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

# Sundry Print Report

04/18/2023

| Well Name | Well Number | US Well Number | Lease Number | Case Number | Operator |
|---|---|---|---|---|---|
| STRAY CAT 8-5 | 734H | 3002551260 | NMNM98826 | NMNM98826 | DEVON |
| STRAY CAT 8-5 | 714H | 3002551258 | NMNM98826 | NMNM138944 | DEVON |
| STRAY CAT 8-5 | 614H | 3002551256 | NMNM98826 | NMNM98826 | DEVON |

## Notice of Intent

**Sundry ID:** 2726179

**Type of Submission:** Notice of Intent

**Type of Action:** APD Change

**Date Sundry Submitted:** 04/18/2023

**Time Sundry Submitted:** 09:17

**Date proposed operation will begin:** 04/18/2023

**Procedure Description:** Engineer Review only - DRILLING CHANGE: Devon Energy Production Co., L.P. (Devon) respectfully requests to change the drilling plan with casing changes and cement loss plan. Please see attachments. Requested to batch drill by Long to only include attachments by pad for the drilling plan for the deepest well (TVD). Verbal given for approved design 4-5-23

## NOI Attachments

**Procedure Description**

9.625_40__J55_20230418091020.pdf

7.625in_29.7ppf_P110EC_SPRINT_FJ_12.9.2020_20230418091021.pdf

5.500in_20.00___0.361in_Wall__VST_P110EC_DWC_C_IS_CDS_AB_20230418091020.pdf

5.5in_20lbf_P110EC_VAM_SPRINT_SF_20230418091021.pdf

Stray_Cat_8_5_Fed_Com_303H__20230418090936.pdf

Slim_Hole_verbal_20230418090937.pdf

## Conditions of Approval

**Specialist Review**

Gato_Grande_9_4_Fed_Com_301H_Stray_Cat_8_5_Fed_Com_734H_Sundry_ID_2726179_20230418131558.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:** SHAYDA OMOUMI **Signed on:** APR 18, 2023 09:13 AM

**Name:** DEVON ENERGY PRODUCTION COMPANY LP

**Title:** Regulatory Compliance Associate 3

**Street Address:** 333 W SHERIDAN AVE

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

**Phone:** (405) 235-3611

**Email address:** SHAYDA.OMOUMI@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:** 5752345972 **BLM POC Email Address:** LVO@BLM.GOV

**Disposition:** Approved **Disposition Date:** 04/18/2023

**Signature:** Long Vo

# DWC/C-IS™

## Connection Data Sheet

| OD (in.) | WEIGHT (lbs./ft.) | WALL (in.) | GRADE | API DRIFT (in.) | RBW% | CONNECTION |
|---|---|---|---|---|---|---|
| 5.500 | Nominal: 20.00<br>Plain End: 19.83 | 0.361 | VST P110EC | 4.653 | 87.5 | DWC/C-IS |

| PIPE PROPERTIES | | |
|---|---|---|
| Outside Diameter | 5.500 | in. |
| Inside Diameter | 4.778 | in. |
| Nominal Area | 5.828 | sq.in. |
| Grade Type | API 5CT | |
| 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 |
| Collapse | 12,090 | psi |

| CONNECTION PROPERTIES | | |
|---|---|---|
| Connection Type | Semi-Premium T&C | |
| Connection O.D. (nom) | 6.050 | in. |
| Connection I.D. (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 | 97.8% | 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 | 14,050 | psi |
| External Pressure | 12,090 | psi |
| Maximum Uniaxial Bend Rating | 104.2 | °/100 ft |
| Reference String Length w 1.4 Design Factor | 26,040 | ft |

| FIELD END TORQUE VALUES | | |
|---|---|---|
| Min. Make-up torque | 15,800 | ft.lb |
| Opti. Make-up torque | 17,050 | ft.lb |
| Max. Make-up torque | 18,300 | ft.lb |
| Min. Shoulder Torque | 1,580 | ft.lb |
| Max. Shoulder Torque | 12,640 | ft.lb |
| Min. Delta Turn | - | Turns |
| Max. Delta Turn | 0.200 | Turns |
| Maximum Operational Torque | 20,800 | ft.lb |
| Maximum Torsional Value (MTV) | 22,880 | ft.lb |

Need Help? Contact: tech.support@vam-usa.com

Reference Drawing: 8087PP Rev.05 & 8087BP Rev.04

Date: 01/06/2020

Time: 10:56:21 AM

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

VAM USA
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Houston, TX 77042
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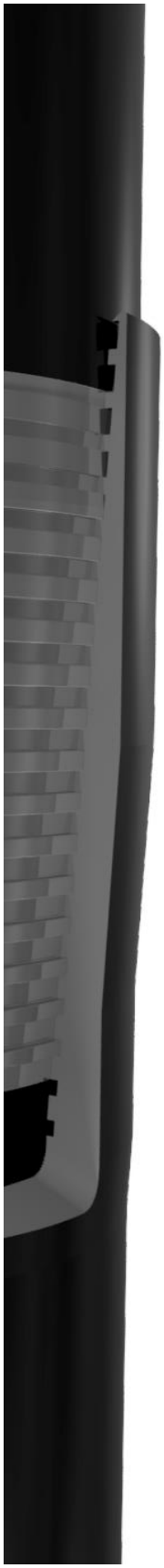
Fax: 713-479-3234
VAM® USA Sales E-mail: VAMUSAsales@vam-usa.com
Tech Support Email: tech.support@vam-usa.com

**DWC Connection Data Sheet 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.



Issued on: 08 Jul. 2020 by Wesley Ott

# VAM® SPRINT-SF
## Connection Data Sheet

| OD | Weight | Wall Th. | Grade | API Drift: | Connection |
|---|---|---|---|---|---|
| 5 1/2 in. | 20.00 lb/ft | 0.361 in. | P110EC | 4.653 in. | VAM® SPRINT-SF |

| PIPE PROPERTIES | | |
|---|---|---|
| Nominal OD | 5.500 | in. |
| Nominal ID | 4.778 | in. |
| Nominal Cross Section Area | 5.828 | sqin. |
| Grade Type | High Yield | |
| Min. Yield Strength | 125 | ksi |
| Max. Yield Strength | 140 | ksi |
| Min. Ultimate Tensile Strength | 135 | ksi |

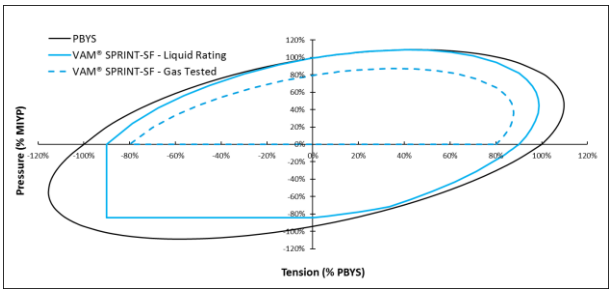
| CONNECTION PROPERTIES | | |
|---|---|---|
| Connection Type | Semi-Premium Integral Semi-Flush | |
| Connection OD (nom): | 5.783 | in. |
| Connection ID (nom): | 4.717 | in. |
| Make-Up Loss | 5.965 | in. |
| Critical Cross Section | 5.244 | sqin. |
| Tension Efficiency | 90.0 | % of pipe |
| Compression Efficiency | 90.0 | % of pipe |
| Internal Pressure Efficiency | 100 | % of pipe |
| External Pressure Efficiency | 100 | % of pipe |

| CONNECTION PERFORMANCES | | |
|---|---|---|
| Tensile Yield Strength | 656 | klb |
| Compression Resistance | 656 | klb |
| Internal Yield Pressure | 14,360 | psi |
| Collapse Resistance | 12,080 | psi |
| Max. Structural Bending | 89 | °/100ft |
| Max. Bending with ISO/API Sealability | 30 | °/100ft |

* 87.5% RBW

| TORQUE VALUES | | |
|---|---|---|
| Min. Make-up torque | 20,000 | ft.lb |
| Opt. Make-up torque | 22,500 | ft.lb |
| Max. Make-up torque | 25,000 | ft.lb |
| Max. Torque with Sealability (MTS) | 40,000 | ft.lb |

**VAM® SPRINT-SF** is a semi-flush connection innovatively designed for extreme shale applications. Its high tension rating and ultra high torque capacity make it ideal to run a fill string length as production casing in shale wells with extended horizontal sections and tight clearance requirements.




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

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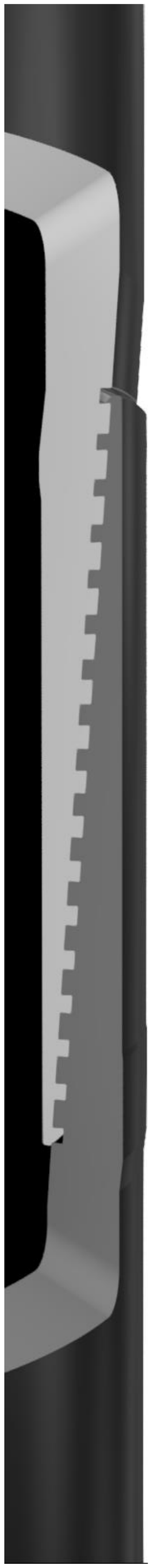
VAM USA

Issued on: 09 Dec. 2020 by Logan Van Gorp



# VAM® SPRINT-FJ

## Connection Data Sheet

| OD | Weight | Wall Th. | Grade | API Drift: | Connection |
|---|---|---|---|---|---|
| 7 5/8 in. | Nominal: 29.70 lb/ft<br>Plain End: 29.06 ft/lb | 0.375 in. | P110EC | 6.750 in. | VAM® SPRINT-FJ |

| PIPE PROPERTIES | | |
|---|---|---|
| Nominal OD | 7.625 | in. |
| Nominal ID | 6.875 | in. |
| Nominal Cross Section Area | 8.541 | sqin. |
| Grade Type | Enhanced Collapse | |
| Min. Yield Strength | 125 | ksi |
| Max. Yield Strength | 140 | ksi |
| Min. Ultimate Tensile Strength | 135 | ksi |

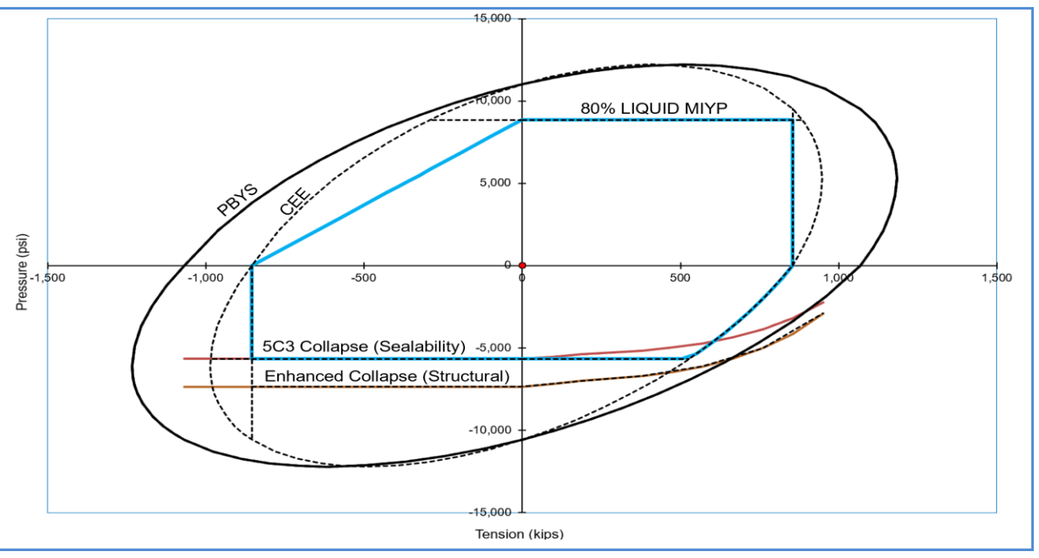
| CONNECTION PROPERTIES | | |
|---|---|---|
| Connection Type | Semi-Premium Integral Flush | |
| Connection OD (nom): | 7.654 | in. |
| Connection ID (nom): | 6.827 | in. |
| Make-Up Loss | 4.055 | in. |
| Critical Cross Section | 6.979 | sqin. |
| Tension Efficiency | 80.0 | % of pipe |
| Compression Efficiency | 80.0 | % of pipe |
| Internal Pressure Efficiency | 80.0 | % of pipe |
| External Pressure Efficiency | 100 | % of pipe |

| CONNECTION PERFORMANCES | | |
|---|---|---|
| Tensile Yield Strength | 854 | klb |
| Compression Resistance | 854 | klb |
| Max. Internal Pressure | 8,610 | psi |
| Structural Collapse Resistance | 7,360 | psi |
| Max. Structural Bending | 57 | °/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) | 32,000 | 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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**Over 140 VAM® Specialists available worldwide 24/7 for Rig Site Assistance**

VAM USA

SeAH

# 9.625" 40# .395" J-55

## Dimensions (Nominal)

| | | |
|---|---|---|
| Outside Diameter | 9.625 | in. |
| Wall | 0.395 | in. |
| Inside Diameter | 8.835 | in. |
| Drift | 8.750 | in. |
| Weight, T&C | 40.000 | lbs./ft. |
| Weight, PE | 38.970 | lbs./ft. |

## Performance Properties

| | | |
|---|---|---|
| Collapse, PE | 2570 | psi |
| Internal Yield Pressure at Minimum Yield | | |
| PE | 3950 | psi |
| LTC | 3950 | psi |
| BTC | 3950 | psi |
| Yield Strength, Pipe Body | 630 | 1000 lbs. |
| Joint Strength | | |
| STC | 452 | 1000 lbs. |
| LTC | 520 | 1000 lbs. |
| BTC | 714 | 1000 lbs. |

Note: SeAH Steel has produced this specification sheet for general information only. SeAH does not assume liability or responsibility for any loss or injury resulting from the use of information or data contained herein. All applications for the material described are at the customer's own risk and responsibility.

Stray Cat 8-5 Fed Com 303H

**1. Geologic Formations**

| | | | |
|---|---|---|---|
| TVD of target | 11250 | Pilot hole depth | N/A |
| MD at TD: | 21589 | Deepest expected fresh water | |

**Basin**

| Formation | Depth (TVD) from KB | Water/Mineral Bearing/Target Zone? | Hazards* |
|---|---|---|---|
| Rustler | 1023 | | |
| Salt | 1351 | | |
| Base of Salt | 4483 | | |
| Delaware | 4668 | | |
| Cherry Canyon | 5586 | | |
| Brushy Canyon | 6858 | | |
| 1st Bone Spring Lime | 8525 | | |
| Avalon B | 8950 | | |
| Bone Spring 1st | 9684 | | |
| 2nd Bone Spring Silt | 9950 | | |
| Bone Spring 2nd | 10260 | | |
| 3rd Bone Spring Lime | 10780 | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

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

Stray Cat 8-5 Fed Com 303H

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

| Hole Size | Csg. Size | Wt (PPF) | Grade | Conn | Casing Interval | | Casing Interval | |
|---|---|---|---|---|---|---|---|---|
| | | | | | From (MD) | To (MD) | From (TVD) | To (TVD) |
| 13-1/2 | 9-5/8 | 40 | J-55 | BTC | 0 | 1048 | 0 | 1048 |
| 8-3/4 | 7-5/8 | 29.7 | P110 | Sprint FJ | 0 | 10597 | 0 | 10597 |
| 6-3/4 | 5 1/2 | 20 | P110 | DWC/C IS & SPRINT FJ | 0 | 21589 | 0 | 11250 |

• All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 IILB.1.h Must have table for contingency casing.

• Variance Approval -

- 5-1/2" Production Casing will include Sprint Flush Joint connection (5.783") from base of curve and 500ft into 7-5/8" casing shoe
- All other 5-1/2" Production Casing will run DWC/C IS (6.05")

| Casing | # Sks | TOC | Wt. ppg | Yld (ft3/sack) | Slurry Description |
|---|---|---|---|---|---|
| Surface | 533 | Surf | 13.2 | 1.44 | Lead: Class C Cement + additives |
| Int 1 | 295 | Surf | 9 | 3.27 | Lead: Class C Cement + additives |
| | 363 | 4000' above shoe | 13.2 | 1.44 | Tail: Class H / C + additives |
| Int 1 Intermediate Squeeze | As Needed | Surf | 13.2 | 1.44 | Squeeze Lead: Class C Cement + additives |
| | 265 | Surf | 9 | 3.27 | 2nd Stage Bradenhead Squeeze Lead: Class C Cement + additives |
| | 330 | BRUSHY 6858 | 13.2 | 1.44 | Tail: Class H / C + additives |
| Production | 62 | 9320 | 9 | 3.27 | Lead: Class H /C + additives |
| | 675 | 11320 | 13.2 | 1.44 | Tail: Class H / C + additives |

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.
If necessary, a top out consisting of 500 sacks of Class C cement will be executed as a contingency.
Devon will report to the BLM the volume of fluid (limited to 1 bbls) used to flush intermediate casing valves following backside cementing procedures

The final cement top will be verified by Echo-meter. Devon will include theEcho-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.

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

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

| BOP installed and tested before drilling which hole? | Size? | Min. Required WP | Type | ✓ | Tested to: |
|---|---|---|---|---|---|
| Int 1 | 13-58" | 5M | Annular | X | 50% of rated working pressure |
| | | | Blind Ram | X | 5M |
| | | | Pipe Ram | | |
| | | | Double Ram | X | |
| | | | Other* | | |
| Production | 13-5/8" | 5M | Annular (5M) | X | 50% of rated working pressure |
| | | | Blind Ram | X | 5M |
| | | | 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 |

Stray Cat 8-5 Fed Com 303H

**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 | 8.5-9 |

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 | 5265 |
| 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 Onshore Oil and Gas Order #6. 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 (OnShore Order 2, all COAs and NMOCD regulations).
3 The wellhead will be installed and tested once the surface casing is cut off and the WOC time has been reached.
4 A blind flange with the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with a pressure gauge installed on the wellhead.
5 Spudder rig operations is expected to take 4-5 days per well on a multi-well pa.
6 The NMOCD will be contacted and notified 24 hours prior to commencing spudder rig operations.
7 Drilling operations will be performed with drilling rig. A that time an approved BOP stack will be 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 | Well Number | US Well Number | Lease Number | Case Number | Operator |
|---|---|---|---|---|---|
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| STRAY CAT 8-5 | 714H | 3002551258 | NMNM98826 | NMNM138944 | DEVON |
| STRAY CAT 8-5 | 614H | 3002551256 | NMNM98826 | NMNM98826 | DEVON |

## Notice of Intent

**Sundry ID:** 2726179

**Type of Submission:** Notice of Intent

**Type of Action:** APD Change

**Date Sundry Submitted:** 04/18/2023

**Time Sundry Submitted:** 09:17

**Date proposed operation will begin:** 04/18/2023

**Procedure Description:** Engineer Review only - DRILLING CHANGE: Devon Energy Production Co., L.P. (Devon) respectfully requests to change the drilling plan with casing changes and cement loss plan. Please see attachments. Requested to batch drill by Long to only include attachments by pad for the drilling plan for the deepest well (TVD). Verbal given for approved design 4-5-23

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## 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:** SHAYDA OMOUMI **Signed on:** APR 18, 2023 09:13 AM

**Name:** DEVON ENERGY PRODUCTION COMPANY LP

**Title:** Regulatory Compliance Associate 3

**Street Address:** 333 W SHERIDAN AVE

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

**Phone:** (405) 235-3611

**Email address:** SHAYDA.OMOUMI@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** |
| **LEASE NO.:** | **NMNM98826** |
| **LOCATION:** | Section 17, T.23 S., R.32 E., NMPM |
| **COUNTY:** | Lea County, New Mexico |
| **Batch Sundry ID:** | **2726179** |

| | |
|---|---|
| **WELL NAME & NO.:** | **Gato Grande 9-4 Fed Com 301H** |
| **ATS/API ID:** | **3002551260** |
| **APD ID:** | **10400082349** |
| **Sundry ID:** | **2723597** |

| | |
|---|---|
| **WELL NAME & NO.:** | **Stray Cat 8-5 Fed Com 303H** |
| **ATS/API ID:** | **3002551258** |
| **APD ID:** | **10400082341** |
| **Sundry ID:** | **2723588** |

| | |
|---|---|
| **WELL NAME & NO.:** | **Stray Cat 8-5 Fed Com 304H** |
| **ATS/API ID:** | **3002551256** |
| **APD ID:** | **10400082302** |
| **Sundry ID:** | **2723583** |

COA

| | | | |
|---|---|---|---|
| H2S | Yes | | |
| Potash | None | | |
| Cave/Karst Potential | Low | | |
| Cave/Karst Potential | ☐ Critical | | |
| Variance | ☐ None | ☒ Flex Hose | ☐ Other |
| Wellhead | Conventional and Multibowl | | |
| Other | ☐ 4 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 | | |
| 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 Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

**B. CASING**

1. The **9-5/8** inch surface casing shall be set at approximately **1135 feet** (a minimum of **25 feet (Lea County)** into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface. The surface hole shall be **13 1/2** inch in diameter.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of

six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **7-5/8** 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 6858' (330 sxs Class H/C+ additives)**.

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 265 sxs Class C)**

**Operator has proposed to pump down 9-5/8" X 7-5/8" annulus after primary cementing stage. Operator must run Echo-meter to verify Cement Slurry/Fluid top in the annulus Or operator shall run a CBL from TD of the 7-5/8" casing to surface after the second stage BH to verify TOC.**
**Submit results to the BLM. No displacement fluid/wash out shall be utilized at the top of the cement slurry between second stage BH and top out. Operator must run one CBL per Well Pad.**

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

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

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

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

**C. PRESSURE CONTROL**

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

2.

**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. **Annular which shall be tested to 3500 (70% Working Pressure) psi.**

b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **7-5/8** inch intermediate casing shoe shall be **5000 (5M)** psi.

**Option 2:**

Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the **9-5/8** inch surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **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 OOGO2.III.A.2.i must be followed.

## D. SPECIAL REQUIREMENT (S)

**Communitization Agreement**

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- The operator will submit an as-drilled survey well plat of the well completion, but are not limited to, those specified in Onshore Order 1 and 2.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

**BOPE Break Testing Variance**

- BOPE Break Testing is ONLY permitted for 5M BOPE or less. **(Annular preventer must be tested to a minimum of 70% of BOPE working pressure and shall be higher than the MASP)**
- BOPE Break Testing is NOT permitted to drilling the production hole section.
- Variance only pertains to the intermediate hole-sections and no deeper than the Bone Springs formation.
- While in transfer between wells, the BOPE shall be secured by the hydraulic carrier or cradle.
- Any well control event while drilling require notification to the BLM Petroleum Engineer **(575-706-2779)** prior to the commencement of any BOPE Break Testing operations.
- A full BOPE test is required prior to drilling the first deep intermediate hole section. If any subsequent hole interval is deeper than the first, a full BOPE test will be required. (200' TVD tolerance between intermediate shoes is allowable).
- The BLM is to be contacted **(575-689-5981 Lea County)** 4 hours prior to BOPE tests.
- As a minimum, a full BOPE test shall be performed at **14**-day intervals.
- In the event any repairs or replacement of the BOPE is required, the BOPE shall test as per Onshore Oil and Gas Order No. 2.
- If in the event break testing is not utilized, then a full BOPE test would be conducted.

**Batch Sundry:**

- Approval shall be for wells with surface, intermediate, and production section within 200' TVD tolerance between shoes above the deepest well shoes set depth.
- Approval shall be for wells with same drill plan design. (Casing depth may vary and cement volumes may vary per Condition of Approval.)

- Approval shall be for wells within the same drill pad.
- Cement excess shall be a minimum of 25%, adjust cement volume and excess based on a fluid caliper or similar method that reflects the as-drilled size of the wellbore.

**Casing Clearance:**

Operator casing variance is approved for the utilization of 5-1/2 inch **Vam Sprint SF from** base of curve and a minimum of 500 feet or the minimum tie-back back requirement above whichever is greater into the 7-5/8 inch casing shoe. **All** other 5-1/2 inch casing will run **DWC/C IS**.

Operator shall clean up cycles until wellbore is clear of cuttings and any large debris, ensure cutting sizes are adequate “coffee ground or less” before cementing.

# GENERAL REQUIREMENTS

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

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

☒ Eddy County
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

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

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

   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
   b. When the operator proposes to set surface casing with Spudder Rig
      - 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 Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

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

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

A. CASING

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

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing intergrity 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 intergrity 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 Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

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 OOGO2.III.A.2.i 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 Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

e. The results of the test shall be reported to the appropriate BLM office.

f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.

g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

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.

LVO 4/18/2023

Stray Cat 8-5 Fed Com 303H

**1. Geologic Formations**

| | | | |
|---|---|---|---|
| TVD of target | 11250 | Pilot hole depth | N/A |
| MD at TD: | 21589 | Deepest expected fresh water | |

**Basin**

| Formation | Depth (TVD) from KB | Water/Mineral Bearing/Target Zone? | Hazards* |
|---|---|---|---|
| Rustler | 1023 | | |
| Salt | 1351 | | |
| Base of Salt | 4483 | | |
| Delaware | 4668 | | |
| Cherry Canyon | 5586 | | |
| Brushy Canyon | 6858 | | |
| 1st Bone Spring Lime | 8525 | | |
| Avalon B | 8950 | | |
| Bone Spring 1st | 9684 | | |
| 2nd Bone Spring Silt | 9950 | | |
| Bone Spring 2nd | 10260 | | |
| 3rd Bone Spring Lime | 10780 | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

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

Stray Cat 8-5 Fed Com 303H

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

| Hole Size | Csg. Size | Wt (PPF) | Grade | Conn | Casing Interval | | Casing Interval | |
|---|---|---|---|---|---|---|---|---|
| | | | | | From (MD) | To (MD) | From (TVD) | To (TVD) |
| 13-1/2 | 9-5/8 | 40 | J-55 | BTC | 0 | 1048 | 0 | 1048 |
| 8-3/4 | 7-5/8 | 29.7 | P110 | Sprint FJ | 0 | 10597 | 0 | 10597 |
| 6-3/4 | 5 1/2 | 20 | P110 | DWC/C IS & SPRINT FJ | 0 | 21589 | 0 | 11250 |

• All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 IILB.1.h Must have table for contingency casing.

• Variance Approval -

- 5-1/2" Production Casing will include Sprint Flush Joint connection (5.783") from base of curve and 500ft into 7-5/8" casing shoe
- All other 5-1/2" Production Casing will run DWC/C IS (6.05")

| Casing | # Sks | TOC | Wt. ppg | Yld (ft3/sack) | Slurry Description |
|---|---|---|---|---|---|
| Surface | 533 | Surf | 13.2 | 1.44 | Lead: Class C Cement + additives |
| Int 1 | 295 | Surf | 9 | 3.27 | Lead: Class C Cement + additives |
| | 363 | 4000' above shoe | 13.2 | 1.44 | Tail: Class H / C + additives |
| Int 1 Intermediate Squeeze | As Needed | Surf | 13.2 | 1.44 | Squeeze Lead: Class C Cement + additives |
| | 265 | Surf | 9 | 3.27 | 2nd Stage Bradenhead Squeeze Lead: Class C Cement + additives |
| | 330 | BRUSHY 6858 | 13.2 | 1.44 | Tail: Class H / C + additives |
| Production | 62 | 9320 | 9 | 3.27 | Lead: Class H /C + additives |
| | 675 | 11320 | 13.2 | 1.44 | Tail: Class H / C + additives |

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.
If necessary, a top out consisting of 500 sacks of Class C cement will be executed as a contingency.
Devon will report to the BLM the volume of fluid (limited to 1 bbls) used to flush intermediate casing valves following backside cementing procedures

The final cement top will be verified by Echo-meter. Devon will include theEcho-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.

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

Stray Cat 8-5 Fed Com 303H

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

| BOP installed and tested before drilling which hole? | Size? | Min. Required WP | Type | ✓ | Tested to: |
|---|---|---|---|---|---|
| Int 1 | 13-58" | 5M | Annular | X | 50% of rated working pressure |
| | | | Blind Ram | X | 5M |
| | | | Pipe Ram | | |
| | | | Double Ram | X | |
| | | | Other* | | |
| Production | 13-5/8" | 5M | Annular (5M) | X | 50% of rated working pressure |
| | | | Blind Ram | X | 5M |
| | | | 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 |

Stray Cat 8-5 Fed Com 303H

**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 | 8.5-9 |

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 | 5265 |
| 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 Onshore Oil and Gas Order #6. 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 (OnShore Order 2, all COAs and NMOCD regulations).
3 The wellhead will be installed and tested once the surface casing is cut off and the WOC time has been reached.
4 A blind flange with the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with a pressure gauge installed on the wellhead.
5 Spudder rig operations is expected to take 4-5 days per well on a multi-well pa.
6 The NMOCD will be contacted and notified 24 hours prior to commencing spudder rig operations.
7 Drilling operations will be performed with drilling rig. A that time an approved BOP stack will be 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

## Omoumi, Shayda

**From:** Moos, Sheldon
**Sent:** Wednesday, April 5, 2023 9:07 PM
**To:** Omoumi, Shayda
**Cc:** Green, Chelsey; Perez-Jimenez, Jose
**Subject:** Slim Hole Sundry - Stray Cat & Gato Grande
**Attachments:** Stray Cat 8-5 Fed Com 303H_.pdf

Shayda and Chelsey-
We are finally comfortable calling the following wells slim hole candidates for N7503. Therefore, can we please request a batch sundry. This will be a similar request as what we did with the Bora Bora pad. Long seemed to turn around the approval quick.

His ask, batch request with the deepest well on the pad. Thankfully, all of these are the same target, 3rdBone. So I am attaching the 303H.

- Stray Cat 8-5 Fed Com 303H
- Stray Cat 8-5 Fed Com 304H
- Gato Grande 9-4 Fed Com 301H

Please let me know if you have questions. I believe the spudder rig (that is coming soon, and new to Delaware) will be catching these wells. Might need to double check that is approved, I believe it is.

Thanks,

*Sheldon Moos*
**Drilling Engineer, Delaware Basin**
**C: 210-323-7512**
Devon Energy Corporation

SeAH

# 9.625" 40# .395" J-55

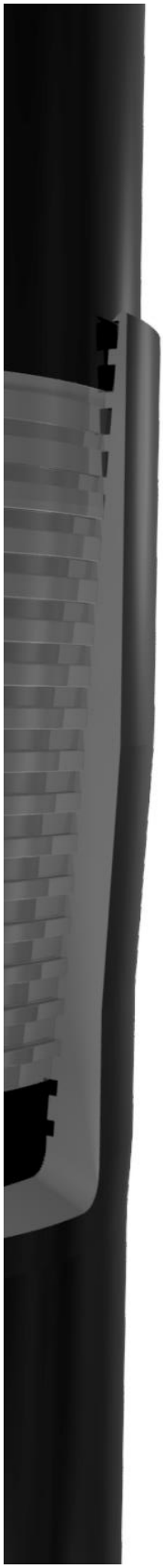
## Dimensions (Nominal)

| | | |
|---|---|---|
| Outside Diameter | 9.625 | in. |
| Wall | 0.395 | in. |
| Inside Diameter | 8.835 | in. |
| Drift | 8.750 | in. |
| Weight, T&C | 40.000 | lbs./ft. |
| Weight, PE | 38.970 | lbs./ft. |

## Performance Properties

| | | |
|---|---|---|
| Collapse, PE | 2570 | psi |
| Internal Yield Pressure at Minimum Yield | | |
| PE | 3950 | psi |
| LTC | 3950 | psi |
| BTC | 3950 | psi |
| Yield Strength, Pipe Body | 630 | 1000 lbs. |
| Joint Strength | | |
| STC | 452 | 1000 lbs. |
| LTC | 520 | 1000 lbs. |
| BTC | 714 | 1000 lbs. |

Note: SeAH Steel has produced this specification sheet for general information only. SeAH does not assume liability or responsibility for any loss or injury resulting from the use of information or data contained herein. All applications for the material described are at the customer's own risk and responsibility.



Issued on: 08 Jul. 2020 by Wesley Ott

# VAM® SPRINT-SF
## Connection Data Sheet

| OD | Weight | Wall Th. | Grade | API Drift: | Connection |
|---|---|---|---|---|---|
| 5 1/2 in. | 20.00 lb/ft | 0.361 in. | P110EC | 4.653 in. | VAM® SPRINT-SF |

| PIPE PROPERTIES | | |
|---|---|---|
| Nominal OD | 5.500 | in. |
| Nominal ID | 4.778 | in. |
| Nominal Cross Section Area | 5.828 | sqin. |
| Grade Type | High Yield | |
| Min. Yield Strength | 125 | ksi |
| Max. Yield Strength | 140 | ksi |
| Min. Ultimate Tensile Strength | 135 | ksi |

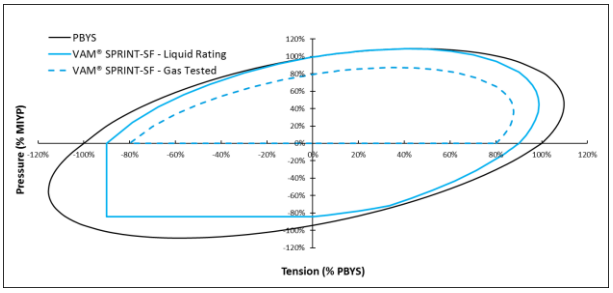
| CONNECTION PROPERTIES | | |
|---|---|---|
| Connection Type | Semi-Premium Integral Semi-Flush | |
| Connection OD (nom): | 5.783 | in. |
| Connection ID (nom): | 4.717 | in. |
| Make-Up Loss | 5.965 | in. |
| Critical Cross Section | 5.244 | sqin. |
| Tension Efficiency | 90.0 | % of pipe |
| Compression Efficiency | 90.0 | % of pipe |
| Internal Pressure Efficiency | 100 | % of pipe |
| External Pressure Efficiency | 100 | % of pipe |

| CONNECTION PERFORMANCES | | |
|---|---|---|
| Tensile Yield Strength | 656 | klb |
| Compression Resistance | 656 | klb |
| Internal Yield Pressure | 14,360 | psi |
| Collapse Resistance | 12,080 | psi |
| Max. Structural Bending | 89 | °/100ft |
| Max. Bending with ISO/API Sealability | 30 | °/100ft |

* 87.5% RBW

| TORQUE VALUES | | |
|---|---|---|
| Min. Make-up torque | 20,000 | ft.lb |
| Opt. Make-up torque | 22,500 | ft.lb |
| Max. Make-up torque | 25,000 | ft.lb |
| Max. Torque with Sealability (MTS) | 40,000 | ft.lb |

**VAM® SPRINT-SF** is a semi-flush connection innovatively designed for extreme shale applications. Its high tension rating and ultra high torque capacity make it ideal to run a fill string length as production casing in shale wells with extended horizontal sections and tight clearance requirements.

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# DWC/C-IS™

## Connection Data Sheet

| OD (in.) | WEIGHT (lbs./ft.) | WALL (in.) | GRADE | API DRIFT (in.) | RBW% | CONNECTION |
|---|---|---|---|---|---|---|
| 5.500 | Nominal: 20.00<br>Plain End: 19.83 | 0.361 | VST P110EC | 4.653 | 87.5 | DWC/C-IS |

| PIPE PROPERTIES | | |
|---|---|---|
| Outside Diameter | 5.500 | in. |
| Inside Diameter | 4.778 | in. |
| Nominal Area | 5.828 | sq.in. |
| Grade Type | API 5CT | |
| 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 |
| Collapse | 12,090 | psi |

| CONNECTION PROPERTIES | | |
|---|---|---|
| Connection Type | Semi-Premium T&C | |
| Connection O.D. (nom) | 6.050 | in. |
| Connection I.D. (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 | 97.8% | 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 | 14,050 | psi |
| External Pressure | 12,090 | psi |
| Maximum Uniaxial Bend Rating | 104.2 | °/100 ft |
| Reference String Length w 1.4 Design Factor | 26,040 | ft |

| FIELD END TORQUE VALUES | | |
|---|---|---|
| Min. Make-up torque | 15,800 | ft.lb |
| Opti. Make-up torque | 17,050 | ft.lb |
| Max. Make-up torque | 18,300 | ft.lb |
| Min. Shoulder Torque | 1,580 | ft.lb |
| Max. Shoulder Torque | 12,640 | ft.lb |
| Min. Delta Turn | - | Turns |
| Max. Delta Turn | 0.200 | Turns |
| Maximum Operational Torque | 20,800 | ft.lb |
| Maximum Torsional Value (MTV) | 22,880 | ft.lb |

Need Help? Contact: tech.support@vam-usa.com

Reference Drawing: 8087PP Rev.05 & 8087BP Rev.04

Date: 01/06/2020

Time: 10:56:21 AM

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

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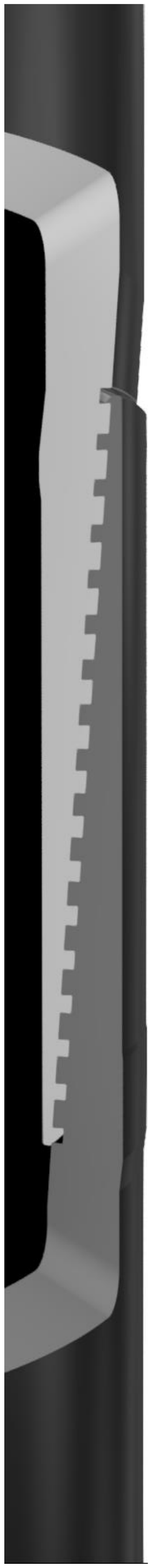
**DWC Connection Data Sheet Notes:**

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.

Issued on: 09 Dec. 2020 by Logan Van Gorp



# VAM® SPRINT-FJ

## Connection Data Sheet

| OD | Weight | Wall Th. | Grade | API Drift: | Connection |
|---|---|---|---|---|---|
| 7 5/8 in. | Nominal: 29.70 lb/ft<br>Plain End: 29.06 ft/lb | 0.375 in. | P110EC | 6.750 in. | VAM® SPRINT-FJ |

| PIPE PROPERTIES | | |
|---|---|---|
| Nominal OD | 7.625 | in. |
| Nominal ID | 6.875 | in. |
| Nominal Cross Section Area | 8.541 | sqin. |
| Grade Type | Enhanced Collapse | |
| Min. Yield Strength | 125 | ksi |
| Max. Yield Strength | 140 | ksi |
| Min. Ultimate Tensile Strength | 135 | ksi |

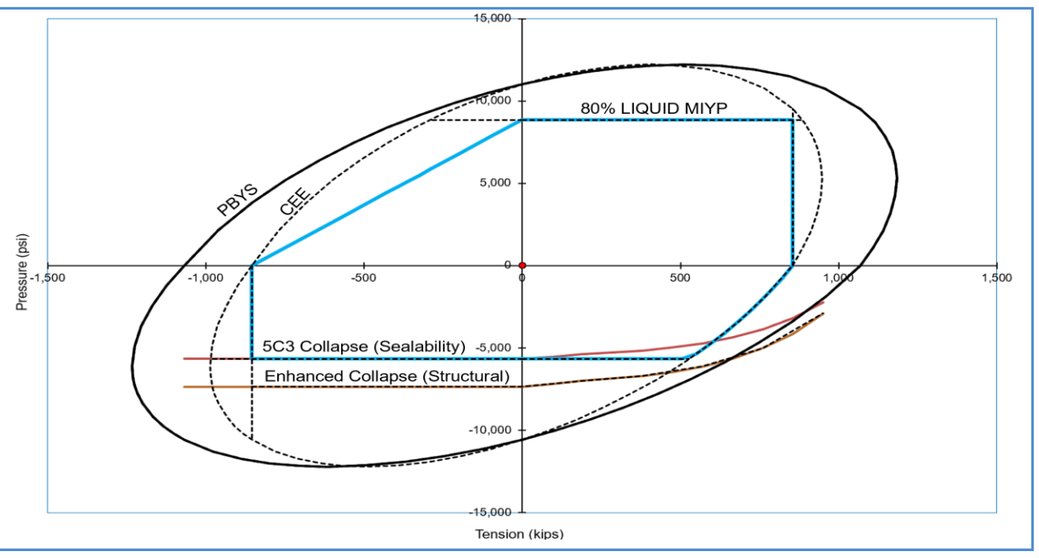
| CONNECTION PROPERTIES | | |
|---|---|---|
| Connection Type | Semi-Premium Integral Flush | |
| Connection OD (nom): | 7.654 | in. |
| Connection ID (nom): | 6.827 | in. |
| Make-Up Loss | 4.055 | in. |
| Critical Cross Section | 6.979 | sqin. |
| Tension Efficiency | 80.0 | % of pipe |
| Compression Efficiency | 80.0 | % of pipe |
| Internal Pressure Efficiency | 80.0 | % of pipe |
| External Pressure Efficiency | 100 | % of pipe |

| CONNECTION PERFORMANCES | | |
|---|---|---|
| Tensile Yield Strength | 854 | klb |
| Compression Resistance | 854 | klb |
| Max. Internal Pressure | 8,610 | psi |
| Structural Collapse Resistance | 7,360 | psi |
| Max. Structural Bending | 57 | °/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) | 32,000 | 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.

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17-23-32-A Sundry ID 2726179 Stray Cat 8-5 Fed Com 714H, 614H, 734H Lea NM98826 DEVON ENERGY PRODUCTION COMPANY LP 13-22fa 4-18-2023 LV.xlsm

Stray Cat 8-5 Fed Com 714H, 614H, 734H

| 9 5/8 | surface csg in a | 13 1/2 | inch hole. | Design Factors | | | Surface | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Segment | #/ft | Grade | Coupling | Body | Collapse | Burst | Length | B@s | a-B | a-C | Weight |
| "A" | 40.00 | j 55 | btc | 13.88 | 4.84 | 0.68 | 1,135 | 8 | 1.15 | 9.15 | 45,400 |
| "B" | | | btc | | | | 0 | | | | 0 |
| | w/8.4#/g mud, 30min Sfc Csg Test psig: | 1,500 | Tail Cmt | does not | circ to sfc. | Totals: | 1,135 | | | | 45,400 |

Comparison of Proposed to Minimum Required Cement Volumes

| Hole | Annular | 1 Stage | 1 Stage | Min | 1 Stage | Drilling | Calc | Req'd | Min Dist |
|---|---|---|---|---|---|---|---|---|---|
| Size | Volume | Cmt Sx | CuFt Cmt | Cu Ft | % Excess | Mud Wt | MASP | BOPE | Hole-Cplg |
| 13 1/2 | 0.4887 | 533 | 768 | 555 | 38 | 9.00 | 3449 | 5M | 1.44 |

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

| 7 5/8 | casing inside the | 9 5/8 | Design Factors | | | Int 1 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Segment | #/ft | Grade | Coupling | Joint | Collapse | Burst | Length | B@s | a-B | a-C | Weight |
| "A" | 29.70 | p 110 | vam sprint fj | 2.71 | 1.27 | 1.64 | 10,597 | 1 | 3.09 | 2.13 | 314,731 |
| "B" | | | | | | | 0 | | | | 0 |
| | w/8.4#/g mud, 30min Sfc Csg Test psig: | 1,403 | | | | Totals: | 10,597 | | | | 314,731 |
| | The cement volume(s) are intended to achieve a top of | | | 0 | ft from surface or a | | 1135 | | | | overlap. |

| Hole | Annular | 1 Stage | 1 Stage | Min | 1 Stage | Drilling | Calc | Req'd | Min Dist |
|---|---|---|---|---|---|---|---|---|---|
| Size | Volume | Cmt Sx | CuFt Cmt | Cu Ft | % Excess | Mud Wt | MASP | BOPE | Hole-Cplg |
| 8 3/4 | 0.1005 | 330 | 475 | 1074 | -56 | 10.50 | 2785 | 3M | 0.55 |
| D V Tool(s): | | | 6858 | | | | sum of sx | Σ CuFt | Σ%excess |
| by stage % : | | 26 | 24 | | | | 595 | 1342 | 25 |

Class 'C' tail cmt yld > 1.35

Tail cmt

| 5 1/2 | casing inside the | 7 5/8 | Design Factors | | | Prod 1 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Segment | #/ft | Grade | Coupling | Joint | Collapse | Burst | Length | B@s | a-B | a-C | Weight |
| "A" | 20.00 | p 110 | dwc/c is | 3.24 | 2.56 | 2.67 | 10,097 | 3 | 5.05 | 4.84 | 201,940 |
| "B" | 20.00 | p 110 | vam sprint sf | 27.80 | 2.30 | 2.73 | 1,153 | 3 | 5.16 | 4.34 | 23,060 |
| | w/8.4#/g mud, 30min Sfc Csg Test psig: | 2,221 | | | | Totals: | 21,589 | | | | 431,780 |
| | The cement volume(s) are intended to achieve a top of | | | 10397 | ft from surface or a | | 200 | | | | overlap. |

| Hole | Annular | 1 Stage | 1 Stage | Min | 1 Stage | Drilling | Calc | Req'd | Min Dist |
|---|---|---|---|---|---|---|---|---|---|
| Size | Volume | Cmt Sx | CuFt Cmt | Cu Ft | % Excess | Mud Wt | MASP | BOPE | Hole-Cplg |
| 6 3/4 | 0.0835 | 737 | 1175 | 937 | 25 | 9.00 | | | 0.35 |

Class 'C' tail cmt yld > 1.35

#N/A

| 0 | | 5 1/2 | Design Factors | | | <Choose Casing> | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Segment | #/ft | Grade | Coupling | #N/A | Collapse | Burst | Length | B@s | a-B | a-C | Weight |
| "A" | | | 0.00 | | | | 0 | | | | 0 |
| "B" | | | 0.00 | | | | 0 | | | | 0 |
| | w/8.4#/g mud, 30min Sfc Csg Test psig: | | | | | Totals: | 0 | | | | 0 |
| | Cmt vol calc below includes this csg, TOC intended | | | #N/A | ft from surface or a | | #N/A | | | | overlap. |

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

#N/A Capitan Reef est top XXXX.

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**District III**
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Phone:(505) 334-6178 Fax:(505) 334-6170
**District IV**
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 208800

## CONDITIONS

| | |
|---|---|
| Operator:<br>DEVON ENERGY PRODUCTION COMPANY, LP<br>333 West Sheridan Ave.<br>Oklahoma City, OK 73102 | OGRID:<br>6137 |
| | Action Number:<br>208800 |
| | Action Type:<br>[C-103] NOI Change of Plans (C-103A) |

**CONDITIONS**

| Created By | Condition | Condition Date |
|---|---|---|
| pkautz | None | 4/28/2023 |