

|                            |                                                                        |                                              |
|----------------------------|------------------------------------------------------------------------|----------------------------------------------|
| Well Name: Jayhawk 6-7 Fed | Well Location: T26S / R34E / SEC 18 / NENW / 32.0500634 / -103.5125655 | County or Parish/State: LEA / NM             |
| Well Number: 16H           | Type of Well: OIL WELL                                                 | Allottee or Tribe Name:                      |
| Lease Number: NMNM114992   | Unit or CA Name:                                                       | Unit or CA Number:                           |
| US Well Number: 3002547705 | Well Status: Approved Application for Permit to Drill                  | Operator: DEVON ENERGY PRODUCTION COMPANY LP |

Notice of Intent

Sundry ID: 2777474

|                                                |                              |
|------------------------------------------------|------------------------------|
| Type of Submission: Notice of Intent           | Type of Action: APD Change   |
| Date Sundry Submitted: 02/29/2024              | Time Sundry Submitted: 02:48 |
| Date proposed operation will begin: 02/29/2024 |                              |

**Procedure Description:** Engineering Only - Devon Energy Production Company L.P. respectfully requests the following changes to the approved APD: Casing program change to slim hole design: Surface, Intermediate, and Production Casing size changes. Cement volume changes to accommodate casing change. Offline cement variance request. Please see attached revised drilling & directional plans, and supporting documentation.

NOI Attachments

Procedure Description

- JAYHAWK\_6\_7\_FED\_16H\_Slim\_Hole\_Rev1\_20240314110545.pdf
- 5.5\_20\_\_VAEP\_P110\_VAroughneck\_SC\_\_6.051\_OD\_\_20240229144134.pdf
- JAYHAWK\_6\_7\_FED\_16H\_Directional\_Plan\_08\_31\_23\_20240229144132.pdf
- 7\_625\_29\_7\_BMP\_P110HC\_CDS\_FXL\_\_slim\_hole\_alternate\_for\_timing\_\_20240229144132.pdf
- 9.625\_40lb\_J\_55\_20240229144131.pdf
- Offline\_Cementing\_\_Variance\_Request\_20240229144131.pdf

Received by OCD: 3/26/2024 8:19:07 AM

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|                            |                                                                        |                                              |
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| Lease Number: NMNM114992   | Unit or CA Name:                                                       | Unit or CA Number:                           |
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Conditions of Approval

Specialist Review

Jayhawk\_6\_7\_Fed\_16H\_Sundry\_ID\_2777474\_20240325153105.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: REBECCA DEAL | Signed on: MAR 14, 2024 11:05 AM |
| Name: DEVON ENERGY PRODUCTION COMPANY LP    |                                  |
| Title: Regulatory Analyst                   |                                  |
| Street Address: 333 W SHERIDAN AVE          |                                  |
| City: OKLAHOMA CITY                         | State: OK                        |
| Phone: (303) 299-1406                       |                                  |
| Email address: REBECCA.DEAL@DVN.COM         |                                  |

Field

|                      |        |      |
|----------------------|--------|------|
| Representative Name: |        |      |
| Street Address:      |        |      |
| City:                | State: | Zip: |
| Phone:               |        |      |
| Email address:       |        |      |

BLM Point of Contact

|                           |                                    |
|---------------------------|------------------------------------|
| BLM POC Name: LONG VO     | BLM POC Title: Petroleum Engineer  |
| BLM POC Phone: 5759885402 | BLM POC Email Address: LVO@BLM.GOV |
| Disposition: Approved     | Disposition Date: 03/25/2024       |
| Signature: Long Vo        |                                    |

|                                                                                                                                                                              |                                                                          |                                                                 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|-----------------------------------------------------------------|
| Form 3160-5<br>(June 2019)                                                                                                                                                   | UNITED STATES<br>DEPARTMENT OF THE INTERIOR<br>BUREAU OF LAND MANAGEMENT | FORM APPROVED<br>OMB No. 1004-0137<br>Expires: October 31, 2021 |
| <b>SUNDRY NOTICES AND REPORTS ON WELLS</b><br><i>Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.</i> |                                                                          | 5. Lease Serial No. NMNM114992                                  |
|                                                                                                                                                                              |                                                                          | 6. If Indian, Allottee or Tribe Name                            |

|                                                                                                                                  |                                                     |                                                                             |
|----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------------------------------|
| SUBMIT IN TRIPLICATE - Other instructions on page 2                                                                              |                                                     | 7. If Unit of CA/Agreement, Name and/or No.                                 |
| 1. Type of Well<br><input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other |                                                     | 8. Well Name and No. Jayhawk 6-7 Fed/16H                                    |
| 2. Name of Operator DEVON ENERGY PRODUCTION COMPANY LP                                                                           |                                                     | 9. API Well No. 3002547705                                                  |
| 3a. Address 333 WEST SHERIDAN AVE, OKLAHOMA CITY,                                                                                | 3b. Phone No. (include area code)<br>(405) 235-3611 | 10. Field and Pool or Exploratory Area<br>WC-025 G-10 S263418C/LWR WOLFCAMP |
| 4. Location of Well (Footage, Sec., T.,R.,M., or Survey Description)<br>SEC 18/T26S/R34E/NMP                                     |                                                     | 11. Country or Parish, State<br>LEA/NM                                      |

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

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

Engineering Only - Devon Energy Production Company L.P. respectfully requests the following changes to the approved APD:

Casing program change to slim hole design: Surface, Intermediate, and Production Casing size changes. Cement volume changes to accommodate casing change. Offline cement variance request.

Please see attached revised drilling & directional plans, and supporting documentation.

|                                                                                                                        |                             |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| 14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed)<br>REBECCA DEAL / Ph: (303) 299-1406 | Title<br>Regulatory Analyst |
| Signature (Electronic Submission)                                                                                      | Date<br>03/14/2024          |

|                                                                                                                                                                                                                                                           |                             |                    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|--------------------|
| THE SPACE FOR FEDERAL OR STATE OFFICE USE                                                                                                                                                                                                                 |                             |                    |
| Approved by<br>LONG VO / Ph: (575) 988-5402 / Approved                                                                                                                                                                                                    | Title<br>Petroleum Engineer | Date<br>03/25/2024 |
| Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon. | Office<br>CARLSBAD          |                    |

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

(Instructions on page 2)

## GENERAL INSTRUCTIONS

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

## SPECIFIC INSTRUCTIONS

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

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

## NOTICES

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

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

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

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

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

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

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

Response to this request is mandatory.

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

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

## Additional Information

### Location of Well

0. SHL: NENW / 230 FNL / 1540 FWL / TWSP: 26S / RANGE: 34E / SECTION: 18 / LAT: 32.0500634 / LONG: -103.5125655 ( TVD: 0 feet, MD: 0 feet )

PPP: LOT 1 / 100 FNL / 500 FWL / TWSP: 26S / RANGE: 34E / SECTION: 18 / LAT: 32.0504 / LONG: -103.5159 ( TVD: 12560 feet, MD: 12649 feet )

BHL: LOT 1 / 20 FNL / 500 FWL / TWSP: 26S / RANGE: 34E / SECTION: 6 / LAT: 32.0796 / LONG: -103.516 ( TVD: 13450 feet, MD: 24022 feet )

CONFIDENTIAL

1. Geologic Formations

|               |       |                              |     |
|---------------|-------|------------------------------|-----|
| TVD of target | 13450 | Pilot hole depth             | N/A |
| MD at TD:     | 24023 | Deepest expected fresh water |     |

Basin

| Formation            | Depth (TVD) from KB | Water/Mineral Bearing/Target Zone? | Hazards* |
|----------------------|---------------------|------------------------------------|----------|
| Rustler              | 785                 |                                    |          |
| Salt                 | 1060                |                                    |          |
| Base of Salt         | 5250                |                                    |          |
| Delaware             | 5300                |                                    |          |
| Cherry Canyon        | 6353                |                                    |          |
| Brushy Canyon        | 7996                |                                    |          |
| 1st Bone Spring Lime | 9529                |                                    |          |
| Bone Spring 1st      | 10475               |                                    |          |
| Bone Spring 2nd      | 11421               |                                    |          |
| 3rd Bone Spring Lime | 11487               |                                    |          |
| Bone Spring 3rd      | 12100               |                                    |          |
| Wolfcamp             | 12560               |                                    |          |
|                      |                     |                                    |          |
|                      |                     |                                    |          |
|                      |                     |                                    |          |
|                      |                     |                                    |          |
|                      |                     |                                    |          |
|                      |                     |                                    |          |

\*H2S, water flows, loss of circulation, abnormal pressures, etc.

JAYHAWK 6-7 FED 16H

**2. Casing Program (Primary Design)**

| Hole Size | Csg. Size | Wt (PPF) | Grade     | Conn             | Casing Interval |         | Casing Interval |          |
|-----------|-----------|----------|-----------|------------------|-----------------|---------|-----------------|----------|
|           |           |          |           |                  | From (MD)       | To (MD) | From (TVD)      | To (TVD) |
| 13 1/2    | 9 5/8     | 40       | J-55      | BTC              | 0               | 810     | 0               | 810      |
| 8 3/4     | 7 5/8     | 29.7     | P-110HSCY | MOFXL            | 0               | 12760   | 0               | 12760    |
| 6 3/4     | 5 1/2     | 20       | P-110     | VARN & Sprint SF | 0               | 24023   | 0               | 13450    |

•All casing strings will be tested in accordance with 43 CFR 3172. Must have table for contingency casing.

Variance Approval -

- o 5-1/2" Production Casing will include Sprint SF connection from base of curve to 500ft inside 7 5/8" casing shoe
- o All other 5-1/2" Production Casing will run VARN (6.05") or equivalent

**3. Cementing Program (Primary Design)**

| Casing                     | # Sks | TOC   | Wt. ppg | Yld (ft3/sack) | Slurry Description                       |
|----------------------------|-------|-------|---------|----------------|------------------------------------------|
| Surface                    | 431   | Surf  | 13.2    | 1.44           | Lead: Class C Cement + additives         |
| Int 1                      | 344   | Surf  | 9       | 3.27           | Lead: Class C Cement + additives         |
|                            | 370   | 8760  | 13.2    | 1.44           | Tail: Class H / C + additives            |
| Int 1 Intermediate Squeeze | 447   | Surf  | 13.2    | 1.44           | Squeeze Lead: Class C Cement + additives |
|                            | 344   | Surf  | 9       | 3.27           | Lead: Class C Cement + additives         |
|                            | 370   | 8760  | 13.2    | 1.44           | Tail: Class H / C + additives            |
| Production                 | 62    | 10967 | 9       | 3.27           | Lead: Class H / C + additives            |
|                            | 705   | 12967 | 13.2    | 1.44           | Tail: Class H / C + additives            |

| Casing String              | % Excess |
|----------------------------|----------|
| Surface                    | 50%      |
| Intermediate 1             | 30%      |
| Intermediate 1 (Two Stage) | 25%      |
| Prod                       | 10%      |

4. Pressure Control Equipment (Three String Design)

| BOP installed and tested before drilling which hole? |                                                                                                      | Size?   | Min. Required WP | Type         |  | ✓ | Tested to:                     |
|------------------------------------------------------|------------------------------------------------------------------------------------------------------|---------|------------------|--------------|--|---|--------------------------------|
| Int 1                                                |                                                                                                      | 13-5/8" | 5M               | Annular      |  | X | 50% of rated working pressure  |
|                                                      |                                                                                                      |         |                  | Blind Ram    |  | X | 5M                             |
|                                                      |                                                                                                      |         |                  | Pipe Ram     |  |   |                                |
|                                                      |                                                                                                      |         |                  | Double Ram   |  | X |                                |
|                                                      |                                                                                                      |         |                  | Other*       |  |   |                                |
| Production                                           |                                                                                                      | 13-5/8" | 10M              | Annular (5M) |  | X | 100% of rated working pressure |
|                                                      |                                                                                                      |         |                  | Blind Ram    |  | X | 10M                            |
|                                                      |                                                                                                      |         |                  | Pipe Ram     |  |   |                                |
|                                                      |                                                                                                      |         |                  | Double Ram   |  | X |                                |
|                                                      |                                                                                                      |         |                  | Other*       |  |   |                                |
|                                                      |                                                                                                      |         |                  | Annular (5M) |  |   |                                |
|                                                      |                                                                                                      |         |                  | Blind Ram    |  |   |                                |
|                                                      |                                                                                                      |         |                  | Pipe Ram     |  |   |                                |
|                                                      |                                                                                                      |         |                  | Double Ram   |  |   |                                |
|                                                      |                                                                                                      |         |                  | Other*       |  |   |                                |
| N                                                    | A variance is requested for the use of a diverter on the surface casing. See attached for schematic. |         |                  |              |  |   |                                |
| Y                                                    | A variance is requested to run a 5 M annular on a 10M system                                         |         |                  |              |  |   |                                |

JAYHAWK 6-7 FED 16H

**5. Mud Program (Three String Design)**

| Section      | Type            | Weight (ppg) |
|--------------|-----------------|--------------|
| Surface      | FW Gel          | 8.5-9        |
| Intermediate | DBE / Cut Brine | 10-10.5      |
| Production   | OBM             | 10-10.5      |

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

|                                                         |                             |
|---------------------------------------------------------|-----------------------------|
| What will be used to monitor the loss or gain of fluid? | PVT/Pason/Visual Monitoring |
|---------------------------------------------------------|-----------------------------|

**6. Logging and Testing Procedures**

| Logging, Coring and Testing |                                                                                                                                                             |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X                           | Will run GR/CNL from TD to surface (horizontal well - vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM. |
|                             | No logs are planned based on well control or offset log information.                                                                                        |
|                             | Drill stem test? If yes, explain.                                                                                                                           |
|                             | Coring? If yes, explain.                                                                                                                                    |

| Additional logs planned |             | Interval                |
|-------------------------|-------------|-------------------------|
|                         | Resistivity | Int. shoe to KOP        |
|                         | Density     | Int. shoe to KOP        |
| X                       | CBL         | Production casing       |
| X                       | Mud log     | Intermediate shoe to TD |
|                         | PEX         |                         |

**7. Drilling Conditions**

| Condition                  | Specify what type and where? |
|----------------------------|------------------------------|
| BH pressure at deepest TVD | 7344                         |
| Abnormal temperature       | No                           |

Mitigation measure for abnormal conditions. Describe. Lost circulation material/sweeps/mud scavengers.

Hydrogen Sulfide (H<sub>2</sub>S) monitors will be installed prior to drilling out the surface shoe. If H<sub>2</sub>S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered measured values and formations will be provided to the BLM.

|   |                                 |
|---|---------------------------------|
| N | H <sub>2</sub> S is present     |
| Y | H <sub>2</sub> S plan attached. |

JAYHAWK 6-7 FED 16H

**8. Other facets of operation**

Is this a walking operation? Potentially

- 1 If operator elects, drilling rig will batch drill the surface holes and run/cement surface casing; walking the rig to next wells on the pad.
- 2 The drilling rig will then batch drill the intermediate sections and run/cement intermediate casing; the wellbore will be isolated with a blind flange and pressure gauge installed for monitoring the well before walking to the next well.
- 3 The drilling rig will then batch drill the production hole sections on the wells with OBM, run/cement production casing, and install TA caps or tubing heads for completions.

NOTE: During batch operations the drilling rig will be moved from well to well however, it will not be removed from the pad until all wells have production casing run/cemented.

Will be pre-setting casing? Potentially

- 1 Spudder rig will move in and batch drill surface hole.
  - a. Rig will utilize fresh water based mud to drill surface hole to TD. Solids control will be handled entirely on a closed loop basis.,
- 2 After drilling the surface hole section, the spudder rig will run casing and cement following all of the applicable rules and regulations (OnShore Order 2, all COAs and NMOCD regulations).
- 3 The wellhead will be installed and tested once the surface casing is cut off and the WOC time has been reached.
- 4 A blind flange with the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with a pressure gauge installed on the wellhead.
- 5 Spudder rig operations is expected to take 4-5 days per well on a multi-well pa.
- 6 The NMOCD will be contacted and notified 24 hours prior to commencing spudder rig operations.
- 7 Drilling operations will be performed with drilling rig. A that time an approved BOP stack will be nipped up and tested on the wellhead before drilling operations commences on each well.
  - a. The NMOCD will be contacted / notified 24 hours before the drilling rig moves back on to the pad with the pre-set surface casing.

Attachments

X Directional Plan  
           Other, describe

TECHNICAL DATA SHEET

Released to Imaging: 6/15/2024 12:36:02 PM

Connection: VAroughneck SC (OD=6.051in)

Size: 5 1/2 in X 20.00 lb/ft

Drift: standard

Bevel: standard

Grade: VA-EP-P110

Material:

|                       | US Customary | Metric  |
|-----------------------|--------------|---------|
| Yield Strength Min.   | 125,000 psi  | 862 Mpa |
| Yield Strength Max.   | 140,000 psi  | 965 Mpa |
| Tensile Strength Min. | 125,000 psi  | 862 Mpa |

Pipe:

|                     | US Customary | Metric       |                           | US Customary | Metric    |
|---------------------|--------------|--------------|---------------------------|--------------|-----------|
| Nominal OD:         | 5.500 in     | 139.70 mm    | Wall Thickness:           | 0.361 in     | 9.17 mm   |
| Nominal ID:         | 4.778 in     | 121.36 mm    | Standard Drift:           | 4.653 in     | 118.19 mm |
| Nominal Weight:     | 20.00 lb/ft  | 30.07 kg/m   | Pipe Body Yield Strength: | 729 klb      | 3,240 kN  |
| Pipe Cross Section: | 5.828 in²    | 3,759.99 mm² |                           |              |           |

Connection:

|         | US Customary | Metric    |                             |
|---------|--------------|-----------|-----------------------------|
| OD:     | 6.051 in     | 153.70 mm | Threads per inch: 5 Threads |
| ID:     | 4.764 in     | 121.00 mm |                             |
| Length: | 8.976 in     | 228.00 mm |                             |

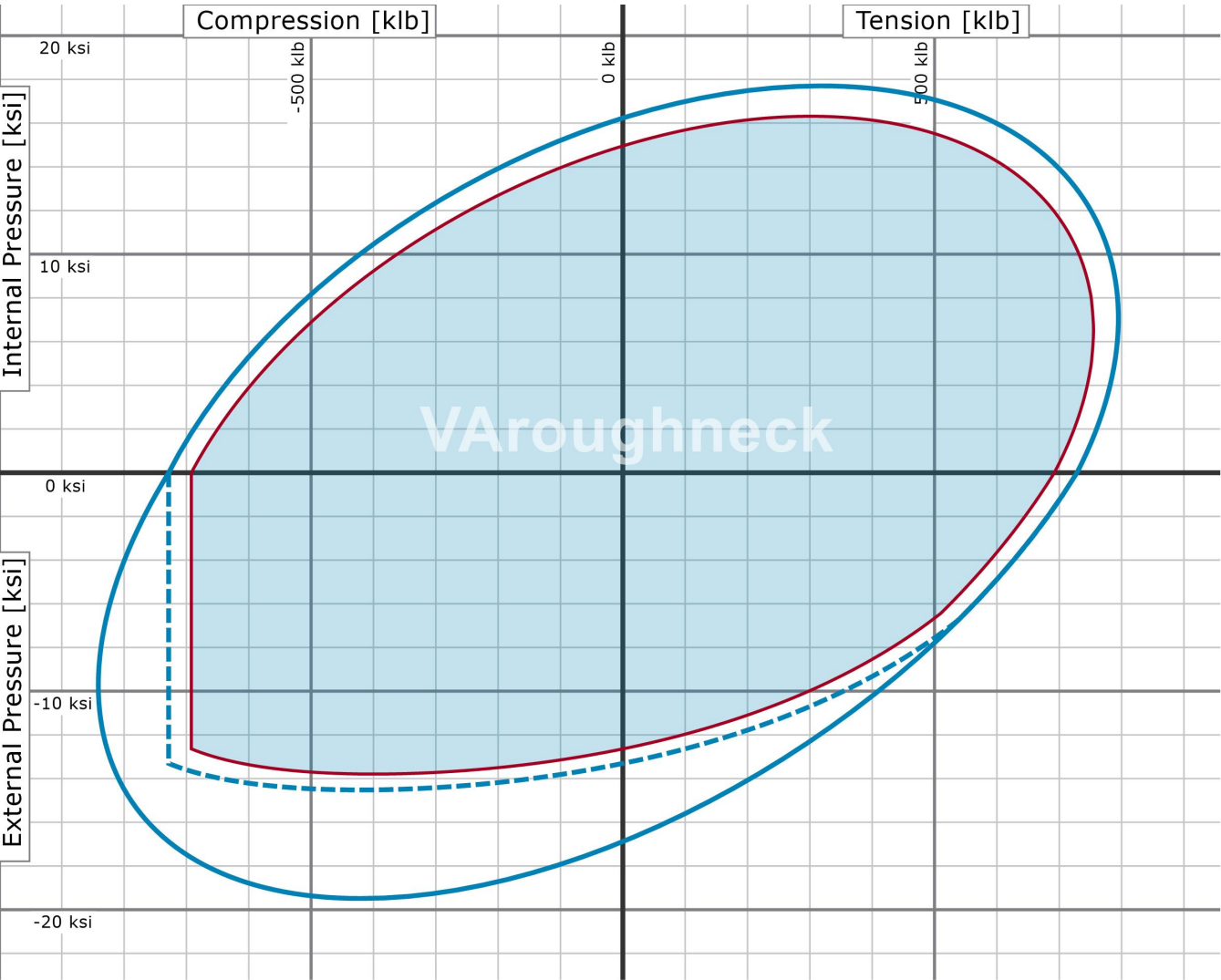
Connection Performance (Uniaxial Load):

|                          | US Customary | Metric    |                     | US Customary | Metric    |
|--------------------------|--------------|-----------|---------------------|--------------|-----------|
| Joint Strength:          | 729 klb      | 3,240 kN  | Tension Efficiency: | > 100.0 %    |           |
| Collapse Resistance:.    | 13,300 psi   | 91.70 Mpa | Displacement:       | 1.240 gal/ft | 15.40 l/m |
| Internal Yield Pressure: | 14,360 psi   | 99.00 Mpa | Production:         | 0.932 gal/ft | 11.57 l/m |
| Load on Coupling Face:   | 411 klb      | 1,830 kN  |                     |              |           |

Field Make Up (Friction Factor = 1.0):

|                          | US Customary | Metric    |               | US Customary | Metric    |
|--------------------------|--------------|-----------|---------------|--------------|-----------|
| Minimum Torque:          | 15,820 ft.lb | 21,450 Nm | Make-Up Loss: | 4.370 in     | 111.00 mm |
| Optimum Torque:          | 17,580 ft.lb | 23,835 Nm | Yield Torque: | 22,000 ft.lb | 29,800 Nm |
| Maximum Torque:          | 19,340 ft.lb | 26,220 Nm |               |              |           |
| Min. Torque on Shoulder: | %            |           |               |              |           |

LOAD ENVELOPE



Recommended Field of Application

- Pipe Body Envelope
- - - Pipe Body Collapse

Efficiency (% Pipe Body)  
under Uniaxial Loads

|                    |         |
|--------------------|---------|
| Tension:           | 100.0 % |
| Compression:       | 100.0 % |
| Internal Pressure: | 100.0 % |
| External Pressure: | 100.0 % |

Sealability Rating (% Efficiency)  
under Combined Loads

|                    |         |
|--------------------|---------|
| Tension:           | 100.0 % |
| Compression:       | 100.0 % |
| Internal Pressure: | 100.0 % |
| External Pressure: | 100.0 % |

Test Conditions

|                     |               |
|---------------------|---------------|
| Test Medium:        | Fluid         |
| Von Mises Envelope: | 95.0 %        |
| Bending:            | 20.00 °/100ft |

The graph is calculated under consideration of the requirements of EN ISO 13679 and API 5C3. The combined loads are calculated without the consideration of wall thickness tolerances and differ from the values in the data sheet, which are calculated with tolerances determined by API. Any printout is NOT SUBJECT TO REGULAR REVISION. The generated performance envelope shall solely be used as a tool to facilitate the comparison of performance properties under combined loads, of different grades, sizes and connections of voestalpine Tubulars products. Field-specific safety/design factors as well as other loads are not considered. Thus the results shall by no means be used to replace the own string design engineering or to justify any warranty/guaranty cases.



Well: JAYHAWK 6-7 FED 16H

County: Lea

Wellbore: Permit Plan

Design: Permit Plan #1

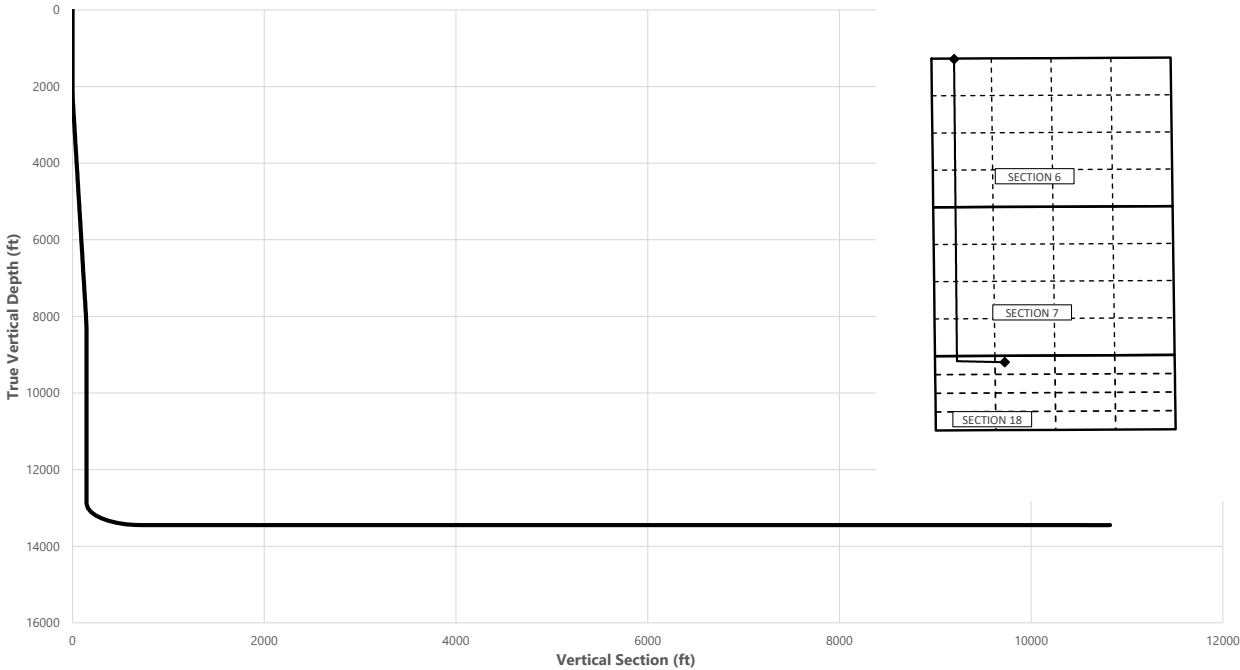
Geodetic System: US State Plane 1983

Datum: North American Datum 1927

Ellipsoid: Clarke 1866

Zone: 3001 - NM East (NAD83)

| MD       | INC   | AZI    | TVD      | NS       | EW       | VS       | DLS       | Comment          |
|----------|-------|--------|----------|----------|----------|----------|-----------|------------------|
| (ft)     | (°)   | (°)    | (ft)     | (ft)     | (ft)     | (ft)     | (°/100ft) |                  |
| 0.00     | 0.00  | 0.00   | 0.00     | 0.00     | 0.00     | 0.00     | 0.00      | SHL              |
| 2000.00  | 0.00  | 272.00 | 2000.00  | 0.00     | 0.00     | 0.00     | 0.00      | Start Tangent    |
| 2500.00  | 10.00 | 272.00 | 2497.47  | 1.52     | -43.50   | 6.01     | 2.00      | Hold Tangent     |
| 8085.85  | 10.00 | 272.00 | 7998.45  | 35.37    | -1012.88 | 139.99   | 0.00      | Drop to Vertical |
| 8585.85  | 0.00  | 272.00 | 8495.92  | 36.89    | -1056.37 | 146.00   | 2.00      | Hold Vertical    |
| 12966.97 | 0.00  | 359.66 | 12877.04 | 36.89    | -1056.37 | 146.00   | 0.00      | KOP              |
| 13866.97 | 90.00 | 359.66 | 13450.00 | 609.84   | -1059.77 | 716.23   | 10.00     | Landing Point    |
| 24022.97 | 90.00 | 359.66 | 13450.00 | 10765.66 | -1120.04 | 10823.77 | 0.00      | BHL              |



| Key Depths                      | MD       | TVD      |
|---------------------------------|----------|----------|
|                                 | (ft)     | (ft)     |
| Rustler                         | 785.00   | 785.00   |
| Salt                            | 1060.00  | 1060.00  |
| Base of Salt                    | 5295.00  | 5250.00  |
| Delaware                        | 5345.77  | 5300.00  |
| Cherry Canyon                   | 6415.01  | 6353.00  |
| Brushy Canyon                   | 8083.36  | 7996.00  |
| 1st Bone Spring Lime            | 9618.93  | 9529.00  |
| Bone Spring 1st                 | 10564.93 | 10475.00 |
| Bone Spring 2nd                 | 11510.93 | 11421.00 |
| 3rd Bone Spring Lime            | 11576.93 | 11487.00 |
| Bone Spring 3rd                 | 12189.93 | 12100.00 |
| Wolfcamp / Point of Penetration | 12649.93 | 12560.00 |
| exit                            | 23942.97 | 13450.01 |

SHL  
KOP  
Point of Penetration  
Exit  
BHL

| MD       | TVD      | Lat     | Long      | Section Footages                            |
|----------|----------|---------|-----------|---------------------------------------------|
| (ft)     | (ft)     | (°)     | (°)       |                                             |
| 0.00     | 0.00     | 32.0500 | -103.5126 | 230' FNL, 1540' FWL of Sec 18 in T26S, R34E |
| 12966.97 | 12877.04 | 32.0501 | -103.5161 | 183' FNL, 485' FWL of Sec 18 in T26S, R34E  |
| 12649.93 | 12560.00 | 32.0504 | -103.5159 | 100' FNL, 500' FWL of Sec 18 in T26S, R34E  |
| 23942.97 | 13450.01 | 32.0795 | -103.5159 | 100' FNL, 500' FWL of Sec 6 in T26S, R34E   |
| 24022.97 | 13450.00 | 32.0796 | -103.5160 | 20' FNL, 500' FWL of Sec 6 in T26S, R34E    |

|     | Y      | X      | MD       |
|-----|--------|--------|----------|
| KOP | 382955 | 794575 | 12966.97 |

JAYHAWK 6-7 FED 16H



Well: JAYHAWK 6-7 FED 16H  
 County: Lea  
 Wellbore: Permit Plan  
 Design: Permit Plan #1

Geodetic System: US State Plane 1983  
 Datum: North American Datum 1927  
 Ellipsoid: Clarke 1866  
 Zone: 3001 - NM East (NAD83)

| MD      | INC   | AZI    | TVD     | NS    | EW      | VS    | DLS       | Comment       |
|---------|-------|--------|---------|-------|---------|-------|-----------|---------------|
| (ft)    | (°)   | (°)    | (ft)    | (ft)  | (ft)    | (ft)  | (°/100ft) |               |
| 0.00    | 0.00  | 0.00   | 0.00    | 0.00  | 0.00    | 0.00  | 0.00      | SHL           |
| 100.00  | 0.00  | 272.00 | 100.00  | 0.00  | 0.00    | 0.00  | 0.00      |               |
| 200.00  | 0.00  | 272.00 | 200.00  | 0.00  | 0.00    | 0.00  | 0.00      |               |
| 300.00  | 0.00  | 272.00 | 300.00  | 0.00  | 0.00    | 0.00  | 0.00      |               |
| 400.00  | 0.00  | 272.00 | 400.00  | 0.00  | 0.00    | 0.00  | 0.00      |               |
| 500.00  | 0.00  | 272.00 | 500.00  | 0.00  | 0.00    | 0.00  | 0.00      |               |
| 600.00  | 0.00  | 272.00 | 600.00  | 0.00  | 0.00    | 0.00  | 0.00      |               |
| 700.00  | 0.00  | 272.00 | 700.00  | 0.00  | 0.00    | 0.00  | 0.00      |               |
| 785.00  | 0.00  | 272.00 | 785.00  | 0.00  | 0.00    | 0.00  | 0.00      | Rustler       |
| 800.00  | 0.00  | 272.00 | 800.00  | 0.00  | 0.00    | 0.00  | 0.00      |               |
| 900.00  | 0.00  | 272.00 | 900.00  | 0.00  | 0.00    | 0.00  | 0.00      |               |
| 1000.00 | 0.00  | 272.00 | 1000.00 | 0.00  | 0.00    | 0.00  | 0.00      |               |
| 1060.00 | 0.00  | 272.00 | 1060.00 | 0.00  | 0.00    | 0.00  | 0.00      | Salt          |
| 1100.00 | 0.00  | 272.00 | 1100.00 | 0.00  | 0.00    | 0.00  | 0.00      |               |
| 1200.00 | 0.00  | 272.00 | 1200.00 | 0.00  | 0.00    | 0.00  | 0.00      |               |
| 1300.00 | 0.00  | 272.00 | 1300.00 | 0.00  | 0.00    | 0.00  | 0.00      |               |
| 1400.00 | 0.00  | 272.00 | 1400.00 | 0.00  | 0.00    | 0.00  | 0.00      |               |
| 1500.00 | 0.00  | 272.00 | 1500.00 | 0.00  | 0.00    | 0.00  | 0.00      |               |
| 1600.00 | 0.00  | 272.00 | 1600.00 | 0.00  | 0.00    | 0.00  | 0.00      |               |
| 1700.00 | 0.00  | 272.00 | 1700.00 | 0.00  | 0.00    | 0.00  | 0.00      |               |
| 1800.00 | 0.00  | 272.00 | 1800.00 | 0.00  | 0.00    | 0.00  | 0.00      |               |
| 1900.00 | 0.00  | 272.00 | 1900.00 | 0.00  | 0.00    | 0.00  | 0.00      |               |
| 2000.00 | 0.00  | 272.00 | 2000.00 | 0.00  | 0.00    | 0.00  | 0.00      | Start Tangent |
| 2100.00 | 2.00  | 272.00 | 2099.98 | 0.06  | -1.74   | 0.24  | 2.00      |               |
| 2200.00 | 4.00  | 272.00 | 2199.84 | 0.24  | -6.97   | 0.96  | 2.00      |               |
| 2300.00 | 6.00  | 272.00 | 2299.45 | 0.55  | -15.68  | 2.17  | 2.00      |               |
| 2400.00 | 8.00  | 272.00 | 2398.70 | 0.97  | -27.86  | 3.85  | 2.00      |               |
| 2500.00 | 10.00 | 272.00 | 2497.47 | 1.52  | -43.50  | 6.01  | 2.00      | Hold Tangent  |
| 2600.00 | 10.00 | 272.00 | 2595.95 | 2.12  | -60.85  | 8.41  | 0.00      |               |
| 2700.00 | 10.00 | 272.00 | 2694.43 | 2.73  | -78.20  | 10.81 | 0.00      |               |
| 2800.00 | 10.00 | 272.00 | 2792.91 | 3.34  | -95.56  | 13.21 | 0.00      |               |
| 2900.00 | 10.00 | 272.00 | 2891.39 | 3.94  | -112.91 | 15.61 | 0.00      |               |
| 3000.00 | 10.00 | 272.00 | 2989.87 | 4.55  | -130.27 | 18.00 | 0.00      |               |
| 3100.00 | 10.00 | 272.00 | 3088.35 | 5.15  | -147.62 | 20.40 | 0.00      |               |
| 3200.00 | 10.00 | 272.00 | 3186.83 | 5.76  | -164.98 | 22.80 | 0.00      |               |
| 3300.00 | 10.00 | 272.00 | 3285.31 | 6.37  | -182.33 | 25.20 | 0.00      |               |
| 3400.00 | 10.00 | 272.00 | 3383.79 | 6.97  | -199.68 | 27.60 | 0.00      |               |
| 3500.00 | 10.00 | 272.00 | 3482.27 | 7.58  | -217.04 | 30.00 | 0.00      |               |
| 3600.00 | 10.00 | 272.00 | 3580.75 | 8.18  | -234.39 | 32.40 | 0.00      |               |
| 3700.00 | 10.00 | 272.00 | 3679.23 | 8.79  | -251.75 | 34.79 | 0.00      |               |
| 3800.00 | 10.00 | 272.00 | 3777.72 | 9.40  | -269.10 | 37.19 | 0.00      |               |
| 3900.00 | 10.00 | 272.00 | 3876.20 | 10.00 | -286.46 | 39.59 | 0.00      |               |
| 4000.00 | 10.00 | 272.00 | 3974.68 | 10.61 | -303.81 | 41.99 | 0.00      |               |
| 4100.00 | 10.00 | 272.00 | 4073.16 | 11.21 | -321.16 | 44.39 | 0.00      |               |
| 4200.00 | 10.00 | 272.00 | 4171.64 | 11.82 | -338.52 | 46.79 | 0.00      |               |
| 4300.00 | 10.00 | 272.00 | 4270.12 | 12.43 | -355.87 | 49.19 | 0.00      |               |
| 4400.00 | 10.00 | 272.00 | 4368.60 | 13.03 | -373.23 | 51.58 | 0.00      |               |
| 4500.00 | 10.00 | 272.00 | 4467.08 | 13.64 | -390.58 | 53.98 | 0.00      |               |
| 4600.00 | 10.00 | 272.00 | 4565.56 | 14.24 | -407.93 | 56.38 | 0.00      |               |
| 4700.00 | 10.00 | 272.00 | 4664.04 | 14.85 | -425.29 | 58.78 | 0.00      |               |
| 4800.00 | 10.00 | 272.00 | 4762.52 | 15.46 | -442.64 | 61.18 | 0.00      |               |
| 4900.00 | 10.00 | 272.00 | 4861.00 | 16.06 | -460.00 | 63.58 | 0.00      |               |
| 5000.00 | 10.00 | 272.00 | 4959.48 | 16.67 | -477.35 | 65.98 | 0.00      |               |
| 5100.00 | 10.00 | 272.00 | 5057.97 | 17.27 | -494.71 | 68.37 | 0.00      |               |
| 5200.00 | 10.00 | 272.00 | 5156.45 | 17.88 | -512.06 | 70.77 | 0.00      |               |
| 5295.00 | 10.00 | 272.00 | 5250.00 | 18.46 | -528.55 | 73.05 | 0.00      | Base of Salt  |
| 5300.00 | 10.00 | 272.00 | 5254.93 | 18.49 | -529.41 | 73.17 | 0.00      |               |
| 5345.77 | 10.00 | 272.00 | 5300.00 | 18.76 | -537.36 | 74.27 | 0.00      | Delaware      |
| 5400.00 | 10.00 | 272.00 | 5353.41 | 19.09 | -546.77 | 75.57 | 0.00      |               |
| 5500.00 | 10.00 | 272.00 | 5451.89 | 19.70 | -564.12 | 77.97 | 0.00      |               |
| 5600.00 | 10.00 | 272.00 | 5550.37 | 20.30 | -581.48 | 80.37 | 0.00      |               |
| 5700.00 | 10.00 | 272.00 | 5648.85 | 20.91 | -598.83 | 82.76 | 0.00      |               |
| 5800.00 | 10.00 | 272.00 | 5747.33 | 21.52 | -616.19 | 85.16 | 0.00      |               |
| 5900.00 | 10.00 | 272.00 | 5845.81 | 22.12 | -633.54 | 87.56 | 0.00      |               |
| 6000.00 | 10.00 | 272.00 | 5944.29 | 22.73 | -650.89 | 89.96 | 0.00      |               |
| 6100.00 | 10.00 | 272.00 | 6042.77 | 23.33 | -668.25 | 92.36 | 0.00      |               |
| 6200.00 | 10.00 | 272.00 | 6141.25 | 23.94 | -685.60 | 94.76 | 0.00      |               |
| 6300.00 | 10.00 | 272.00 | 6239.73 | 24.55 | -702.96 | 97.16 | 0.00      |               |
| 6400.00 | 10.00 | 272.00 | 6338.22 | 25.15 | -720.31 | 99.55 | 0.00      |               |
| 6415.01 | 10.00 | 272.00 | 6353.00 | 25.24 | -722.92 | 99.91 | 0.00      | Cherry Canyon |

JAYHAWK 6-7 FED 16H



Well: JAYHAWK 6-7 FED 16H  
 County: Lea  
 Wellbore: Permit Plan  
 Design: Permit Plan #1

Geodetic System: US State Plane 1983  
 Datum: North American Datum 1927  
 Ellipsoid: Clarke 1866  
 Zone: 3001 - NM East (NAD83)

| MD<br>(ft) | INC<br>(°) | AZI<br>(°) | TVD<br>(ft) | NS<br>(ft) | EW<br>(ft) | VS<br>(ft) | DLS<br>(°/100ft) | Comment              |
|------------|------------|------------|-------------|------------|------------|------------|------------------|----------------------|
| 6500.00    | 10.00      | 272.00     | 6436.70     | 25.76      | -737.67    | 101.95     | 0.00             |                      |
| 6600.00    | 10.00      | 272.00     | 6535.18     | 26.36      | -755.02    | 104.35     | 0.00             |                      |
| 6700.00    | 10.00      | 272.00     | 6633.66     | 26.97      | -772.37    | 106.75     | 0.00             |                      |
| 6800.00    | 10.00      | 272.00     | 6732.14     | 27.57      | -789.73    | 109.15     | 0.00             |                      |
| 6900.00    | 10.00      | 272.00     | 6830.62     | 28.18      | -807.08    | 111.55     | 0.00             |                      |
| 7000.00    | 10.00      | 272.00     | 6929.10     | 28.79      | -824.44    | 113.95     | 0.00             |                      |
| 7100.00    | 10.00      | 272.00     | 7027.58     | 29.39      | -841.79    | 116.34     | 0.00             |                      |
| 7200.00    | 10.00      | 272.00     | 7126.06     | 30.00      | -859.14    | 118.74     | 0.00             |                      |
| 7300.00    | 10.00      | 272.00     | 7224.54     | 30.60      | -876.50    | 121.14     | 0.00             |                      |
| 7400.00    | 10.00      | 272.00     | 7323.02     | 31.21      | -893.85    | 123.54     | 0.00             |                      |
| 7500.00    | 10.00      | 272.00     | 7421.50     | 31.82      | -911.21    | 125.94     | 0.00             |                      |
| 7600.00    | 10.00      | 272.00     | 7519.99     | 32.42      | -928.56    | 128.34     | 0.00             |                      |
| 7700.00    | 10.00      | 272.00     | 7618.47     | 33.03      | -945.92    | 130.74     | 0.00             |                      |
| 7800.00    | 10.00      | 272.00     | 7716.95     | 33.63      | -963.27    | 133.13     | 0.00             |                      |
| 7900.00    | 10.00      | 272.00     | 7815.43     | 34.24      | -980.62    | 135.53     | 0.00             |                      |
| 8000.00    | 10.00      | 272.00     | 7913.91     | 34.85      | -997.98    | 137.93     | 0.00             |                      |
| 8083.36    | 10.00      | 272.00     | 7996.00     | 35.35      | -1012.44   | 139.93     | 0.00             | Brushy Canyon        |
| 8085.85    | 10.00      | 272.00     | 7998.45     | 35.37      | -1012.88   | 139.99     | 0.00             | Drop to Vertical     |
| 8100.00    | 9.72       | 272.00     | 8012.39     | 35.46      | -1015.30   | 140.33     | 2.00             |                      |
| 8200.00    | 7.72       | 272.00     | 8111.23     | 35.98      | -1030.44   | 142.42     | 2.00             |                      |
| 8300.00    | 5.72       | 272.00     | 8210.54     | 36.39      | -1042.13   | 144.04     | 2.00             |                      |
| 8400.00    | 3.72       | 272.00     | 8310.20     | 36.68      | -1050.35   | 145.17     | 2.00             |                      |
| 8500.00    | 1.72       | 272.00     | 8410.08     | 36.84      | -1055.09   | 145.83     | 2.00             |                      |
| 8585.85    | 0.00       | 272.00     | 8495.92     | 36.89      | -1056.37   | 146.00     | 2.00             | Hold Vertical        |
| 8600.00    | 0.00       | 359.66     | 8510.07     | 36.89      | -1056.37   | 146.01     | 0.00             |                      |
| 8700.00    | 0.00       | 359.66     | 8610.07     | 36.89      | -1056.37   | 146.01     | 0.00             |                      |
| 8800.00    | 0.00       | 359.66     | 8710.07     | 36.89      | -1056.37   | 146.01     | 0.00             |                      |
| 8900.00    | 0.00       | 359.66     | 8810.07     | 36.89      | -1056.37   | 146.01     | 0.00             |                      |
| 9000.00    | 0.00       | 359.66     | 8910.07     | 36.89      | -1056.37   | 146.01     | 0.00             |                      |
| 9100.00    | 0.00       | 359.66     | 9010.07     | 36.89      | -1056.37   | 146.01     | 0.00             |                      |
| 9200.00    | 0.00       | 359.66     | 9110.07     | 36.89      | -1056.37   | 146.01     | 0.00             |                      |
| 9300.00    | 0.00       | 359.66     | 9210.07     | 36.89      | -1056.37   | 146.01     | 0.00             |                      |
| 9400.00    | 0.00       | 359.66     | 9310.07     | 36.89      | -1056.37   | 146.01     | 0.00             |                      |
| 9500.00    | 0.00       | 359.66     | 9410.07     | 36.89      | -1056.37   | 146.01     | 0.00             |                      |
| 9600.00    | 0.00       | 359.66     | 9510.07     | 36.89      | -1056.37   | 146.01     | 0.00             |                      |
| 9618.93    | 0.00       | 359.66     | 9529.00     | 36.89      | -1056.37   | 146.01     | 0.00             | 1st Bone Spring Lime |
| 9700.00    | 0.00       | 359.66     | 9610.07     | 36.89      | -1056.37   | 146.01     | 0.00             |                      |
| 9800.00    | 0.00       | 359.66     | 9710.07     | 36.89      | -1056.37   | 146.01     | 0.00             |                      |
| 9900.00    | 0.00       | 359.66     | 9810.07     | 36.89      | -1056.37   | 146.01     | 0.00             |                      |
| 10000.00   | 0.00       | 359.66     | 9910.07     | 36.89      | -1056.37   | 146.01     | 0.00             |                      |
| 10100.00   | 0.00       | 359.66     | 10010.07    | 36.89      | -1056.37   | 146.01     | 0.00             |                      |
| 10200.00   | 0.00       | 359.66     | 10110.07    | 36.89      | -1056.37   | 146.01     | 0.00             |                      |
| 10300.00   | 0.00       | 359.66     | 10210.07    | 36.89      | -1056.37   | 146.01     | 0.00             |                      |
| 10400.00   | 0.00       | 359.66     | 10310.07    | 36.89      | -1056.37   | 146.01     | 0.00             |                      |
| 10500.00   | 0.00       | 359.66     | 10410.07    | 36.89      | -1056.37   | 146.01     | 0.00             |                      |
| 10564.93   | 0.00       | 359.66     | 10475.00    | 36.89      | -1056.37   | 146.01     | 0.00             | Bone Spring 1st      |
| 10600.00   | 0.00       | 359.66     | 10510.07    | 36.89      | -1056.37   | 146.01     | 0.00             |                      |
| 10700.00   | 0.00       | 359.66     | 10610.07    | 36.89      | -1056.37   | 146.01     | 0.00             |                      |
| 10800.00   | 0.00       | 359.66     | 10710.07    | 36.89      | -1056.37   | 146.01     | 0.00             |                      |
| 10900.00   | 0.00       | 359.66     | 10810.07    | 36.89      | -1056.37   | 146.01     | 0.00             |                      |
| 11000.00   | 0.00       | 359.66     | 10910.07    | 36.89      | -1056.37   | 146.01     | 0.00             |                      |
| 11100.00   | 0.00       | 359.66     | 11010.07    | 36.89      | -1056.37   | 146.01     | 0.00             |                      |
| 11200.00   | 0.00       | 359.66     | 11110.07    | 36.89      | -1056.37   | 146.01     | 0.00             |                      |
| 11300.00   | 0.00       | 359.66     | 11210.07    | 36.89      | -1056.37   | 146.01     | 0.00             |                      |
| 11400.00   | 0.00       | 359.66     | 11310.07    | 36.89      | -1056.37   | 146.01     | 0.00             |                      |
| 11500.00   | 0.00       | 359.66     | 11410.07    | 36.89      | -1056.37   | 146.01     | 0.00             |                      |
| 11510.93   | 0.00       | 359.66     | 11421.00    | 36.89      | -1056.37   | 146.01     | 0.00             | Bone Spring 2nd      |
| 11576.93   | 0.00       | 359.66     | 11487.00    | 36.89      | -1056.37   | 146.01     | 0.00             | 3rd Bone Spring Lime |
| 11600.00   | 0.00       | 359.66     | 11510.07    | 36.89      | -1056.37   | 146.01     | 0.00             |                      |
| 11700.00   | 0.00       | 359.66     | 11610.07    | 36.89      | -1056.37   | 146.01     | 0.00             |                      |
| 11800.00   | 0.00       | 359.66     | 11710.07    | 36.89      | -1056.37   | 146.01     | 0.00             |                      |
| 11900.00   | 0.00       | 359.66     | 11810.07    | 36.89      | -1056.37   | 146.01     | 0.00             |                      |
| 12000.00   | 0.00       | 359.66     | 11910.07    | 36.89      | -1056.37   | 146.01     | 0.00             |                      |
| 12100.00   | 0.00       | 359.66     | 12010.07    | 36.89      | -1056.37   | 146.01     | 0.00             |                      |
| 12189.93   | 0.00       | 359.66     | 12100.00    | 36.89      | -1056.37   | 146.01     | 0.00             | Bone Spring 3rd      |
| 12200.00   | 0.00       | 359.66     | 12110.07    | 36.89      | -1056.37   | 146.01     | 0.00             |                      |
| 12300.00   | 0.00       | 359.66     | 12210.07    | 36.89      | -1056.37   | 146.01     | 0.00             |                      |
| 12400.00   | 0.00       | 359.66     | 12310.07    | 36.89      | -1056.37   | 146.01     | 0.00             |                      |
| 12500.00   | 0.00       | 359.66     | 12410.07    | 36.89      | -1056.37   | 146.01     | 0.00             |                      |
| 12600.00   | 0.00       | 359.66     | 12510.07    | 36.89      | -1056.37   | 146.01     | 0.00             |                      |

JAYHAWK 6-7 FED 16H



**Well:** JAYHAWK 6-7 FED 16H  
**County:** Lea  
**Wellbore:** Permit Plan  
**Design:** Permit Plan #1

**Geodetic System:** US State Plane 1983  
**Datum:** North American Datum 1927  
**Ellipsoid:** Clarke 1866  
**Zone:** 3001 - NM East (NAD83)

| MD       | INC   | AZI    | TVD      | NS      | EW       | VS      | DLS       | Comment          |
|----------|-------|--------|----------|---------|----------|---------|-----------|------------------|
| (ft)     | (°)   | (°)    | (ft)     | (ft)    | (ft)     | (ft)    | (°/100ft) |                  |
| 12649.93 | 0.00  | 359.66 | 12560.00 | 36.89   | -1056.37 | 146.01  | 0.00      | Wolfcamp / Point |
| 12700.00 | 0.00  | 359.66 | 12610.07 | 36.89   | -1056.37 | 146.01  | 0.00      |                  |
| 12800.00 | 0.00  | 359.66 | 12710.07 | 36.89   | -1056.37 | 146.01  | 0.00      |                  |
| 12900.00 | 0.00  | 359.66 | 12810.07 | 36.89   | -1056.37 | 146.01  | 0.00      |                  |
| 12966.97 | 0.00  | 359.66 | 12877.04 | 36.89   | -1056.37 | 146.00  | 0.00      | KOP              |
| 13000.00 | 3.30  | 359.66 | 12910.05 | 37.84   | -1056.38 | 146.95  | 10.00     |                  |
| 13100.00 | 13.30 | 359.66 | 13008.88 | 52.26   | -1056.46 | 161.31  | 10.00     |                  |
| 13200.00 | 23.30 | 359.66 | 13103.70 | 83.63   | -1056.65 | 192.52  | 10.00     |                  |
| 13300.00 | 33.30 | 359.66 | 13191.63 | 130.98  | -1056.93 | 239.65  | 10.00     |                  |
| 13400.00 | 43.30 | 359.66 | 13270.01 | 192.88  | -1057.30 | 301.25  | 10.00     |                  |
| 13500.00 | 53.30 | 359.66 | 13336.44 | 267.45  | -1057.74 | 375.47  | 10.00     |                  |
| 13600.00 | 63.30 | 359.66 | 13388.92 | 352.42  | -1058.25 | 460.04  | 10.00     |                  |
| 13700.00 | 73.30 | 359.66 | 13425.84 | 445.22  | -1058.80 | 552.40  | 10.00     | Landing Point    |
| 13800.00 | 83.30 | 359.66 | 13446.09 | 543.02  | -1059.38 | 649.73  | 10.00     |                  |
| 13866.97 | 90.00 | 359.66 | 13450.00 | 609.84  | -1059.77 | 716.23  | 10.00     |                  |
| 13900.00 | 90.00 | 359.66 | 13450.00 | 642.86  | -1059.97 | 749.10  | 0.00      |                  |
| 14000.00 | 90.00 | 359.66 | 13450.00 | 742.86  | -1060.56 | 848.62  | 0.00      |                  |
| 14100.00 | 90.00 | 359.66 | 13450.00 | 842.86  | -1061.16 | 948.15  | 0.00      |                  |
| 14200.00 | 90.00 | 359.66 | 13450.00 | 942.86  | -1061.75 | 1047.67 | 0.00      |                  |
| 14300.00 | 90.00 | 359.66 | 13450.00 | 1042.86 | -1062.35 | 1147.19 | 0.00      |                  |
| 14400.00 | 90.00 | 359.66 | 13450.00 | 1142.86 | -1062.94 | 1246.71 | 0.00      |                  |
| 14500.00 | 90.00 | 359.66 | 13450.00 | 1242.85 | -1063.53 | 1346.24 | 0.00      |                  |
| 14600.00 | 90.00 | 359.66 | 13450.00 | 1342.85 | -1064.13 | 1445.76 | 0.00      |                  |
| 14700.00 | 90.00 | 359.66 | 13450.00 | 1442.85 | -1064.72 | 1545.28 | 0.00      |                  |
| 14800.00 | 90.00 | 359.66 | 13450.00 | 1542.85 | -1065.32 | 1644.80 | 0.00      |                  |
| 14900.00 | 90.00 | 359.66 | 13450.00 | 1642.85 | -1065.91 | 1744.33 | 0.00      |                  |
| 15000.00 | 90.00 | 359.66 | 13450.00 | 1742.84 | -1066.50 | 1843.85 | 0.00      |                  |
| 15100.00 | 90.00 | 359.66 | 13450.00 | 1842.84 | -1067.10 | 1943.37 | 0.00      |                  |
| 15200.00 | 90.00 | 359.66 | 13450.00 | 1942.84 | -1067.69 | 2042.90 | 0.00      |                  |
| 15300.00 | 90.00 | 359.66 | 13450.00 | 2042.84 | -1068.28 | 2142.42 | 0.00      |                  |
| 15400.00 | 90.00 | 359.66 | 13450.00 | 2142.84 | -1068.88 | 2241.94 | 0.00      |                  |
| 15500.00 | 90.00 | 359.66 | 13450.00 | 2242.84 | -1069.47 | 2341.46 | 0.00      |                  |
| 15600.00 | 90.00 | 359.66 | 13450.00 | 2342.83 | -1070.07 | 2440.99 | 0.00      |                  |
| 15700.00 | 90.00 | 359.66 | 13450.00 | 2442.83 | -1070.66 | 2540.51 | 0.00      |                  |
| 15800.00 | 90.00 | 359.66 | 13450.00 | 2542.83 | -1071.25 | 2640.03 | 0.00      |                  |
| 15900.00 | 90.00 | 359.66 | 13450.00 | 2642.83 | -1071.85 | 2739.56 | 0.00      |                  |
| 16000.00 | 90.00 | 359.66 | 13450.00 | 2742.83 | -1072.44 | 2839.08 | 0.00      |                  |
| 16100.00 | 90.00 | 359.66 | 13450.00 | 2842.83 | -1073.04 | 2938.60 | 0.00      |                  |
| 16200.00 | 90.00 | 359.66 | 13450.00 | 2942.82 | -1073.63 | 3038.12 | 0.00      |                  |
| 16300.00 | 90.00 | 359.66 | 13450.00 | 3042.82 | -1074.22 | 3137.65 | 0.00      |                  |
| 16400.00 | 90.00 | 359.66 | 13450.00 | 3142.82 | -1074.82 | 3237.17 | 0.00      |                  |
| 16500.00 | 90.00 | 359.66 | 13450.00 | 3242.82 | -1075.41 | 3336.69 | 0.00      |                  |
| 16600.00 | 90.00 | 359.66 | 13450.00 | 3342.82 | -1076.01 | 3436.22 | 0.00      |                  |
| 16700.00 | 90.00 | 359.66 | 13450.00 | 3442.81 | -1076.60 | 3535.74 | 0.00      |                  |
| 16800.00 | 90.00 | 359.66 | 13450.00 | 3542.81 | -1077.19 | 3635.26 | 0.00      |                  |
| 16900.00 | 90.00 | 359.66 | 13450.00 | 3642.81 | -1077.79 | 3734.78 | 0.00      |                  |
| 17000.00 | 90.00 | 359.66 | 13450.00 | 3742.81 | -1078.38 | 3834.31 | 0.00      |                  |
| 17100.00 | 90.00 | 359.66 | 13450.00 | 3842.81 | -1078.98 | 3933.83 | 0.00      |                  |
| 17200.00 | 90.00 | 359.66 | 13450.00 | 3942.81 | -1079.57 | 4033.35 | 0.00      |                  |
| 17300.00 | 90.00 | 359.66 | 13450.00 | 4042.80 | -1080.16 | 4132.88 | 0.00      |                  |
| 17400.00 | 90.00 | 359.66 | 13450.00 | 4142.80 | -1080.76 | 4232.40 | 0.00      |                  |
| 17500.00 | 90.00 | 359.66 | 13450.00 | 4242.80 | -1081.35 | 4331.92 | 0.00      |                  |
| 17600.00 | 90.00 | 359.66 | 13450.00 | 4342.80 | -1081.95 | 4431.44 | 0.00      |                  |
| 17700.00 | 90.00 | 359.66 | 13450.01 | 4442.80 | -1082.54 | 4530.97 | 0.00      |                  |
| 17800.00 | 90.00 | 359.66 | 13450.01 | 4542.80 | -1083.13 | 4630.49 | 0.00      |                  |
| 17900.00 | 90.00 | 359.66 | 13450.01 | 4642.79 | -1083.73 | 4730.01 | 0.00      |                  |
| 18000.00 | 90.00 | 359.66 | 13450.01 | 4742.79 | -1084.32 | 4829.54 | 0.00      |                  |
| 18100.00 | 90.00 | 359.66 | 13450.01 | 4842.79 | -1084.92 | 4929.06 | 0.00      |                  |
| 18200.00 | 90.00 | 359.66 | 13450.01 | 4942.79 | -1085.51 | 5028.58 | 0.00      |                  |
| 18300.00 | 90.00 | 359.66 | 13450.01 | 5042.79 | -1086.10 | 5128.10 | 0.00      |                  |
| 18400.00 | 90.00 | 359.66 | 13450.01 | 5142.78 | -1086.70 | 5227.63 | 0.00      |                  |
| 18500.00 | 90.00 | 359.66 | 13450.01 | 5242.78 | -1087.29 | 5327.15 | 0.00      |                  |
| 18600.00 | 90.00 | 359.66 | 13450.01 | 5342.78 | -1087.88 | 5426.67 | 0.00      |                  |
| 18700.00 | 90.00 | 359.66 | 13450.01 | 5442.78 | -1088.48 | 5526.20 | 0.00      |                  |
| 18800.00 | 90.00 | 359.66 | 13450.01 | 5542.78 | -1089.07 | 5625.72 | 0.00      |                  |
| 18900.00 | 90.00 | 359.66 | 13450.01 | 5642.78 | -1089.67 | 5725.24 | 0.00      |                  |
| 19000.00 | 90.00 | 359.66 | 13450.01 | 5742.77 | -1090.26 | 5824.76 | 0.00      |                  |
| 19100.00 | 90.00 | 359.66 | 13450.01 | 5842.77 | -1090.85 | 5924.29 | 0.00      |                  |
| 19200.00 | 90.00 | 359.66 | 13450.01 | 5942.77 | -1091.45 | 6023.81 | 0.00      |                  |
| 19300.00 | 90.00 | 359.66 | 13450.01 | 6042.77 | -1092.04 | 6123.33 | 0.00      |                  |

JAYHAWK 6-7 FED 16H



Well: JAYHAWK 6-7 FED 16H  
County: Lea  
Wellbore: Permit Plan  
Design: Permit Plan #1

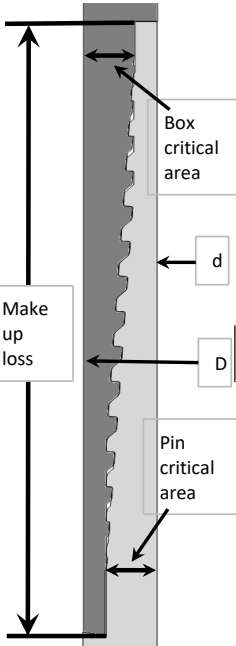
Geodetic System: US State Plane 1983  
Datum: North American Datum 1927  
Ellipsoid: Clarke 1866  
Zone: 3001 - NM East (NAD83)

| MD       | INC   | AZI    | TVD      | NS       | EW       | VS       | DLS       | Comment |
|----------|-------|--------|----------|----------|----------|----------|-----------|---------|
| (ft)     | (°)   | (°)    | (ft)     | (ft)     | (ft)     | (ft)     | (°/100ft) |         |
| 19400.00 | 90.00 | 359.66 | 13450.01 | 6142.77  | -1092.64 | 6222.86  | 0.00      |         |
| 19500.00 | 90.00 | 359.66 | 13450.01 | 6242.77  | -1093.23 | 6322.38  | 0.00      |         |
| 19600.00 | 90.00 | 359.66 | 13450.01 | 6342.76  | -1093.82 | 6421.90  | 0.00      |         |
| 19700.00 | 90.00 | 359.66 | 13450.01 | 6442.76  | -1094.42 | 6521.42  | 0.00      |         |
| 19800.00 | 90.00 | 359.66 | 13450.01 | 6542.76  | -1095.01 | 6620.95  | 0.00      |         |
| 19900.00 | 90.00 | 359.66 | 13450.01 | 6642.76  | -1095.61 | 6720.47  | 0.00      |         |
| 20000.00 | 90.00 | 359.66 | 13450.01 | 6742.76  | -1096.20 | 6819.99  | 0.00      |         |
| 20100.00 | 90.00 | 359.66 | 13450.01 | 6842.75  | -1096.79 | 6919.52  | 0.00      |         |
| 20200.00 | 90.00 | 359.66 | 13450.01 | 6942.75  | -1097.39 | 7019.04  | 0.00      |         |
| 20300.00 | 90.00 | 359.66 | 13450.01 | 7042.75  | -1097.98 | 7118.56  | 0.00      |         |
| 20400.00 | 90.00 | 359.66 | 13450.01 | 7142.75  | -1098.58 | 7218.08  | 0.00      |         |
| 20500.00 | 90.00 | 359.66 | 13450.01 | 7242.75  | -1099.17 | 7317.61  | 0.00      |         |
| 20600.00 | 90.00 | 359.66 | 13450.01 | 7342.75  | -1099.76 | 7417.13  | 0.00      |         |
| 20700.00 | 90.00 | 359.66 | 13450.01 | 7442.74  | -1100.36 | 7516.65  | 0.00      |         |
| 20800.00 | 90.00 | 359.66 | 13450.01 | 7542.74  | -1100.95 | 7616.18  | 0.00      |         |
| 20900.00 | 90.00 | 359.66 | 13450.01 | 7642.74  | -1101.55 | 7715.70  | 0.00      |         |
| 21000.00 | 90.00 | 359.66 | 13450.01 | 7742.74  | -1102.14 | 7815.22  | 0.00      |         |
| 21100.00 | 90.00 | 359.66 | 13450.01 | 7842.74  | -1102.73 | 7914.74  | 0.00      |         |
| 21200.00 | 90.00 | 359.66 | 13450.01 | 7942.74  | -1103.33 | 8014.27  | 0.00      |         |
| 21300.00 | 90.00 | 359.66 | 13450.01 | 8042.73  | -1103.92 | 8113.79  | 0.00      |         |
| 21400.00 | 90.00 | 359.66 | 13450.01 | 8142.73  | -1104.52 | 8213.31  | 0.00      |         |
| 21500.00 | 90.00 | 359.66 | 13450.01 | 8242.73  | -1105.11 | 8312.84  | 0.00      |         |
| 21600.00 | 90.00 | 359.66 | 13450.01 | 8342.73  | -1105.70 | 8412.36  | 0.00      |         |
| 21700.00 | 90.00 | 359.66 | 13450.01 | 8442.73  | -1106.30 | 8511.88  | 0.00      |         |
| 21800.00 | 90.00 | 359.66 | 13450.01 | 8542.72  | -1106.89 | 8611.40  | 0.00      |         |
| 21900.00 | 90.00 | 359.66 | 13450.01 | 8642.72  | -1107.48 | 8710.93  | 0.00      |         |
| 22000.00 | 90.00 | 359.66 | 13450.01 | 8742.72  | -1108.08 | 8810.45  | 0.00      |         |
| 22100.00 | 90.00 | 359.66 | 13450.01 | 8842.72  | -1108.67 | 8909.97  | 0.00      |         |
| 22200.00 | 90.00 | 359.66 | 13450.01 | 8942.72  | -1109.27 | 9009.50  | 0.00      |         |
| 22300.00 | 90.00 | 359.66 | 13450.01 | 9042.72  | -1109.86 | 9109.02  | 0.00      |         |
| 22400.00 | 90.00 | 359.66 | 13450.01 | 9142.71  | -1110.45 | 9208.54  | 0.00      |         |
| 22500.00 | 90.00 | 359.66 | 13450.01 | 9242.71  | -1111.05 | 9308.06  | 0.00      |         |
| 22600.00 | 90.00 | 359.66 | 13450.01 | 9342.71  | -1111.64 | 9407.59  | 0.00      |         |
| 22700.00 | 90.00 | 359.66 | 13450.01 | 9442.71  | -1112.24 | 9507.11  | 0.00      |         |
| 22800.00 | 90.00 | 359.66 | 13450.01 | 9542.71  | -1112.83 | 9606.63  | 0.00      |         |
| 22900.00 | 90.00 | 359.66 | 13450.01 | 9642.71  | -1113.42 | 9706.16  | 0.00      |         |
| 23000.00 | 90.00 | 359.66 | 13450.01 | 9742.70  | -1114.02 | 9805.68  | 0.00      |         |
| 23100.00 | 90.00 | 359.66 | 13450.01 | 9842.70  | -1114.61 | 9905.20  | 0.00      |         |
| 23200.00 | 90.00 | 359.66 | 13450.01 | 9942.70  | -1115.21 | 10004.72 | 0.00      |         |
| 23300.00 | 90.00 | 359.66 | 13450.01 | 10042.70 | -1115.80 | 10104.25 | 0.00      |         |
| 23400.00 | 90.00 | 359.66 | 13450.01 | 10142.70 | -1116.39 | 10203.77 | 0.00      |         |
| 23500.00 | 90.00 | 359.66 | 13450.01 | 10242.69 | -1116.99 | 10303.29 | 0.00      |         |
| 23600.00 | 90.00 | 359.66 | 13450.01 | 10342.69 | -1117.58 | 10402.82 | 0.00      |         |
| 23700.00 | 90.00 | 359.66 | 13450.01 | 10442.69 | -1118.18 | 10502.34 | 0.00      |         |
| 23800.00 | 90.00 | 359.66 | 13450.01 | 10542.69 | -1118.77 | 10601.86 | 0.00      |         |
| 23900.00 | 90.00 | 359.66 | 13450.01 | 10642.69 | -1119.36 | 10701.38 | 0.00      |         |
| 23942.97 | 90.00 | 359.66 | 13450.01 | 10685.66 | -1119.62 | 10744.15 | 0.00      | exit    |
| 24000.00 | 90.00 | 359.66 | 13450.01 | 10742.69 | -1119.96 | 10800.91 | 0.00      |         |
| 24022.97 | 90.00 | 359.66 | 13450.00 | 10765.66 | -1120.04 | 10823.77 | 0.00      | BHL     |

|                                                                                                                 |                                                                                               |                  |                                                         |
|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|------------------|---------------------------------------------------------|
| <b>Metal One Corp.</b><br><br> | <b>MO-FXL</b><br><br><b>Pipe Body: BMP P110HC MinYS110ksi</b><br><b>Connection Data Sheet</b> | CDS#<br><br>Date | MO-FXL 7-5/8 29.7<br>P110HC<br>MinYS110ksi<br>10-Mar-21 |
|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|------------------|---------------------------------------------------------|

**MO-FXL**



| Geometry                | Imperial |                 | S.I.   |                 |
|-------------------------|----------|-----------------|--------|-----------------|
| <b>Pipe Body</b>        |          |                 |        |                 |
| Grade *                 | P110HC   |                 | P110HC |                 |
| Pipe OD ( D )           | 7 5/8    | in              | 193.68 | mm              |
| Weight                  | 29.70    | lb/ft           | 44.25  | kg/m            |
| Actual weight           | 29.04    |                 | 43.26  | kg/m            |
| Wall Thickness ( t )    | 0.375    | in              | 9.53   | mm              |
| Pipe ID ( d )           | 6.875    | in              | 174.63 | mm              |
| Pipe body cross section | 8.537    | in <sup>2</sup> | 5,508  | mm <sup>2</sup> |
| Drift Dia.              | 6.750    | in              | 171.45 | mm              |

| <b>Connection</b>     |                        |                 |        |                 |
|-----------------------|------------------------|-----------------|--------|-----------------|
| Box OD ( W )          | 7.625                  | in              | 193.68 | mm              |
| PIN ID                | 6.875                  | in              | 174.63 | mm              |
| Make up Loss          | 4.219                  | in              | 107.16 | mm              |
| Box Critical Area     | 5.714                  | in <sup>2</sup> | 3686   | mm <sup>2</sup> |
| Joint load efficiency | 70                     | %               | 70     | %               |
| Thread Taper          | 1 / 10 ( 1.2" per ft ) |                 |        |                 |
| Number of Threads     | 5 TPI                  |                 |        |                 |

| <b>Performance</b>                                                                                                                                                                                                                  |                               |      |       |     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|------|-------|-----|
| <b>Performance Properties for Pipe Body</b>                                                                                                                                                                                         |                               |      |       |     |
| S.M.Y.S. *                                                                                                                                                                                                                          | 939                           | kips | 4,177 | kN  |
| M.I.Y.P. *                                                                                                                                                                                                                          | 9,470                         | psi  | 65.31 | MPa |
| Collapse Strength *                                                                                                                                                                                                                 | 7,050                         | psi  | 48.62 | MPa |
| Note S.M.Y.S.= Specified Minimum YIELD Strength of Pipe body<br>M.I.Y.P. = Minimum Internal Yield Pressure of Pipe body<br>* BMP P110HC: MinYS110ksi, Collapse 7,050psi<br>Performance Data Sheet: SOP-12-F05 Rev.1, dated 9/6/2018 |                               |      |       |     |
| <b>Performance Properties for Connection</b>                                                                                                                                                                                        |                               |      |       |     |
| Tensile Yield load                                                                                                                                                                                                                  | 657 kips ( 70% of S.M.Y.S. )  |      |       |     |
| Min. Compression Yield                                                                                                                                                                                                              | 657 kips ( 70% of S.M.Y.S. )  |      |       |     |
| Internal Pressure                                                                                                                                                                                                                   | 7,580 psi ( 80% of M.I.Y.P. ) |      |       |     |
| External Pressure                                                                                                                                                                                                                   | 100% of Collapse Strength     |      |       |     |
| Max. DLS ( deg. /100ft)                                                                                                                                                                                                             | 27                            |      |       |     |

| <b>Recommended Torque</b>                                                 |        |       |        |     |
|---------------------------------------------------------------------------|--------|-------|--------|-----|
| Min.                                                                      | 15,500 | ft-lb | 21,000 | N-m |
| Opti.                                                                     | 17,200 | ft-lb | 23,300 | N-m |
| Max.                                                                      | 18,900 | ft-lb | 25,600 | N-m |
| Operational Max.                                                          | 23,600 | ft-lb | 32,000 | N-m |
| Note : Operational Max. torque can be applied for high torque application |        |       |        |     |

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Statements regarding the suitability of products for certain types of applications are based on Metal One's knowledge of typical requirements that are often placed on Metal One products in standard well configurations. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application.

The products described in this Connection Data Sheet are not recommended for use in deep water offshore applications. For more information, please refer to [http://www.mtlo.co.jp/mo-con/images/top/WebsiteTerms\\_Active\\_20333287\\_1.pdf](http://www.mtlo.co.jp/mo-con/images/top/WebsiteTerms_Active_20333287_1.pdf) the contents of which are incorporated by reference into this Connection Data Sheet.

 **U. S. Steel Tubular Products**  
**9.625" 40.00lbs/ft (0.395" Wall) J55**

1/24/2019 2:45:24 PM

| MECHANICAL PROPERTIES    | Pipe   | BTC | LTC | STC |     |
|--------------------------|--------|-----|-----|-----|-----|
| Minimum Yield Strength   | 55,000 | --  | --  | --  | psi |
| Maximum Yield Strength   | 80,000 | --  | --  | --  | psi |
| Minimum Tensile Strength | 75,000 | --  | --  | --  | psi |

| DIMENSIONS                 | Pipe  | BTC    | LTC    | STC    |        |
|----------------------------|-------|--------|--------|--------|--------|
| Outside Diameter           | 9.625 | 10.625 | 10.625 | 10.625 | in.    |
| Wall Thickness             | 0.395 | --     | --     | --     | in.    |
| Inside Diameter            | 8.835 | 8.835  | 8.835  | 8.835  | in.    |
| Standard Drift             | 8.679 | 8.679  | 8.679  | 8.679  | in.    |
| Alternate Drift            | 8.750 | 8.750  | 8.750  | 8.750  | in.    |
| Nominal Linear Weight, T&C | 40.00 | --     | --     | --     | lbs/ft |
| Plain End Weight           | 38.97 | --     | --     | --     | lbs/ft |

| PERFORMANCE                      | Pipe  | BTC    | LTC   | STC   |           |
|----------------------------------|-------|--------|-------|-------|-----------|
| Minimum Collapse Pressure        | 2,570 | 2,570  | 2,570 | 2,570 | psi       |
| Minimum Internal Yield Pressure  | 3,950 | 3,950  | 3,950 | 3,950 | psi       |
| Minimum Pipe Body Yield Strength | 630   | --     | --    | --    | 1,000 lbs |
| Joint Strength                   | --    | 714    | 520   | 452   | 1,000 lbs |
| Reference Length                 | --    | 11,898 | 8,665 | 7,529 | ft        |

| MAKE-UP DATA           | Pipe | BTC  | LTC   | STC   |        |
|------------------------|------|------|-------|-------|--------|
| Make-Up Loss           | --   | 4.81 | 4.75  | 3.38  | in.    |
| Minimum Make-Up Torque | --   | --   | 3,900 | 3,390 | ft-lbs |
| Maximum Make-Up Torque | --   | --   | 6,500 | 5,650 | ft-lbs |

**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

## **Offline Cementing**

### **Variance Request**

Devon Energy requests to offline cement on intermediate strings that are set in formations shallower than the Wolfcamp. Prior to commencing offline cementing operations, the well will be monitored for any abnormal pressures and confirmed to be static. A dual manifold system (equipped with chokes) for the returns will also be utilized as a redundancy. All equipment used for offline cementing will have a minimum 5M rating to match intermediate sections' 5M BOPE requirements.

|                            |                                                                        |                                              |
|----------------------------|------------------------------------------------------------------------|----------------------------------------------|
| Well Name: Jayhawk 6-7 Fed | Well Location: T26S / R34E / SEC 18 / NENW / 32.0500634 / -103.5125655 | County or Parish/State: LEA / NM             |
| Well Number: 16H           | Type of Well: OIL WELL                                                 | Allottee or Tribe Name:                      |
| Lease Number: NMNM114992   | Unit or CA Name:                                                       | Unit or CA Number:                           |
| US Well Number: 3002547705 | Well Status: Approved Application for Permit to Drill                  | Operator: DEVON ENERGY PRODUCTION COMPANY LP |

Notice of Intent

LONG VO  
Digitally signed by  
LONG VO  
Date: 2024.03.25  
16:30:25 -05'00'

Sundry ID: 2777474  
Type of Submission: Notice of Intent  
Date Sundry Submitted: 02/29/2024  
Date proposed operation will begin: 02/29/2024  
Type of Action: APD Change  
Time Sundry Submitted: 02:48

Procedure Description: Engineering Only - Devon Energy Production Company L.P. respectfully requests the following changes to the approved APD: Casing program change to slim hole design: Surface, Intermediate, and Production Casing size changes. Cement volume changes to accommodate casing change. Offline cement variance request. Please see attached revised drilling & directional plans, and supporting documentation.

NOI Attachments

- Procedure Description
- JAYHAWK\_6\_7\_FED\_16H\_Slim\_Hole\_Rev1\_20240314110545.pdf
  - 5.5\_20\_\_VAEP\_P110\_VAroughneck\_SC\_\_6.051\_OD\_\_20240229144134.pdf
  - JAYHAWK\_6\_7\_FED\_16H\_Directional\_Plan\_08\_31\_23\_20240229144132.pdf
  - 7\_625\_29\_7\_BMP\_P110HC\_CDS\_FXL\_\_slim\_hole\_alternate\_for\_timing\_\_20240229144132.pdf
  - 9.625\_40lb\_J\_55\_20240229144131.pdf
  - Offline\_Cementing\_\_Variance\_Request\_20240229144131.pdf

|                            |                                                                        |                                              |
|----------------------------|------------------------------------------------------------------------|----------------------------------------------|
| Well Name: Gayhawk 677 Fed | Well Location: T26S / R34E / SEC 18 / NENW / 32.0500634 / -103.5125655 | County or Parish/State: LEA / NM             |
| Well Number: 16H           | Type of Well: OIL WELL                                                 | Allottee or Tribe Name:                      |
| Lease Number: NMNM114992   | Unit or CA Name:                                                       | Unit or CA Number:                           |
| US Well Number: 3002547705 | Well Status: Approved Application for Permit to Drill                  | Operator: DEVON ENERGY PRODUCTION COMPANY LP |

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: REBECCA DEAL Signed on: MAR 14, 2024 11:05 AM  
Name: DEVON ENERGY PRODUCTION COMPANY LP  
Title: Regulatory Analyst  
Street Address: 333 W SHERIDAN AVE  
City: OKLAHOMA CITY State: OK  
Phone: (303) 299-1406  
Email address: REBECCA.DEAL@DVN.COM

Field

Representative Name:  
Street Address:  
City: State: Zip:  
Phone:  
Email address:

## PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

|                                                                                    |                                                                                                                                                                                            |
|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>OPERATOR'S NAME:</b><br><b>LEASE NO.:</b><br><b>LOCATION:</b><br><b>COUNTY:</b> | <b>Devon Energy Production Company LP</b><br><b>NMNM114992</b><br>Section 18, T.26 S., R.34 E., NMPM<br><div style="border: 1px solid black; padding: 2px;">Lea County, New Mexico ▼</div> |
|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                                                                                                                                                         |                                                                                                                               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <b>WELL NAME &amp; NO.:</b><br><b>SURFACE HOLE FOOTAGE:</b><br><b>BOTTOM HOLE FOOTAGE:</b><br><b>ATS/API ID:</b><br><b>APD ID:</b><br><b>Sundry ID:</b> | <b>Jayhawk 6-7 Fed 16H</b><br>230'/N & 1540'/W<br>20'/N & 500'/W<br><b>3002547705</b><br><b>10400057821</b><br><b>2777474</b> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|

COA

|                               |                                                                                          |                                                                                  |                                                                                            |
|-------------------------------|------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| H2S                           | <div style="border: 1px solid black; padding: 2px;">Yes ▼</div>                          |                                                                                  |                                                                                            |
| Potash                        | <div style="border: 1px solid black; padding: 2px;">None ▼</div>                         |                                                                                  |                                                                                            |
| Cave/Karst Potential          | <div style="border: 1px solid black; padding: 2px;">Low ▼</div>                          |                                                                                  |                                                                                            |
| Cave/Karst Potential          | <input type="checkbox"/> Critical                                                        |                                                                                  |                                                                                            |
| Variance                      | <input checked="" type="checkbox"/> None                                                 | <input checked="" type="checkbox"/> Flex Hose                                    | <input checked="" type="checkbox"/> Other                                                  |
| Wellhead                      | <div style="border: 1px solid black; padding: 2px;">Conventional and Multibowl ▼</div>   |                                                                                  |                                                                                            |
| Other                         | <input type="checkbox"/> 4 String                                                        | Capitan Reef<br><div style="border: 1px solid black; padding: 2px;">None ▼</div> | <input type="checkbox"/> WIPP                                                              |
| Other                         | Pilot Hole<br><div style="border: 1px solid black; padding: 2px;">None ▼</div>           | <input type="checkbox"/> Open Annulus                                            |                                                                                            |
| Cementing                     | Contingency Squeeze<br><div style="border: 1px solid black; padding: 2px;">Int 1 ▼</div> | Echo-Meter<br><div style="border: 1px solid black; padding: 2px;">None ▼</div>   | Primary Cement Squeeze<br><div style="border: 1px solid black; padding: 2px;">None ▼</div> |
| Special Requirements          | <input type="checkbox"/> Water Disposal/Injection                                        | <input type="checkbox"/> COM                                                     | <input type="checkbox"/> Unit                                                              |
| Special Requirements          | <input type="checkbox"/> Batch Sundry                                                    |                                                                                  |                                                                                            |
| Special Requirements Variance | <input type="checkbox"/> Break Testing                                                   | <input checked="" type="checkbox"/> Offline Cementing                            | <input checked="" type="checkbox"/> Casing Clearance                                       |

**A. HYDROGEN SULFIDE**

A Hydrogen Sulfide (H<sub>2</sub>S) Drilling Plan shall be activated 500 feet prior to drilling into the **Wolfcamp** formation. As a result, the Hydrogen Sulfide area must meet **43 CFR part 3170 Subpart 3176** requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

**B. CASING**

1. The **9-5/8** inch surface casing shall be set at approximately **810 feet** (a minimum of **25 feet (Lea County)** into the Rustler Anhydrite and above the salt when present, and below usable fresh water) and cemented to the surface. The surface hole shall be **13 1/2** inch in diameter.
  - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
  - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
  - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
  - d. If cement falls back, remedial cementing will be done prior to drilling out that string.

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

2. The minimum required fill of cement behind the **7-5/8** inch intermediate casing shall be set at approximately **12560 feet** is:
  - Cement to surface. If cement does not circulate see B.1.a, c-d above.

**Operator has proposed to pump down 9-5/8" X 7-5/8" annulus after primary cementing stage. Operator must run a CBL from TD of the 7-5/8" casing to surface. Submit results to the BLM.**

**If cement does not tie-back into the previous casing shoe, a third stage remediation BH may be performed. The appropriate BLM office shall be notified.**

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

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

### C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'

2.

#### Option 1:

- a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.
- b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **7-5/8** inch intermediate casing shoe shall be **10,000 (10M)** psi. **Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) psi.**

#### Option 2:

Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the **9-5/8** inch surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **10,000 (10M)** psi. **Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) psi.**

- a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
- b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
- c. Manufacturer representative shall install the test plug for the initial BOP test.
- d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
- e. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.

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

### **Offline Cementing**

Operator has been **(Approved)** to pump the proposed cement program offline in the **Intermediate(s) interval**.

Offline cementing should commence within 24 hours of landing the casing for the interval.

Notify the BLM 4hrs prior to cementing offline at **Lea County: 575-689-5981**.

### **Casing Clearance**

Operator casing variance is approved for the utilization of 5-1/2 inch Sprint SF **from** base of curve and a minimum of 500 feet or the minimum tie-back requirement above, whichever is greater into the previous casing shoe. **All** other 5-1/2 inch casing will run Varn.

Operator shall clean up cycles until wellbore is clear of cuttings and any large debris, ensure cutting sizes are less than 0.5 micron before cementing.

## GENERAL REQUIREMENTS

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

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

☒ Lea County

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

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
  - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
  - b. When the operator proposes to set surface casing with Spudder Rig
    - Notify the BLM when moving in and removing the Spudder Rig.
    - Notify the BLM when moving in the 2<sup>nd</sup> Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
    - BOP/BOPE test to be conducted per **43 CFR part 3170 Subpart 3172** as soon as 2nd Rig is rigged up on well.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report when present.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in **43 CFR part 3170 Subpart 3172** and **API STD 53 Sec. 5.3**.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
  - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
  - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
  - c. Manufacturer representative shall install the test plug for the initial BOP test.
  - d. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.
  - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
  - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead cement), whichever is greater. However, if the float does not hold, cut-

off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

- b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve open. (only applies to single stage cement jobs, prior to the cement setting up.)
- c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to **43 CFR part 3170 Subpart 3172** with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
- d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- e. The results of the test shall be reported to the appropriate BLM office.
- f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per **43 CFR part 3170 Subpart 3172**.

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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

Long Vo (LVO) 3/25/2024

Form 3160-5  
(June 2019)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB No. 1004-0137  
Expires: October 31, 2021

**SUNDRY NOTICES AND REPORTS ON WELLS**  
**Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.**

|                                      |            |
|--------------------------------------|------------|
| 5. Lease Serial No.                  | NMNM114992 |
| 6. If Indian, Allottee or Tribe Name |            |

|                                                                                                               |                                       |                                             |
|---------------------------------------------------------------------------------------------------------------|---------------------------------------|---------------------------------------------|
| SUBMIT IN TRIPLICATE - Other instructions on page 2                                                           |                                       | 7. If Unit of CA/Agreement, Name and/or No. |
| 1. Type of Well                                                                                               |                                       | 8. Well Name and No.                        |
| <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other |                                       | Jayhawk 6-7 Fed/16H                         |
| 2. Name of Operator                                                                                           | DEVON ENERGY PRODUCTION COMPANY LP    | 9. API Well No.                             |
| 3a. Address                                                                                                   | 333 WEST SHERIDAN AVE, OKLAHOMA CITY, | 3002547705                                  |
|                                                                                                               | 3b. Phone No. (include area code)     | 10. Field and Pool or Exploratory Area      |
|                                                                                                               | (405) 235-3611                        | WC-025 G-10 S263418C/LWR WOLFCAMP           |
| 4. Location of Well (Footage, Sec., T.,R.,M., or Survey Description)                                          |                                       | 11. Country or Parish, State                |
| SEC 18/T26S/R34E/NMP                                                                                          |                                       | LEA/NM                                      |

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

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

Engineering Only - Devon Energy Production Company L.P. respectfully requests the following changes to the approved APD:

Casing program change to slim hole design: Surface, Intermediate, and Production Casing size changes. Cement volume changes to accommodate casing change. Offline cement variance request.

Please see attached revised drilling & directional plans, and supporting documentation.

|                                                                                   |                    |            |
|-----------------------------------------------------------------------------------|--------------------|------------|
| 14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed) | Regulatory Analyst |            |
| REBECCA DEAL / Ph: (303) 299-1406                                                 | Title              |            |
| (Electronic Submission)                                                           | Date               | 03/14/2024 |
| Signature                                                                         |                    |            |

|                                                                                                                                                                                                                                                           |        |      |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|------|
| THE SPACE FOR FEDERAL OR STATE OFFICE USE                                                                                                                                                                                                                 |        |      |
| Approved by                                                                                                                                                                                                                                               | Title  | Date |
| Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon. | Office |      |

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

(Instructions on page 2)

## GENERAL INSTRUCTIONS

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

## SPECIFIC INSTRUCTIONS

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

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

## NOTICES

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

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

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

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

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

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

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

Response to this request is mandatory.

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

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

## Additional Information

### Location of Well

0. SHL: NENW / 230 FNL / 1540 FWL / TWSP: 26S / RANGE: 34E / SECTION: 18 / LAT: 32.0500634 / LONG: -103.5125655 ( TVD: 0 feet, MD: 0 feet )

PPP: LOT 1 / 100 FNL / 500 FWL / TWSP: 26S / RANGE: 34E / SECTION: 18 / LAT: 32.0504 / LONG: -103.5159 ( TVD: 12560 feet, MD: 12649 feet )

BHL: LOT 1 / 20 FNL / 500 FWL / TWSP: 26S / RANGE: 34E / SECTION: 6 / LAT: 32.0796 / LONG: -103.516 ( TVD: 13450 feet, MD: 24022 feet )

CONFIDENTIAL

JAYHAWK 6-7 FED 16H

1. Geologic Formations

|               |       |                              |     |
|---------------|-------|------------------------------|-----|
| TVD of target | 13450 | Pilot hole depth             | N/A |
| MD at TD:     | 24023 | Deepest expected fresh water |     |

Basin

| Formation            | Depth (TVD) from KB | Water/Mineral Bearing/Target Zone? | Hazards* |
|----------------------|---------------------|------------------------------------|----------|
| Rustler              | 785                 |                                    |          |
| Salt                 | 1060                |                                    |          |
| Base of Salt         | 5250                |                                    |          |
| Delaware             | 5300                |                                    |          |
| Cherry Canyon        | 6353                |                                    |          |
| Brushy Canyon        | 7996                |                                    |          |
| 1st Bone Spring Lime | 9529                |                                    |          |
| Bone Spring 1st      | 10475               |                                    |          |
| Bone Spring 2nd      | 11421               |                                    |          |
| 3rd Bone Spring Lime | 11487               |                                    |          |
| Bone Spring 3rd      | 12100               |                                    |          |
| Wolfcamp             | 12560               |                                    |          |
|                      |                     |                                    |          |
|                      |                     |                                    |          |
|                      |                     |                                    |          |
|                      |                     |                                    |          |
|                      |                     |                                    |          |
|                      |                     |                                    |          |

\*H2S, water flows, loss of circulation, abnormal pressures, etc.

JAYHAWK 6-7 FED 16H

**2. Casing Program (Primary Design)**

| Hole Size | Csg. Size | Wt (PPF) | Grade     | Conn             | Casing Interval |                                      | Casing Interval |                                      |
|-----------|-----------|----------|-----------|------------------|-----------------|--------------------------------------|-----------------|--------------------------------------|
|           |           |          |           |                  | From (MD)       | To (MD)                              | From (TVD)      | To (TVD)                             |
| 13 1/2    | 9 5/8     | 40       | J-55      | BTC              | 0               | 810                                  | 0               | 810                                  |
| 8 3/4     | 7 5/8     | 29.7     | P-110HSCY | MOFXL            | 0               | <del>12560</del><br><del>12760</del> | 0               | <del>12560</del><br><del>12760</del> |
| 6 3/4     | 5 1/2     | 20       | P-110     | VARN & Sprint SF | 0               | 24023                                | 0               | 13450                                |

•All casing strings will be tested in accordance with 43 CFR 3172. Must have table for contingency casing.

Variance Approval -

- o 5-1/2" Production Casing will include Sprint SF connection from base of curve to 500ft inside 7 5/8" casing shoe
- o All other 5-1/2" Production Casing will run VARN (6.05") or equivalent

**3. Cementing Program (Primary Design)**

| Casing                     | # Sks | TOC   | Wt. ppg | Yld (ft3/sack) | Slurry Description                       |
|----------------------------|-------|-------|---------|----------------|------------------------------------------|
| Surface                    | 431   | Surf  | 13.2    | 1.44           | Lead: Class C Cement + additives         |
| Int 1                      | 344   | Surf  | 9       | 3.27           | Lead: Class C Cement + additives         |
|                            | 370   | 8760  | 13.2    | 1.44           | Tail: Class H / C + additives            |
| Int 1 Intermediate Squeeze | 447   | Surf  | 13.2    | 1.44           | Squeeze Lead: Class C Cement + additives |
|                            | 344   | Surf  | 9       | 3.27           | Lead: Class C Cement + additives         |
|                            | 370   | 8760  | 13.2    | 1.44           | Tail: Class H / C + additives            |
| Production                 | 62    | 10967 | 9       | 3.27           | Lead: Class H /C + additives             |
|                            | 705   | 12967 | 13.2    | 1.44           | Tail: Class H / C + additives            |

| Casing String              | % Excess |
|----------------------------|----------|
| Surface                    | 50%      |
| Intermediate 1             | 30%      |
| Intermediate 1 (Two Stage) | 25%      |
| Prod                       | 10%      |

JAYHAWK 6-7 FED 16H

**4. Pressure Control Equipment (Three String Design)**

| BOP installed and tested before drilling which hole? |                                                                                                      | Size?   | Min. Required WP | Type         |  | ✓ | Tested to:                     |
|------------------------------------------------------|------------------------------------------------------------------------------------------------------|---------|------------------|--------------|--|---|--------------------------------|
| Int 1                                                |                                                                                                      | 13-5/8" | 5M               | Annular      |  | X | 50% of rated working pressure  |
|                                                      |                                                                                                      |         |                  | Blind Ram    |  | X | 5M                             |
|                                                      |                                                                                                      |         |                  | Pipe Ram     |  |   |                                |
|                                                      |                                                                                                      |         |                  | Double Ram   |  | X |                                |
|                                                      |                                                                                                      |         |                  | Other*       |  |   |                                |
| Production                                           |                                                                                                      | 13-5/8" | 10M              | Annular (5M) |  | X | 100% of rated working pressure |
|                                                      |                                                                                                      |         |                  | Blind Ram    |  | X | 10M                            |
|                                                      |                                                                                                      |         |                  | Pipe Ram     |  |   |                                |
|                                                      |                                                                                                      |         |                  | Double Ram   |  | X |                                |
|                                                      |                                                                                                      |         |                  | Other*       |  |   |                                |
|                                                      |                                                                                                      |         |                  | Annular (5M) |  |   |                                |
|                                                      |                                                                                                      |         |                  | Blind Ram    |  |   |                                |
|                                                      |                                                                                                      |         |                  | Pipe Ram     |  |   |                                |
|                                                      |                                                                                                      |         |                  | Double Ram   |  |   |                                |
|                                                      |                                                                                                      |         |                  | Other*       |  |   |                                |
| N                                                    | A variance is requested for the use of a diverter on the surface casing. See attached for schematic. |         |                  |              |  |   |                                |
| Y                                                    | A variance is requested to run a 5 M annular on a 10M system                                         |         |                  |              |  |   |                                |

JAYHAWK 6-7 FED 16H

**5. Mud Program (Three String Design)**

| Section      | Type            | Weight (ppg) |
|--------------|-----------------|--------------|
| Surface      | FW Gel          | 8.5-9        |
| Intermediate | DBE / Cut Brine | 10-10.5      |
| Production   | OBM             | 10-10.5      |

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

|                                                         |                             |
|---------------------------------------------------------|-----------------------------|
| What will be used to monitor the loss or gain of fluid? | PVT/Pason/Visual Monitoring |
|---------------------------------------------------------|-----------------------------|

**6. Logging and Testing Procedures**

| Logging, Coring and Testing |                                                                                                                                                             |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X                           | Will run GR/CNL from TD to surface (horizontal well - vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM. |
|                             | No logs are planned based on well control or offset log information.                                                                                        |
|                             | Drill stem test? If yes, explain.                                                                                                                           |
|                             | Coring? If yes, explain.                                                                                                                                    |

| Additional logs planned |             | Interval                |
|-------------------------|-------------|-------------------------|
|                         | Resistivity | Int. shoe to KOP        |
|                         | Density     | Int. shoe to KOP        |
| X                       | CBL         | Production casing       |
| X                       | Mud log     | Intermediate shoe to TD |
|                         | PEX         |                         |

**7. Drilling Conditions**

| Condition                  | Specify what type and where? |
|----------------------------|------------------------------|
| BH pressure at deepest TVD | 7344                         |
| Abnormal temperature       | No                           |

Mitigation measure for abnormal conditions. Describe. Lost circulation material/sweeps/mud scavengers.

Hydrogen Sulfide (H<sub>2</sub>S) monitors will be installed prior to drilling out the surface shoe. If H<sub>2</sub>S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered measured values and formations will be provided to the BLM.

|   |                                 |
|---|---------------------------------|
| N | H <sub>2</sub> S is present     |
| Y | H <sub>2</sub> S plan attached. |

JAYHAWK 6-7 FED 16H

**8. Other facets of operation**

Is this a walking operation? Potentially

- 1 If operator elects, drilling rig will batch drill the surface holes and run/cement surface casing; walking the rig to next wells on the pad.
- 2 The drilling rig will then batch drill the intermediate sections and run/cement intermediate casing; the wellbore will be isolated with a blind flange and pressure gauge installed for monitoring the well before walking to the next well.
- 3 The drilling rig will then batch drill the production hole sections on the wells with OBM, run/cement production casing, and install TA caps or tubing heads for completions.

NOTE: During batch operations the drilling rig will be moved from well to well however, it will not be removed from the pad until all wells have production casing run/cemented.

Will be pre-setting casing? Potentially

- 1 Spudder rig will move in and batch drill surface hole.
  - a. Rig will utilize fresh water based mud to drill surface hole to TD. Solids control will be handled entirely on a closed loop basis.,
- 2 After drilling the surface hole section, the spudder rig will run casing and cement following all of the applicable rules and regulations (OnShore Order 2, all COAs and NMOCD regulations).
- 3 The wellhead will be installed and tested once the surface casing is cut off and the WOC time has been reached.
- 4 A blind flange with the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with a pressure gauge installed on the wellhead.
- 5 Spudder rig operations is expected to take 4-5 days per well on a multi-well pa.
- 6 The NMOCD will be contacted and notified 24 hours prior to commencing spudder rig operations.
- 7 Drilling operations will be performed with drilling rig. A that time an approved BOP stack will be nipped up and tested on the wellhead before drilling operations commences on each well.
  - a. The NMOCD will be contacted / notified 24 hours before the drilling rig moves back on to the pad with the pre-set surface casing.

Attachments

X Directional Plan  
           Other, describe

TECHNICAL DATA SHEET

Connection: **VARoughneck SC (OD=6.051in)**

Size: 5 1/2 in X 20.00 lb/ft

Drift: standard

Bevel: standard

Grade: **VA-EP-P110**

Material:

Yield Strength Min.

Yield Strength Max.

Tensile Strength Min.

US Customary

125,000 psi

140,000 psi

125,000 psi

Metric

862 Mpa

965 Mpa

862 Mpa

Pipe:

| US Customary        |                       | Metric                   | US Customary              |          | Metric    |
|---------------------|-----------------------|--------------------------|---------------------------|----------|-----------|
| Nominal OD:         | 5.500 in              | 139.70 mm                | Wall Thickness:           | 0.361 in | 9.17 mm   |
| Nominal ID:         | 4.778 in              | 121.36 mm                | Standard Drift:           | 4.653 in | 118.19 mm |
| Nominal Weight:     | 20.00 lb/ft           | 30.07 kg/m               | Pipe Body Yield Strength: | 729 klb  | 3,240 kN  |
| Pipe Cross Section: | 5.828 in <sup>2</sup> | 3,759.99 mm <sup>2</sup> |                           |          |           |

Connection:

| US Customary      |           | Metric    |
|-------------------|-----------|-----------|
| OD:               | 6.051 in  | 153.70 mm |
| ID:               | 4.764 in  | 121.00 mm |
| Length:           | 8.976 in  | 228.00 mm |
| Threads per inch: | 5 Threads |           |

Connection Performance (Uniaxial Load):

| US Customary             |            | Metric    | US Customary        |              | Metric    |
|--------------------------|------------|-----------|---------------------|--------------|-----------|
| Joint Strength:          | 729 klb    | 3,240 kN  | Tension Efficiency: | > 100.0 %    |           |
| Collapse Resistance:     | 13,300 psi | 91.70 Mpa | Displacement:       | 1.240 gal/ft | 15.40 l/m |
| Internal Yield Pressure: | 14,360 psi | 99.00 Mpa | Production:         | 0.932 gal/ft | 11.57 l/m |
| Load on Coupling Face:   | 411 klb    | 1,830 kN  |                     |              |           |

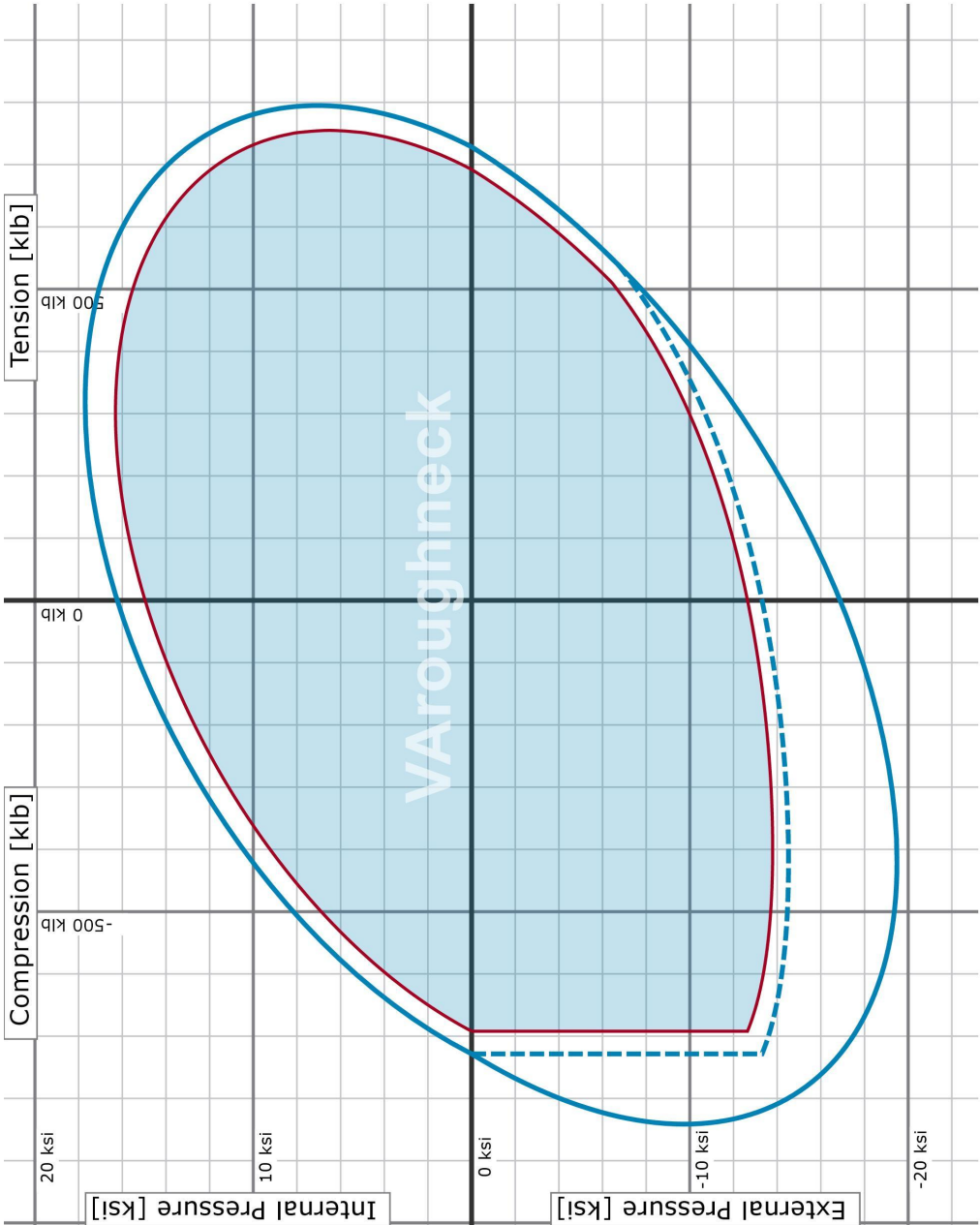
Field Make Up (Friction Factor = 1.0):

| US Customary             |              | Metric    | US Customary  |              | Metric    |
|--------------------------|--------------|-----------|---------------|--------------|-----------|
| Minimum Torque:          | 15,820 ft.lb | 21,450 Nm | Make-Up Loss: | 4.370 in     | 111.00 mm |
| Optimum Torque:          | 17,580 ft.lb | 23,835 Nm | Yield Torque: | 22,000 ft.lb | 29,800 Nm |
| Maximum Torque:          | 19,340 ft.lb | 26,220 Nm |               |              |           |
| Min. Torque on Shoulder: | %            |           |               |              |           |

Created on 15.02.2024

voestalpine Tubulars GmbH & Co KG

LOAD ENVELOPE



Recommended Field of Application

- Pipe Body Envelope
- - - Pipe Body Collapse

| Efficiency (% Pipe Body) under Uniaxial Loads |         |
|-----------------------------------------------|---------|
| Tension:                                      | 100.0 % |
| Compression:                                  | 100.0 % |
| Internal Pressure:                            | 100.0 % |
| External Pressure:                            | 100.0 % |

| Sealability Rating (% Efficiency) under Combined Loads |         |
|--------------------------------------------------------|---------|
| Tension:                                               | 100.0 % |
| Compression:                                           | 100.0 % |
| Internal Pressure:                                     | 100.0 % |
| External Pressure:                                     | 100.0 % |

| Test Conditions     |               |
|---------------------|---------------|
| Test Medium:        | Fluid         |
| Von Mises Envelope: | 95.0 %        |
| Bending:            | 20.00 °/100ft |

The graph is calculated under consideration of the requirements of EN ISO 13679 and API 5C3. The combined loads are calculated without the consideration of wall thickness tolerances and differ from the values in the data sheet, which are calculated with tolerances determined by API. Any printout is NOT SUBJECT TO REGULAR REVISION. The generated performance envelope shall solely be used as a tool to facilitate the comparison of performance properties under combined loads, of different grades, sizes and connections of voestalpine Tubulars products. Field-specific safety/design factors as well as other loads are not considered. Thus the results shall by no means be used to replace the own string design engineering or to justify any warranty/guaranty cases.

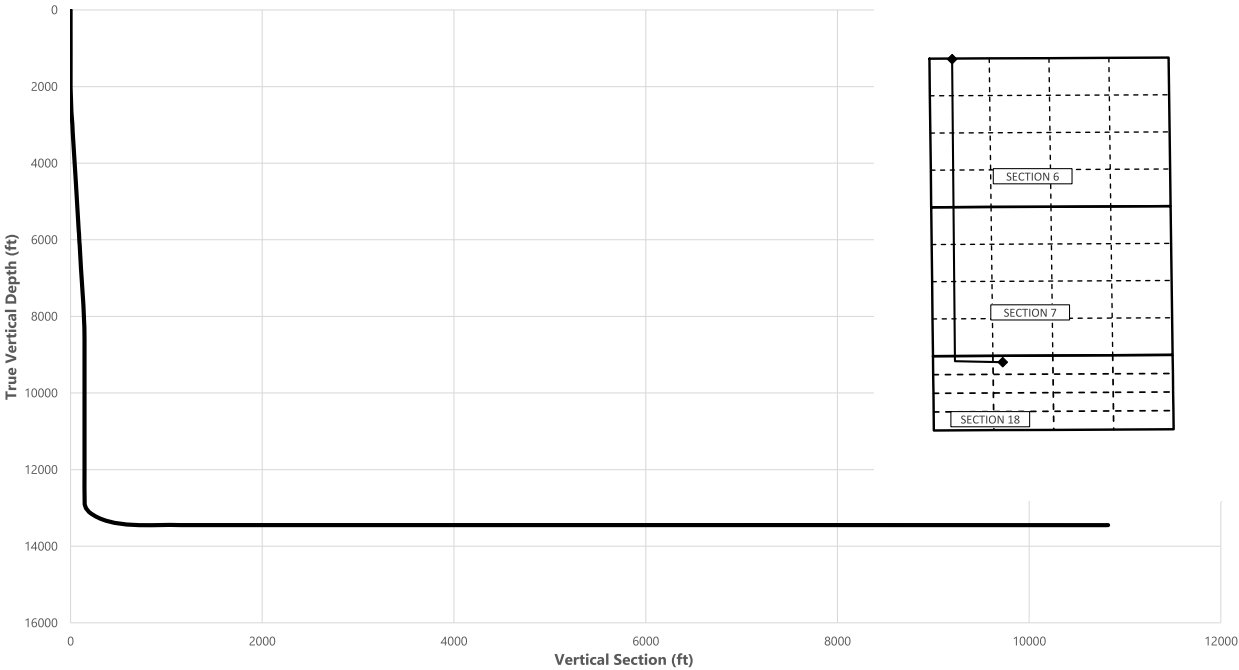
JAYHAWK 6-7 FED 16H



Well: JAYHAWK 6-7 FED 16H  
County: Lea  
Wellbore: Permit Plan  
Design: Permit Plan #1

Geodetic System: US State Plane 1983  
Datum: North American Datum 1927  
Ellipsoid: Clarke 1866  
Zone: 3001 - NM East (NAD83)

| MD       | INC   | AZI    | TVD      | NS       | EW       | VS       | DLS       | Comment          |
|----------|-------|--------|----------|----------|----------|----------|-----------|------------------|
| (ft)     | (°)   | (°)    | (ft)     | (ft)     | (ft)     | (ft)     | (°/100ft) |                  |
| 0.00     | 0.00  | 0.00   | 0.00     | 0.00     | 0.00     | 0.00     | 0.00      | SHL              |
| 2000.00  | 0.00  | 272.00 | 2000.00  | 0.00     | 0.00     | 0.00     | 0.00      | Start Tangent    |
| 2500.00  | 10.00 | 272.00 | 2497.47  | 1.52     | -43.50   | 6.01     | 2.00      | Hold Tangent     |
| 8085.85  | 10.00 | 272.00 | 7998.45  | 35.37    | -1012.88 | 139.99   | 0.00      | Drop to Vertical |
| 8585.85  | 0.00  | 272.00 | 8495.92  | 36.89    | -1056.37 | 146.00   | 2.00      | Hold Vertical    |
| 12966.97 | 0.00  | 359.66 | 12877.04 | 36.89    | -1056.37 | 146.00   | 0.00      | KOP              |
| 13866.97 | 90.00 | 359.66 | 13450.00 | 609.84   | -1059.77 | 716.23   | 10.00     | Landing Point    |
| 24022.97 | 90.00 | 359.66 | 13450.00 | 10765.66 | -1120.04 | 10823.77 | 0.00      | BHL              |



| Key Depths                      | MD       | TVD      |
|---------------------------------|----------|----------|
|                                 | (ft)     | (ft)     |
| Rustler                         | 785.00   | 785.00   |
| Salt                            | 1060.00  | 1060.00  |
| Base of Salt                    | 5295.00  | 5250.00  |
| Delaware                        | 5345.77  | 5300.00  |
| Cherry Canyon                   | 6415.01  | 6353.00  |
| Brushy Canyon                   | 8083.36  | 7996.00  |
| 1st Bone Spring Lime            | 9618.93  | 9529.00  |
| Bone Spring 1st                 | 10564.93 | 10475.00 |
| Bone Spring 2nd                 | 11510.93 | 11421.00 |
| 3rd Bone Spring Lime            | 11576.93 | 11487.00 |
| Bone Spring 3rd                 | 12189.93 | 12100.00 |
| Wolfcamp / Point of Penetration | 12649.93 | 12560.00 |
| exit                            | 23942.97 | 13450.01 |

SHL  
KOP  
Point of Penetration  
Exit  
BHL

| MD       | TVD      | Lat     | Long      | Section Footages                            |
|----------|----------|---------|-----------|---------------------------------------------|
| (ft)     | (ft)     | (°)     | (°)       |                                             |
| 0.00     | 0.00     | 32.0500 | -103.5126 | 230' FNL, 1540' FWL of Sec 18 in T26S, R34E |
| 12966.97 | 12877.04 | 32.0501 | -103.5161 | 183' FNL, 485' FWL of Sec 18 in T26S, R34E  |
| 12649.93 | 12560.00 | 32.0504 | -103.5159 | 100' FNL, 500' FWL of Sec 18 in T26S, R34E  |
| 23942.97 | 13450.01 | 32.0795 | -103.5159 | 100' FNL, 500' FWL of Sec 6 in T26S, R34E   |
| 24022.97 | 13450.00 | 32.0796 | -103.5160 | 20' FNL, 500' FWL of Sec 6 in T26S, R34E    |

|     | Y      | X      | MD       |
|-----|--------|--------|----------|
| KOP | 382955 | 794575 | 12966.97 |

JAYHAWK 6-7 FED 16H



Well: JAYHAWK 6-7 FED 16H  
County: Lea  
Wellbore: Permit Plan  
Design: Permit Plan #1

Geodetic System: US State Plane 1983  
Datum: North American Datum 1927  
Ellipsoid: Clarke 1866  
Zone: 3001 - NM East (NAD83)

| MD      | INC   | AZI    | TVD     | NS    | EW      | VS    | DLS       | Comment       |
|---------|-------|--------|---------|-------|---------|-------|-----------|---------------|
| (ft)    | (°)   | (°)    | (ft)    | (ft)  | (ft)    | (ft)  | (°/100ft) |               |
| 0.00    | 0.00  | 0.00   | 0.00    | 0.00  | 0.00    | 0.00  | 0.00      | SHL           |
| 100.00  | 0.00  | 272.00 | 100.00  | 0.00  | 0.00    | 0.00  | 0.00      |               |
| 200.00  | 0.00  | 272.00 | 200.00  | 0.00  | 0.00    | 0.00  | 0.00      |               |
| 300.00  | 0.00  | 272.00 | 300.00  | 0.00  | 0.00    | 0.00  | 0.00      |               |
| 400.00  | 0.00  | 272.00 | 400.00  | 0.00  | 0.00    | 0.00  | 0.00      |               |
| 500.00  | 0.00  | 272.00 | 500.00  | 0.00  | 0.00    | 0.00  | 0.00      |               |
| 600.00  | 0.00  | 272.00 | 600.00  | 0.00  | 0.00    | 0.00  | 0.00      |               |
| 700.00  | 0.00  | 272.00 | 700.00  | 0.00  | 0.00    | 0.00  | 0.00      |               |
| 785.00  | 0.00  | 272.00 | 785.00  | 0.00  | 0.00    | 0.00  | 0.00      | Rustler       |
| 800.00  | 0.00  | 272.00 | 800.00  | 0.00  | 0.00    | 0.00  | 0.00      |               |
| 900.00  | 0.00  | 272.00 | 900.00  | 0.00  | 0.00    | 0.00  | 0.00      |               |
| 1000.00 | 0.00  | 272.00 | 1000.00 | 0.00  | 0.00    | 0.00  | 0.00      |               |
| 1060.00 | 0.00  | 272.00 | 1060.00 | 0.00  | 0.00    | 0.00  | 0.00      | Salt          |
| 1100.00 | 0.00  | 272.00 | 1100.00 | 0.00  | 0.00    | 0.00  | 0.00      |               |
| 1200.00 | 0.00  | 272.00 | 1200.00 | 0.00  | 0.00    | 0.00  | 0.00      |               |
| 1300.00 | 0.00  | 272.00 | 1300.00 | 0.00  | 0.00    | 0.00  | 0.00      |               |
| 1400.00 | 0.00  | 272.00 | 1400.00 | 0.00  | 0.00    | 0.00  | 0.00      |               |
| 1500.00 | 0.00  | 272.00 | 1500.00 | 0.00  | 0.00    | 0.00  | 0.00      |               |
| 1600.00 | 0.00  | 272.00 | 1600.00 | 0.00  | 0.00    | 0.00  | 0.00      |               |
| 1700.00 | 0.00  | 272.00 | 1700.00 | 0.00  | 0.00    | 0.00  | 0.00      |               |
| 1800.00 | 0.00  | 272.00 | 1800.00 | 0.00  | 0.00    | 0.00  | 0.00      |               |
| 1900.00 | 0.00  | 272.00 | 1900.00 | 0.00  | 0.00    | 0.00  | 0.00      |               |
| 2000.00 | 0.00  | 272.00 | 2000.00 | 0.00  | 0.00    | 0.00  | 0.00      | Start Tangent |
| 2100.00 | 2.00  | 272.00 | 2099.98 | 0.06  | -1.74   | 0.24  | 2.00      |               |
| 2200.00 | 4.00  | 272.00 | 2199.84 | 0.24  | -6.97   | 0.96  | 2.00      |               |
| 2300.00 | 6.00  | 272.00 | 2299.45 | 0.55  | -15.68  | 2.17  | 2.00      |               |
| 2400.00 | 8.00  | 272.00 | 2398.70 | 0.97  | -27.86  | 3.85  | 2.00      |               |
| 2500.00 | 10.00 | 272.00 | 2497.47 | 1.52  | -43.50  | 6.01  | 2.00      | Hold Tangent  |
| 2600.00 | 10.00 | 272.00 | 2595.95 | 2.12  | -60.85  | 8.41  | 0.00      |               |
| 2700.00 | 10.00 | 272.00 | 2694.43 | 2.73  | -78.20  | 10.81 | 0.00      |               |
| 2800.00 | 10.00 | 272.00 | 2792.91 | 3.34  | -95.56  | 13.21 | 0.00      |               |
| 2900.00 | 10.00 | 272.00 | 2891.39 | 3.94  | -112.91 | 15.61 | 0.00      |               |
| 3000.00 | 10.00 | 272.00 | 2989.87 | 4.55  | -130.27 | 18.00 | 0.00      |               |
| 3100.00 | 10.00 | 272.00 | 3088.35 | 5.15  | -147.62 | 20.40 | 0.00      |               |
| 3200.00 | 10.00 | 272.00 | 3186.83 | 5.76  | -164.98 | 22.80 | 0.00      |               |
| 3300.00 | 10.00 | 272.00 | 3285.31 | 6.37  | -182.33 | 25.20 | 0.00      |               |
| 3400.00 | 10.00 | 272.00 | 3383.79 | 6.97  | -199.68 | 27.60 | 0.00      |               |
| 3500.00 | 10.00 | 272.00 | 3482.27 | 7.58  | -217.04 | 30.00 | 0.00      |               |
| 3600.00 | 10.00 | 272.00 | 3580.75 | 8.18  | -234.39 | 32.40 | 0.00      |               |
| 3700.00 | 10.00 | 272.00 | 3679.23 | 8.79  | -251.75 | 34.79 | 0.00      |               |
| 3800.00 | 10.00 | 272.00 | 3777.72 | 9.40  | -269.10 | 37.19 | 0.00      |               |
| 3900.00 | 10.00 | 272.00 | 3876.20 | 10.00 | -286.46 | 39.59 | 0.00      |               |
| 4000.00 | 10.00 | 272.00 | 3974.68 | 10.61 | -303.81 | 41.99 | 0.00      |               |
| 4100.00 | 10.00 | 272.00 | 4073.16 | 11.21 | -321.16 | 44.39 | 0.00      |               |
| 4200.00 | 10.00 | 272.00 | 4171.64 | 11.82 | -338.52 | 46.79 | 0.00      |               |
| 4300.00 | 10.00 | 272.00 | 4270.12 | 12.43 | -355.87 | 49.19 | 0.00      |               |
| 4400.00 | 10.00 | 272.00 | 4368.60 | 13.03 | -373.23 | 51.58 | 0.00      |               |
| 4500.00 | 10.00 | 272.00 | 4467.08 | 13.64 | -390.58 | 53.98 | 0.00      |               |
| 4600.00 | 10.00 | 272.00 | 4565.56 | 14.24 | -407.93 | 56.38 | 0.00      |               |
| 4700.00 | 10.00 | 272.00 | 4664.04 | 14.85 | -425.29 | 58.78 | 0.00      |               |
| 4800.00 | 10.00 | 272.00 | 4762.52 | 15.46 | -442.64 | 61.18 | 0.00      |               |
| 4900.00 | 10.00 | 272.00 | 4861.00 | 16.06 | -460.00 | 63.58 | 0.00      |               |
| 5000.00 | 10.00 | 272.00 | 4959.48 | 16.67 | -477.35 | 65.98 | 0.00      |               |
| 5100.00 | 10.00 | 272.00 | 5057.97 | 17.27 | -494.71 | 68.37 | 0.00      |               |
| 5200.00 | 10.00 | 272.00 | 5156.45 | 17.88 | -512.06 | 70.77 | 0.00      |               |
| 5295.00 | 10.00 | 272.00 | 5250.00 | 18.46 | -528.55 | 73.05 | 0.00      | Base of Salt  |
| 5300.00 | 10.00 | 272.00 | 5254.93 | 18.49 | -529.41 | 73.17 | 0.00      |               |
| 5345.77 | 10.00 | 272.00 | 5300.00 | 18.76 | -537.36 | 74.27 | 0.00      | Delaware      |
| 5400.00 | 10.00 | 272.00 | 5353.41 | 19.09 | -546.77 | 75.57 | 0.00      |               |
| 5500.00 | 10.00 | 272.00 | 5451.89 | 19.70 | -564.12 | 77.97 | 0.00      |               |
| 5600.00 | 10.00 | 272.00 | 5550.37 | 20.30 | -581.48 | 80.37 | 0.00      |               |
| 5700.00 | 10.00 | 272.00 | 5648.85 | 20.91 | -598.83 | 82.76 | 0.00      |               |
| 5800.00 | 10.00 | 272.00 | 5747.33 | 21.52 | -616.19 | 85.16 | 0.00      |               |
| 5900.00 | 10.00 | 272.00 | 5845.81 | 22.12 | -633.54 | 87.56 | 0.00      |               |
| 6000.00 | 10.00 | 272.00 | 5944.29 | 22.73 | -650.89 | 89.96 | 0.00      |               |
| 6100.00 | 10.00 | 272.00 | 6042.77 | 23.33 | -668.25 | 92.36 | 0.00      |               |
| 6200.00 | 10.00 | 272.00 | 6141.25 | 23.94 | -685.60 | 94.76 | 0.00      |               |
| 6300.00 | 10.00 | 272.00 | 6239.73 | 24.55 | -702.96 | 97.16 | 0.00      |               |
| 6400.00 | 10.00 | 272.00 | 6338.22 | 25.15 | -720.31 | 99.55 | 0.00      |               |
| 6415.01 | 10.00 | 272.00 | 6353.00 | 25.24 | -722.92 | 99.91 | 0.00      | Cherry Canyon |

|  |       | <b>Well:</b> JAYHAWK 6-7 FED 16H |          |       |          |        | <b>Geodetic System:</b> US State Plane 1983 |                      |  |
|-----------------------------------------------------------------------------------|-------|----------------------------------|----------|-------|----------|--------|---------------------------------------------|----------------------|--|
|                                                                                   |       | <b>County:</b> Lea               |          |       |          |        | <b>Datum:</b> North American Datum 1927     |                      |  |
|                                                                                   |       | <b>Wellbore:</b> Permit Plan     |          |       |          |        | <b>Ellipsoid:</b> Clarke 1866               |                      |  |
|                                                                                   |       | <b>Design:</b> Permit Plan #1    |          |       |          |        | <b>Zone:</b> 3001 - NM East (NAD83)         |                      |  |
| MD                                                                                | INC   | AZI                              | TVD      | NS    | EW       | VS     | DLS                                         | Comment              |  |
| (ft)                                                                              | (°)   | (°)                              | (ft)     | (ft)  | (ft)     | (ft)   | (°/100ft)                                   |                      |  |
| 6500.00                                                                           | 10.00 | 272.00                           | 6436.70  | 25.76 | -737.67  | 101.95 | 0.00                                        |                      |  |
| 6600.00                                                                           | 10.00 | 272.00                           | 6535.18  | 26.36 | -755.02  | 104.35 | 0.00                                        |                      |  |
| 6700.00                                                                           | 10.00 | 272.00                           | 6633.66  | 26.97 | -772.37  | 106.75 | 0.00                                        |                      |  |
| 6800.00                                                                           | 10.00 | 272.00                           | 6732.14  | 27.57 | -789.73  | 109.15 | 0.00                                        |                      |  |
| 6900.00                                                                           | 10.00 | 272.00                           | 6830.62  | 28.18 | -807.08  | 111.55 | 0.00                                        |                      |  |
| 7000.00                                                                           | 10.00 | 272.00                           | 6929.10  | 28.79 | -824.44  | 113.95 | 0.00                                        |                      |  |
| 7100.00                                                                           | 10.00 | 272.00                           | 7027.58  | 29.39 | -841.79  | 116.34 | 0.00                                        |                      |  |
| 7200.00                                                                           | 10.00 | 272.00                           | 7126.06  | 30.00 | -859.14  | 118.74 | 0.00                                        |                      |  |
| 7300.00                                                                           | 10.00 | 272.00                           | 7224.54  | 30.60 | -876.50  | 121.14 | 0.00                                        |                      |  |
| 7400.00                                                                           | 10.00 | 272.00                           | 7323.02  | 31.21 | -893.85  | 123.54 | 0.00                                        |                      |  |
| 7500.00                                                                           | 10.00 | 272.00                           | 7421.50  | 31.82 | -911.21  | 125.94 | 0.00                                        |                      |  |
| 7600.00                                                                           | 10.00 | 272.00                           | 7519.99  | 32.42 | -928.56  | 128.34 | 0.00                                        |                      |  |
| 7700.00                                                                           | 10.00 | 272.00                           | 7618.47  | 33.03 | -945.92  | 130.74 | 0.00                                        |                      |  |
| 7800.00                                                                           | 10.00 | 272.00                           | 7716.95  | 33.63 | -963.27  | 133.13 | 0.00                                        |                      |  |
| 7900.00                                                                           | 10.00 | 272.00                           | 7815.43  | 34.24 | -980.62  | 135.53 | 0.00                                        |                      |  |
| 8000.00                                                                           | 10.00 | 272.00                           | 7913.91  | 34.85 | -997.98  | 137.93 | 0.00                                        |                      |  |
| 8083.36                                                                           | 10.00 | 272.00                           | 7996.00  | 35.35 | -1012.44 | 139.93 | 0.00                                        | Brushy Canyon        |  |
| 8085.85                                                                           | 10.00 | 272.00                           | 7998.45  | 35.37 | -1012.88 | 139.99 | 0.00                                        | Drop to Vertical     |  |
| 8100.00                                                                           | 9.72  | 272.00                           | 8012.39  | 35.46 | -1015.30 | 140.33 | 2.00                                        |                      |  |
| 8200.00                                                                           | 7.72  | 272.00                           | 8111.23  | 35.98 | -1030.44 | 142.42 | 2.00                                        |                      |  |
| 8300.00                                                                           | 5.72  | 272.00                           | 8210.54  | 36.39 | -1042.13 | 144.04 | 2.00                                        |                      |  |
| 8400.00                                                                           | 3.72  | 272.00                           | 8310.20  | 36.68 | -1050.35 | 145.17 | 2.00                                        |                      |  |
| 8500.00                                                                           | 1.72  | 272.00                           | 8410.08  | 36.84 | -1055.09 | 145.83 | 2.00                                        |                      |  |
| 8585.85                                                                           | 0.00  | 272.00                           | 8495.92  | 36.89 | -1056.37 | 146.00 | 2.00                                        | Hold Vertical        |  |
| 8600.00                                                                           | 0.00  | 359.66                           | 8510.07  | 36.89 | -1056.37 | 146.01 | 0.00                                        |                      |  |
| 8700.00                                                                           | 0.00  | 359.66                           | 8610.07  | 36.89 | -1056.37 | 146.01 | 0.00                                        |                      |  |
| 8800.00                                                                           | 0.00  | 359.66                           | 8710.07  | 36.89 | -1056.37 | 146.01 | 0.00                                        |                      |  |
| 8900.00                                                                           | 0.00  | 359.66                           | 8810.07  | 36.89 | -1056.37 | 146.01 | 0.00                                        |                      |  |
| 9000.00                                                                           | 0.00  | 359.66                           | 8910.07  | 36.89 | -1056.37 | 146.01 | 0.00                                        |                      |  |
| 9100.00                                                                           | 0.00  | 359.66                           | 9010.07  | 36.89 | -1056.37 | 146.01 | 0.00                                        |                      |  |
| 9200.00                                                                           | 0.00  | 359.66                           | 9110.07  | 36.89 | -1056.37 | 146.01 | 0.00                                        |                      |  |
| 9300.00                                                                           | 0.00  | 359.66                           | 9210.07  | 36.89 | -1056.37 | 146.01 | 0.00                                        |                      |  |
| 9400.00                                                                           | 0.00  | 359.66                           | 9310.07  | 36.89 | -1056.37 | 146.01 | 0.00                                        |                      |  |
| 9500.00                                                                           | 0.00  | 359.66                           | 9410.07  | 36.89 | -1056.37 | 146.01 | 0.00                                        |                      |  |
| 9600.00                                                                           | 0.00  | 359.66                           | 9510.07  | 36.89 | -1056.37 | 146.01 | 0.00                                        |                      |  |
| 9618.93                                                                           | 0.00  | 359.66                           | 9529.00  | 36.89 | -1056.37 | 146.01 | 0.00                                        | 1st Bone Spring Lime |  |
| 9700.00                                                                           | 0.00  | 359.66                           | 9610.07  | 36.89 | -1056.37 | 146.01 | 0.00                                        |                      |  |
| 9800.00                                                                           | 0.00  | 359.66                           | 9710.07  | 36.89 | -1056.37 | 146.01 | 0.00                                        |                      |  |
| 9900.00                                                                           | 0.00  | 359.66                           | 9810.07  | 36.89 | -1056.37 | 146.01 | 0.00                                        |                      |  |
| 10000.00                                                                          | 0.00  | 359.66                           | 9910.07  | 36.89 | -1056.37 | 146.01 | 0.00                                        |                      |  |
| 10100.00                                                                          | 0.00  | 359.66                           | 10010.07 | 36.89 | -1056.37 | 146.01 | 0.00                                        |                      |  |
| 10200.00                                                                          | 0.00  | 359.66                           | 10110.07 | 36.89 | -1056.37 | 146.01 | 0.00                                        |                      |  |
| 10300.00                                                                          | 0.00  | 359.66                           | 10210.07 | 36.89 | -1056.37 | 146.01 | 0.00                                        |                      |  |
| 10400.00                                                                          | 0.00  | 359.66                           | 10310.07 | 36.89 | -1056.37 | 146.01 | 0.00                                        |                      |  |
| 10500.00                                                                          | 0.00  | 359.66                           | 10410.07 | 36.89 | -1056.37 | 146.01 | 0.00                                        |                      |  |
| 10564.93                                                                          | 0.00  | 359.66                           | 10475.00 | 36.89 | -1056.37 | 146.01 | 0.00                                        | Bone Spring 1st      |  |
| 10600.00                                                                          | 0.00  | 359.66                           | 10510.07 | 36.89 | -1056.37 | 146.01 | 0.00                                        |                      |  |
| 10700.00                                                                          | 0.00  | 359.66                           | 10610.07 | 36.89 | -1056.37 | 146.01 | 0.00                                        |                      |  |
| 10800.00                                                                          | 0.00  | 359.66                           | 10710.07 | 36.89 | -1056.37 | 146.01 | 0.00                                        |                      |  |
| 10900.00                                                                          | 0.00  | 359.66                           | 10810.07 | 36.89 | -1056.37 | 146.01 | 0.00                                        |                      |  |
| 11000.00                                                                          | 0.00  | 359.66                           | 10910.07 | 36.89 | -1056.37 | 146.01 | 0.00                                        |                      |  |
| 11100.00                                                                          | 0.00  | 359.66                           | 11010.07 | 36.89 | -1056.37 | 146.01 | 0.00                                        |                      |  |
| 11200.00                                                                          | 0.00  | 359.66                           | 11110.07 | 36.89 | -1056.37 | 146.01 | 0.00                                        |                      |  |
| 11300.00                                                                          | 0.00  | 359.66                           | 11210.07 | 36.89 | -1056.37 | 146.01 | 0.00                                        |                      |  |
| 11400.00                                                                          | 0.00  | 359.66                           | 11310.07 | 36.89 | -1056.37 | 146.01 | 0.00                                        |                      |  |
| 11500.00                                                                          | 0.00  | 359.66                           | 11410.07 | 36.89 | -1056.37 | 146.01 | 0.00                                        |                      |  |
| 11510.93                                                                          | 0.00  | 359.66                           | 11421.00 | 36.89 | -1056.37 | 146.01 | 0.00                                        | Bone Spring 2nd      |  |
| 11576.93                                                                          | 0.00  | 359.66                           | 11487.00 | 36.89 | -1056.37 | 146.01 | 0.00                                        | 3rd Bone Spring Lime |  |
| 11600.00                                                                          | 0.00  | 359.66                           | 11510.07 | 36.89 | -1056.37 | 146.01 | 0.00                                        |                      |  |
| 11700.00                                                                          | 0.00  | 359.66                           | 11610.07 | 36.89 | -1056.37 | 146.01 | 0.00                                        |                      |  |
| 11800.00                                                                          | 0.00  | 359.66                           | 11710.07 | 36.89 | -1056.37 | 146.01 | 0.00                                        |                      |  |
| 11900.00                                                                          | 0.00  | 359.66                           | 11810.07 | 36.89 | -1056.37 | 146.01 | 0.00                                        |                      |  |
| 12000.00                                                                          | 0.00  | 359.66                           | 11910.07 | 36.89 | -1056.37 | 146.01 | 0.00                                        |                      |  |
| 12100.00                                                                          | 0.00  | 359.66                           | 12010.07 | 36.89 | -1056.37 | 146.01 | 0.00                                        |                      |  |
| 12189.93                                                                          | 0.00  | 359.66                           | 12100.00 | 36.89 | -1056.37 | 146.01 | 0.00                                        | Bone Spring 3rd      |  |
| 12200.00                                                                          | 0.00  | 359.66                           | 12110.07 | 36.89 | -1056.37 | 146.01 | 0.00                                        |                      |  |
| 12300.00                                                                          | 0.00  | 359.66                           | 12210.07 | 36.89 | -1056.37 | 146.01 | 0.00                                        |                      |  |
| 12400.00                                                                          | 0.00  | 359.66                           | 12310.07 | 36.89 | -1056.37 | 146.01 | 0.00                                        |                      |  |
| 12500.00                                                                          | 0.00  | 359.66                           | 12410.07 | 36.89 | -1056.37 | 146.01 | 0.00                                        |                      |  |
| 12600.00                                                                          | 0.00  | 359.66                           | 12510.07 | 36.89 | -1056.37 | 146.01 | 0.00                                        |                      |  |

JAYHAWK 6-7 FED 16H

devon

Well: JAYHAWK 6-7 FED 16H

County: Lea

Wellbore: Permit Plan

Design: Permit Plan #1

Geodetic System: US State Plane 1983

Datum: North American Datum 1927

Ellipsoid: Clarke 1866

Zone: 3001 - NM East (NAD83)

| MD       | INC   | AZI    | TVD      | NS      | EW       | VS      | DLS       | Comment          |
|----------|-------|--------|----------|---------|----------|---------|-----------|------------------|
| (ft)     | (°)   | (°)    | (ft)     | (ft)    | (ft)     | (ft)    | (°/100ft) |                  |
| 12649.93 | 0.00  | 359.66 | 12560.00 | 36.89   | -1056.37 | 146.01  | 0.00      | Wolfcamp / Point |
| 12700.00 | 0.00  | 359.66 | 12610.07 | 36.89   | -1056.37 | 146.01  | 0.00      |                  |
| 12800.00 | 0.00  | 359.66 | 12710.07 | 36.89   | -1056.37 | 146.01  | 0.00      |                  |
| 12900.00 | 0.00  | 359.66 | 12810.07 | 36.89   | -1056.37 | 146.01  | 0.00      |                  |
| 12966.97 | 0.00  | 359.66 | 12877.04 | 36.89   | -1056.37 | 146.00  | 0.00      | KOP              |
| 13000.00 | 3.30  | 359.66 | 12910.05 | 37.84   | -1056.38 | 146.95  | 10.00     |                  |
| 13100.00 | 13.30 | 359.66 | 13008.88 | 52.26   | -1056.46 | 161.31  | 10.00     |                  |
| 13200.00 | 23.30 | 359.66 | 13103.70 | 83.63   | -1056.65 | 192.52  | 10.00     |                  |
| 13300.00 | 33.30 | 359.66 | 13191.63 | 130.98  | -1056.93 | 239.65  | 10.00     |                  |
| 13400.00 | 43.30 | 359.66 | 13270.01 | 192.88  | -1057.30 | 301.25  | 10.00     |                  |
| 13500.00 | 53.30 | 359.66 | 13336.44 | 267.45  | -1057.74 | 375.47  | 10.00     |                  |
| 13600.00 | 63.30 | 359.66 | 13388.92 | 352.42  | -1058.25 | 460.04  | 10.00     |                  |
| 13700.00 | 73.30 | 359.66 | 13425.84 | 445.22  | -1058.80 | 552.40  | 10.00     |                  |
| 13800.00 | 83.30 | 359.66 | 13446.09 | 543.02  | -1059.38 | 649.73  | 10.00     |                  |
| 13866.97 | 90.00 | 359.66 | 13450.00 | 609.84  | -1059.77 | 716.23  | 10.00     |                  |
| 13900.00 | 90.00 | 359.66 | 13450.00 | 642.86  | -1059.97 | 749.10  | 0.00      |                  |
| 14000.00 | 90.00 | 359.66 | 13450.00 | 742.86  | -1060.56 | 848.62  | 0.00      |                  |
| 14100.00 | 90.00 | 359.66 | 13450.00 | 842.86  | -1061.16 | 948.15  | 0.00      |                  |
| 14200.00 | 90.00 | 359.66 | 13450.00 | 942.86  | -1061.75 | 1047.67 | 0.00      |                  |
| 14300.00 | 90.00 | 359.66 | 13450.00 | 1042.86 | -1062.35 | 1147.19 | 0.00      |                  |
| 14400.00 | 90.00 | 359.66 | 13450.00 | 1142.86 | -1062.94 | 1246.71 | 0.00      |                  |
| 14500.00 | 90.00 | 359.66 | 13450.00 | 1242.85 | -1063.53 | 1346.24 | 0.00      |                  |
| 14600.00 | 90.00 | 359.66 | 13450.00 | 1342.85 | -1064.13 | 1445.76 | 0.00      |                  |
| 14700.00 | 90.00 | 359.66 | 13450.00 | 1442.85 | -1064.72 | 1545.28 | 0.00      |                  |
| 14800.00 | 90.00 | 359.66 | 13450.00 | 1542.85 | -1065.32 | 1644.80 | 0.00      |                  |
| 14900.00 | 90.00 | 359.66 | 13450.00 | 1642.85 | -1065.91 | 1744.33 | 0.00      |                  |
| 15000.00 | 90.00 | 359.66 | 13450.00 | 1742.84 | -1066.50 | 1843.85 | 0.00      |                  |
| 15100.00 | 90.00 | 359.66 | 13450.00 | 1842.84 | -1067.10 | 1943.37 | 0.00      |                  |
| 15200.00 | 90.00 | 359.66 | 13450.00 | 1942.84 | -1067.69 | 2042.90 | 0.00      |                  |
| 15300.00 | 90.00 | 359.66 | 13450.00 | 2042.84 | -1068.28 | 2142.42 | 0.00      |                  |
| 15400.00 | 90.00 | 359.66 | 13450.00 | 2142.84 | -1068.88 | 2241.94 | 0.00      |                  |
| 15500.00 | 90.00 | 359.66 | 13450.00 | 2242.84 | -1069.47 | 2341.46 | 0.00      |                  |
| 15600.00 | 90.00 | 359.66 | 13450.00 | 2342.83 | -1070.07 | 2440.99 | 0.00      |                  |
| 15700.00 | 90.00 | 359.66 | 13450.00 | 2442.83 | -1070.66 | 2540.51 | 0.00      |                  |
| 15800.00 | 90.00 | 359.66 | 13450.00 | 2542.83 | -1071.25 | 2640.03 | 0.00      |                  |
| 15900.00 | 90.00 | 359.66 | 13450.00 | 2642.83 | -1071.85 | 2739.56 | 0.00      |                  |
| 16000.00 | 90.00 | 359.66 | 13450.00 | 2742.83 | -1072.44 | 2839.08 | 0.00      |                  |
| 16100.00 | 90.00 | 359.66 | 13450.00 | 2842.83 | -1073.04 | 2938.60 | 0.00      |                  |
| 16200.00 | 90.00 | 359.66 | 13450.00 | 2942.82 | -1073.63 | 3038.12 | 0.00      |                  |
| 16300.00 | 90.00 | 359.66 | 13450.00 | 3042.82 | -1074.22 | 3137.65 | 0.00      |                  |
| 16400.00 | 90.00 | 359.66 | 13450.00 | 3142.82 | -1074.82 | 3237.17 | 0.00      |                  |
| 16500.00 | 90.00 | 359.66 | 13450.00 | 3242.82 | -1075.41 | 3336.69 | 0.00      |                  |
| 16600.00 | 90.00 | 359.66 | 13450.00 | 3342.82 | -1076.01 | 3436.22 | 0.00      |                  |
| 16700.00 | 90.00 | 359.66 | 13450.00 | 3442.81 | -1076.60 | 3535.74 | 0.00      |                  |
| 16800.00 | 90.00 | 359.66 | 13450.00 | 3542.81 | -1077.19 | 3635.26 | 0.00      |                  |
| 16900.00 | 90.00 | 359.66 | 13450.00 | 3642.81 | -1077.79 | 3734.78 | 0.00      |                  |
| 17000.00 | 90.00 | 359.66 | 13450.00 | 3742.81 | -1078.38 | 3834.31 | 0.00      |                  |
| 17100.00 | 90.00 | 359.66 | 13450.00 | 3842.81 | -1078.98 | 3933.83 | 0.00      |                  |
| 17200.00 | 90.00 | 359.66 | 13450.00 | 3942.81 | -1079.57 | 4033.35 | 0.00      |                  |
| 17300.00 | 90.00 | 359.66 | 13450.00 | 4042.80 | -1080.16 | 4132.88 | 0.00      |                  |
| 17400.00 | 90.00 | 359.66 | 13450.00 | 4142.80 | -1080.76 | 4232.40 | 0.00      |                  |
| 17500.00 | 90.00 | 359.66 | 13450.00 | 4242.80 | -1081.35 | 4331.92 | 0.00      |                  |
| 17600.00 | 90.00 | 359.66 | 13450.00 | 4342.80 | -1081.95 | 4431.44 | 0.00      |                  |
| 17700.00 | 90.00 | 359.66 | 13450.01 | 4442.80 | -1082.54 | 4530.97 | 0.00      |                  |
| 17800.00 | 90.00 | 359.66 | 13450.01 | 4542.80 | -1083.13 | 4630.49 | 0.00      |                  |
| 17900.00 | 90.00 | 359.66 | 13450.01 | 4642.79 | -1083.73 | 4730.01 | 0.00      |                  |
| 18000.00 | 90.00 | 359.66 | 13450.01 | 4742.79 | -1084.32 | 4829.54 | 0.00      |                  |
| 18100.00 | 90.00 | 359.66 | 13450.01 | 4842.79 | -1084.92 | 4929.06 | 0.00      |                  |
| 18200.00 | 90.00 | 359.66 | 13450.01 | 4942.79 | -1085.51 | 5028.58 | 0.00      |                  |
| 18300.00 | 90.00 | 359.66 | 13450.01 | 5042.79 | -1086.10 | 5128.10 | 0.00      |                  |
| 18400.00 | 90.00 | 359.66 | 13450.01 | 5142.78 | -1086.70 | 5227.63 | 0.00      |                  |
| 18500.00 | 90.00 | 359.66 | 13450.01 | 5242.78 | -1087.29 | 5327.15 | 0.00      |                  |
| 18600.00 | 90.00 | 359.66 | 13450.01 | 5342.78 | -1087.88 | 5426.67 | 0.00      |                  |
| 18700.00 | 90.00 | 359.66 | 13450.01 | 5442.78 | -1088.48 | 5526.20 | 0.00      |                  |
| 18800.00 | 90.00 | 359.66 | 13450.01 | 5542.78 | -1089.07 | 5625.72 | 0.00      |                  |
| 18900.00 | 90.00 | 359.66 | 13450.01 | 5642.78 | -1089.67 | 5725.24 | 0.00      |                  |
| 19000.00 | 90.00 | 359.66 | 13450.01 | 5742.77 | -1090.26 | 5824.76 | 0.00      |                  |
| 19100.00 | 90.00 | 359.66 | 13450.01 | 5842.77 | -1090.85 | 5924.29 | 0.00      |                  |
| 19200.00 | 90.00 | 359.66 | 13450.01 | 5942.77 | -1091.45 | 6023.81 | 0.00      |                  |
| 19300.00 | 90.00 | 359.66 | 13450.01 | 6042.77 | -1092.04 | 6123.33 | 0.00      |                  |

JAYHAWK 6-7 FED 16H



Well: JAYHAWK 6-7 FED 16H  
County: Lea  
Wellbore: Permit Plan  
Design: Permit Plan #1

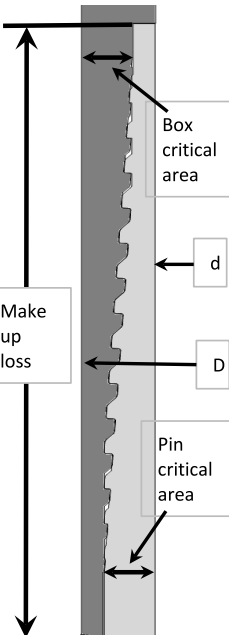
Geodetic System: US State Plane 1983  
Datum: North American Datum 1927  
Ellipsoid: Clarke 1866  
Zone: 3001 - NM East (NAD83)

| MD       | INC   | AZI    | TVD      | NS       | EW       | VS       | DLS       | Comment |
|----------|-------|--------|----------|----------|----------|----------|-----------|---------|
| (ft)     | (°)   | (°)    | (ft)     | (ft)     | (ft)     | (ft)     | (°/100ft) |         |
| 19400.00 | 90.00 | 359.66 | 13450.01 | 6142.77  | -1092.64 | 6222.86  | 0.00      |         |
| 19500.00 | 90.00 | 359.66 | 13450.01 | 6242.77  | -1093.23 | 6322.38  | 0.00      |         |
| 19600.00 | 90.00 | 359.66 | 13450.01 | 6342.76  | -1093.82 | 6421.90  | 0.00      |         |
| 19700.00 | 90.00 | 359.66 | 13450.01 | 6442.76  | -1094.42 | 6521.42  | 0.00      |         |
| 19800.00 | 90.00 | 359.66 | 13450.01 | 6542.76  | -1095.01 | 6620.95  | 0.00      |         |
| 19900.00 | 90.00 | 359.66 | 13450.01 | 6642.76  | -1095.61 | 6720.47  | 0.00      |         |
| 20000.00 | 90.00 | 359.66 | 13450.01 | 6742.76  | -1096.20 | 6819.99  | 0.00      |         |
| 20100.00 | 90.00 | 359.66 | 13450.01 | 6842.75  | -1096.79 | 6919.52  | 0.00      |         |
| 20200.00 | 90.00 | 359.66 | 13450.01 | 6942.75  | -1097.39 | 7019.04  | 0.00      |         |
| 20300.00 | 90.00 | 359.66 | 13450.01 | 7042.75  | -1097.98 | 7118.56  | 0.00      |         |
| 20400.00 | 90.00 | 359.66 | 13450.01 | 7142.75  | -1098.58 | 7218.08  | 0.00      |         |
| 20500.00 | 90.00 | 359.66 | 13450.01 | 7242.75  | -1099.17 | 7317.61  | 0.00      |         |
| 20600.00 | 90.00 | 359.66 | 13450.01 | 7342.75  | -1099.76 | 7417.13  | 0.00      |         |
| 20700.00 | 90.00 | 359.66 | 13450.01 | 7442.74  | -1100.36 | 7516.65  | 0.00      |         |
| 20800.00 | 90.00 | 359.66 | 13450.01 | 7542.74  | -1100.95 | 7616.18  | 0.00      |         |
| 20900.00 | 90.00 | 359.66 | 13450.01 | 7642.74  | -1101.55 | 7715.70  | 0.00      |         |
| 21000.00 | 90.00 | 359.66 | 13450.01 | 7742.74  | -1102.14 | 7815.22  | 0.00      |         |
| 21100.00 | 90.00 | 359.66 | 13450.01 | 7842.74  | -1102.73 | 7914.74  | 0.00      |         |
| 21200.00 | 90.00 | 359.66 | 13450.01 | 7942.74  | -1103.33 | 8014.27  | 0.00      |         |
| 21300.00 | 90.00 | 359.66 | 13450.01 | 8042.73  | -1103.92 | 8113.79  | 0.00      |         |
| 21400.00 | 90.00 | 359.66 | 13450.01 | 8142.73  | -1104.52 | 8213.31  | 0.00      |         |
| 21500.00 | 90.00 | 359.66 | 13450.01 | 8242.73  | -1105.11 | 8312.84  | 0.00      |         |
| 21600.00 | 90.00 | 359.66 | 13450.01 | 8342.73  | -1105.70 | 8412.36  | 0.00      |         |
| 21700.00 | 90.00 | 359.66 | 13450.01 | 8442.73  | -1106.30 | 8511.88  | 0.00      |         |
| 21800.00 | 90.00 | 359.66 | 13450.01 | 8542.72  | -1106.89 | 8611.40  | 0.00      |         |
| 21900.00 | 90.00 | 359.66 | 13450.01 | 8642.72  | -1107.48 | 8710.93  | 0.00      |         |
| 22000.00 | 90.00 | 359.66 | 13450.01 | 8742.72  | -1108.08 | 8810.45  | 0.00      |         |
| 22100.00 | 90.00 | 359.66 | 13450.01 | 8842.72  | -1108.67 | 8909.97  | 0.00      |         |
| 22200.00 | 90.00 | 359.66 | 13450.01 | 8942.72  | -1109.27 | 9009.50  | 0.00      |         |
| 22300.00 | 90.00 | 359.66 | 13450.01 | 9042.72  | -1109.86 | 9109.02  | 0.00      |         |
| 22400.00 | 90.00 | 359.66 | 13450.01 | 9142.71  | -1110.45 | 9208.54  | 0.00      |         |
| 22500.00 | 90.00 | 359.66 | 13450.01 | 9242.71  | -1111.05 | 9308.06  | 0.00      |         |
| 22600.00 | 90.00 | 359.66 | 13450.01 | 9342.71  | -1111.64 | 9407.59  | 0.00      |         |
| 22700.00 | 90.00 | 359.66 | 13450.01 | 9442.71  | -1112.24 | 9507.11  | 0.00      |         |
| 22800.00 | 90.00 | 359.66 | 13450.01 | 9542.71  | -1112.83 | 9606.63  | 0.00      |         |
| 22900.00 | 90.00 | 359.66 | 13450.01 | 9642.71  | -1113.42 | 9706.16  | 0.00      |         |
| 23000.00 | 90.00 | 359.66 | 13450.01 | 9742.70  | -1114.02 | 9805.68  | 0.00      |         |
| 23100.00 | 90.00 | 359.66 | 13450.01 | 9842.70  | -1114.61 | 9905.20  | 0.00      |         |
| 23200.00 | 90.00 | 359.66 | 13450.01 | 9942.70  | -1115.21 | 10004.72 | 0.00      |         |
| 23300.00 | 90.00 | 359.66 | 13450.01 | 10042.70 | -1115.80 | 10104.25 | 0.00      |         |
| 23400.00 | 90.00 | 359.66 | 13450.01 | 10142.70 | -1116.39 | 10203.77 | 0.00      |         |
| 23500.00 | 90.00 | 359.66 | 13450.01 | 10242.69 | -1116.99 | 10303.29 | 0.00      |         |
| 23600.00 | 90.00 | 359.66 | 13450.01 | 10342.69 | -1117.58 | 10402.82 | 0.00      |         |
| 23700.00 | 90.00 | 359.66 | 13450.01 | 10442.69 | -1118.18 | 10502.34 | 0.00      |         |
| 23800.00 | 90.00 | 359.66 | 13450.01 | 10542.69 | -1118.77 | 10601.86 | 0.00      |         |
| 23900.00 | 90.00 | 359.66 | 13450.01 | 10642.69 | -1119.36 | 10701.38 | 0.00      |         |
| 23942.97 | 90.00 | 359.66 | 13450.01 | 10685.66 | -1119.62 | 10744.15 | 0.00      | exit    |
| 24000.00 | 90.00 | 359.66 | 13450.01 | 10742.69 | -1119.96 | 10800.91 | 0.00      |         |
| 24022.97 | 90.00 | 359.66 | 13450.00 | 10765.66 | -1120.04 | 10823.77 | 0.00      | BHL     |

|                                                                                                                 |                                                                                               |                  |                                                         |
|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|------------------|---------------------------------------------------------|
| <b>Metal One Corp.</b><br><br> | <b>MO-FXL</b><br><br><b>Pipe Body: BMP P110HC MinYS110ksi</b><br><b>Connection Data Sheet</b> | CDS#<br><br>Date | MO-FXL 7-5/8 29.7<br>P110HC<br>MinYS110ksi<br>10-Mar-21 |
|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|------------------|---------------------------------------------------------|

**MO-FXL**



| Geometry                | Imperial |                 | S.I.   |                 |
|-------------------------|----------|-----------------|--------|-----------------|
| <b>Pipe Body</b>        |          |                 |        |                 |
| Grade *                 | P110HC   |                 | P110HC |                 |
| Pipe OD ( D )           | 7 5/8    | in              | 193.68 | mm              |
| Weight                  | 29.70    | lb/ft           | 44.25  | kg/m            |
| Actual weight           | 29.04    |                 | 43.26  | kg/m            |
| Wall Thickness ( t )    | 0.375    | in              | 9.53   | mm              |
| Pipe ID ( d )           | 6.875    | in              | 174.63 | mm              |
| Pipe body cross section | 8.537    | in <sup>2</sup> | 5,508  | mm <sup>2</sup> |
| Drift Dia.              | 6.750    | in              | 171.45 | mm              |

| <b>Connection</b>     |                        |                 |        |                 |
|-----------------------|------------------------|-----------------|--------|-----------------|
| Box OD ( W )          | 7.625                  | in              | 193.68 | mm              |
| PIN ID                | 6.875                  | in              | 174.63 | mm              |
| Make up Loss          | 4.219                  | in              | 107.16 | mm              |
| Box Critical Area     | 5.714                  | in <sup>2</sup> | 3686   | mm <sup>2</sup> |
| Joint load efficiency | 70                     | %               | 70     | %               |
| Thread Taper          | 1 / 10 ( 1.2" per ft ) |                 |        |                 |
| Number of Threads     | 5 TPI                  |                 |        |                 |

| <b>Performance</b>                          |       |      |       |     |
|---------------------------------------------|-------|------|-------|-----|
| <b>Performance Properties for Pipe Body</b> |       |      |       |     |
| S.M.Y.S. *                                  | 939   | kips | 4,177 | kN  |
| M.I.Y.P. *                                  | 9,470 | psi  | 65.31 | MPa |
| Collapse Strength *                         | 7,050 | psi  | 48.62 | MPa |

Note    S.M.Y.S.= Specified Minimum YIELD Strength of Pipe body  
M.I.Y.P. = Minimum Internal Yield Pressure of Pipe body

\* BMP P110HC: MinYS110ksi, Collapse 7,050psi  
Performance Data Sheet: SOP-12-F05 Rev.1, dated 9/6/2018

| <b>Performance Properties for Connection</b> |                               |
|----------------------------------------------|-------------------------------|
| Tensile Yield load                           | 657 kips ( 70% of S.M.Y.S. )  |
| Min. Compression Yield                       | 657 kips ( 70% of S.M.Y.S. )  |
| Internal Pressure                            | 7,580 psi ( 80% of M.I.Y.P. ) |
| External Pressure                            | 100% of Collapse Strength     |
| Max. DLS ( deg. /100ft)                      | 27                            |

| <b>Recommended Torque</b> |        |       |        |     |
|---------------------------|--------|-------|--------|-----|
| Min.                      | 15,500 | ft-lb | 21,000 | N-m |
| Opti.                     | 17,200 | ft-lb | 23,300 | N-m |
| Max.                      | 18,900 | ft-lb | 25,600 | N-m |
| Operational Max.          | 23,600 | ft-lb | 32,000 | N-m |

Note : Operational Max. torque can be applied for high torque application

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The products described in this Connection Data Sheet are not recommended for use in deep water offshore applications. For more information, please refer to [http://www.mtlco.co.jp/mo-con/images/top/WebsiteTerms\\_Active\\_20333287\\_1.pdf](http://www.mtlco.co.jp/mo-con/images/top/WebsiteTerms_Active_20333287_1.pdf) the contents of which are incorporated by reference into this Connection Data Sheet.



U. S. Steel Tubular Products  
9.625" 40.00lbs/ft (0.395" Wall) J55

1/24/2019 2:45:24 PM

| MECHANICAL PROPERTIES            | Pipe   | BTC    | LTC    | STC    |           |
|----------------------------------|--------|--------|--------|--------|-----------|
| Minimum Yield Strength           | 55,000 | --     | --     | --     | psi       |
| Maximum Yield Strength           | 80,000 | --     | --     | --     | psi       |
| Minimum Tensile Strength         | 75,000 | --     | --     | --     | psi       |
| DIMENSIONS                       | Pipe   | BTC    | LTC    | STC    |           |
| Outside Diameter                 | 9.625  | 10.625 | 10.625 | 10.625 | in.       |
| Wall Thickness                   | 0.395  | --     | --     | --     | in.       |
| Inside Diameter                  | 8.835  | 8.835  | 8.835  | 8.835  | in.       |
| Standard Drift                   | 8.679  | 8.679  | 8.679  | 8.679  | in.       |
| Alternate Drift                  | 8.750  | 8.750  | 8.750  | 8.750  | in.       |
| Nominal Linear Weight, T&C       | 40.00  | --     | --     | --     | lbs/ft    |
| Plain End Weight                 | 38.97  | --     | --     | --     | lbs/ft    |
| PERFORMANCE                      | Pipe   | BTC    | LTC    | STC    |           |
| Minimum Collapse Pressure        | 2,570  | 2,570  | 2,570  | 2,570  | psi       |
| Minimum Internal Yield Pressure  | 3,950  | 3,950  | 3,950  | 3,950  | psi       |
| Minimum Pipe Body Yield Strength | 630    | --     | --     | --     | 1,000 lbs |
| Joint Strength                   | --     | 714    | 520    | 452    | 1,000 lbs |
| Reference Length                 | --     | 11,898 | 8,665  | 7,529  | ft        |
| MAKE-UP DATA                     | Pipe   | BTC    | LTC    | STC    |           |
| Make-Up Loss                     | --     | 4.81   | 4.75   | 3.38   | in.       |
| Minimum Make-Up Torque           | --     | --     | 3,900  | 3,390  | ft-lbs    |
| Maximum Make-Up Torque           | --     | --     | 6,500  | 5,650  | ft-lbs    |

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U. S. Steel Tubular Products  
460 Wildwood Forest Drive, Suite 300S  
Spring, Texas 77380

1-877-893-9461  
connections@uss.com  
www.usstubular.com

## **Offline Cementing**

### Variance Request

Devon Energy requests to offline cement on intermediate strings that are set in formations shallower than the Wolfcamp. Prior to commencing offline cementing operations, the well will be monitored for any abnormal pressures and confirmed to be static. A dual manifold system (equipped with chokes) for the returns will also be utilized as a redundancy. All equipment used for offline cementing will have a minimum 5M rating to match intermediate sections' 5M BOPE requirements.

18-26-34-C Sundry ID 2777474 Jayhawk 6-7 Fed 16H Lea NM114992 DEVON ENERGY PRODUCTION COMPANY LP 13-22g 2-27-2024  
LV

## Jayhawk 6-7 Fed 16H

| 9 5/8                                                            | surface csg in a |         | 13 1/2   | inch hole. |          | Design Factors |         |        |     | Surface |       |           |
|------------------------------------------------------------------|------------------|---------|----------|------------|----------|----------------|---------|--------|-----|---------|-------|-----------|
| Segment                                                          | #/ft             | Grade   |          | Coupling   | Body     | Collapse       | Burst   | Length | B@s | a-B     | a-C   | Weight    |
| "A"                                                              | 40.00            |         | j 55     | btc        | 19.44    | 6.79           | 0.58    | 810    | 11  | 0.97    | 12.82 | 32,400    |
| "B"                                                              |                  |         |          | btc        |          |                |         | 0      |     |         |       | 0         |
| w/8.4#/g mud, 30min Sfc Csg Test psig: 1,500                     |                  |         |          |            |          |                |         |        |     |         |       |           |
|                                                                  |                  |         |          | Tail Cmt   | does not | circ to sfc.   | Totals: | 810    |     |         |       | 32,400    |
| Comparison of Proposed to Minimum Required Cement Volumes        |                  |         |          |            |          |                |         |        |     |         |       |           |
| Hole                                                             | Annular          | 1 Stage | 1 Stage  | Min        | 1 Stage  | Drilling       | Calc    | Req'd  |     |         |       | Min Dist  |
| Size                                                             | Volume           | Cmt Sx  | CuFt Cmt | Cu Ft      | % Excess | Mud Wt         | MASP    | BOPE   |     |         |       | Hole-Cplg |
| 13 1/2                                                           | 0.4887           | 431     | 621      | 396        | 57       | 9.00           | 4088    | 5M     |     |         |       | 1.44      |
| Burst Frac Gradient(s) for Segment(s) A, B = , b All > 0.70, OK. |                  |         |          |            |          |                |         |        |     |         |       |           |
| Site plot (pipe racks 3 or 4) as per D.O.D. 10.0-4.1 not found.  |                  |         |          |            |          |                |         |        |     |         |       |           |

| 7 5/8                                                 |         | casing inside the |  | 9 5/8    |  | A Buoyant |          | Design Factors |        |        | Int 1 |           |                      |          |         |  |          |
|-------------------------------------------------------|---------|-------------------|--|----------|--|-----------|----------|----------------|--------|--------|-------|-----------|----------------------|----------|---------|--|----------|
| Segment                                               | #/ft    | Grade             |  | Coupling |  | Joint     | Collapse | Burst          | Length | B@s    | a-B   | a-C       | Weight               |          |         |  |          |
| "A"                                                   | 29.70   |                   |  | p 110    |  | mo-fxl    | 2.07     | 1.03           | 1.03   | 12,560 | 1     | 1.73      | 1.72                 | 373,032  |         |  |          |
| "B"                                                   |         |                   |  |          |  |           |          |                |        |        |       |           | 0                    |          |         |  |          |
| w/8.4#/g mud, 30min Sfc Csg Test psig: -175           |         |                   |  |          |  |           |          |                |        |        |       | Totals:   | 12,560               |          | 373,032 |  |          |
| The cement volume(s) are intended to achieve a top of |         |                   |  |          |  |           |          |                |        |        |       | 0         | ft from surface or a |          | 810     |  | overlap. |
| Hole                                                  | Annular | 1 Stage           |  | 1 Stage  |  | Min       | 1 Stage  | Drilling       | Calc   | Req'd  |       |           | Min Dist             |          |         |  |          |
| Size                                                  | Volume  | Cmt Sx            |  | CuFt Cmt |  | Cu Ft     | % Excess | Mud Wt         | MASP   | BOPE   |       |           | Hole-Cplg            |          |         |  |          |
| 8 3/4                                                 | 0.1005  | 714               |  | 1658     |  | 1269      | 31       | 10.50          | 4377   | 5M     |       |           | 0.56                 |          |         |  |          |
| r D V Tool(s):                                        |         |                   |  |          |  |           |          |                |        |        |       | sum of sx | Σ CuFt               | Σ%excess |         |  |          |
| t by stage % :                                        |         |                   |  |          |  |           |          |                |        |        |       | #VALUE!   |                      | #VALUE!  |         |  |          |
| Class 'H' tail cmt yld > 1.20                         |         |                   |  |          |  |           |          |                |        |        |       |           |                      |          |         |  |          |

| 5 1/2                                        | casing inside the | 7 5/8       |               | Design Factors                                        |          |          |        |       | Prod 1               |      |           |
|----------------------------------------------|-------------------|-------------|---------------|-------------------------------------------------------|----------|----------|--------|-------|----------------------|------|-----------|
| Segment                                      | #/ft              | Grade       | Coupling      | Joint                                                 | Collapse | Burst    | Length | B@s   | a-B                  | a-C  | Weight    |
| "A"                                          | 20.00             | VA-EP-P 110 | varn          | 2.71                                                  | 2.02     | 1.96     | 12,060 | 2     | 3.28                 | 3.39 | 241,200   |
| "B"                                          | 20.00             | p 110       | vam sprint sf | 23.06                                                 | 1.65     | 1.96     | 1,390  | 2     | 3.28                 | 2.76 | 27,800    |
| "C"                                          | 20.00             | VA-EP-P 110 | varn          | ∞                                                     | 1.81     | 1.96     | 10,573 | 2     | 3.28                 | 3.04 | 211,460   |
| "D"                                          |                   |             |               |                                                       |          |          | 0      |       |                      |      | 0         |
| w/8.4#/g mud, 30min Sfc Csg Test psig: 2,653 |                   |             |               |                                                       |          |          |        |       |                      |      |           |
|                                              |                   |             |               | The cement volume(s) are intended to achieve a top of |          |          |        | 12360 | ft from surface or a | 200  | overlap.  |
| Hole                                         | Annular           | 1 Stage     | 1 Stage       | Min                                                   | 1 Stage  | Drilling | Calc   | Req'd |                      |      | Min Dist  |
| Size                                         | Volume            | Cmt Sx      | CuFt Cmt      | Cu Ft                                                 | % Excess | Mud Wt   | MASP   | BOPE  |                      |      | Hole-Cplg |
| 6 3/4                                        | 0.0835            | 767         | 1218          | 976                                                   | 25       | 10.50    |        |       |                      |      | 0.35      |
| Class 'C' tail cmt yld > 1.35                |                   |             |               |                                                       |          |          |        |       |                      |      |           |

| #N/A                                   | 0       | 5 1/2   |          | Design Factors                                     |          |          |        |       | <Choose Casing>      |      |           |
|----------------------------------------|---------|---------|----------|----------------------------------------------------|----------|----------|--------|-------|----------------------|------|-----------|
| Segment                                | #/ft    | Grade   | Coupling | #N/A                                               | Collapse | Burst    | Length | B@s   | a-B                  | a-C  | Weight    |
| "A"                                    |         |         | 0.00     |                                                    |          |          | 0      |       |                      |      | 0         |
| "B"                                    |         |         | 0.00     |                                                    |          |          | 0      |       |                      |      | 0         |
| w/8.4#/g mud, 30min Sfc Csg Test psig: |         |         |          |                                                    |          |          |        |       |                      |      |           |
|                                        |         |         |          | Cmt vol calc below includes this csg, TOC intended |          |          |        | #N/A  | ft from surface or a | #N/A | overlap.  |
| Hole                                   | Annular | 1 Stage | 1 Stage  | Min                                                | 1 Stage  | Drilling | Calc   | Req'd |                      |      | Min Dist  |
| Size                                   | Volume  | Cmt Sx  | CuFt Cmt | Cu Ft                                              | % Excess | Mud Wt   | MASP   | BOPE  |                      |      | Hole-Cplg |
| 0                                      |         | #N/A    | #N/A     | 0                                                  | #N/A     |          |        |       |                      |      |           |
| #N/A Capitan Reef est top XXXX.        |         |         |          |                                                    |          |          |        |       |                      |      |           |

**District I**  
1625 N. French Dr., Hobbs, NM 88240  
Phone:(575) 393-6161 Fax:(575) 393-0720  
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**District III**  
1000 Rio Brazos Rd., Aztec, NM 87410  
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**District IV**  
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 326686

CONDITIONS

|                                                                                                       |                                                      |
|-------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| Operator:<br>DEVON ENERGY PRODUCTION COMPANY, LP<br>333 West Sheridan Ave.<br>Oklahoma City, OK 73102 | OGRID:<br>6137                                       |
|                                                                                                       | Action Number:<br>326686                             |
|                                                                                                       | Action Type:<br>[C-103] NOI Change of Plans (C-103A) |

CONDITIONS

|            |                           |                |
|------------|---------------------------|----------------|
| Created By | Condition                 | Condition Date |
| pkautz     | ALL PREVIOUS COA'S APPLY. | 6/15/2024      |