inch casing @ 588' (25' above the salt) and circulating cement back to surface. The salt will be isolated by setting 9.625 inch casing at 3857' and circulating cement to surface. The second intermediate will isolate from the salt down to the next casing seat by setting 7.625 inch casing at 9082.6' and cementing to surface. A 6.75 inch curve and 6.75 inch lateral hole will be drilled to 22510 MD/TD and 5.5 inch production casing will be set at TD and cemented back up to 2nd intermediate (estimated TOC 8582.6 feet) per Potash regulations.

#### 3. Casing Design

| Hole Size | MD               | TVD   | OD Csg | Weight | Grade    | Collar       | New/Used | SF<br>Burst | SF<br>Collapse | SF<br>Tension |
|-----------|------------------|-------|--------|--------|----------|--------------|----------|-------------|----------------|---------------|
| 17.5      | 0' - 588'        | 571'  | 13.375 | 54.5   | J-55     | BTC          | New      | 2.37        | 4.35           | 28.37         |
| 12.25     | 0' – 3857'       | 3688' | 9.625  | 40     | J-55     | BTC          | New      | 1.91        | 2.34           | 4.08          |
| 8.75      | 0' – 3957'       | 3788' | 7.625  | 29.7   | RY P-110 | Flush Joint  | New      | 3.19        | 3.02           | 2.07          |
| 8.75      | 3957' – 9082.6'  | 9502' | 7.625  | 29.7   | HC L-80  | Flush Joint  | New      | 2.32        | 3.99           | 2.67          |
| 6.75      | 0' - 8982.6'     | 9409' | 5.5    | 20     | RY P-110 | Semi-Premium | New      | 1.05        | 2.38           | 2.19          |
| 6.75      | 8982.6' - 22510' | 9879' | 5.5    | 20     | RY P-110 | Semi-Flush   | New      | 1.05        | 2.16           | 5.67          |

Production casing meets the clearance requiremenets as tapered string crosses over before encountering the intermediate shoe, per Onshore Order 2.3.B.1

- · 13.375 Collapse analyzed using 50% evacuation based on regional experience. · 7.625 Collapse analyzed using 50% evacuation based on regional experience.
- · 7.625 Tension calculated using vertical hanging weight plus the lateral weight multiplied by a friction factor of 0.35

#### Wellhead:

- Permanent Wellhead Multibowl System
  A. Starting Head: 13-5/8" 10M top flange x 13-3/8" bottom
  B. Tubing Head: 13-5/8" 10M bottom flange x 7-1/16" 15M top flange
  Wellhead will be installed by manufacturer's representatives.

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

<sup>\*\*\*</sup> Hydrocarbons @ Brushy Canyon
\*\*\* Groundwater depth 40' (per NM State Engineers Office).

<sup>·</sup> XTO requests the option to utilize a spudder rig (Atlas Copco RD20 or Equivalent) to set and cement surface and intermediate 1 casing per this Sundry

#### 4. Cement Program

#### Surface Casing: 13.375, 54.5 New BTC, J-55 casing to be set at +/- 588

Lead: 210 sxs EconoCem-HLTRRC (mixed at 12.9 ppg, 1.87 ft3/sx, 10.13 gal/sx water Tail: 300 sxs Class C + 2% CaCl (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water) Top of Cement: Surface Compressives: 12-hr = 250 psi

Due to the high probability of not getting cement to surface during conventional top-out jobs in the area, ~10-20 ppb gravel will be added on the backside of the 1" to get cement to surface, if required.

#### 1st Intermediate Casing: 9.625, 40 New BTC, J-55 casing to be set at +/- 3857

Lead: 1600 sxs Class C (mixed at 12.9 ppg, 1.39 ft3/sx, 10.13 gal/sx water Tail: 130 sxs Class C + 2% CaCl (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water) Top of Cement: Surface

Compressives: 12-hr = 900 psi 24 hr = 1500 psi

#### 2nd Intermediate Casing: 7.625, 29.7 New casing to be set at +/- 9082.6

1st Stage Optional Lead: 150 sxs Class C (mixed at 10.5 ppg, 2.77 ft3/sx, 15.59 gal/sx water TOC: 3657

Tail: 230 sxs Class C (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water

TOC: Brushy Canyon @ 6516

12-hr = 900 psi 24 hr = 1150 psi Compressives:

2nd Stage

Lead: 0 sxs Class C (mixed at 12.9 ppg, 2.16 ft3/sx, 9.61 gal/sx water)
Tail: 410 sxs Class C (mixed at 14.8 ppg, 1.33 ft3/sx, 6.39 gal/sx water)

Top of Cement: 0

12-hr = 900 psi 24 hr = 1150 psi Compressives:

XTO requests to pump a two stage cement job on the 7-5/8" intermediate casing string with the first stage being pumped conventionally with the calculated top of cement at the Brush Canyon (6516') and the second stage performed as a bradenhead squeeze with planned cement from the Brushy Canyon to surface. If cement is not visually confirmed to circulate to surface, the final cement top after the second stage job will be verified by Echo-meter. If necessary, a top out consisting of 1,500 sack of Class C cement + 3% Salt + 1% PreMag-M + 6% Bentonite Gel (2.30 yld, 12.91 ppg) will be executed as a contingency. If cement is still unable to circulate to surface, another Echo-meter run will be performed for cement top

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

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

XTO requests to pump an Optional Lead if well conditions dictate in an attempt to bring cement to surface. If cement reaches the desired height, the BLM will be notified and the second stage bradenhead squeeze and subsequent TOC verification will

XTO requests the option to conduct the bradenhead squeeze and TOC verification offline as per standard approval from BLM when unplanned remediation is needed and batch drilling is approved. In the event the bradenhead is conducted, we will ensure the first stage cement job is cemented properly and the well is static with floats holding and no pressure on the csg annulus as with all other casing strings where batch drilling operations occur before moving off the rig. The TA cap will also be installed per Cactus procedure and pressure inside the casing will be monitored via the valve on the TA cap as per standard batch drilling ops.

#### Production Casing: 5.5, 20 New Semi-Flush, RY P-110 casing to be set at +/- 22510

Lead: 20 sxs NeoCem (mixed at 11.5 ppg, 2.69 ft3/sx, 15.00 gal/sx water) Top of Cement: Taii: 950 sxs VersaCem (mixed at 13.2 ppg, 1.51 ft3/sx, 8.38 gal/sx water) Top of Cement: 8582.6 feet

24 hr = 2285 psi 12-hr = 1375 psi

XTO 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. XTO 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. The TA cap will also be installed when applicable per Cactus procedure and pressure inside the casing will be monitored via the valve on the TA cap as per standard batch drilling ops. Offline cement operations will then be conducted after the rig is moved off the current well to the next well in the batch sequence

#### 5. Pressure Control Equipment

Once the permanent WH is installed on the 13.375 casing, the blow out preventer equipment (BOP) will consist of a 13-5/8" minimum 50M Hydril and a 13-5/8" minimum 10M Double Ram BOP. MASP should not exceed 2964 psi. In any instance where 10M BOP is required by BLM, XTO requests a variance to utilize 5M annular with 10M ram preventers (a common BOP configuration, which allows use of 10M rams in unlikely event that pressures exceed 5M).

All BOP testing will be done by an independent service company. Annular pressure tests will be limited to 50% of the working pressure. When nippling up on the 13.375, 10M bradenhead and flange, the BOP test will be limited to 10000 psi. When nippling up on the 7.625, the BOP will be tested to a minimum of 10000 psi. All BOP tests will include a low pressure test as per BLM regulations. The 10M BOP diagrams are attached. Blind rams will be functioned tested each trip, pipe rams will be functioned tested each week.

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.

XTO requests a variance to be able to batch drill this well if necessary. In doing so, XTO will set casing and ensure that the well is cemented properly (unless approval is given for offline cementing) and the well is static. With floats holding, no pressure on the csg annulus, and the installation of a 10K TA cap as per Cactus recommendations, XTO will contact the BLM to skid the rig to drill the remaining wells on the pad. Once surface and both intermediate strings are all completed, XTO will begin drilling the production hole on each of the wells.

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. Based on discussions with the BLM on February 27th 2020, 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. When skidding to drill an intermediate section that does not penetrate into the Wolfcamp.

#### 6. Proposed Mud Circulation System

| INTERVAL          | Hole Size | Mud Time               | MW      | Viscosity | Fluid Loss |
|-------------------|-----------|------------------------|---------|-----------|------------|
| INTERVAL          | noie Size | Mud Type               | (ppg)   | (sec/qt)  | (cc)       |
| 0' - 588'         | 17.5      | FW/Native              | 8.5-9   | 35-40     | NC         |
| 588' - 3857'      | 12.25     | Brine                  | 10-10.5 | 30-32     | NC         |
| 3857' to 9082.6'  | 8.75      | BDE/OBM or<br>FW/Brine | 8.6-9.1 | 30-32     | NC         |
| 9082.6' to 22510' | 6.75      | ОВМ                    | 10-10.5 | 50-60     | NC - 20    |

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

Spud with fresh water/native mud. Drill out from under 13-3/8" surface casing with brine solution. Cut brine mud will be used 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. A Pason or Totco will be used to detect changes in loss or gain of mud volume. A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system.

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

- A 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 13.375 casing.

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

Open hole logging will not be done on this well.

 Abnormal Pressures and Temperatures / Potential Hazards
 None Anticipated. BHT of 165 to 185 F is anticipated. No H2S is expected but monitors will be in place to detect any H2S occurrences. Should these circumstances be encountered the operator and drilling contractor are prepared to take all necessary steps to ensure safety of all personnel and environment. Lost circulation could occur but is not expected to be a serious problem in this area and hole seepage will be compensated for by additions of small amounts of LCM in the drilling fluid. The maximum anticipated bottom hole pressure for this well is 5137 psi.

10. Anticipated Starting Date and Duration of Operations Anticipated spud date will be after BLM approval. Move in operations and drilling is expected to take 40 days.

District I 1625 N. French Dr., Hobbs, NM 88240 Phone: (575) 393-6161 Fax: (575) 393-0720 District II 811 S. First St., Artesia, NM 88210 Phone: (575) 748-1283 Fax: (575) 748-9720

District III 1000 Rio Brazos Road, Aztec, NM 87410 Phone: (505) 334-6178 Fax: (505) 334-6170 District IV

District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505 Phone: (505) 476-3460 Fax: (505) 476-3462

C-102.dwg

707H\DWG\SAWTOOTH 707H

1

EDDY\Wells\-33

1

\_

 $\overline{\Box}$ 

Unit\.06

Ranch

James

NM\002

ı

Energy

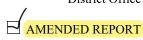
X TO

(618.013

Released to Imaging: 6/11/2024 8:02:30 AM

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

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



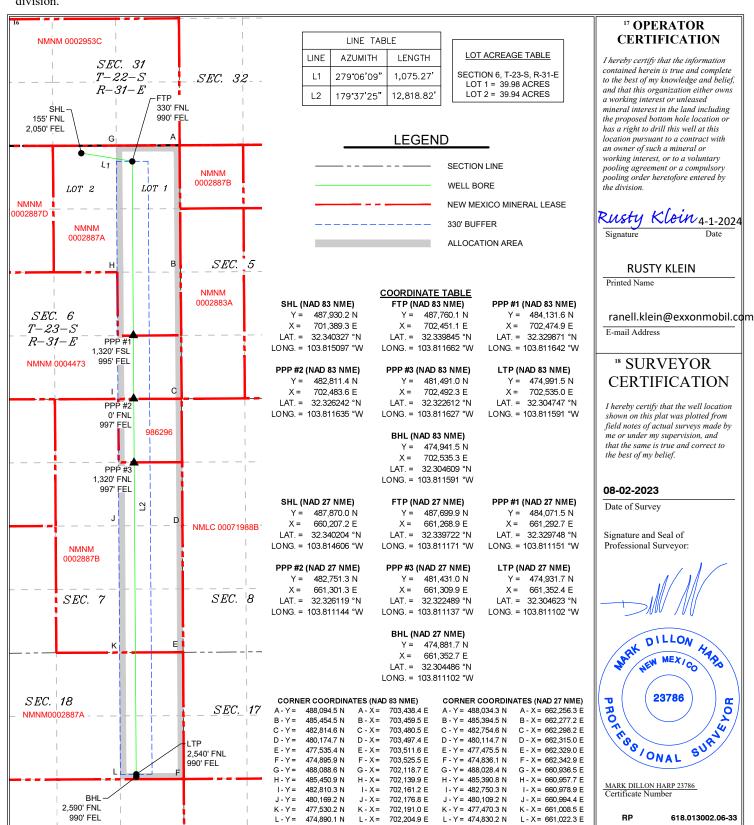
WELL LOCATION AND ACREAGE DEDICATION PLAT

| <sup>1</sup> API Number                     |  | <sup>2</sup> Pool Code |                                    |   |
|---|--|------------------------|------------------------------------|---|
| <b>30-015-</b> 54874                        |  | 40295                  | RING                               |   |
| <sup>4</sup> Property Code<br><b>333473</b> |  |                        | roperty Name I 7 SAWTOOTH          | <sup>6</sup> Well Number<br><b>707H</b>             |
| <sup>7</sup> OGRID No.<br><b>373075</b>     |  |                        | Operator Name<br>AN OPERATING, LLC | <sup>9</sup> Elevation<br><b>3,321</b> <sup>1</sup> |

<sup>10</sup> Surface Location UL or lot no. Section Township Range North/South line Feet from the East/West line 23 S 31 E **NORTH** 2,050 **EAST EDDY** 2 6 "Bottom Hole Location If Different From Surface

|   |         |          | Don        |         | Location ii   | Different 1 fon  | Darrace       |                |        |
|---|---------|----------|------------|---------|---------------|------------------|---------------|----------------|--------|
| UL or lot no.   | Section | Township | Range      | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
| н   | 18      | 23 S     | 31 E       |         | 2,590         | NORTH            | 990           | EAST           | EDDY   |
| 12 Dedicated Acres 13 Joint or Infill 14 Consolidation Code |         |          | Code 15 Or | der No. |               |                  |               |                |        |
| 399.98  |         |          |            |         |               |                  |               |                |        |

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.



District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

District II 811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720

District III 1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

1220 S. St Francis Dr., Santa Fe, NM 87505 Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 351858

#### **CONDITIONS**

| Operator:                  | OGRID:                               |
|----------------------------|--------------------------------------|
| XTO PERMIAN OPERATING LLC. | 373075                               |
| 6401 HOLIDAY HILL ROAD     | Action Number:                       |
| MIDLAND, TX 79707          | 351858                               |
|                            | Action Type:                         |
|                            | [C-103] NOI Change of Plans (C-103A) |

#### CONDITIONS

| Created I | Ву    | Condition   | Condition<br>Date |
|-----------|-------|---|-------------------|
| ward.ri   | ikala | All original COA's still apply. Additionally, if cement is not circulated to surface during cementing operations, then a CBL is required. | 6/11/2024         |