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

# Sundry Print Report

11/18/2024

**Well Name:** COTTON DRAW 25-36 FED STATE CO

**Well Location:** T24S / R31E / SEC 25 / NWNW / 32.1950522 / -103.7363614

**County or Parish/State:** EDDY / NM

**Well Number:** 617H

**Type of Well:** OIL WELL

**Allottee or Tribe Name:**

**Lease Number:** NMNM012121

**Unit or CA Name:** COTTON DRAW UNIT

**Unit or CA Number:** NMNM70928X

**US Well Number:** 3001549136

**Operator:** DEVON ENERGY PRODUCTION COMPANY LP

## Notice of Intent

**Sundry ID:** 2816655

**Type of Submission:** Notice of Intent

**Type of Action:** APD Change

**Date Sundry Submitted:** 11/05/2024

**Time Sundry Submitted:** 09:23

**Date proposed operation will begin:** 10/11/2024

**Procedure Description:** Devon Energy Production Co., L.P. (Devon) respectfully requests to change the BHL, casing design, name and spacing changes on the subject well. No new leases have been added since approved APD. Please see attached revised C102, Drill plan, directional plan, spec sheets. Permitted BHL: SENW, 2620 FNL, 1750 FWL, 36-24S-31E Proposed BHL: LOT 1, 20 FSL, 990 FWL, 36-24S-31E Permitted Well name: COTTON DRAW 25-36 FED STATE COM 617H Proposed Well name: COTTON DRAW UNIT 617H

## NOI Attachments

**Procedure Description**

WA018088292_COTTON_DRAW_UNIT_617H_WL_R3_SIGNED_20241111165712.pdf

8.625_32lb_P110EC_SPRINT_FJ_VST_20241104165601.pdf

10.75_45.5lb_J55_SEAH_20241104165600.pdf

Cotton_Draw_Unit_617H_Directional_Plan_08_28_24_20241104165601.pdf

5.5_20lb_P110EC_DWC_C_IS_PLUS_20241104165601.pdf

Cotton_Draw_Unit_617H_20241104165559.pdf

**Well Name:** COTTON DRAW 25-36 FED STATE CO

**Well Location:** T24S / R31E / SEC 25 / NWNW / 32.1950522 / -103.7363614

**County or Parish/State:** EDDY / NM

**Well Number:** 617H

**Type of Well:** OIL WELL

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**Lease Number:** NMNM012121

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**Unit or CA Number:** NMNM70928X

**US Well Number:** 3001549136

**Operator:** DEVON ENERGY PRODUCTION COMPANY LP

## Conditions of Approval

**Specialist Review**

Cotton_Draw_Unit_617H_Sundry_ID_2816655_20241113075758.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:** CHELSEY GREEN

**Signed on:** NOV 11, 2024 04:57 PM

**Name:** DEVON ENERGY PRODUCTION COMPANY LP

**Title:** Regulatory Compliance Professional

**Street Address:** 333 WEST SHERIDAN AVENUE

**City:** OKLAHOMA CITY **State:** OK

**Phone:** (405) 228-8595

**Email address:** CHELSEY.GREEN@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:** 11/13/2024

**Signature:** Long Vo

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.***

***SUBMIT IN TRIPLICATE*** *- Other instructions on page 2*

5. Lease Serial No.

6. If Indian, Allottee or Tribe Name

7. If Unit of CA/Agreement, Name and/or No.

1. Type of Well
☐ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.

2. Name of Operator

9. API Well No.

3a. Address

3b. Phone No. *(include area code)*

10. Field and Pool or Exploratory Area

4. Location of Well *(Footage, Sec., T.,R.,M., or Survey Description)*

11. Country or Parish, State

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

| TYPE OF SUBMISSION | TYPE OF ACTION | | | |
|---|---|---|---|---|
| ☐ Notice of Intent | ☐ Acidize | ☐ Deepen | ☐ Production (Start/Resume) | ☐ Water Shut-Off |
| | ☐ Alter Casing | ☐ Hydraulic Fracturing | ☐ Reclamation | ☐ Well Integrity |
| ☐ Subsequent Report | ☐ Casing Repair | ☐ New Construction | ☐ Recomplete | ☐ Other |
| | ☐ Change Plans | ☐ Plug and Abandon | ☐ Temporarily Abandon | |
| ☐ Final Abandonment Notice | ☐ Convert to Injection | ☐ Plug Back | ☐ 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 recomplete 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.)

14. I hereby certify that the foregoing is true and correct. Name *(Printed/Typed)*

Title

Signature

Date

**THE SPACE FOR FEDERAL OR STATE OFICE 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 ofthis form to U.S. Department ofthe Interior, Bureau ofLand 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: NWNW / 200 FNL / 1140 FWL / TWSP: 24S / RANGE: 31E / SECTION: 25 / LAT: 32.1950522 / LONG: -103.7363614 ( TVD: 0 feet, MD: 0 feet )

PPP: NENW / 100 FNL / 1750 FWL / TWSP: 24S / RANGE: 31E / SECTION: 25 / LAT: 32.1953279 / LONG: -103.7343899 ( TVD: 11760 feet, MD: 11896 feet )

BHL: SENW / 2620 FNL / 1750 FWL / TWSP: 24S / RANGE: 31E / SECTION: 36 / LAT: 32.1738861 / LONG: -103.7344057 ( TVD: 11811 feet, MD: 19528 feet )

| C-102 | State of New Mexico<br>Energy, Minerals & Natural Resources Department<br>OIL CONSERVATION DIVISION | Revised July, 2024 |
|---|---|---|
| Submit Electronically<br>Via OCD Permitting | | Submittal Type: ☒ Initial Submittal ☐ Amended Report ☐ As Drilled |

## WELL LOCATION INFORMATION

| API Number | Pool Code | Pool Name | |
|---|---|---|---|
| 30-015-49136 | 98220 | PURPLE SAGE;WOLFCAMP (GAS) | |
| Property Code | Property Name | | Well Number |
| | COTTON DRAW UNIT | | 617H |
| OGRID No. | Operator Name | | Ground Level Elevation |
| 6137 | DEVON ENERGY PRODUCTION COMPANY, L.P. | | 3547.8' |
| Surface Owner: ☐State ☐Fee ☐Tribal ☒Federal | | Mineral Owner: ☐State ☐Fee ☐Tribal ☒Federal | |

Surface Location

| UL | Section | Township | Range | Lot | Ft. from N/S | Ft. from E/W | Latitude | Longitude | County |
|---|---|---|---|---|---|---|---|---|---|
| D | 25 | 24-S | 31-E | | 200' N | 1140' W | 32.195052 | 103.736361 | EDDY |

Bottom Hole Location

| UL | Section | Township | Range | Lot | Ft. from N/S | Ft. from E/W | Latitude | Longitude | County |
|---|---|---|---|---|---|---|---|---|---|
| | 36 | 24-S | 31-E | 1 | 20' S | 990' W | 32.166700 | 103.736886 | EDDY |

| Dedicated Acres | Infill or Defining Well | Defining Well API | Overlapping Spacing Unit (Y/N) | Consolidation Code |
|---|---|---|---|---|
| 319.11 | | | | |
| Order Numbers NSL PENDING | | | Well setbacks are under Common Ownership: ☐Yes ☐No | |

Kick Off Point (KOP)

| UL | Section | Township | Range | Lot | Ft. from N/S | Ft. from E/W | Latitude | Longitude | County |
|---|---|---|---|---|---|---|---|---|---|
| D | 25 | 24S | 31E | | 48 N | 990 W | 32.19537494 | -103.73692774 | EDDY |

First Take Point (FTP)

| UL | Section | Township | Range | Lot | Ft. from N/S | Ft. from E/W | Latitude | Longitude | County |
|---|---|---|---|---|---|---|---|---|---|
| D | 25 | 24-S | 31-E | | 100' N | 990' W | 32.195327 | 103.736846 | EDDY |

Last Take Point (LTP)

| UL | Section | Township | Range | Lot | Ft. from N/S | Ft. from E/W | Latitude | Longitude | County |
|---|---|---|---|---|---|---|---|---|---|
| | 36 | 24-S | 31-E | 1 | 100' S | 990' W | 32.166920 | 103.736885 | EDDY |

| | Spacing Unit Type ☒Horizontal ☐Vertical | Ground Floor Elevation: |
|---|---|---|
| | | |

**OPERATOR CERTIFICATIONS**

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.

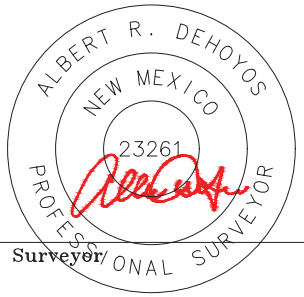
Signature: Chelsey Green Date: 10/01/2024

Printed Name: Chelsey Green

Email Address: chelsey.green@dvn.com

**SURVEYOR CERTIFICATIONS**

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under supervision, and that the same is true and correct to the best of my belief.



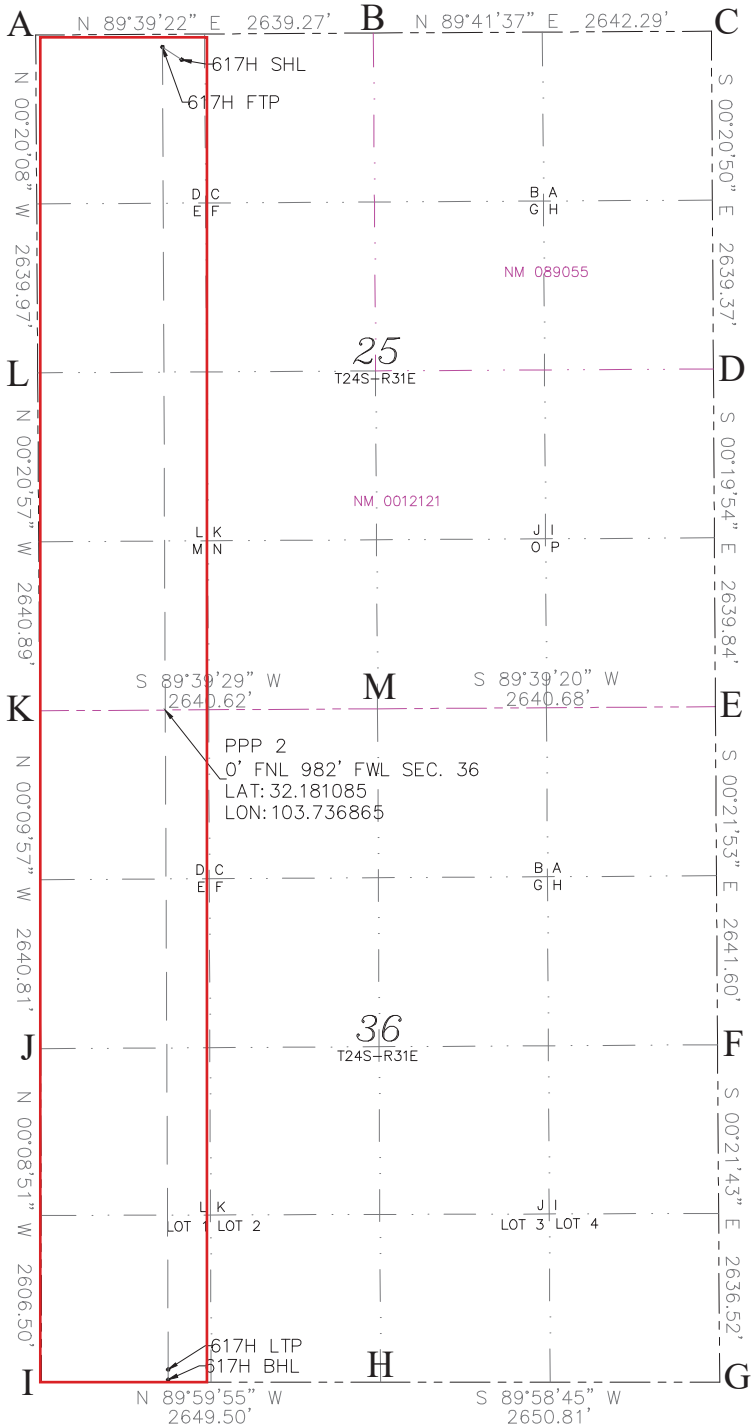

Signature and Seal of Professional Surveyor

| Certificate Number | Date of Survey |
|---|---|
| 23261 | 07/2024 |

ACREAGE DEDICATION PLATS

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

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

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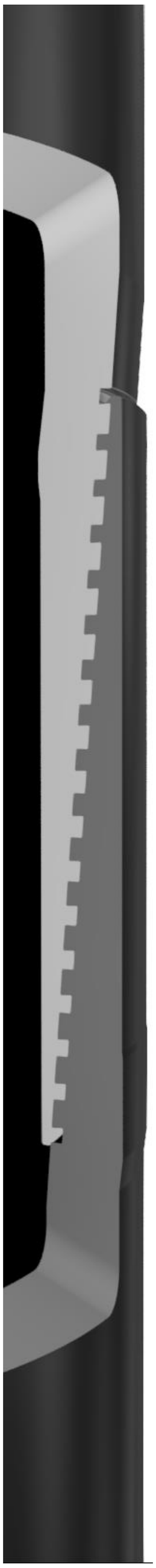
B= N:435415.91 E:727498.63
C= N:435430.04 E:730140.88
D= N:432790.73 E:730156.88
E= N:430150.93 E:730172.17
F= N:427509.39 E:730188.98
G= N:424872.92 E:730205.63
H= N:424871.96 E:727554.82
I= N:424872.01 E:724905.32
J= N:427478.51 E:724898.61
K= N:430119.30 E:724890.97
L= N:432760.15 E:724874.87
M= N:430135.06 E:727531.54



Issued on: 16 Dec. 2020 by Logan Van Gorp

# VAM® SPRINT-FJ

## Connection Data Sheet

| OD | Weight (lb/ft) | Wall Th. | Grade | Alt. Drift: | Connection |
|---|---|---|---|---|---|
| 8 5/8 in. | Nominal: 32.00<br>Plain End: 31.13 | 0.352 in. | P110EC | 7.875 in. | VAM® SPRINT-FJ |

| PIPE PROPERTIES | | |
|---|---|---|
| Nominal OD | 8.625 | in. |
| Nominal ID | 7.921 | in. |
| Nominal Cross Section Area | 9.149 | sqin. |
| Grade Type | High Yield | |
| Min. Yield Strength | 125 | ksi |
| Max. Yield Strength | 140 | ksi |
| Min. Ultimate Tensile Strength | 135 | ksi |

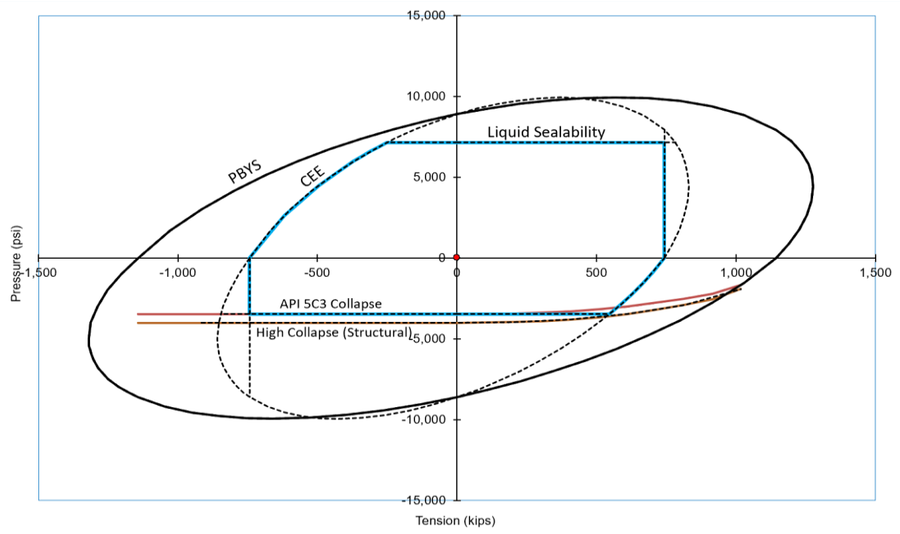
| CONNECTION PROPERTIES | | |
|---|---|---|
| Connection Type | Semi-Premium Integral Flush | |
| Connection OD (nom): | 8.665 | in. |
| Connection ID (nom): | 7.954 | in. |
| Make-Up Loss | 2.614 | in. |
| Critical Cross Section | 6.038 | sqin. |
| Tension Efficiency | 65.0 | % of pipe |
| Compression Efficiency | 65.0 | % of pipe |
| Internal Pressure Efficiency | 80.0 | % of pipe |
| External Pressure Efficiency | 100 | % of pipe |

| CONNECTION PERFORMANCES | | |
|---|---|---|
| Tensile Yield Strength | 744 | klb |
| Compression Resistance | 744 | klb |
| Max. Internal Pressure | 7,150 | psi |
| Structural Collapse Resistance | 4,000 | psi |
| Max. Bending with Sealability | 41 | °/100ft |
| Max. Bending with Sealability | 10 | °/100ft |

* 87.5% RBW

| TORQUE VALUES | | |
|---|---|---|
| Min. Make-up torque | 15,000 | ft.lb |
| Opt. Make-up torque | 16,500 | ft.lb |
| Max. Make-up torque | 18,000 | ft.lb |
| Max. Torque with Sealability (MTS) | TBD | ft.lb |

**VAM® SPRINT-FJ** is a semi-premium flush connection designed for shale applications, where maximum clearance and high tension capacity are required for intermediate casing strings.




**Do you need help on this product? - Remember no one knows VAM® like VAM®**

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singapore@vamfieldservice.com
australia@vamfieldservice.com

**Over 140 VAM® Specialists available worldwide 24/7 for Rig Site Assistance**

VAM® USA

SeAH

# 10-3/4" 45.50# 0.400" J-55

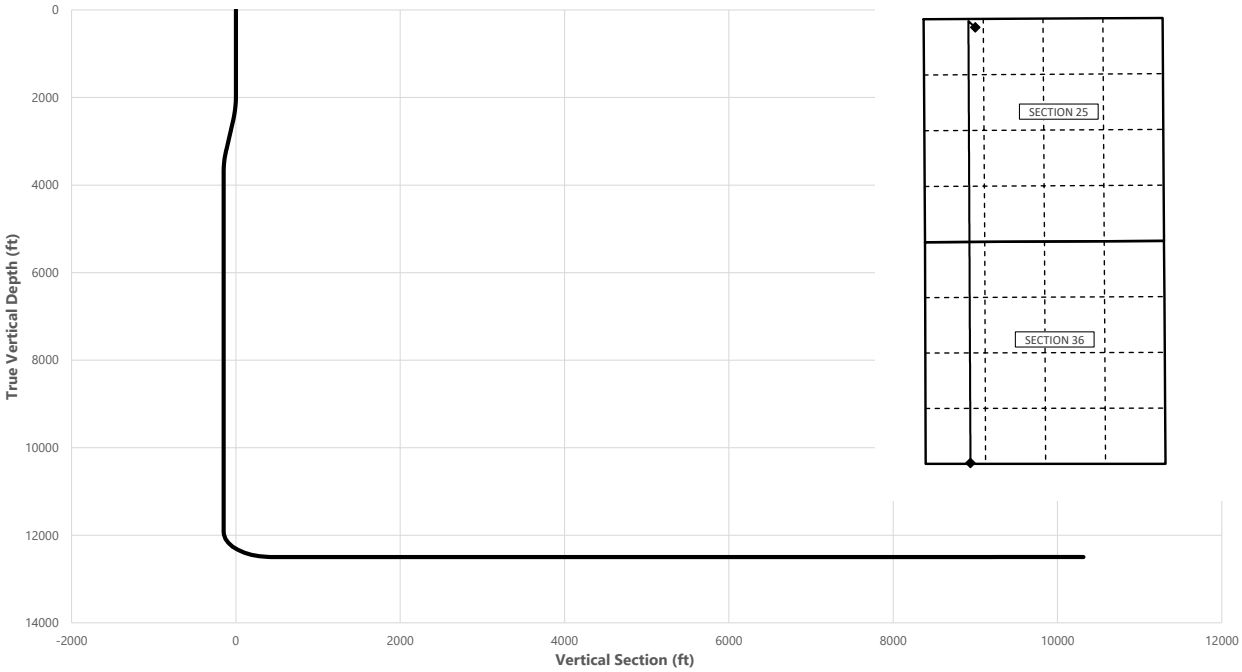
## Dimensions (Nominal)

| | | |
|---|---|---|
| **Outside Diameter** | **10.750** | **in.** |
| **Wall** | **0.400** | **in.** |
| **Inside Diameter** | **9.950** | **in.** |
| **Drift** | **9.875** | **in.** |
| **Weight, T&C** | **45.500** | **lbs/ft** |
| **Weight, PE** | **44.260** | **lbs/ft** |
| **Internal Yield Pressure at Minimum Yield** | | |
| **Collapse** | **2090** | **psi** |
| **Internal Yields Pressure** | | |
| **PE** | **3580** | **psi** |
| **STC** | **3580** | **psi** |
| **BTC** | **3580** | **psi** |
| **Yield Strength, Pipe Body** | **715** | **1000 lbs** |
| **Joint Strength, STC** | | |
| **STC** | **493** | **1000 lbs** |
| **BTC** | **796** | **1000 lbs** |

**Well:** Cotton Draw Unit 617H
**County:** Eddy
**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 (ft) | INC (°) | AZI (°) | TVD (ft) | NS (ft) | EW (ft) | VS (ft) | DLS (°/100ft) | Comment |
|---|---|---|---|---|---|---|---|---|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | SHL |
| 2000.00 | 0.00 | 315.00 | 2000.00 | 0.00 | 0.00 | 0.00 | 0.00 | Start Tangent |
| 2500.00 | 10.00 | 315.00 | 2497.47 | 30.78 | -30.78 | -30.46 | 2.00 | Hold Tangent |
| 3225.85 | 10.00 | 315.00 | 3212.28 | 119.90 | -119.90 | -118.67 | 0.00 | Drop to Vertical |
| 3725.85 | 0.00 | 315.00 | 3709.75 | 150.68 | -150.68 | -149.13 | 2.00 | Hold Vertical |
| 11939.14 | 0.00 | 179.75 | 11923.04 | 150.68 | -150.68 | -149.13 | 0.00 | KOP |
| 12839.14 | 90.00 | 179.75 | 12496.00 | -422.28 | -148.18 | 423.76 | 10.00 | Landing Point |
| 22731.92 | 90.00 | 179.75 | 12496.00 | -10314.96 | -105.01 | 10315.49 | 0.00 | BHL |




| Key Depths | MD (ft) | TVD (ft) |
|---|---|---|
| Rustler | 660.00 | 660.00 |
| Salt | 1105.00 | 1105.00 |
| Base of Salt | 4326.10 | 4310.00 |
| Lamar | 4401.10 | 4385.00 |
| Delaware | 4576.10 | 4560.00 |
| Cherry Canyon | 5456.10 | 5440.00 |
| Brushy Canyon | 6806.10 | 6790.00 |
| 1st Bone Spring Lime | 8376.10 | 8360.00 |
| Bone Spring 1st | 9436.10 | 9420.00 |
| Bone Spring 2nd | 9991.10 | 9975.00 |
| 3rd Bone Spring Lime | 10506.10 | 10490.00 |
| Bone Spring 3rd | 11266.10 | 11250.00 |
| Wolfcamp / Point of Penetration | 11776.10 | 11760.00 |
| EXIT | 22651.92 | 12496.01 |

| | MD (ft) | TVD (ft) | Lat (°) | Long (°) | Section Footages |
|---|---|---|---|---|---|
| **SHL** | 0.00 | 0.00 | 32.1950 | -103.7364 | 200' FNL, 1140' FWL of Sec 25 in T24S, R31E |
| **KOP** | 11939.14 | 11923.04 | 32.1954 | -103.7369 | 48' FNL, 990' FWL of Sec 25 in T24S, R31E |
| **Point of Penetration** | 11776.10 | 11760.00 | 32.1953 | -103.7368 | 100' FNL, 990' FWL of Sec 25 in T24S, R31E |
| **Exit** | 22651.92 | 12496.01 | 32.1669 | -103.7369 | 100' FSL, 990' FWL of Sec 36 in T24S, R31E |
| **BHL** | 22731.92 | 12496.00 | 32.1666 | -103.7370 | 20' FSL, 990' FWL of Sec 36 in T24S, R31E |

| | Y | X | MD |
|---|---|---|---|
| **KOP** | 435358 | 725850 | 11939.14 |

devon

**Well:** Cotton Draw Unit 617H
**County:** Eddy
**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 (ft) | INC (°) | AZI (°) | TVD (ft) | NS (ft) | EW (ft) | VS (ft) | DLS (°/100ft) | Comment |
|---|---|---|---|---|---|---|---|---|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | SHL |
| 100.00 | 0.00 | 315.00 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 200.00 | 0.00 | 315.00 | 200.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 300.00 | 0.00 | 315.00 | 300.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 400.00 | 0.00 | 315.00 | 400.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 500.00 | 0.00 | 315.00 | 500.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 600.00 | 0.00 | 315.00 | 600.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 660.00 | 0.00 | 315.00 | 660.00 | 0.00 | 0.00 | 0.00 | 0.00 | Rustler |
| 700.00 | 0.00 | 315.00 | 700.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 800.00 | 0.00 | 315.00 | 800.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 900.00 | 0.00 | 315.00 | 900.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1000.00 | 0.00 | 315.00 | 1000.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1100.00 | 0.00 | 315.00 | 1100.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1105.00 | 0.00 | 315.00 | 1105.00 | 0.00 | 0.00 | 0.00 | 0.00 | Salt |
| 1200.00 | 0.00 | 315.00 | 1200.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1300.00 | 0.00 | 315.00 | 1300.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1400.00 | 0.00 | 315.00 | 1400.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1500.00 | 0.00 | 315.00 | 1500.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1600.00 | 0.00 | 315.00 | 1600.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1700.00 | 0.00 | 315.00 | 1700.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1800.00 | 0.00 | 315.00 | 1800.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1900.00 | 0.00 | 315.00 | 1900.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 2000.00 | 0.00 | 315.00 | 2000.00 | 0.00 | 0.00 | 0.00 | 0.00 | Start Tangent |
| 2100.00 | 2.00 | 315.00 | 2099.98 | 1.23 | -1.23 | -1.22 | 2.00 | |
| 2200.00 | 4.00 | 315.00 | 2199.84 | 4.93 | -4.93 | -4.88 | 2.00 | |
| 2300.00 | 6.00 | 315.00 | 2299.45 | 11.10 | -11.10 | -10.98 | 2.00 | |
| 2400.00 | 8.00 | 315.00 | 2398.70 | 19.71 | -19.71 | -19.51 | 2.00 | |
| 2500.00 | 10.00 | 315.00 | 2497.47 | 30.78 | -30.78 | -30.46 | 2.00 | Hold Tangent |
| 2600.00 | 10.00 | 315.00 | 2595.95 | 43.05 | -43.05 | -42.61 | 0.00 | |
| 2700.00 | 10.00 | 315.00 | 2694.43 | 55.33 | -55.33 | -54.77 | 0.00 | |
| 2800.00 | 10.00 | 315.00 | 2792.91 | 67.61 | -67.61 | -66.92 | 0.00 | |
| 2900.00 | 10.00 | 315.00 | 2891.39 | 79.89 | -79.89 | -79.07 | 0.00 | |
| 3000.00 | 10.00 | 315.00 | 2989.87 | 92.17 | -92.17 | -91.23 | 0.00 | |
| 3100.00 | 10.00 | 315.00 | 3088.35 | 104.45 | -104.45 | -103.38 | 0.00 | |
| 3200.00 | 10.00 | 315.00 | 3186.83 | 116.73 | -116.73 | -115.53 | 0.00 | |
| 3225.85 | 10.00 | 315.00 | 3212.28 | 119.90 | -119.90 | -118.67 | 0.00 | Drop to Vertical |
| 3300.00 | 8.52 | 315.00 | 3285.47 | 128.34 | -128.34 | -127.02 | 2.00 | |
| 3400.00 | 6.52 | 315.00 | 3384.61 | 137.59 | -137.59 | -136.18 | 2.00 | |
| 3500.00 | 4.52 | 315.00 | 3484.14 | 144.38 | -144.38 | -142.91 | 2.00 | |
| 3600.00 | 2.52 | 315.00 | 3583.94 | 148.72 | -148.72 | -147.20 | 2.00 | |
| 3700.00 | 0.52 | 315.00 | 3683.90 | 150.59 | -150.59 | -149.05 | 2.00 | |
| 3725.85 | 0.00 | 315.00 | 3709.75 | 150.68 | -150.68 | -149.13 | 2.00 | Hold Vertical |
| 3800.00 | 0.00 | 179.75 | 3783.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 3900.00 | 0.00 | 179.75 | 3883.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 4000.00 | 0.00 | 179.75 | 3983.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 4100.00 | 0.00 | 179.75 | 4083.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 4200.00 | 0.00 | 179.75 | 4183.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 4300.00 | 0.00 | 179.75 | 4283.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 4326.10 | 0.00 | 179.75 | 4310.00 | 150.68 | -150.68 | -149.13 | 0.00 | Base of Salt |
| 4400.00 | 0.00 | 179.75 | 4383.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 4401.10 | 0.00 | 179.75 | 4385.00 | 150.68 | -150.68 | -149.13 | 0.00 | Lamar |
| 4500.00 | 0.00 | 179.75 | 4483.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 4576.10 | 0.00 | 179.75 | 4560.00 | 150.68 | -150.68 | -149.13 | 0.00 | Delaware |
| 4600.00 | 0.00 | 179.75 | 4583.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 4700.00 | 0.00 | 179.75 | 4683.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 4800.00 | 0.00 | 179.75 | 4783.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 4900.00 | 0.00 | 179.75 | 4883.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 5000.00 | 0.00 | 179.75 | 4983.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 5100.00 | 0.00 | 179.75 | 5083.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 5200.00 | 0.00 | 179.75 | 5183.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 5300.00 | 0.00 | 179.75 | 5283.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 5400.00 | 0.00 | 179.75 | 5383.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 5456.10 | 0.00 | 179.75 | 5440.00 | 150.68 | -150.68 | -149.13 | 0.00 | Cherry Canyon |
| 5500.00 | 0.00 | 179.75 | 5483.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 5600.00 | 0.00 | 179.75 | 5583.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 5700.00 | 0.00 | 179.75 | 5683.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 5800.00 | 0.00 | 179.75 | 5783.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 5900.00 | 0.00 | 179.75 | 5883.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 6000.00 | 0.00 | 179.75 | 5983.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 6100.00 | 0.00 | 179.75 | 6083.90 | 150.68 | -150.68 | -149.13 | 0.00 | |

devon

**Well:** Cotton Draw Unit 617H
**County:** Eddy
**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 (ft) | INC (°) | AZI (°) | TVD (ft) | NS (ft) | EW (ft) | VS (ft) | DLS (°/100ft) | Comment |
|---|---|---|---|---|---|---|---|---|
| 6200.00 | 0.00 | 179.75 | 6183.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 6300.00 | 0.00 | 179.75 | 6283.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 6400.00 | 0.00 | 179.75 | 6383.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 6500.00 | 0.00 | 179.75 | 6483.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 6600.00 | 0.00 | 179.75 | 6583.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 6700.00 | 0.00 | 179.75 | 6683.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 6800.00 | 0.00 | 179.75 | 6783.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 6806.10 | 0.00 | 179.75 | 6790.00 | 150.68 | -150.68 | -149.13 | 0.00 | Brushy Canyon |
| 6900.00 | 0.00 | 179.75 | 6883.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 7000.00 | 0.00 | 179.75 | 6983.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 7100.00 | 0.00 | 179.75 | 7083.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 7200.00 | 0.00 | 179.75 | 7183.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 7300.00 | 0.00 | 179.75 | 7283.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 7400.00 | 0.00 | 179.75 | 7383.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 7500.00 | 0.00 | 179.75 | 7483.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 7600.00 | 0.00 | 179.75 | 7583.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 7700.00 | 0.00 | 179.75 | 7683.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 7800.00 | 0.00 | 179.75 | 7783.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 7900.00 | 0.00 | 179.75 | 7883.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 8000.00 | 0.00 | 179.75 | 7983.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 8100.00 | 0.00 | 179.75 | 8083.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 8200.00 | 0.00 | 179.75 | 8183.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 8300.00 | 0.00 | 179.75 | 8283.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 8376.10 | 0.00 | 179.75 | 8360.00 | 150.68 | -150.68 | -149.13 | 0.00 | 1st Bone Spring Lime |
| 8400.00 | 0.00 | 179.75 | 8383.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 8500.00 | 0.00 | 179.75 | 8483.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 8600.00 | 0.00 | 179.75 | 8583.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 8700.00 | 0.00 | 179.75 | 8683.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 8800.00 | 0.00 | 179.75 | 8783.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 8900.00 | 0.00 | 179.75 | 8883.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 9000.00 | 0.00 | 179.75 | 8983.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 9100.00 | 0.00 | 179.75 | 9083.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 9200.00 | 0.00 | 179.75 | 9183.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 9300.00 | 0.00 | 179.75 | 9283.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 9400.00 | 0.00 | 179.75 | 9383.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 9436.10 | 0.00 | 179.75 | 9420.00 | 150.68 | -150.68 | -149.13 | 0.00 | Bone Spring 1st |
| 9500.00 | 0.00 | 179.75 | 9483.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 9600.00 | 0.00 | 179.75 | 9583.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 9700.00 | 0.00 | 179.75 | 9683.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 9800.00 | 0.00 | 179.75 | 9783.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 9900.00 | 0.00 | 179.75 | 9883.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 9991.10 | 0.00 | 179.75 | 9975.00 | 150.68 | -150.68 | -149.13 | 0.00 | Bone Spring 2nd |
| 10000.00 | 0.00 | 179.75 | 9983.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 10100.00 | 0.00 | 179.75 | 10083.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 10200.00 | 0.00 | 179.75 | 10183.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 10300.00 | 0.00 | 179.75 | 10283.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 10400.00 | 0.00 | 179.75 | 10383.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 10500.00 | 0.00 | 179.75 | 10483.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 10506.10 | 0.00 | 179.75 | 10490.00 | 150.68 | -150.68 | -149.13 | 0.00 | 3rd Bone Spring Lime |
| 10600.00 | 0.00 | 179.75 | 10583.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 10700.00 | 0.00 | 179.75 | 10683.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 10800.00 | 0.00 | 179.75 | 10783.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 10900.00 | 0.00 | 179.75 | 10883.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 11000.00 | 0.00 | 179.75 | 10983.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 11100.00 | 0.00 | 179.75 | 11083.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 11200.00 | 0.00 | 179.75 | 11183.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 11266.10 | 0.00 | 179.75 | 11250.00 | 150.68 | -150.68 | -149.13 | 0.00 | Bone Spring 3rd |
| 11300.00 | 0.00 | 179.75 | 11283.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 11400.00 | 0.00 | 179.75 | 11383.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 11500.00 | 0.00 | 179.75 | 11483.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 11600.00 | 0.00 | 179.75 | 11583.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 11700.00 | 0.00 | 179.75 | 11683.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 11776.10 | 0.00 | 179.75 | 11760.00 | 150.68 | -150.68 | -149.13 | 0.00 | Wolfcamp / Point of Penetration |
| 11800.00 | 0.00 | 179.75 | 11783.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 11900.00 | 0.00 | 179.75 | 11883.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 11939.14 | 0.00 | 179.75 | 11923.04 | 150.68 | -150.68 | -149.13 | 0.00 | KOP |
| 12000.00 | 6.09 | 179.75 | 11983.79 | 147.45 | -150.66 | -145.90 | 10.00 | |
| 12100.00 | 16.09 | 179.75 | 12081.80 | 128.24 | -150.58 | -126.70 | 10.00 | |
| 12200.00 | 26.09 | 179.75 | 12174.98 | 92.31 | -150.42 | -90.77 | 10.00 | |
| 12300.00 | 36.09 | 179.75 | 12260.51 | 40.74 | -150.20 | -39.21 | 10.00 | |

devon

**Well:** Cotton Draw Unit 617H
**County:** Eddy
**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 (ft) | INC (°) | AZI (°) | TVD (ft) | NS (ft) | EW (ft) | VS (ft) | DLS (°/100ft) | Comment |
|---|---|---|---|---|---|---|---|---|
| 12400.00 | 46.09 | 179.75 | 12335.79 | -24.89 | -149.91 | 26.42 | 10.00 | |
| 12500.00 | 56.09 | 179.75 | 12398.53 | -102.60 | -149.57 | 104.12 | 10.00 | |
| 12600.00 | 66.09 | 179.75 | 12446.82 | -190.02 | -149.19 | 191.53 | 10.00 | |
| 12700.00 | 76.09 | 179.75 | 12479.19 | -284.50 | -148.78 | 286.00 | 10.00 | |
| 12800.00 | 86.09 | 179.75 | 12494.66 | -383.17 | -148.34 | 384.66 | 10.00 | |
| 12839.14 | 90.00 | 179.75 | 12496.00 | -422.28 | -148.18 | 423.76 | 10.00 | Landing Point |
| 12900.00 | 90.00 | 179.75 | 12496.00 | -483.14 | -147.91 | 484.62 | 0.00 | |
| 13000.00 | 90.00 | 179.75 | 12496.00 | -583.14 | -147.47 | 584.61 | 0.00 | |
| 13100.00 | 90.00 | 179.75 | 12496.00 | -683.14 | -147.04 | 684.60 | 0.00 | |
| 13200.00 | 90.00 | 179.75 | 12496.00 | -783.14 | -146.60 | 784.59 | 0.00 | |
| 13300.00 | 90.00 | 179.75 | 12496.00 | -883.13 | -146.16 | 884.58 | 0.00 | |
| 13400.00 | 90.00 | 179.75 | 12496.00 | -983.13 | -145.73 | 984.57 | 0.00 | |
| 13500.00 | 90.00 | 179.75 | 12496.00 | -1083.13 | -145.29 | 1084.56 | 0.00 | |
| 13600.00 | 90.00 | 179.75 | 12496.00 | -1183.13 | -144.85 | 1184.54 | 0.00 | |
| 13700.00 | 90.00 | 179.75 | 12496.00 | -1283.13 | -144.42 | 1284.53 | 0.00 | |
| 13800.00 | 90.00 | 179.75 | 12496.00 | -1383.13 | -143.98 | 1384.52 | 0.00 | |
| 13900.00 | 90.00 | 179.75 | 12496.00 | -1483.13 | -143.54 | 1484.51 | 0.00 | |
| 14000.00 | 90.00 | 179.75 | 12496.00 | -1583.13 | -143.11 | 1584.50 | 0.00 | |
| 14100.00 | 90.00 | 179.75 | 12496.00 | -1683.13 | -142.67 | 1684.49 | 0.00 | |
| 14200.00 | 90.00 | 179.75 | 12496.00 | -1783.13 | -142.23 | 1784.48 | 0.00 | |
| 14300.00 | 90.00 | 179.75 | 12496.00 | -1883.12 | -141.80 | 1884.47 | 0.00 | |
| 14400.00 | 90.00 | 179.75 | 12496.00 | -1983.12 | -141.36 | 1984.46 | 0.00 | |
| 14500.00 | 90.00 | 179.75 | 12496.00 | -2083.12 | -140.92 | 2084.45 | 0.00 | |
| 14600.00 | 90.00 | 179.75 | 12496.00 | -2183.12 | -140.49 | 2184.44 | 0.00 | |
| 14700.00 | 90.00 | 179.75 | 12496.00 | -2283.12 | -140.05 | 2284.43 | 0.00 | |
| 14800.00 | 90.00 | 179.75 | 12496.00 | -2383.12 | -139.61 | 2384.42 | 0.00 | |
| 14900.00 | 90.00 | 179.75 | 12496.00 | -2483.12 | -139.18 | 2484.41 | 0.00 | |
| 15000.00 | 90.00 | 179.75 | 12496.00 | -2583.12 | -138.74 | 2584.40 | 0.00 | |
| 15100.00 | 90.00 | 179.75 | 12496.00 | -2683.12 | -138.30 | 2684.39 | 0.00 | |
| 15200.00 | 90.00 | 179.75 | 12496.00 | -2783.12 | -137.87 | 2784.38 | 0.00 | |
| 15300.00 | 90.00 | 179.75 | 12496.00 | -2883.12 | -137.43 | 2884.37 | 0.00 | |
| 15400.00 | 90.00 | 179.75 | 12496.00 | -2983.11 | -136.99 | 2984.35 | 0.00 | |
| 15500.00 | 90.00 | 179.75 | 12496.00 | -3083.11 | -136.56 | 3084.34 | 0.00 | |
| 15600.00 | 90.00 | 179.75 | 12496.00 | -3183.11 | -136.12 | 3184.33 | 0.00 | |
| 15700.00 | 90.00 | 179.75 | 12496.00 | -3283.11 | -135.68 | 3284.32 | 0.00 | |
| 15800.00 | 90.00 | 179.75 | 12496.00 | -3383.11 | -135.25 | 3384.31 | 0.00 | |
| 15900.00 | 90.00 | 179.75 | 12496.00 | -3483.11 | -134.81 | 3484.30 | 0.00 | |
| 16000.00 | 90.00 | 179.75 | 12496.00 | -3583.11 | -134.38 | 3584.29 | 0.00 | |
| 16100.00 | 90.00 | 179.75 | 12496.00 | -3683.11 | -133.94 | 3684.28 | 0.00 | |
| 16200.00 | 90.00 | 179.75 | 12496.00 | -3783.11 | -133.50 | 3784.27 | 0.00 | |
| 16300.00 | 90.00 | 179.75 | 12496.00 | -3883.11 | -133.07 | 3884.26 | 0.00 | |
| 16400.00 | 90.00 | 179.75 | 12496.00 | -3983.10 | -132.63 | 3984.25 | 0.00 | |
| 16500.00 | 90.00 | 179.75 | 12496.00 | -4083.10 | -132.19 | 4084.24 | 0.00 | |
| 16600.00 | 90.00 | 179.75 | 12496.00 | -4183.10 | -131.76 | 4184.23 | 0.00 | |
| 16700.00 | 90.00 | 179.75 | 12496.01 | -4283.10 | -131.32 | 4284.22 | 0.00 | |
| 16800.00 | 90.00 | 179.75 | 12496.01 | -4383.10 | -130.88 | 4384.21 | 0.00 | |
| 16900.00 | 90.00 | 179.75 | 12496.01 | -4483.10 | -130.45 | 4484.20 | 0.00 | |
| 17000.00 | 90.00 | 179.75 | 12496.01 | -4583.10 | -130.01 | 4584.19 | 0.00 | |
| 17100.00 | 90.00 | 179.75 | 12496.01 | -4683.10 | -129.57 | 4684.17 | 0.00 | |
| 17200.00 | 90.00 | 179.75 | 12496.01 | -4783.10 | -129.14 | 4784.16 | 0.00 | |
| 17300.00 | 90.00 | 179.75 | 12496.01 | -4883.10 | -128.70 | 4884.15 | 0.00 | |
| 17400.00 | 90.00 | 179.75 | 12496.01 | -4983.10 | -128.26 | 4984.14 | 0.00 | |
| 17500.00 | 90.00 | 179.75 | 12496.01 | -5083.09 | -127.83 | 5084.13 | 0.00 | |
| 17600.00 | 90.00 | 179.75 | 12496.01 | -5183.09 | -127.39 | 5184.12 | 0.00 | |
| 17700.00 | 90.00 | 179.75 | 12496.01 | -5283.09 | -126.95 | 5284.11 | 0.00 | |
| 17800.00 | 90.00 | 179.75 | 12496.01 | -5383.09 | -126.52 | 5384.10 | 0.00 | |
| 17900.00 | 90.00 | 179.75 | 12496.01 | -5483.09 | -126.08 | 5484.09 | 0.00 | |
| 18000.00 | 90.00 | 179.75 | 12496.01 | -5583.09 | -125.64 | 5584.08 | 0.00 | |
| 18100.00 | 90.00 | 179.75 | 12496.01 | -5683.09 | -125.21 | 5684.07 | 0.00 | |
| 18200.00 | 90.00 | 179.75 | 12496.01 | -5783.09 | -124.77 | 5784.06 | 0.00 | |
| 18300.00 | 90.00 | 179.75 | 12496.01 | -5883.09 | -124.33 | 5884.05 | 0.00 | |
| 18400.00 | 90.00 | 179.75 | 12496.01 | -5983.09 | -123.90 | 5984.04 | 0.00 | |
| 18500.00 | 90.00 | 179.75 | 12496.01 | -6083.08 | -123.46 | 6084.03 | 0.00 | |
| 18600.00 | 90.00 | 179.75 | 12496.01 | -6183.08 | -123.02 | 6184.02 | 0.00 | |
| 18700.00 | 90.00 | 179.75 | 12496.01 | -6283.08 | -122.59 | 6284.01 | 0.00 | |
| 18800.00 | 90.00 | 179.75 | 12496.01 | -6383.08 | -122.15 | 6383.99 | 0.00 | |
| 18900.00 | 90.00 | 179.75 | 12496.01 | -6483.08 | -121.71 | 6483.98 | 0.00 | |
| 19000.00 | 90.00 | 179.75 | 12496.01 | -6583.08 | -121.28 | 6583.97 | 0.00 | |
| 19100.00 | 90.00 | 179.75 | 12496.01 | -6683.08 | -120.84 | 6683.96 | 0.00 | |
| 19200.00 | 90.00 | 179.75 | 12496.01 | -6783.08 | -120.40 | 6783.95 | 0.00 | |

devon

**Well:** Cotton Draw Unit 617H
**County:** Eddy
**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 (ft) | INC (°) | AZI (°) | TVD (ft) | NS (ft) | EW (ft) | VS (ft) | DLS (°/100ft) | Comment |
|---|---|---|---|---|---|---|---|---|
| 19300.00 | 90.00 | 179.75 | 12496.01 | -6883.08 | -119.97 | 6883.94 | 0.00 | |
| 19400.00 | 90.00 | 179.75 | 12496.01 | -6983.08 | -119.53 | 6983.93 | 0.00 | |
| 19500.00 | 90.00 | 179.75 | 12496.01 | -7083.08 | -119.09 | 7083.92 | 0.00 | |
| 19600.00 | 90.00 | 179.75 | 12496.01 | -7183.07 | -118.66 | 7183.91 | 0.00 | |
| 19700.00 | 90.00 | 179.75 | 12496.01 | -7283.07 | -118.22 | 7283.90 | 0.00 | |
| 19800.00 | 90.00 | 179.75 | 12496.01 | -7383.07 | -117.78 | 7383.89 | 0.00 | |
| 19900.00 | 90.00 | 179.75 | 12496.01 | -7483.07 | -117.35 | 7483.88 | 0.00 | |
| 20000.00 | 90.00 | 179.75 | 12496.01 | -7583.07 | -116.91 | 7583.87 | 0.00 | |
| 20100.00 | 90.00 | 179.75 | 12496.01 | -7683.07 | -116.47 | 7683.86 | 0.00 | |
| 20200.00 | 90.00 | 179.75 | 12496.01 | -7783.07 | -116.04 | 7783.85 | 0.00 | |
| 20300.00 | 90.00 | 179.75 | 12496.01 | -7883.07 | -115.60 | 7883.84 | 0.00 | |
| 20400.00 | 90.00 | 179.75 | 12496.01 | -7983.07 | -115.16 | 7983.83 | 0.00 | |
| 20500.00 | 90.00 | 179.75 | 12496.01 | -8083.07 | -114.73 | 8083.81 | 0.00 | |
| 20600.00 | 90.00 | 179.75 | 12496.01 | -8183.06 | -114.29 | 8183.80 | 0.00 | |
| 20700.00 | 90.00 | 179.75 | 12496.01 | -8283.06 | -113.86 | 8283.79 | 0.00 | |
| 20800.00 | 90.00 | 179.75 | 12496.01 | -8383.06 | -113.42 | 8383.78 | 0.00 | |
| 20900.00 | 90.00 | 179.75 | 12496.01 | -8483.06 | -112.98 | 8483.77 | 0.00 | |
| 21000.00 | 90.00 | 179.75 | 12496.01 | -8583.06 | -112.55 | 8583.76 | 0.00 | |
| 21100.00 | 90.00 | 179.75 | 12496.01 | -8683.06 | -112.11 | 8683.75 | 0.00 | |
| 21200.00 | 90.00 | 179.75 | 12496.01 | -8783.06 | -111.67 | 8783.74 | 0.00 | |
| 21300.00 | 90.00 | 179.75 | 12496.01 | -8883.06 | -111.24 | 8883.73 | 0.00 | |
| 21400.00 | 90.00 | 179.75 | 12496.01 | -8983.06 | -110.80 | 8983.72 | 0.00 | |
| 21500.00 | 90.00 | 179.75 | 12496.01 | -9083.06 | -110.36 | 9083.71 | 0.00 | |
| 21600.00 | 90.00 | 179.75 | 12496.01 | -9183.06 | -109.93 | 9183.70 | 0.00 | |
| 21700.00 | 90.00 | 179.75 | 12496.01 | -9283.05 | -109.49 | 9283.69 | 0.00 | |
| 21800.00 | 90.00 | 179.75 | 12496.01 | -9383.05 | -109.05 | 9383.68 | 0.00 | |
| 21900.00 | 90.00 | 179.75 | 12496.01 | -9483.05 | -108.62 | 9483.67 | 0.00 | |
| 22000.00 | 90.00 | 179.75 | 12496.01 | -9583.05 | -108.18 | 9583.66 | 0.00 | |
| 22100.00 | 90.00 | 179.75 | 12496.01 | -9683.05 | -107.74 | 9683.65 | 0.00 | |
| 22200.00 | 90.00 | 179.75 | 12496.01 | -9783.05 | -107.31 | 9783.64 | 0.00 | |
| 22300.00 | 90.00 | 179.75 | 12496.01 | -9883.05 | -106.87 | 9883.62 | 0.00 | |
| 22400.00 | 90.00 | 179.75 | 12496.01 | -9983.05 | -106.43 | 9983.61 | 0.00 | |
| 22500.00 | 90.00 | 179.75 | 12496.01 | -10083.05 | -106.00 | 10083.60 | 0.00 | |
| 22600.00 | 90.00 | 179.75 | 12496.01 | -10183.05 | -105.56 | 10183.59 | 0.00 | |
| 22651.92 | 90.00 | 179.75 | 12496.01 | -10234.96 | -105.33 | 10235.50 | 0.00 | EXIT |
| 22700.00 | 90.00 | 179.75 | 12496.01 | -10283.04 | -105.12 | 10283.58 | 0.00 | |
| 22731.92 | 90.00 | 179.75 | 12496.00 | -10314.96 | -105.01 | 10315.49 | 0.00 | BHL |

# DWC/C-IS PLUS

## Connection Data Sheet

| OD (in.) | WEIGHT (lbs./ft.) | WALL (in.) | GRADE | DRIFT (in.) | RBW% | CONNECTION |
|---|---|---|---|---|---|---|
| 5.500 | Nominal: 20.00<br>Plain End: 19.83 | 0.361 | VST P110 EC | 4.653 | 87.5 | DWC/C-IS PLUS |

### PIPE PROPERTIES

| | | |
|---|---|---|
| Nominal OD | 5.500 | in. |
| Nominal ID | 4.778 | in. |
| Nominal Area | 5.828 | sq.in. |
| Grade Type | API 5CT; Vallourec Sourced Material Only | |
| Min. Yield Strength | 125 | ksi |
| Max. Yield Strength | 140 | ksi |
| Min. Tensile Strength | 135 | ksi |
| Yield Strength | 729 | klb |
| Ultimate Strength | 787 | klb |
| Min. Internal Yield | 14,360 | psi |
| *High Collapse* | 12,090 | psi |

### CONNECTION PROPERTIES

| | | |
|---|---|---|
| Connection Type | Semi-Premium T&C | |
| Connection OD (nom) | 6.300 | in. |
| Connection ID (nom) | 4.778 | in. |
| Make-Up Loss | 4.125 | in. |
| Coupling Length | 9.250 | in. |
| Critical Cross Section | 5.828 | sq.in. |
| Tension Efficiency | 100.0% | of pipe |
| Compression Efficiency | 100.0% | of pipe |
| Internal Pressure Efficiency | 100.0% | of pipe |
| External Pressure Efficiency | 100.0% | of pipe |

### CONNECTION PERFORMANCES

| | | |
|---|---|---|
| Yield Strength | 729 | klb |
| Parting Load | 787 | klb |
| Compression Rating | 729 | klb |
| Min. Internal Yield | 14,360 | psi |
| *High Collapse* | 12,090 | psi |
| Maximum Uniaxial Bend Rating | 104.2 | °/100 ft |
| Ref String Length w 1.4 Design Factor | 26,040 | ft |

### FIELD TORQUE VALUES

| | | |
|---|---|---|
| Min. Make-up Torque | 16,600 | ft.lbs |
| Opti. Make-up Torque | 17,850 | ft.lbs |
| Max. Make-up Torque | 19,100 | ft.lbs |
| Min. Shoulder Torque | 1,660 | ft.lbs |
| Max. Shoulder Torque | 13,280 | ft.lbs |
| Max. Delta Turn | 0.200 | Turns |
| †Max Operational Torque | 24,300 | ft.lbs |
| †Maximum Torsional Value (MTV) | 26,730 | ft.lbs |

†Maximum Operational Torque and Maximum Torsional Value Only Valid with Vallourec P110EC Material

**For detailed information on performance properties, refer to DWC Connection Data Notes on following page(s).**



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VAM USA

VAM USA
2107 CityWest Boulevard Suite 1300
Houston, TX 77042
Phone: 713-479-3200
Fax: 713-479-3234
VAM USA Sales E-mail: VAMUSAsales@vam-usa.com
Tech Support E-mail: tech.support@vam-usa.com

**DWC Connection Data Notes:**

1. DWC connections are available with a seal ring (SR) option.
2. All standard DWC/C connections are interchangeable for a given pipe OD. DWC connections are interchangeable with DWC/C-SR connections of the same OD and wall.
3. Connection performance properties are based on nominal pipe body and connection dimensions.
4. DWC connection internal and external pressure resistance is calculated using the API rating for buttress connections. API Internal pressure resistance is calculated from formulas 31, 32, and 35 in the API Bulletin 5C3.
5. DWC joint strength is the minimum pipe body yield strength multiplied by the connection critical area.
6. API joint strength is for reference only. It is calculated from formulas 42 and 43 in the API Bulletin 5C3.
7. Bending efficiency is equal to the compression efficiency.
8. The torque values listed are recommended. The actual torque required may be affected by field conditions such as temperature, thread compound, speed of make-up, weather conditions, etc.
9. Connection yield torque is not to be exceeded.
10. Reference string length is calculated by dividing the joint strength by both the nominal weight in air and a design factor (DF) of 1.4. These values are offered for reference only and do not include load factors such as bending, buoyancy, temperature, load dynamics, etc.
11. DWC connections will accommodate API standard drift diameters.
12. DWC/C family of connections are compatible with API Buttress BTC connections. Please contact tech.support@vam-usa.com for details on connection ratings and make-up.



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Cotton Draw Unit 617H

**1. Geologic Formations**

| | | | |
|---|---|---|---|
| TVD of target | 12496 | Pilot hole depth | N/A |
| MD at TD: | 22732 | Deepest expected fresh water | |

**Basin**

| Formation | Depth (TVD) from KB | Water/Mineral Bearing/Target Zone? | Hazards* |
|---|---|---|---|
| Rustler | 660 | | |
| Salt | 1105 | | |
| Base of Salt | 4310 | | |
| Lamar | 4385 | | |
| Delaware | 4560 | | |
| Cherry Canyon | 5440 | | |
| Brushy Canyon | 6790 | | |
| 1st Bone Spring Lime | 8360 | | |
| Bone Spring 1st | 9420 | | |
| Bone Spring 2nd | 9975 | | |
| 3rd Bone Spring Lime | 10490 | | |
| Bone Spring 3rd | 11250 | | |
| Wolfcamp | 11760 | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

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

Cotton Draw Unit 617H

**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) |
| 14 3/4 | 10 3/4 | 45 1/2 | J-55 | BTC | 0 | 685 | 0 | 685 |
| 9 7/8 | 8 5/8 | 32 | P110EC | Sprint FJ | 0 | 11839 | 0 | 11839 |
| 7 7/8 | 5 1/2 | 20 | P110EC | DWC / C-IS+ | 0 | 22732 | 0 | 12496 |

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

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

Assuming no returns are established while drilling, Devon requests to pump a two stage cement job on the intermediate casing string with the first stage being pumped conventionally with the calculated top of cement at the Brushy Canyon and the second stage performed as a bradenhead squeeze with planned cement from the Brushy Canyon to surface. The final cement top will be verified by Echo-meter. Devon will include the Echo-meter verified fluid top and the volume of displacement fluid above the cement slurry in the annulus in all post-drill sundries on wells utilizing this cement program. Devon will report to the BLM the volume of fluid (limited to 1 bbls) used to flush intermediate casing valves following backside cementing procedures.

| Casing | # Sks | TOC | Wt. ppg | Yld (ft3/sack) | Slurry Description |
|---|---|---|---|---|---|
| Surface | 421 | Surf | 13.2 | 1.44 | Lead: Class C Cement + additives |
| Int 1 | 480 | Surf | 13.0 | 2.3 | 2nd State: Bradenhead Squeeze - Lead: Class C Cement + additives |
| | 583 | 6806 | 13.2 | 1.44 | Tail: Class H / C + additives |
| Production | 117 | 9939 | 9 | 3.27 | Lead: Class H /C + additives |
| | 1428 | 11939 | 13.2 | 1.44 | Tail: Class H / C + additives |

| Casing String | % Excess |
|---|---|
| Surface | 50% |
| Intermediate 1 | 30% |
| Prod | 10% |

Cotton Draw Unit 617H

**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 |

**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 Rpeort and sbumitted 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 | Specfiy what type and where? |
|---|---|
| BH pressure at deepest TVD | 6823 |
| Abnormal temperature | No |

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

| Hydrogren Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of 43 CFR 3176. If Hydrogen Sulfide is encountered measured values and formations will be provided to the BLM. | |
|---|---|
| N | H2S is present |
| Y | H2S plan attached. |

**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 (43 CFR 3172, 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 nippled 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

**Well Name:** COTTON DRAW 25-36 FED STATE CO

**Well Location:** T24S / R31E / SEC 25 / NWNW / 32.1950522 / -103.7363614

**County or Parish/State:** EDDY / NM

**Well Number:** 617H

**Type of Well:** OIL WELL

**Allottee or Tribe Name:**

**Lease Number:** NMNM012121

**Unit or CA Name:** COTTON DRAW UNIT

**Unit or CA Number:** NMNM70928X

**US Well Number:** 3001549136

**Operator:** DEVON ENERGY PRODUCTION COMPANY LP

## Notice of Intent

**Sundry ID:** 2816655

**Type of Submission:** Notice of Intent

**Type of Action:** APD Change

**Date Sundry Submitted:** 11/05/2024

**Time Sundry Submitted:** 09:23

**Date proposed operation will begin:** 10/11/2024

**Procedure Description:** Devon Energy Production Co., L.P. (Devon) respectfully requests to change the BHL, casing design, name and spacing changes on the subject well. No new leases have been added since approved APD. Please see attached revised C102, Drill plan, directional plan, spec sheets. Permitted BHL: SENW, 2620 FNL, 1750 FWL, 36-24S-31E Proposed BHL: LOT 1, 20 FSL, 990 FWL, 36-24S-31E Permitted Well name: COTTON DRAW 25-36 FED STATE COM 617H Proposed Well name: COTTON DRAW UNIT 617H

## NOI Attachments

**Procedure Description**

WA018088292_COTTON_DRAW_UNIT_617H_WL_R3_SIGNED_20241111165712.pdf

8.625_32lb_P110EC_SPRINT_FJ_VST_20241104165601.pdf

10.75_45.5lb_J55_SEAH_20241104165600.pdf

Cotton_Draw_Unit_617H_Directional_Plan_08_28_24_20241104165601.pdf

5.5_20lb_P110EC_DWC_C_IS_PLUS_20241104165601.pdf

Cotton_Draw_Unit_617H_20241104165559.pdf

**Well Name:** COTTON DRAW 25-36 FED STATE CO

**Well Location:** T24S / R31E / SEC 25 / NWNW / 32.1950522 / -103.7363614

**County or Parish/State:** EDDY / NM

**Well Number:** 617H

**Type of Well:** OIL WELL

**Allottee or Tribe Name:**

**Lease Number:** NMNM012121

**Unit or CA Name:** COTTON DRAW UNIT

**Unit or CA Number:** NMNM70928X

**US Well Number:** 3001549136

**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:** CHELSEY GREEN

**Signed on:** NOV 11, 2024 04:57 PM

**Name:** DEVON ENERGY PRODUCTION COMPANY LP

**Title:** Regulatory Compliance Professional

**Street Address:** 333 WEST SHERIDAN AVENUE

**City:** OKLAHOMA CITY **State:** OK

**Phone:** (405) 228-8595

**Email address:** CHELSEY.GREEN@DVN.COM

## Field

**Representative Name:**

**Street Address:**

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

**Phone:**

**Email address:**

# PECOS DISTRICT
# DRILLING CONDITIONS OF APPROVAL

| | |
|---|---|
| **OPERATOR'S NAME:** | **Devon Energy Production Company LP** |
| **LOCATION:** | Section 25, T.24 S., R.31 E., NMPM |
| **COUNTY:** | Eddy County, New Mexico |

| | |
|---|---|
| **WELL NAME & NO.:** | **Cotton Draw Unit 617H** |
| **ATS/API ID:** | **3001549136** |
| **APD ID:** | **10400065597** |
| **Sundry ID:** | **2816655** |

COA

| | | | |
|---|---|---|---|
| H2S | Yes | | |
| Potash | None | None | |
| Cave/Karst Potential | Low | | |
| Cave/Karst Potential | ☐ Critical | | |
| Variance | ☐ None | ☉ Flex Hose | ☐ Other |
| Wellhead | Conventional and Multibowl | | |
| Other | ☐ 4 String ☐ 5 String | Capitan Reef None | ☐ WIPP |
| Other | Pilot Hole None | ☐ Open Annulus | |
| Cementing | Contingency Squeeze None | Echo-Meter Int 1 | Primary Cement Squeeze None |
| Special Requirements | ☐ Water Disposal/Injection | ☐ COM | ☑ Unit |
| Special Requirements | ☐ Batch Sundry | Waste Prevention None | |
| Special Requirements Variance | ☐ Break Testing | ☐ Offline Cementing | ☐ Casing Clearance |

## A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the **Delaware** 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 **10-3/4** inch surface casing shall be set at approximately **750 feet** (a minimum of **70 feet (Eddy 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 **14 3/4** inch in diameter.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
    b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
    c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
    d. If cement falls back, remedial cementing will be done prior to drilling out that string.

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

2. The minimum required fill of cement behind the **8-5/8** inch intermediate casing is:

    **Option 1 (Single Stage):**

    - Cement to surface. If cement does not circulate see B.1.a, c-d above.

    **Option 2:**

    Operator has proposed to cement in two stages by conventionally cementing the first stage and performing a bradenhead squeeze on the second stage, contingent upon no returns to surface.

a. First stage: Operator will cement with intent to reach the top of the **Brushy Canyon at 6790'.**

b. Second stage:

- Operator will perform bradenhead squeeze and top-out. Cement to surface. If cement does not reach surface, the appropriate BLM office shall be notified. **(Squeeze 480 sxs Class C)**

Operator has proposed to pump down **10-3/4**" X **8-5/8**" annulus after primary cementing stage. Operator must run Echo-meter to verify Cement Slurry/Fluid top in the annulus Or operator shall run a CBL from TD of the **8-5/8**" casing to surface after the second stage BH to verify TOC.
Submit results to the BLM. No displacement fluid/wash out shall be utilized at the top of the cement slurry between second stage BH and top out. Operator must run one CBL per Well Pad. Operator may conduct a negative and positive pressure test during completion to remediate sustained casing pressure.

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

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

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

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

**C. PRESSURE CONTROL**

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

2.

**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 **8-5/8** inch intermediate casing shoe shall be **5000 (5M)** psi.

**Option 2:**

Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the **10-3/4** 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 **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)**

**Unit Wells**

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

**Commercial Well Determination**

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

# GENERAL REQUIREMENTS

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

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

☑ Eddy County
**EMAIL** or call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
**BLM_NM_CFO_DrillingNotifications@BLM.GOV**
(575) 361-2822

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

   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 2nd 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.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or

if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends of both lead and tail cement, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.

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

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

6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.

7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

8. Whenever a casing string is cemented in the R-111-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 8 hours or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

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) 11/13/2024

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.***

***SUBMIT IN TRIPLICATE*** *- Other instructions on page 2*

5. Lease Serial No.

6. If Indian, Allottee or Tribe Name

7. If Unit of CA/Agreement, Name and/or No.

1. Type of Well
☐ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.

2. Name of Operator

9. API Well No.

3a. Address

3b. Phone No. *(include area code)*

10. Field and Pool or Exploratory Area

4. Location of Well *(Footage, Sec., T.,R.,M., or Survey Description)*

11. Country or Parish, State

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

| TYPE OF SUBMISSION | TYPE OF ACTION | | | |
|---|---|---|---|---|
| ☐ Notice of Intent | ☐ Acidize | ☐ Deepen | ☐ Production (Start/Resume) | ☐ Water Shut-Off |
| | ☐ Alter Casing | ☐ Hydraulic Fracturing | ☐ Reclamation | ☐ Well Integrity |
| ☐ Subsequent Report | ☐ Casing Repair | ☐ New Construction | ☐ Recomplete | ☐ Other |
| | ☐ Change Plans | ☐ Plug and Abandon | ☐ Temporarily Abandon | |
| ☐ Final Abandonment Notice | ☐ Convert to Injection | ☐ Plug Back | ☐ 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 recomplete 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.)

14. I hereby certify that the foregoing is true and correct. Name *(Printed/Typed)*

Title

Signature

Date

**THE SPACE FOR FEDERAL OR STATE OFICE 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 ofthis form to U.S. Department ofthe Interior, Bureau ofLand 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: NWNW / 200 FNL / 1140 FWL / TWSP: 24S / RANGE: 31E / SECTION: 25 / LAT: 32.1950522 / LONG: -103.7363614 ( TVD: 0 feet, MD: 0 feet )

PPP: NENW / 100 FNL / 1750 FWL / TWSP: 24S / RANGE: 31E / SECTION: 25 / LAT: 32.1953279 / LONG: -103.7343899 ( TVD: 11760 feet, MD: 11896 feet )

BHL: SENW / 2620 FNL / 1750 FWL / TWSP: 24S / RANGE: 31E / SECTION: 36 / LAT: 32.1738861 / LONG: -103.7344057 ( TVD: 11811 feet, MD: 19528 feet )

| C-102 | State of New Mexico<br>Energy, Minerals & Natural Resources Department<br>OIL CONSERVATION DIVISION | Revised July, 2024 |
|---|---|---|
| Submit Electronically<br>Via OCD Permitting | | Submittal Type: ☒ Initial Submittal ☐ Amended Report ☐ As Drilled |

## WELL LOCATION INFORMATION

| API Number | Pool Code | Pool Name | |
|---|---|---|---|
| 30-015-49136 | 98220 | PURPLE SAGE;WOLFCAMP (GAS) | |
| Property Code | Property Name | | Well Number |
| | COTTON DRAW UNIT | | 617H |
| OGRID No. | Operator Name | | Ground Level Elevation |
| 6137 | DEVON ENERGY PRODUCTION COMPANY, L.P. | | 3547.8' |
| Surface Owner: ☐State ☐Fee ☐Tribal ☒Federal | | Mineral Owner: ☐State ☐Fee ☐Tribal ☒Federal | |

Surface Location

| UL | Section | Township | Range | Lot | Ft. from N/S | Ft. from E/W | Latitude | Longitude | County |
|---|---|---|---|---|---|---|---|---|---|
| D | 25 | 24-S | 31-E | | 200' N | 1140' W | 32.195052 | 103.736361 | EDDY |

Bottom Hole Location

| UL | Section | Township | Range | Lot | Ft. from N/S | Ft. from E/W | Latitude | Longitude | County |
|---|---|---|---|---|---|---|---|---|---|
| | 36 | 24-S | 31-E | 1 | 20' S | 990' W | 32.166700 | 103.736886 | EDDY |

| Dedicated Acres | Infill or Defining Well | Defining Well API | Overlapping Spacing Unit (Y/N) | Consolidation Code |
|---|---|---|---|---|
| 319.11 | | | | |
| Order Numbers NSL PENDING | | | Well setbacks are under Common Ownership: ☐Yes ☐No | |

Kick Off Point (KOP)

| UL | Section | Township | Range | Lot | Ft. from N/S | Ft. from E/W | Latitude | Longitude | County |
|---|---|---|---|---|---|---|---|---|---|
| D | 25 | 24S | 31E | | 48 N | 990 W | 32.19537494 | -103.73692774 | EDDY |

First Take Point (FTP)

| UL | Section | Township | Range | Lot | Ft. from N/S | Ft. from E/W | Latitude | Longitude | County |
|---|---|---|---|---|---|---|---|---|---|
| D | 25 | 24-S | 31-E | | 100' N | 990' W | 32.195327 | 103.736846 | EDDY |

Last Take Point (LTP)

| UL | Section | Township | Range | Lot | Ft. from N/S | Ft. from E/W | Latitude | Longitude | County |
|---|---|---|---|---|---|---|---|---|---|
| | 36 | 24-S | 31-E | 1 | 100' S | 990' W | 32.166920 | 103.736885 | EDDY |

| | Spacing Unit Type X Horizontal Vertical | Ground Floor Elevation: |
|---|---|---|
| | | |

**OPERATOR CERTIFICATIONS**

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.

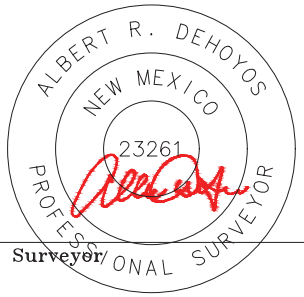
Signature: Chelsey Green Date: 10/01/2024

Printed Name: Chelsey Green

Email Address: chelsey.green@dvn.com

**SURVEYOR CERTIFICATIONS**

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under supervision, and that the same is true and correct to the best of my belief.



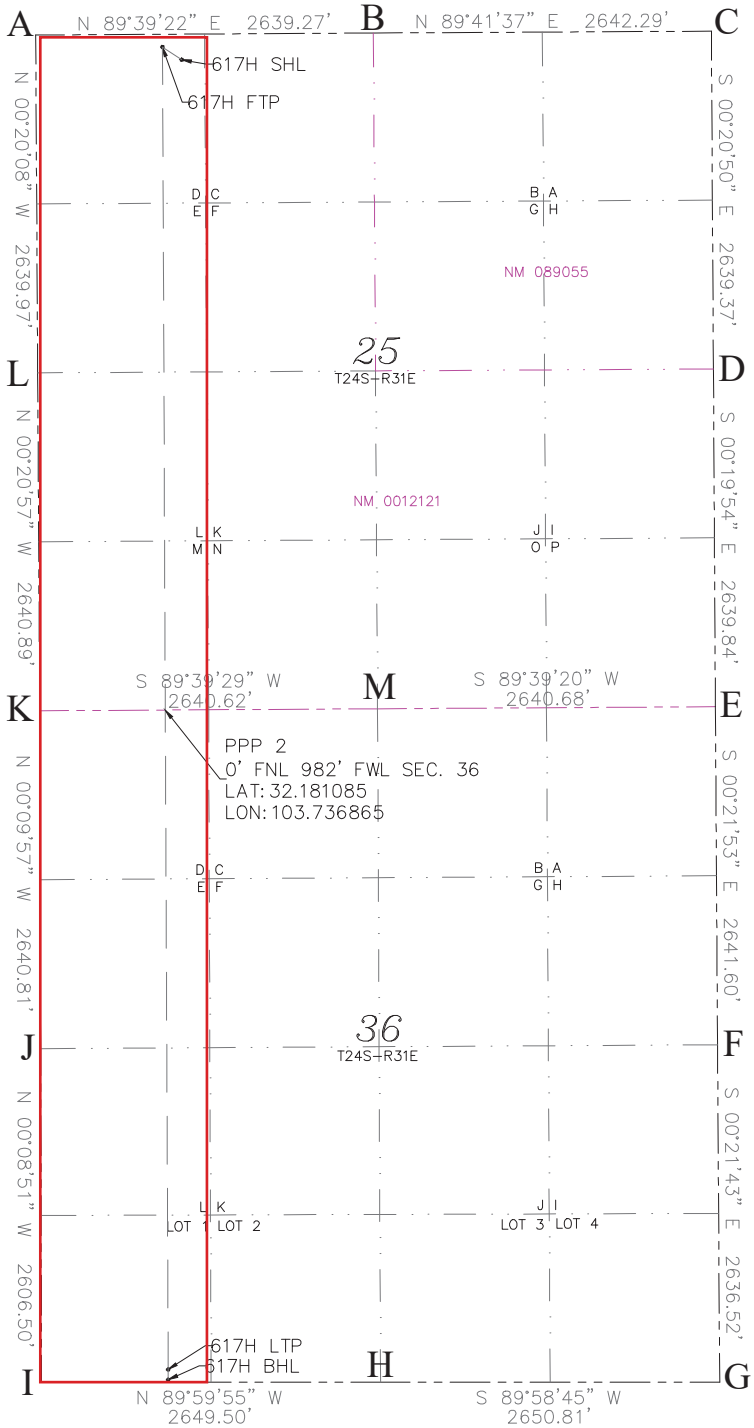

Signature and Seal of Professional Surveyor

| Certificate Number | Date of Survey |
|---|---|
| 23261 | 07/2024 |

ACREAGE DEDICATION PLATS

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

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

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C= N:435430.04 E:730140.88
D= N:432790.73 E:730156.88
E= N:430150.93 E:730172.17
F= N:427509.39 E:730188.98
G= N:424872.92 E:730205.63
H= N:424871.96 E:727554.82
I= N:424872.01 E:724905.32
J= N:427478.51 E:724898.61
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L= N:432760.15 E:724874.87
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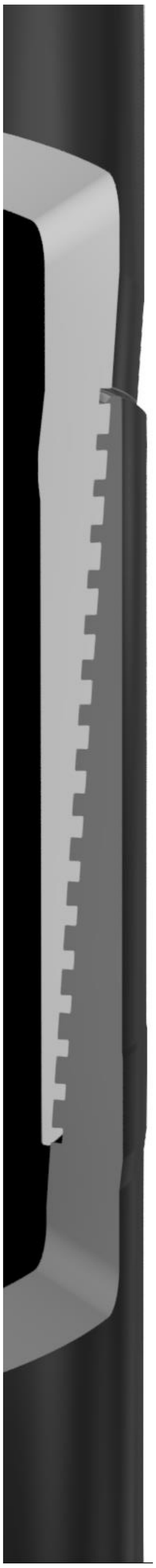


Issued on: 16 Dec. 2020 by Logan Van Gorp

# VAM® SPRINT-FJ

## Connection Data Sheet

| OD | Weight (lb/ft) | Wall Th. | Grade | Alt. Drift: | Connection |
|---|---|---|---|---|---|
| 8 5/8 in. | Nominal: 32.00<br>Plain End: 31.13 | 0.352 in. | P110EC | 7.875 in. | VAM® SPRINT-FJ |

| PIPE PROPERTIES | | |
|---|---|---|
| Nominal OD | 8.625 | in. |
| Nominal ID | 7.921 | in. |
| Nominal Cross Section Area | 9.149 | sqin. |
| Grade Type | High Yield | |
| Min. Yield Strength | 125 | ksi |
| Max. Yield Strength | 140 | ksi |
| Min. Ultimate Tensile Strength | 135 | ksi |

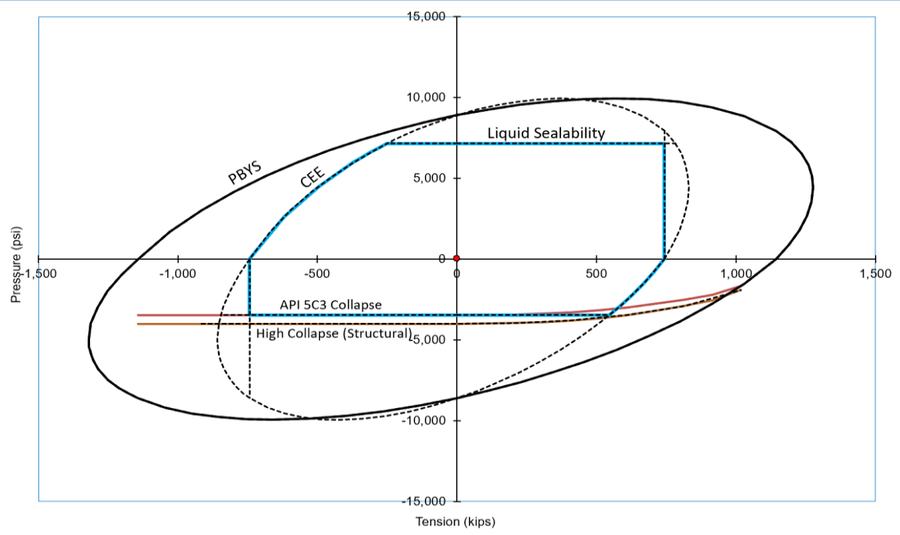
| CONNECTION PROPERTIES | | |
|---|---|---|
| Connection Type | Semi-Premium Integral Flush | |
| Connection OD (nom): | 8.665 | in. |
| Connection ID (nom): | 7.954 | in. |
| Make-Up Loss | 2.614 | in. |
| Critical Cross Section | 6.038 | sqin. |
| Tension Efficiency | 65.0 | % of pipe |
| Compression Efficiency | 65.0 | % of pipe |
| Internal Pressure Efficiency | 80.0 | % of pipe |
| External Pressure Efficiency | 100 | % of pipe |

| CONNECTION PERFORMANCES | | |
|---|---|---|
| Tensile Yield Strength | 744 | klb |
| Compression Resistance | 744 | klb |
| Max. Internal Pressure | 7,150 | psi |
| Structural Collapse Resistance | 4,000 | psi |
| Max. Bending with Sealability | 41 | °/100ft |
| Max. Bending with Sealability | 10 | °/100ft |

* 87.5% RBW

| TORQUE VALUES | | |
|---|---|---|
| Min. Make-up torque | 15,000 | ft.lb |
| Opt. Make-up torque | 16,500 | ft.lb |
| Max. Make-up torque | 18,000 | ft.lb |
| Max. Torque with Sealability (MTS) | TBD | ft.lb |

**VAM® SPRINT-FJ** is a semi-premium flush connection designed for shale applications, where maximum clearance and high tension capacity are required for intermediate casing strings.




**Do you need help on this product? - Remember no one knows VAM® like VAM®**

canada@vamfieldservice.com
usa@vamfieldservice.com
mexico@vamfieldservice.com
brazil@vamfieldservice.com

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nigeria@vamfieldservice.com
angola@vamfieldservice.com

china@vamfieldservice.com
baku@vamfieldservice.com
singapore@vamfieldservice.com
australia@vamfieldservice.com

**Over 140 VAM® Specialists available worldwide 24/7 for Rig Site Assistance**

VAM USA

SeAH

# 10-3/4" 45.50# 0.400" J-55

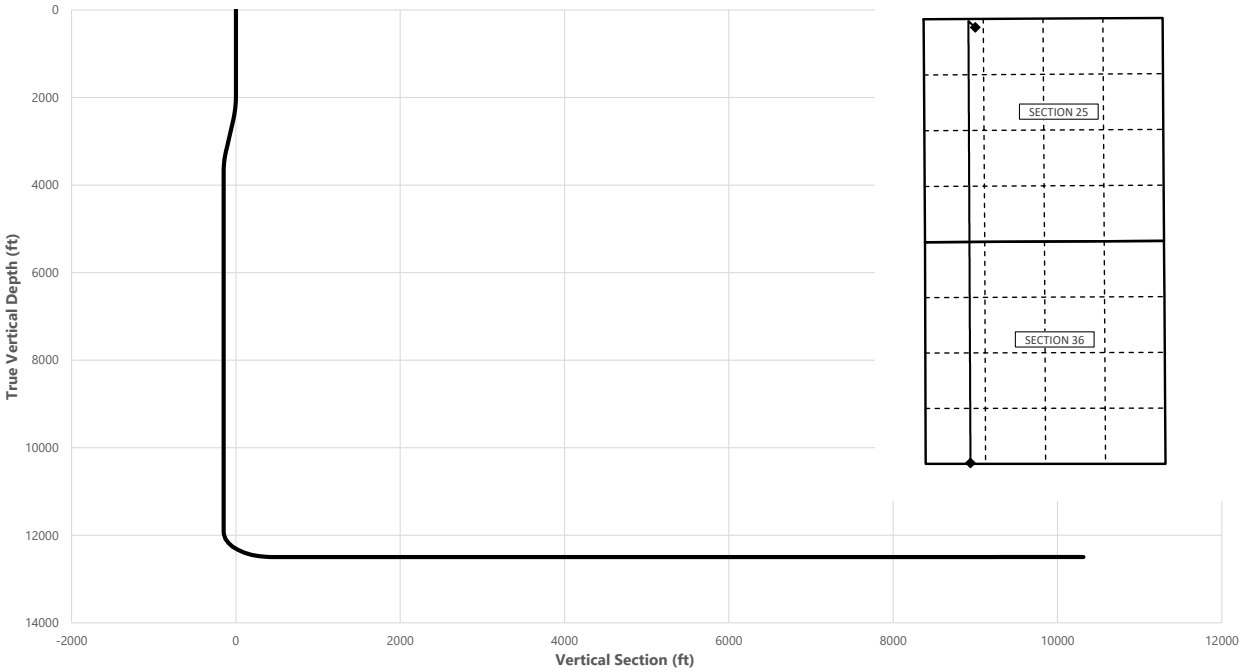
## Dimensions (Nominal)

| | | |
|---|---|---|
| **Outside Diameter** | **10.750** | **in.** |
| **Wall** | **0.400** | **in.** |
| **Inside Diameter** | **9.950** | **in.** |
| **Drift** | **9.875** | **in.** |
| **Weight, T&C** | **45.500** | **lbs/ft** |
| **Weight, PE** | **44.260** | **lbs/ft** |
| **Internal Yield Pressure at Minimum Yield** | | |
| **Collapse** | **2090** | **psi** |
| **Internal Yields Pressure** | | |
| **PE** | **3580** | **psi** |
| **STC** | **3580** | **psi** |
| **BTC** | **3580** | **psi** |
| **Yield Strength, Pipe Body** | **715** | **1000 lbs** |
| **Joint Strength, STC** | | |
| **STC** | **493** | **1000 lbs** |
| **BTC** | **796** | **1000 lbs** |

**Well:** Cotton Draw Unit 617H
**County:** Eddy
**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 (ft) | INC (°) | AZI (°) | TVD (ft) | NS (ft) | EW (ft) | VS (ft) | DLS (°/100ft) | Comment |
|---|---|---|---|---|---|---|---|---|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | SHL |
| 2000.00 | 0.00 | 315.00 | 2000.00 | 0.00 | 0.00 | 0.00 | 0.00 | Start Tangent |
| 2500.00 | 10.00 | 315.00 | 2497.47 | 30.78 | -30.78 | -30.46 | 2.00 | Hold Tangent |
| 3225.85 | 10.00 | 315.00 | 3212.28 | 119.90 | -119.90 | -118.67 | 0.00 | Drop to Vertical |
| 3725.85 | 0.00 | 315.00 | 3709.75 | 150.68 | -150.68 | -149.13 | 2.00 | Hold Vertical |
| 11939.14 | 0.00 | 179.75 | 11923.04 | 150.68 | -150.68 | -149.13 | 0.00 | KOP |
| 12839.14 | 90.00 | 179.75 | 12496.00 | -422.28 | -148.18 | 423.76 | 10.00 | Landing Point |
| 22731.92 | 90.00 | 179.75 | 12496.00 | -10314.96 | -105.01 | 10315.49 | 0.00 | BHL |




| Key Depths | MD (ft) | TVD (ft) |
|---|---|---|
| Rustler | 660.00 | 660.00 |
| Salt | 1105.00 | 1105.00 |
| Base of Salt | 4326.10 | 4310.00 |
| Lamar | 4401.10 | 4385.00 |
| Delaware | 4576.10 | 4560.00 |
| Cherry Canyon | 5456.10 | 5440.00 |
| Brushy Canyon | 6806.10 | 6790.00 |
| 1st Bone Spring Lime | 8376.10 | 8360.00 |
| Bone Spring 1st | 9436.10 | 9420.00 |
| Bone Spring 2nd | 9991.10 | 9975.00 |
| 3rd Bone Spring Lime | 10506.10 | 10490.00 |
| Bone Spring 3rd | 11266.10 | 11250.00 |
| Wolfcamp / Point of Penetration | 11776.10 | 11760.00 |
| EXIT | 22651.92 | 12496.01 |

| | MD (ft) | TVD (ft) | Lat (°) | Long (°) | Section Footages |
|---|---|---|---|---|---|
| **SHL** | 0.00 | 0.00 | 32.1950 | -103.7364 | 200' FNL, 1140' FWL of Sec 25 in T24S, R31E |
| **KOP** | 11939.14 | 11923.04 | 32.1954 | -103.7369 | 48' FNL, 990' FWL of Sec 25 in T24S, R31E |
| **Point of Penetration** | 11776.10 | 11760.00 | 32.1953 | -103.7368 | 100' FNL, 990' FWL of Sec 25 in T24S, R31E |
| **Exit** | 22651.92 | 12496.01 | 32.1669 | -103.7369 | 100' FSL, 990' FWL of Sec 36 in T24S, R31E |
| **BHL** | 22731.92 | 12496.00 | 32.1666 | -103.7370 | 20' FSL, 990' FWL of Sec 36 in T24S, R31E |

| | Y | X | MD |
|---|---|---|---|
| **KOP** | 435358 | 725850 | 11939.14 |

devon

**Well:** Cotton Draw Unit 617H
**County:** Eddy
**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 (ft) | INC (°) | AZI (°) | TVD (ft) | NS (ft) | EW (ft) | VS (ft) | DLS (°/100ft) | Comment |
|---|---|---|---|---|---|---|---|---|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | SHL |
| 100.00 | 0.00 | 315.00 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 200.00 | 0.00 | 315.00 | 200.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 300.00 | 0.00 | 315.00 | 300.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 400.00 | 0.00 | 315.00 | 400.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 500.00 | 0.00 | 315.00 | 500.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 600.00 | 0.00 | 315.00 | 600.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 660.00 | 0.00 | 315.00 | 660.00 | 0.00 | 0.00 | 0.00 | 0.00 | Rustler |
| 700.00 | 0.00 | 315.00 | 700.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 800.00 | 0.00 | 315.00 | 800.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 900.00 | 0.00 | 315.00 | 900.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1000.00 | 0.00 | 315.00 | 1000.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1100.00 | 0.00 | 315.00 | 1100.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1105.00 | 0.00 | 315.00 | 1105.00 | 0.00 | 0.00 | 0.00 | 0.00 | Salt |
| 1200.00 | 0.00 | 315.00 | 1200.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1300.00 | 0.00 | 315.00 | 1300.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1400.00 | 0.00 | 315.00 | 1400.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1500.00 | 0.00 | 315.00 | 1500.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1600.00 | 0.00 | 315.00 | 1600.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1700.00 | 0.00 | 315.00 | 1700.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1800.00 | 0.00 | 315.00 | 1800.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1900.00 | 0.00 | 315.00 | 1900.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 2000.00 | 0.00 | 315.00 | 2000.00 | 0.00 | 0.00 | 0.00 | 0.00 | Start Tangent |
| 2100.00 | 2.00 | 315.00 | 2099.98 | 1.23 | -1.23 | -1.22 | 2.00 | |
| 2200.00 | 4.00 | 315.00 | 2199.84 | 4.93 | -4.93 | -4.88 | 2.00 | |
| 2300.00 | 6.00 | 315.00 | 2299.45 | 11.10 | -11.10 | -10.98 | 2.00 | |
| 2400.00 | 8.00 | 315.00 | 2398.70 | 19.71 | -19.71 | -19.51 | 2.00 | |
| 2500.00 | 10.00 | 315.00 | 2497.47 | 30.78 | -30.78 | -30.46 | 2.00 | Hold Tangent |
| 2600.00 | 10.00 | 315.00 | 2595.95 | 43.05 | -43.05 | -42.61 | 0.00 | |
| 2700.00 | 10.00 | 315.00 | 2694.43 | 55.33 | -55.33 | -54.77 | 0.00 | |
| 2800.00 | 10.00 | 315.00 | 2792.91 | 67.61 | -67.61 | -66.92 | 0.00 | |
| 2900.00 | 10.00 | 315.00 | 2891.39 | 79.89 | -79.89 | -79.07 | 0.00 | |
| 3000.00 | 10.00 | 315.00 | 2989.87 | 92.17 | -92.17 | -91.23 | 0.00 | |
| 3100.00 | 10.00 | 315.00 | 3088.35 | 104.45 | -104.45 | -103.38 | 0.00 | |
| 3200.00 | 10.00 | 315.00 | 3186.83 | 116.73 | -116.73 | -115.53 | 0.00 | |
| 3225.85 | 10.00 | 315.00 | 3212.28 | 119.90 | -119.90 | -118.67 | 0.00 | Drop to Vertical |
| 3300.00 | 8.52 | 315.00 | 3285.47 | 128.34 | -128.34 | -127.02 | 2.00 | |
| 3400.00 | 6.52 | 315.00 | 3384.61 | 137.59 | -137.59 | -136.18 | 2.00 | |
| 3500.00 | 4.52 | 315.00 | 3484.14 | 144.38 | -144.38 | -142.91 | 2.00 | |
| 3600.00 | 2.52 | 315.00 | 3583.94 | 148.72 | -148.72 | -147.20 | 2.00 | |
| 3700.00 | 0.52 | 315.00 | 3683.90 | 150.59 | -150.59 | -149.05 | 2.00 | |
| 3725.85 | 0.00 | 315.00 | 3709.75 | 150.68 | -150.68 | -149.13 | 2.00 | Hold Vertical |
| 3800.00 | 0.00 | 179.75 | 3783.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 3900.00 | 0.00 | 179.75 | 3883.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 4000.00 | 0.00 | 179.75 | 3983.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 4100.00 | 0.00 | 179.75 | 4083.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 4200.00 | 0.00 | 179.75 | 4183.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 4300.00 | 0.00 | 179.75 | 4283.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 4326.10 | 0.00 | 179.75 | 4310.00 | 150.68 | -150.68 | -149.13 | 0.00 | Base of Salt |
| 4400.00 | 0.00 | 179.75 | 4383.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 4401.10 | 0.00 | 179.75 | 4385.00 | 150.68 | -150.68 | -149.13 | 0.00 | Lamar |
| 4500.00 | 0.00 | 179.75 | 4483.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 4576.10 | 0.00 | 179.75 | 4560.00 | 150.68 | -150.68 | -149.13 | 0.00 | Delaware |
| 4600.00 | 0.00 | 179.75 | 4583.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 4700.00 | 0.00 | 179.75 | 4683.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 4800.00 | 0.00 | 179.75 | 4783.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 4900.00 | 0.00 | 179.75 | 4883.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 5000.00 | 0.00 | 179.75 | 4983.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 5100.00 | 0.00 | 179.75 | 5083.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 5200.00 | 0.00 | 179.75 | 5183.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 5300.00 | 0.00 | 179.75 | 5283.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 5400.00 | 0.00 | 179.75 | 5383.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 5456.10 | 0.00 | 179.75 | 5440.00 | 150.68 | -150.68 | -149.13 | 0.00 | Cherry Canyon |
| 5500.00 | 0.00 | 179.75 | 5483.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 5600.00 | 0.00 | 179.75 | 5583.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 5700.00 | 0.00 | 179.75 | 5683.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 5800.00 | 0.00 | 179.75 | 5783.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 5900.00 | 0.00 | 179.75 | 5883.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 6000.00 | 0.00 | 179.75 | 5983.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 6100.00 | 0.00 | 179.75 | 6083.90 | 150.68 | -150.68 | -149.13 | 0.00 | |

devon

**Well:** Cotton Draw Unit 617H
**County:** Eddy
**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 (ft) | INC (°) | AZI (°) | TVD (ft) | NS (ft) | EW (ft) | VS (ft) | DLS (°/100ft) | Comment |
|---|---|---|---|---|---|---|---|---|
| 6200.00 | 0.00 | 179.75 | 6183.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 6300.00 | 0.00 | 179.75 | 6283.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 6400.00 | 0.00 | 179.75 | 6383.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 6500.00 | 0.00 | 179.75 | 6483.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 6600.00 | 0.00 | 179.75 | 6583.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 6700.00 | 0.00 | 179.75 | 6683.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 6800.00 | 0.00 | 179.75 | 6783.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 6806.10 | 0.00 | 179.75 | 6790.00 | 150.68 | -150.68 | -149.13 | 0.00 | Brushy Canyon |
| 6900.00 | 0.00 | 179.75 | 6883.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 7000.00 | 0.00 | 179.75 | 6983.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 7100.00 | 0.00 | 179.75 | 7083.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 7200.00 | 0.00 | 179.75 | 7183.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 7300.00 | 0.00 | 179.75 | 7283.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 7400.00 | 0.00 | 179.75 | 7383.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 7500.00 | 0.00 | 179.75 | 7483.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 7600.00 | 0.00 | 179.75 | 7583.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 7700.00 | 0.00 | 179.75 | 7683.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 7800.00 | 0.00 | 179.75 | 7783.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 7900.00 | 0.00 | 179.75 | 7883.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 8000.00 | 0.00 | 179.75 | 7983.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 8100.00 | 0.00 | 179.75 | 8083.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 8200.00 | 0.00 | 179.75 | 8183.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 8300.00 | 0.00 | 179.75 | 8283.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 8376.10 | 0.00 | 179.75 | 8360.00 | 150.68 | -150.68 | -149.13 | 0.00 | 1st Bone Spring Lime |
| 8400.00 | 0.00 | 179.75 | 8383.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 8500.00 | 0.00 | 179.75 | 8483.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 8600.00 | 0.00 | 179.75 | 8583.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 8700.00 | 0.00 | 179.75 | 8683.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 8800.00 | 0.00 | 179.75 | 8783.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 8900.00 | 0.00 | 179.75 | 8883.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 9000.00 | 0.00 | 179.75 | 8983.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 9100.00 | 0.00 | 179.75 | 9083.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 9200.00 | 0.00 | 179.75 | 9183.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 9300.00 | 0.00 | 179.75 | 9283.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 9400.00 | 0.00 | 179.75 | 9383.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 9436.10 | 0.00 | 179.75 | 9420.00 | 150.68 | -150.68 | -149.13 | 0.00 | Bone Spring 1st |
| 9500.00 | 0.00 | 179.75 | 9483.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 9600.00 | 0.00 | 179.75 | 9583.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 9700.00 | 0.00 | 179.75 | 9683.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 9800.00 | 0.00 | 179.75 | 9783.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 9900.00 | 0.00 | 179.75 | 9883.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 9991.10 | 0.00 | 179.75 | 9975.00 | 150.68 | -150.68 | -149.13 | 0.00 | Bone Spring 2nd |
| 10000.00 | 0.00 | 179.75 | 9983.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 10100.00 | 0.00 | 179.75 | 10083.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 10200.00 | 0.00 | 179.75 | 10183.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 10300.00 | 0.00 | 179.75 | 10283.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 10400.00 | 0.00 | 179.75 | 10383.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 10500.00 | 0.00 | 179.75 | 10483.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 10506.10 | 0.00 | 179.75 | 10490.00 | 150.68 | -150.68 | -149.13 | 0.00 | 3rd Bone Spring Lime |
| 10600.00 | 0.00 | 179.75 | 10583.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 10700.00 | 0.00 | 179.75 | 10683.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 10800.00 | 0.00 | 179.75 | 10783.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 10900.00 | 0.00 | 179.75 | 10883.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 11000.00 | 0.00 | 179.75 | 10983.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 11100.00 | 0.00 | 179.75 | 11083.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 11200.00 | 0.00 | 179.75 | 11183.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 11266.10 | 0.00 | 179.75 | 11250.00 | 150.68 | -150.68 | -149.13 | 0.00 | Bone Spring 3rd |
| 11300.00 | 0.00 | 179.75 | 11283.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 11400.00 | 0.00 | 179.75 | 11383.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 11500.00 | 0.00 | 179.75 | 11483.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 11600.00 | 0.00 | 179.75 | 11583.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 11700.00 | 0.00 | 179.75 | 11683.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 11776.10 | 0.00 | 179.75 | 11760.00 | 150.68 | -150.68 | -149.13 | 0.00 | Wolfcamp / Point of Penetration |
| 11800.00 | 0.00 | 179.75 | 11783.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 11900.00 | 0.00 | 179.75 | 11883.90 | 150.68 | -150.68 | -149.13 | 0.00 | |
| 11939.14 | 0.00 | 179.75 | 11923.04 | 150.68 | -150.68 | -149.13 | 0.00 | KOP |
| 12000.00 | 6.09 | 179.75 | 11983.79 | 147.45 | -150.66 | -145.90 | 10.00 | |
| 12100.00 | 16.09 | 179.75 | 12081.80 | 128.24 | -150.58 | -126.70 | 10.00 | |
| 12200.00 | 26.09 | 179.75 | 12174.98 | 92.31 | -150.42 | -90.77 | 10.00 | |
| 12300.00 | 36.09 | 179.75 | 12260.51 | 40.74 | -150.20 | -39.21 | 10.00 | |

devon

**Well:** Cotton Draw Unit 617H
**County:** Eddy
**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 (ft) | INC (°) | AZI (°) | TVD (ft) | NS (ft) | EW (ft) | VS (ft) | DLS (°/100ft) | Comment |
|---|---|---|---|---|---|---|---|---|
| 12400.00 | 46.09 | 179.75 | 12335.79 | -24.89 | -149.91 | 26.42 | 10.00 | |
| 12500.00 | 56.09 | 179.75 | 12398.53 | -102.60 | -149.57 | 104.12 | 10.00 | |
| 12600.00 | 66.09 | 179.75 | 12446.82 | -190.02 | -149.19 | 191.53 | 10.00 | |
| 12700.00 | 76.09 | 179.75 | 12479.19 | -284.50 | -148.78 | 286.00 | 10.00 | |
| 12800.00 | 86.09 | 179.75 | 12494.66 | -383.17 | -148.34 | 384.66 | 10.00 | |
| 12839.14 | 90.00 | 179.75 | 12496.00 | -422.28 | -148.18 | 423.76 | 10.00 | Landing Point |
| 12900.00 | 90.00 | 179.75 | 12496.00 | -483.14 | -147.91 | 484.62 | 0.00 | |
| 13000.00 | 90.00 | 179.75 | 12496.00 | -583.14 | -147.47 | 584.61 | 0.00 | |
| 13100.00 | 90.00 | 179.75 | 12496.00 | -683.14 | -147.04 | 684.60 | 0.00 | |
| 13200.00 | 90.00 | 179.75 | 12496.00 | -783.14 | -146.60 | 784.59 | 0.00 | |
| 13300.00 | 90.00 | 179.75 | 12496.00 | -883.13 | -146.16 | 884.58 | 0.00 | |
| 13400.00 | 90.00 | 179.75 | 12496.00 | -983.13 | -145.73 | 984.57 | 0.00 | |
| 13500.00 | 90.00 | 179.75 | 12496.00 | -1083.13 | -145.29 | 1084.56 | 0.00 | |
| 13600.00 | 90.00 | 179.75 | 12496.00 | -1183.13 | -144.85 | 1184.54 | 0.00 | |
| 13700.00 | 90.00 | 179.75 | 12496.00 | -1283.13 | -144.42 | 1284.53 | 0.00 | |
| 13800.00 | 90.00 | 179.75 | 12496.00 | -1383.13 | -143.98 | 1384.52 | 0.00 | |
| 13900.00 | 90.00 | 179.75 | 12496.00 | -1483.13 | -143.54 | 1484.51 | 0.00 | |
| 14000.00 | 90.00 | 179.75 | 12496.00 | -1583.13 | -143.11 | 1584.50 | 0.00 | |
| 14100.00 | 90.00 | 179.75 | 12496.00 | -1683.13 | -142.67 | 1684.49 | 0.00 | |
| 14200.00 | 90.00 | 179.75 | 12496.00 | -1783.13 | -142.23 | 1784.48 | 0.00 | |
| 14300.00 | 90.00 | 179.75 | 12496.00 | -1883.12 | -141.80 | 1884.47 | 0.00 | |
| 14400.00 | 90.00 | 179.75 | 12496.00 | -1983.12 | -141.36 | 1984.46 | 0.00 | |
| 14500.00 | 90.00 | 179.75 | 12496.00 | -2083.12 | -140.92 | 2084.45 | 0.00 | |
| 14600.00 | 90.00 | 179.75 | 12496.00 | -2183.12 | -140.49 | 2184.44 | 0.00 | |
| 14700.00 | 90.00 | 179.75 | 12496.00 | -2283.12 | -140.05 | 2284.43 | 0.00 | |
| 14800.00 | 90.00 | 179.75 | 12496.00 | -2383.12 | -139.61 | 2384.42 | 0.00 | |
| 14900.00 | 90.00 | 179.75 | 12496.00 | -2483.12 | -139.18 | 2484.41 | 0.00 | |
| 15000.00 | 90.00 | 179.75 | 12496.00 | -2583.12 | -138.74 | 2584.40 | 0.00 | |
| 15100.00 | 90.00 | 179.75 | 12496.00 | -2683.12 | -138.30 | 2684.39 | 0.00 | |
| 15200.00 | 90.00 | 179.75 | 12496.00 | -2783.12 | -137.87 | 2784.38 | 0.00 | |
| 15300.00 | 90.00 | 179.75 | 12496.00 | -2883.12 | -137.43 | 2884.37 | 0.00 | |
| 15400.00 | 90.00 | 179.75 | 12496.00 | -2983.11 | -136.99 | 2984.35 | 0.00 | |
| 15500.00 | 90.00 | 179.75 | 12496.00 | -3083.11 | -136.56 | 3084.34 | 0.00 | |
| 15600.00 | 90.00 | 179.75 | 12496.00 | -3183.11 | -136.12 | 3184.33 | 0.00 | |
| 15700.00 | 90.00 | 179.75 | 12496.00 | -3283.11 | -135.68 | 3284.32 | 0.00 | |
| 15800.00 | 90.00 | 179.75 | 12496.00 | -3383.11 | -135.25 | 3384.31 | 0.00 | |
| 15900.00 | 90.00 | 179.75 | 12496.00 | -3483.11 | -134.81 | 3484.30 | 0.00 | |
| 16000.00 | 90.00 | 179.75 | 12496.00 | -3583.11 | -134.38 | 3584.29 | 0.00 | |
| 16100.00 | 90.00 | 179.75 | 12496.00 | -3683.11 | -133.94 | 3684.28 | 0.00 | |
| 16200.00 | 90.00 | 179.75 | 12496.00 | -3783.11 | -133.50 | 3784.27 | 0.00 | |
| 16300.00 | 90.00 | 179.75 | 12496.00 | -3883.11 | -133.07 | 3884.26 | 0.00 | |
| 16400.00 | 90.00 | 179.75 | 12496.00 | -3983.10 | -132.63 | 3984.25 | 0.00 | |
| 16500.00 | 90.00 | 179.75 | 12496.00 | -4083.10 | -132.19 | 4084.24 | 0.00 | |
| 16600.00 | 90.00 | 179.75 | 12496.00 | -4183.10 | -131.76 | 4184.23 | 0.00 | |
| 16700.00 | 90.00 | 179.75 | 12496.01 | -4283.10 | -131.32 | 4284.22 | 0.00 | |
| 16800.00 | 90.00 | 179.75 | 12496.01 | -4383.10 | -130.88 | 4384.21 | 0.00 | |
| 16900.00 | 90.00 | 179.75 | 12496.01 | -4483.10 | -130.45 | 4484.20 | 0.00 | |
| 17000.00 | 90.00 | 179.75 | 12496.01 | -4583.10 | -130.01 | 4584.19 | 0.00 | |
| 17100.00 | 90.00 | 179.75 | 12496.01 | -4683.10 | -129.57 | 4684.17 | 0.00 | |
| 17200.00 | 90.00 | 179.75 | 12496.01 | -4783.10 | -129.14 | 4784.16 | 0.00 | |
| 17300.00 | 90.00 | 179.75 | 12496.01 | -4883.10 | -128.70 | 4884.15 | 0.00 | |
| 17400.00 | 90.00 | 179.75 | 12496.01 | -4983.10 | -128.26 | 4984.14 | 0.00 | |
| 17500.00 | 90.00 | 179.75 | 12496.01 | -5083.09 | -127.83 | 5084.13 | 0.00 | |
| 17600.00 | 90.00 | 179.75 | 12496.01 | -5183.09 | -127.39 | 5184.12 | 0.00 | |
| 17700.00 | 90.00 | 179.75 | 12496.01 | -5283.09 | -126.95 | 5284.11 | 0.00 | |
| 17800.00 | 90.00 | 179.75 | 12496.01 | -5383.09 | -126.52 | 5384.10 | 0.00 | |
| 17900.00 | 90.00 | 179.75 | 12496.01 | -5483.09 | -126.08 | 5484.09 | 0.00 | |
| 18000.00 | 90.00 | 179.75 | 12496.01 | -5583.09 | -125.64 | 5584.08 | 0.00 | |
| 18100.00 | 90.00 | 179.75 | 12496.01 | -5683.09 | -125.21 | 5684.07 | 0.00 | |
| 18200.00 | 90.00 | 179.75 | 12496.01 | -5783.09 | -124.77 | 5784.06 | 0.00 | |
| 18300.00 | 90.00 | 179.75 | 12496.01 | -5883.09 | -124.33 | 5884.05 | 0.00 | |
| 18400.00 | 90.00 | 179.75 | 12496.01 | -5983.09 | -123.90 | 5984.04 | 0.00 | |
| 18500.00 | 90.00 | 179.75 | 12496.01 | -6083.08 | -123.46 | 6084.03 | 0.00 | |
| 18600.00 | 90.00 | 179.75 | 12496.01 | -6183.08 | -123.02 | 6184.02 | 0.00 | |
| 18700.00 | 90.00 | 179.75 | 12496.01 | -6283.08 | -122.59 | 6284.01 | 0.00 | |
| 18800.00 | 90.00 | 179.75 | 12496.01 | -6383.08 | -122.15 | 6383.99 | 0.00 | |
| 18900.00 | 90.00 | 179.75 | 12496.01 | -6483.08 | -121.71 | 6483.98 | 0.00 | |
| 19000.00 | 90.00 | 179.75 | 12496.01 | -6583.08 | -121.28 | 6583.97 | 0.00 | |
| 19100.00 | 90.00 | 179.75 | 12496.01 | -6683.08 | -120.84 | 6683.96 | 0.00 | |
| 19200.00 | 90.00 | 179.75 | 12496.01 | -6783.08 | -120.40 | 6783.95 | 0.00 | |

devon

**Well:** Cotton Draw Unit 617H
**County:** Eddy
**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 (ft) | INC (°) | AZI (°) | TVD (ft) | NS (ft) | EW (ft) | VS (ft) | DLS (°/100ft) | Comment |
|---|---|---|---|---|---|---|---|---|
| 19300.00 | 90.00 | 179.75 | 12496.01 | -6883.08 | -119.97 | 6883.94 | 0.00 | |
| 19400.00 | 90.00 | 179.75 | 12496.01 | -6983.08 | -119.53 | 6983.93 | 0.00 | |
| 19500.00 | 90.00 | 179.75 | 12496.01 | -7083.08 | -119.09 | 7083.92 | 0.00 | |
| 19600.00 | 90.00 | 179.75 | 12496.01 | -7183.07 | -118.66 | 7183.91 | 0.00 | |
| 19700.00 | 90.00 | 179.75 | 12496.01 | -7283.07 | -118.22 | 7283.90 | 0.00 | |
| 19800.00 | 90.00 | 179.75 | 12496.01 | -7383.07 | -117.78 | 7383.89 | 0.00 | |
| 19900.00 | 90.00 | 179.75 | 12496.01 | -7483.07 | -117.35 | 7483.88 | 0.00 | |
| 20000.00 | 90.00 | 179.75 | 12496.01 | -7583.07 | -116.91 | 7583.87 | 0.00 | |
| 20100.00 | 90.00 | 179.75 | 12496.01 | -7683.07 | -116.47 | 7683.86 | 0.00 | |
| 20200.00 | 90.00 | 179.75 | 12496.01 | -7783.07 | -116.04 | 7783.85 | 0.00 | |
| 20300.00 | 90.00 | 179.75 | 12496.01 | -7883.07 | -115.60 | 7883.84 | 0.00 | |
| 20400.00 | 90.00 | 179.75 | 12496.01 | -7983.07 | -115.16 | 7983.83 | 0.00 | |
| 20500.00 | 90.00 | 179.75 | 12496.01 | -8083.07 | -114.73 | 8083.81 | 0.00 | |
| 20600.00 | 90.00 | 179.75 | 12496.01 | -8183.06 | -114.29 | 8183.80 | 0.00 | |
| 20700.00 | 90.00 | 179.75 | 12496.01 | -8283.06 | -113.86 | 8283.79 | 0.00 | |
| 20800.00 | 90.00 | 179.75 | 12496.01 | -8383.06 | -113.42 | 8383.78 | 0.00 | |
| 20900.00 | 90.00 | 179.75 | 12496.01 | -8483.06 | -112.98 | 8483.77 | 0.00 | |
| 21000.00 | 90.00 | 179.75 | 12496.01 | -8583.06 | -112.55 | 8583.76 | 0.00 | |
| 21100.00 | 90.00 | 179.75 | 12496.01 | -8683.06 | -112.11 | 8683.75 | 0.00 | |
| 21200.00 | 90.00 | 179.75 | 12496.01 | -8783.06 | -111.67 | 8783.74 | 0.00 | |
| 21300.00 | 90.00 | 179.75 | 12496.01 | -8883.06 | -111.24 | 8883.73 | 0.00 | |
| 21400.00 | 90.00 | 179.75 | 12496.01 | -8983.06 | -110.80 | 8983.72 | 0.00 | |
| 21500.00 | 90.00 | 179.75 | 12496.01 | -9083.06 | -110.36 | 9083.71 | 0.00 | |
| 21600.00 | 90.00 | 179.75 | 12496.01 | -9183.06 | -109.93 | 9183.70 | 0.00 | |
| 21700.00 | 90.00 | 179.75 | 12496.01 | -9283.05 | -109.49 | 9283.69 | 0.00 | |
| 21800.00 | 90.00 | 179.75 | 12496.01 | -9383.05 | -109.05 | 9383.68 | 0.00 | |
| 21900.00 | 90.00 | 179.75 | 12496.01 | -9483.05 | -108.62 | 9483.67 | 0.00 | |
| 22000.00 | 90.00 | 179.75 | 12496.01 | -9583.05 | -108.18 | 9583.66 | 0.00 | |
| 22100.00 | 90.00 | 179.75 | 12496.01 | -9683.05 | -107.74 | 9683.65 | 0.00 | |
| 22200.00 | 90.00 | 179.75 | 12496.01 | -9783.05 | -107.31 | 9783.64 | 0.00 | |
| 22300.00 | 90.00 | 179.75 | 12496.01 | -9883.05 | -106.87 | 9883.62 | 0.00 | |
| 22400.00 | 90.00 | 179.75 | 12496.01 | -9983.05 | -106.43 | 9983.61 | 0.00 | |
| 22500.00 | 90.00 | 179.75 | 12496.01 | -10083.05 | -106.00 | 10083.60 | 0.00 | |
| 22600.00 | 90.00 | 179.75 | 12496.01 | -10183.05 | -105.56 | 10183.59 | 0.00 | |
| 22651.92 | 90.00 | 179.75 | 12496.01 | -10234.96 | -105.33 | 10235.50 | 0.00 | EXIT |
| 22700.00 | 90.00 | 179.75 | 12496.01 | -10283.04 | -105.12 | 10283.58 | 0.00 | |
| 22731.92 | 90.00 | 179.75 | 12496.00 | -10314.96 | -105.01 | 10315.49 | 0.00 | BHL |

# DWC/C-IS PLUS

## Connection Data Sheet

| OD (in.) | WEIGHT (lbs./ft.) | WALL (in.) | GRADE | DRIFT (in.) | RBW% | CONNECTION |
|---|---|---|---|---|---|---|
| 5.500 | Nominal: 20.00<br>Plain End: 19.83 | 0.361 | VST P110 EC | 4.653 | 87.5 | DWC/C-IS PLUS |

### PIPE PROPERTIES

| | | |
|---|---|---|
| Nominal OD | 5.500 | in. |
| Nominal ID | 4.778 | in. |
| Nominal Area | 5.828 | sq.in. |
| Grade Type | API 5CT; Vallourec Sourced Material Only | |
| Min. Yield Strength | 125 | ksi |
| Max. Yield Strength | 140 | ksi |
| Min. Tensile Strength | 135 | ksi |
| Yield Strength | 729 | klb |
| Ultimate Strength | 787 | klb |
| Min. Internal Yield | 14,360 | psi |
| *High Collapse* | 12,090 | psi |

### CONNECTION PROPERTIES

| | | |
|---|---|---|
| Connection Type | Semi-Premium T&C | |
| Connection OD (nom) | 6.300 | in. |
| Connection ID (nom) | 4.778 | in. |
| Make-Up Loss | 4.125 | in. |
| Coupling Length | 9.250 | in. |
| Critical Cross Section | 5.828 | sq.in. |
| Tension Efficiency | 100.0% | of pipe |
| Compression Efficiency | 100.0% | of pipe |
| Internal Pressure Efficiency | 100.0% | of pipe |
| External Pressure Efficiency | 100.0% | of pipe |

### CONNECTION PERFORMANCES

| | | |
|---|---|---|
| Yield Strength | 729 | klb |
| Parting Load | 787 | klb |
| Compression Rating | 729 | klb |
| Min. Internal Yield | 14,360 | psi |
| *High Collapse* | 12,090 | psi |
| Maximum Uniaxial Bend Rating | 104.2 | °/100 ft |
| Ref String Length w 1.4 Design Factor | 26,040 | ft |

### FIELD TORQUE VALUES

| | | |
|---|---|---|
| Min. Make-up Torque | 16,600 | ft.lbs |
| Opti. Make-up Torque | 17,850 | ft.lbs |
| Max. Make-up Torque | 19,100 | ft.lbs |
| Min. Shoulder Torque | 1,660 | ft.lbs |
| Max. Shoulder Torque | 13,280 | ft.lbs |
| Max. Delta Turn | 0.200 | Turns |
| †Max Operational Torque | 24,300 | ft.lbs |
| †Maximum Torsional Value (MTV) | 26,730 | ft.lbs |

†Maximum Operational Torque and Maximum Torsional Value Only Valid with Vallourec P110EC Material

**For detailed information on performance properties, refer to DWC Connection Data Notes on following page(s).**



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VAM USA

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Houston, TX 77042
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VAM USA Sales E-mail: VAMUSAsales@vam-usa.com
Tech Support E-mail: tech.support@vam-usa.com

**DWC Connection Data Notes:**

1. DWC connections are available with a seal ring (SR) option.
2. All standard DWC/C connections are interchangeable for a given pipe OD. DWC connections are interchangeable with DWC/C-SR connections of the same OD and wall.
3. Connection performance properties are based on nominal pipe body and connection dimensions.
4. DWC connection internal and external pressure resistance is calculated using the API rating for buttress connections. API Internal pressure resistance is calculated from formulas 31, 32, and 35 in the API Bulletin 5C3.
5. DWC joint strength is the minimum pipe body yield strength multiplied by the connection critical area.
6. API joint strength is for reference only. It is calculated from formulas 42 and 43 in the API Bulletin 5C3.
7. Bending efficiency is equal to the compression efficiency.
8. The torque values listed are recommended. The actual torque required may be affected by field conditions such as temperature, thread compound, speed of make-up, weather conditions, etc.
9. Connection yield torque is not to be exceeded.
10. Reference string length is calculated by dividing the joint strength by both the nominal weight in air and a design factor (DF) of 1.4. These values are offered for reference only and do not include load factors such as bending, buoyancy, temperature, load dynamics, etc.
11. DWC connections will accommodate API standard drift diameters.
12. DWC/C family of connections are compatible with API Buttress BTC connections. Please contact tech.support@vam-usa.com for details on connection ratings and make-up.



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Cotton Draw Unit 617H

**1. Geologic Formations**

| | | | |
|---|---|---|---|
| TVD of target | 12496 | Pilot hole depth | N/A |
| MD at TD: | 22732 | Deepest expected fresh water | |

**Basin**

| Formation | Depth (TVD) from KB | Water/Mineral Bearing/Target Zone? | Hazards* |
|---|---|---|---|
| Rustler | 660 | | |
| Salt | 1105 | | |
| Base of Salt | 4310 | | |
| Lamar | 4385 | | |
| Delaware | 4560 | | |
| Cherry Canyon | 5440 | | |
| Brushy Canyon | 6790 | | |
| 1st Bone Spring Lime | 8360 | | |
| Bone Spring 1st | 9420 | | |
| Bone Spring 2nd | 9975 | | |
| 3rd Bone Spring Lime | 10490 | | |
| Bone Spring 3rd | 11250 | | |
| Wolfcamp | 11760 | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

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

Cotton Draw Unit 617H

**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) |
| 14 3/4 | 10 3/4 | 45 1/2 | J-55 | BTC | 0 | 685 | 0 | 685 |
| 9 7/8 | 8 5/8 | 32 | P110EC | Sprint FJ | 0 | 11839 | 0 | 11839 |
| 7 7/8 | 5 1/2 | 20 | P110EC | DWC / C-IS+ | 0 | 22732 | 0 | 12496 |

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

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

Assuming no returns are established while drilling, Devon requests to pump a two stage cement job on the intermediate casing string with the first stage being pumped conventionally with the calculated top of cement at the Brushy Canyon and the second stage performed as a bradenhead squeeze with planned cement from the Brushy Canyon to surface. The final cement top will be verified by Echo-meter. Devon will include the Echo-meter verified fluid top and the volume of displacement fluid above the cement slurry in the annulus in all post-drill sundries on wells utilizing this cement program. Devon will report to the BLM the volume of fluid (limited to 1 bbls) used to flush intermediate casing valves following backside cementing procedures.

| Casing | # Sks | TOC | Wt. ppg | Yld (ft3/sack) | Slurry Description |
|---|---|---|---|---|---|
| Surface | 421 | Surf | 13.2 | 1.44 | Lead: Class C Cement + additives |
| Int 1 | 480 | Surf | 13.0 | 2.3 | 2nd State: Bradenhead Squeeze - Lead: Class C Cement + additives |
| | 583 | 6806 | 13.2 | 1.44 | Tail: Class H / C + additives |
| Production | 117 | 9939 | 9 | 3.27 | Lead: Class H /C + additives |
| | 1428 | 11939 | 13.2 | 1.44 | Tail: Class H / C + additives |

| Casing String | % Excess |
|---|---|
| Surface | 50% |
| Intermediate 1 | 30% |
| Prod | 10% |

Cotton Draw Unit 617H

**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 |

**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 Rpeort and sbumitted 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 | Specfiy what type and where? |
|---|---|
| BH pressure at deepest TVD | 6823 |
| Abnormal temperature | No |

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

| Hydrogren Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of 43 CFR 3176. If Hydrogen Sulfide is encountered measured values and formations will be provided to the BLM. | |
|---|---|
| N | H2S is present |
| Y | H2S plan attached. |

**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 (43 CFR 3172, 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 nippled 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

Cotton Draw Unti 617H

| 10 3/4 | surface csg in a | 14 3/4 | inch hole. | | Design Factors | | | Surface | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Segment | #/ft | Grade | Coupling | Body | Collapse | Burst | Length | B@s | a-B | a-C | Weight |
| "A" | 45.50 | j 55 | btc | 20.96 | 5.96 | 0.55 | 750 | 11 | 0.93 | 11.26 | 34,125 |
| "B" | | | btc | | | | 0 | | | | 0 |
| | w/8.4#/g mud, 30min Sfc Csg Test psig: | 1,500 | Tail Cmt | does not | circ to sfc. | Totals: | 750 | | | | 34,125 |

Comparison of Proposed to Minimum Required Cement Volumes

| Hole Size | Annular Volume | 1 Stage Cmt Sx | 1 Stage CuFt Cmt | Min Cu Ft | 1 Stage % Excess | Drilling Mud Wt | Calc MASP | Req'd BOPE | Min Dist Hole-Cplg |
|---|---|---|---|---|---|---|---|---|---|
| 14 3/4 | 0.5563 | 421 | 606 | 417 | 45 | 9.00 | 3853 | 5M | 1.50 |

Burst Frac Gradient(s) for Segment(s) A, B = , b All > 0.70, OK.

Site plat (pipe racks S or E) as per O.O.1.III.D.4.i, not found.

| 8 5/8 | casing inside the | 10 3/4 | | | Design Factors | | | Int 1 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Segment | #/ft | Grade | Coupling | Joint | Collapse | Burst | Length | B@s | a-B | a-C | Weight |
| "A" | 32.00 | p 110 | vam sprint fj | 1.96 | 0.62 | 1.05 | 11,839 | 1 | 1.76 | 1.04 | 378,848 |
| "B" | | | | | | | 0 | | | | 0 |
| | w/8.4#/g mud, 30min Sfc Csg Test psig: | | | | | Totals: | 11,839 | | | | 378,848 |
| | The cement volume(s) are intended to achieve a top of | | | 0 | ft from surface or a | | 750 | | | | overlap. |

| Hole Size | Annular Volume | 1 Stage Cmt Sx | 1 Stage CuFt Cmt | Min Cu Ft | 1 Stage % Excess | Drilling Mud Wt | Calc MASP | Req'd BOPE | Min Dist Hole-Cplg |
|---|---|---|---|---|---|---|---|---|---|
| 9 7/8 | 0.1261 | 583 | 840 | 1499 | -44 | 10.50 | 4067 | 5M | 0.61 |
| D V Tool(s): | | | 6790 | | | | sum of sx | Σ CuFt | Σ%excess |
| t by stage % : | | 32 | 28 | | | | 1063 | 1944 | 30 |

Class 'C' tail cmt yld > 1.35

Tail cmt

| 5 1/2 | casing inside the | 8 5/8 | | | Design Factors | | | Prod 1 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Segment | #/ft | Grade | Coupling | Joint | Collapse | Burst | Length | B@s | a-B | a-C | Weight |
| "A" | 20.00 | p 110 | dwc/c is+ | 2.92 | 1.77 | 2.11 | 22,732 | 2 | 3.53 | 2.97 | 454,640 |
| "B" | | | | | | | 0 | | | | 0 |
| | w/8.4#/g mud, 30min Sfc Csg Test psig: | 2,749 | | | | Totals: | 22,732 | | | | 454,640 |
| | The cement volume(s) are intended to achieve a top of | | | 11639 | ft from surface or a | | 200 | | | | overlap. |

| Hole Size | Annular Volume | 1 Stage Cmt Sx | 1 Stage CuFt Cmt | Min Cu Ft | 1 Stage % Excess | Drilling Mud Wt | Calc MASP | Req'd BOPE | Min Dist Hole-Cplg |
|---|---|---|---|---|---|---|---|---|---|
| 7 7/8 | 0.1733 | 1545 | 2439 | 1923 | 27 | 10.50 | | | 0.79 |

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: | | | | | Totals: | 0 | | | | 0 |
| | Cmt vol calc below includes this csg, TOC intended | | | #N/A | ft from surface or a | | #N/A | | | | overlap. |

| Hole Size | Annular Volume | 1 Stage Cmt Sx | 1 Stage CuFt Cmt | Min Cu Ft | 1 Stage % Excess | Drilling Mud Wt | Calc MASP | Req'd BOPE | Min Dist Hole-Cplg |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | #N/A | #N/A | 0 | #N/A | | | | |

#N/A Capitan Reef est top XXXX.

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

General Information
Phone: (505) 629-6116

Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

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



## CONDITIONS

| | |
|---|---|
| Operator:<br>DEVON ENERGY PRODUCTION COMPANY, LP<br>333 West Sheridan Ave.<br>Oklahoma City, OK 73102 | OGRID:<br>6137 |
| | Action Number:<br>404304 |
| | Action Type:<br>[C-103] NOI Change of Plans (C-103A) |

**CONDITIONS**

| Created By | Condition | Condition Date |
|---|---|---|
| ward.rikala | Cement is required to circulate on both surface and intermediate1 strings of casing. | 11/22/2024 |
| ward.rikala | If cement is not circulated to surface during cementing operations, a Cement Bond Log (CBL) is required. | 11/22/2024 |
| ward.rikala | Any previous COA's not addressed within the updated COA's still apply. | 11/22/2024 |