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



Well Name	Well Number	US Well Number	Lease Number	Case Number	Operator
PAINT 4-33 FED	712H	3002551955	NMLC061863A	NMLC061863A	DEVON
PAINT 4-33 FFD	622H	3002551953	NMI C061863A	NMI C061863A	DEVON

# **Notice of Intent**

Sundry ID: 2749314

Type of Submission: Notice of Intent

Type of Action: APD Change

Date Sundry Submitted: 09/07/2023 Time Sundry Submitted: 09:08

Date proposed operation will begin: 09/04/2023

**Procedure Description:** ENGINEERING ONLY Devon Energy Production Company, L.P. respectfully requests approval for optional surface casing/drilling plan of 10-3/4" surface casing inside of 14-3/4" surface hole at previously permitted set depths. Devon Energy Production Company, L.P. will circulate class C cement to surface behind the 10-3/4" casing. Pipe connections and bradenhead information has also been updated. Devon also request a break test variance for the subject wells. Please see attached documentation.

# **NOI Attachments**

# **Procedure Description**

PAINT\_4\_33\_FED\_COM\_712H\_14.75in\_20230905082723.pdf

PAINT\_4\_33\_FED\_COM\_622H\_14.75in\_20230905082723.pdf

10.750\_45.5\_J55\_SEAH\_20230905082723.pdf

break\_test\_variance\_BOP\_20230905082645.pdf

 $8.625 in\_32 lb\_P110 EC\_SPRINT\_FJ\_09.16.2022\_20230904065646.pdf$ 

5.5in\_x\_20.00lb\_P110EC\_DWC\_C\_IS\_PLUS\_\_\_5\_23\_2023\_20230904065645.pdf

# **Conditions of Approval**

# **Specialist Review**

Paint\_4\_33\_Fed\_Com\_712H622H\_Sundry\_ID\_2749314\_20230913084928.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: SEP 04, 2023 06:46 AM

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**

Signature: Long Vo

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:** 09/13/2023



# <u>10-3/4"</u> <u>45.50#</u> <u>0.400"</u> <u>J-55</u>

in.

10.750

# **Dimensions (Nominal)**

**Outside Diameter** 

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

796

1000 lbs

**BTC** 

by OCD: 9/18/2023 9:48:12 AM



# **Connection Data Sheet**

OD (in.)	WEIGHT (lbs./ft.)	WALL (in.)	GRADE	DRIFT (in.)	RBW%	CONNECTION
5.500	Nominal: 20.00 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 Type	Semi-Premium T&	С
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).

Connection specifications within the control of VAM USA were correct as of the date printed. Specifications are subject to change without notice. Certain connection specifications are dependent on the mechanical properties of the pipe. Mechanical properties of mill proprietary pipe grades were obtained from mill publications and are subject to change. Properties of mill proprietary grades should be confirmed with the mill. Users are advised to obtain current connection specifications and verify pipe mechanical properties for each application.

All information is provided by VAM USA or its affiliates at user's sole risk, without liability for loss, damage or injury resulting from the use thereof; and on an "AS IS" basis without warranty or representation of any kind, whether express or implied, including without limitation any warranty of merchantability, fitness for purpose or completeness. This document and its contents are subject to change without notice. In no event shall VAM USA or its affiliates be responsible for any indirect, special, incidental, punitive, exemplary or consequential loss or damage (including without limitation, loss of use, loss of bargain, loss of revenue, profit or anticipated profit) however caused or arising, and whether such losses or damages were foreseeable or VAM USA or its affiliates was advised of the possibility of such damages.

05/23/2023 4:11 PM



VAM USA 2107 CityWest Boulevard Suite 1300 Houston, TX 77042 Phone: 713-479-3200

Fax: 713-479-3234
VAM USA Sales E-mail: <u>VAMUSAsales@vam-usa.com</u>
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.
- 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.

Connection specifications within the control of VAM USA were correct as of the date printed. Specifications are subject to change without notice. Certain connection specifications are dependent on the mechanical properties of the pipe. Mechanical properties of mill proprietary pipe grades were obtained from mill publications and are subject to change. Properties of mill proprietary grades should be confirmed with the mill. Users are advised to obtain current connection specifications and verify pipe mechanical properties for each application.

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05/23/2023 4:11 PM



Issued on: 16 Sep. 2022 by Logan Van Gorp



# **Connection Data Sheet**

#### HIGHER TORQUE VERSION

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

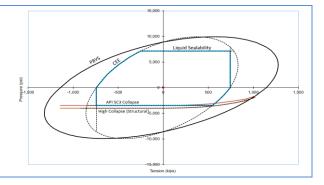
PIPE PROPERTIES		
Nominal OD	8.625	in.
Nominal ID	7.921	in.
Nominal Cross Section Area	9.149	sqin.
Grade Type	Hig	ıh Yield
Min. Yield Strength	125	ksi
Max. Yield Strength	140	ksi
Min. Ultimate Tensile Strength	135	ksi

CONNECTION PROPE	RTIES	
Connection Type	Semi-Premium Int	egral Flush
Connection OD (nom):	8.665	in.
Connection ID (nom):	7.954	in.
Make-Up Loss	2.614	in.
Critical Cross Section	5.978	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. Structural Bending	41	°/100ft
Max. Bending with Sealability	10	°/100ft

23,000	ft.lb
25,500	ft.lb
28,000	ft.lb
48,000	ft.lb
	28,000

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.



canada@vamfieldservice.com usa@vamfieldservice.com mexico@vamfieldservice.com brazil@vamfieldservice.com Do you need help on this product? - Remember no one knows VAM<sup>®</sup> like VAM<sup>®</sup>

uk@vamfieldservice.com dubai@vamfieldservice.com 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



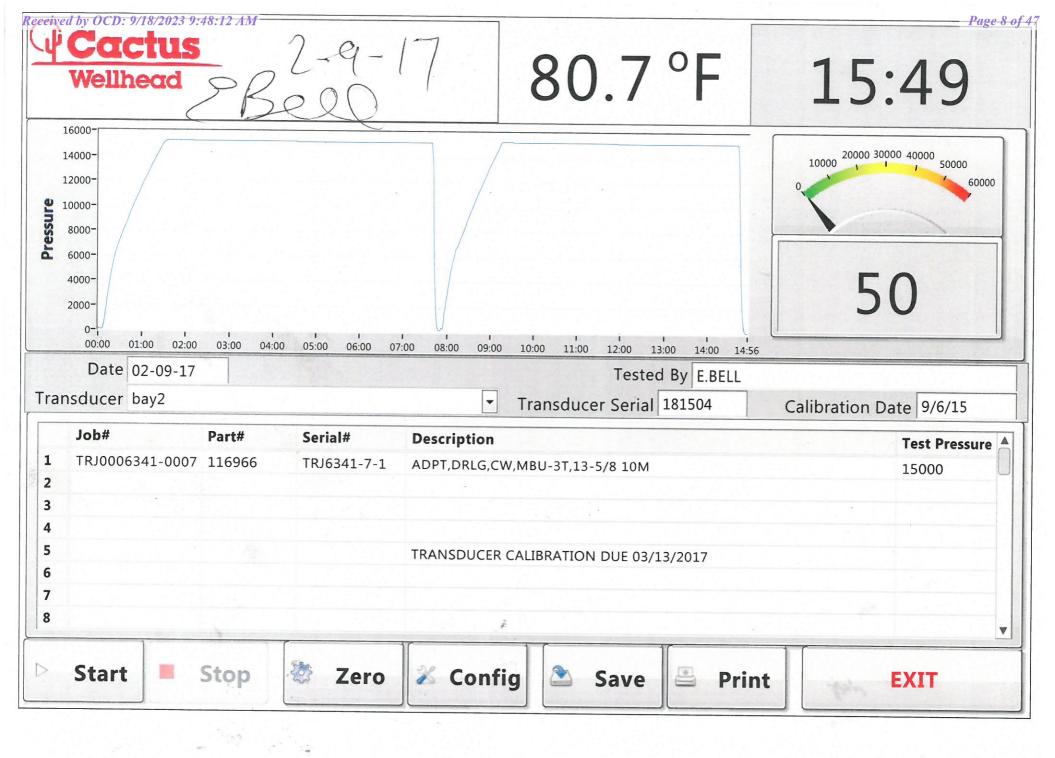
<sup>\* 87.5%</sup> RBW

#### **Section 2 - Blowout Preventer Testing Procedure**

Variance Request

Devon Energy requests to only test BOP connection breaks after drilling out of surface casing and while skidding between wells which conforms to API Standard 53 and industry standards. This test will include the Top Pipe Rams, HCR, Kill Line Check Valve, QDC (quick disconnect to wellhead) and Shell of the 10M BOPE to 5M for 10 minutes. If a break to the flex hose that runs to the choke manifold is required due to repositioning from a skid, the HCR will remain open during the shell test to include that additional break. The variance only pertains to intermediate hole-sections and no deeper than the Bone Springs Formation where 5M BOP tests are required. The initial BOP test will follow OOGO2.III.A.2.i, and subsequent tests following a skid will only test connections that are broken. The annular preventer will be tested to 100% working pressure. This variance will meet or exceed OOGO2.III.A.2.i per the following: Devon Energy will perform a full BOP test per OOGO2.III.A.2.i before drilling out of the intermediate casing string(s) and starting the production hole, before starting any hole section that requires a 10M test, before the expiration of the allotted 14-days for 5M intermediate batch drilling or when the drilling rig is fully mobilized to a new well pad, whichever is sooner. We will utilize a 200' TVD tolerance between intermediate shoes as the cutoff for a full BOP test. The BLM will be contacted 4hrs prior to a BOPE test. The BLM will be notified if and when a well control event is encountered. Break test will be a 14 day interval and not a 30 day full BOPE test interval. If in the event break testing is not utilized, then a full BOPE test would be conducted.

- 1. Well Control Response:
- 1. Primary barrier remains fluid
- 2. In the event of an influx due to being underbalanced and after a realized gain or flow, the order of closing BOPE is as follows:
  - a) Annular first
  - b) If annular were to not hold, Upper pipe rams second (which were tested on the skid BOP test)
  - c) If the Upper Pipe Rams were to not hold, Lower Pipe Rams would be third



# PAINT 4-33 FED COM 622H

# 1. Geologic Formations

TVD of target	12091	Pilot hole depth	N/A
MD at TD:	22300	Deepest expected fresh water	

# Basin

Dasin		TT : 72.51	
	Depth	Water/Mineral	
Formation	(TVD)	Bearing/Target	Hazards*
	from KB	Zone?	
Rustler	770		
Salt	1075		
Base of Salt	4420		
Delaware	4690		
Cherry Canyon	5570		
Brushy Canyon	6980		
1st Bone Spring Lime	8530		
Bone Spring 1st	9630		
Bone Spring 2nd	10230		
3rd Bone Spring Lime	10760		
Bone Spring 3rd	11480		
Wolfcamp	11950		
_			

<sup>\*</sup>H2S, water flows, loss of circulation, abnormal pressures, etc.

2. Casing Program

		Wt				Casing Interval		Casing Interval	
Hole Size	Csg. Size	(PPF)	Grade	Conn	From (MD)	To (MD)	From (TVD)	To (TVD)	
14 3/4	10 3/4	45.5	J55	ВТС	0	795	0	795	
9 7/8	8 5/8	32	P110	Sprint FJ	0	11480	0	11480	
7 7/8	5 1/2	20	P110	DWC / C-IS+	0	22300	0	12091	

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

# 3. Cementing Program

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.	Yld (ft3/sack)	Slurry Description
Surface	485	Surf	13.2	1.44	Lead: Class C Cement + additives
Int 1	493	Surf	13.0	2.3	2nd State: Bradenhead Squeeze - Lead: Class C Cement + additives
Int 1	519	7004	13.2	1.44	Tail: Class H / C + additives
Production	117	9471	9	3.27	Lead: Class H /C + additives
Froduction	1433	11471	13.2	1.44	Tail: Class H / C + additives

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

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

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	T	ype	✓	Tested to:
			Anı	nular	X	50% of rated working pressure
Int 1	13-5/8"	5M	Bline	d Ram	X	
mt i	13-3/6	J1 <b>V1</b>	Pipe	Ram		5M
			Doub	le Ram	X	J1V1
			Other*			
P. J. C	13-5/8"	10M	Annul	ar (5M)	X	100% of rated working pressure
			Blind Ram		X	•
Production			Pipe Ram			10M
			Double Ram		X	
			Other*			
			Annul	ar (5M)		
			Bline	d Ram		
			Pipe	Ram		]
			Doub	le Ram		]
			Other*			
N A variance is requested for	the use of a	diverter or	the surface	casing. See	attached for s	chematic.
Y A variance is requested to 1	run a 5 M ai	nnular on a	10M system			

5. Mud Program (Three String Design)

Section	Туре	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, C	Coring and Testing
	Will run GR/CNL from TD to surface (horizontal well - vertical portion of hole). Stated logs run will be in the
X	Completion Report 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	6602
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

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Sundry ID: 2749314

Type of Submission: Notice of Intent

Type of Action: APD Change

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Date proposed operation will begin: 09/04/2023

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# **Procedure Description**

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PAINT\_4\_33\_FED\_COM\_622H\_14.75in\_20230905082723.pdf

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break\_test\_variance\_BOP\_20230905082645.pdf

8.625in\_32lb\_P110EC\_SPRINT\_FJ\_09.16.2022\_20230904065646.pdf

5.5in\_x\_20.00lb\_P110EC\_DWC\_C\_IS\_PLUS\_\_\_5\_23\_2023\_20230904065645.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: SEP 04, 2023 06:46 AM

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

R	е	pr	es	en	ıta	tiv	e	Ν	a	m	е
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**Street Address:** 

City: State: Zip

Phone:

**Email address:** 

# PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

**OPERATOR'S NAME:** Devon Energy Production Company LP

LEASE NO.: NMLC061863A

**LOCATION:** | Section, T.23 S., R.30 E., NMPM

**COUNTY:** Eddy County, New Mexico

WELL NAME & NO.: Paint 4-33 Fed Com 712H

**SURFACE HOLE FOOTAGE:** 200'/S & 1767'/W **BOTTOM HOLE FOOTAGE** 20'/N & 1650'/W

ATS/API ID: 3002551955 APD ID:

**Sundry ID: 2749314** 

WELL NAME & NO.: Paint 4-33 Fed Com 622H

**SURFACE HOLE FOOTAGE:** 200'/S & 1827'/W **BOTTOM HOLE FOOTAGE** 20'/N & 2090'/W **ATS/API ID:** 3002551953

ATS/API ID: APD ID:

**Sundry ID: 2749314** 

COA

H2S	Yes ▼		
Potash	None		
Cave/Karst Potential	Low ▼		
Cave/Karst Potential	Critical		
Variance	□ None	Flex Hose	C Other
Wellhead	Conventional and Multibov	/l <b>-</b>	
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	<b>☑</b> 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 **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 875 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 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 6980' (571 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 494 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.

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 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 10,000 (10M) psi. Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) psi.

# **Option 2:**

- a. 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 10,000 (10M) psi. Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) psi.
  - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
  - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
  - c. Manufacturer representative shall install the test plug for the initial BOP test.
  - d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.

e. Whenever any seal subject to test pressure is broken, all the tests in 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 43 CFR part 3170 Subpart 3171
- 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 (Approved)**

- 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 21-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.

# **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
  - ✓ Lea CountyCall the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 689-5981
- 1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
  - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
  - b. When the operator proposes to set surface casing with Spudder Rig
    - Notify the BLM when moving in and removing the Spudder Rig.
    - Notify the BLM when moving in the 2<sup>nd</sup> Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
    - BOP/BOPE test to be conducted per **43** CFR part **3170** Subpart **3172** as soon as 2nd Rig is rigged up on well.
- 2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
- 3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a

digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

#### 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 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 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 43 CFR part 3170 Subpart 3172 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
- d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- e. The results of the test shall be reported to the appropriate BLM office.
- f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per 43 CFR

# part 3170 Subpart 3172.

# C. DRILLING MUD

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

# D. WASTE MATERIAL AND FLUIDS

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

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

LVO 9/13/2023

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
5. Lease Serial No. MULTIPLE

SUNDRY NOTICES AND REPORTS ON WELLS
o not use this form for proposals to drill or to re-enter an

6. If Indian, Allottee or Tribe Name

	form for proposals to drill or to Use Form 3160-3 (APD) for suc	MULTIPLE			
SUBMIT IN	TRIPLICATE - Other instructions on pag		7. If Unit of CA/Agreemed	ent, Name and/or No.	
1. Type of Well Gas W	Vall Other		8. Well Name and No. MULTIPLE		
<u> </u>		9. API Well No. MULTIP	ULTIPLE 		
2. Name of Operator DEVON ENERG		(: 1 1 1 )			
3a. Address 333 WEST SHERIDAN	AVE, OKLAHOMA CITY, 35. Phone No. (405) 235-36	(include area code) 11	10. Field and Pool or Exp	noratory Area	
4. Location of Well (Footage, Sec., T., K	R.,M., or Survey Description)		11. Country or Parish, Sta	ate	
12. CHE	CK THE APPROPRIATE BOX(ES) TO IN	DICATE NATURE OF NOT	TICE, REPORT OR OTHER	R DATA	
TYPE OF SUBMISSION		TYPE OF AC	CTION		
Notice of Intent  Subsequent Report	Casing Repair New	raulic Fracturing Rec	duction (Start/Resume) clamation complete	Water Shut-Off Well Integrity Other	
Final Abandonment Notice			nporarily Abandon ter Disposal		
is ready for final inspection.)  ENGINEERING ONLY  Devon Energy Production Con of 14-3/4" surface hole at prev behind the 10-3/4 casing. Pipe subject wells. Please see attac		val for optional surface car	sing/drilling plan of 10-3/4 L.P. will circulate class 0	4" surface casing inside C cement to surface	
14. I hereby certify that the foregoing is CHELSEY GREEN / Ph: (405) 228	true and correct. Name (Printed/Typed) -8595	Regulatory Compli	ance Professional		
Signature	Date	09/04/2023	3		
	THE SPACE FOR FED	ERAL OR STATE O	FICE USE		
Approved by					
	hed. Approval of this notice does not warran equitable title to those rights in the subject leaduct operations thereon.		Dat	e	
	3 U.S.C Section 1212, make it a crime for an ents or representations as to any matter with		llfully to make to any depar	rtment or agency of the United States	

(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, 3162.3-4.

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

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

Response to this request is mandatory.

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

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

(Form 3160-5, page 2)

# **Additional Information**

# **Batch Well Data**

PAINT 4-33 FED COM 712H, US Well Number: 3002551955, Case Number: NMLC061863A, Lease Number: NMLC061863A, Operator: DEVON ENERGY PRODUCTION COMPANY LP

PAINT 4-33 FED COM 622H, US Well Number: 3002551953, Case Number: NMLC061863A, Lease Number: NMLC061863A, Operator: DEVON ENERGY PRODUCTION COMPANY LP

# PAINT 4-33 FED COM 712H

# 1. Geologic Formations

TVD of target	12391	Pilot hole depth	N/A
MD at TD:	22611	Deepest expected fresh water	

# Basin

Dasin		TT : 72.51	
	Depth	Water/Mineral	
Formation	(TVD)	Bearing/Target	Hazards*
	from KB	Zone?	
Rustler	770		
Salt	1075		
Base of Salt	4420		
Delaware	4690		
Cherry Canyon	5570		
Brushy Canyon	6980		
1st Bone Spring Lime	8530		
Bone Spring 1st	9630		
Bone Spring 2nd	10230		
3rd Bone Spring Lime	10760		
Bone Spring 3rd	11480		
Wolfcamp	11950		
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<sup>\*</sup>H2S, water flows, loss of circulation, abnormal pressures, etc.

2. Casing Program

		Wt			Casing	Interval	Casing	Interval
Hole Size	Csg. Size	(PPF)	Grade	Conn	From (MD)	To (MD)	From (TVD)	To (TVD)
14 3/4	10 3/4	45.5	J55	ВТС	0	795	0	795
9 7/8	8 5/8	32	P110	Sprint FJ	0	11950	0	11950
7 7/8	5 1/2	20	P110	DWC / C-IS+	0	22611	0	12391

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

# 3. Cementing Program

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	485	Surf	13.2	1.44	Lead: Class C Cement + additives
Int 1	494	Surf	13.0	2.3	2nd State: Bradenhead Squeeze - Lead: Class C Cement + additives
III I	571	7018	13.2	1.44	Tail: Class H / C + additives
Production	117	9790	9	3.27	Lead: Class H /C + additives
Froduction	1432	11790	13.2	1.44	Tail: Class H / C + additives

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

4. Pressure Control Equipment (Three String Design)

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Туре		✓	Tested to:					
			Anı	nular	X	50% of rated working pressure					
Int 1	13-5/8"	5M		d Ram	X						
Int I	13-3/0	J1V1	Pipe	Ram		5M					
			Doub	le Ram	X	J1V1					
			Other*								
	13-5/8"		Annul	ar (5M)	X	100% of rated working pressure					
		101/1	Blind Ram		X						
Production		10M	Pipe Ram			10M					
		1						Double Ram		X	TUM
			Other*								
			Annul	ar (5M)							
			Blind	d Ram							
			Pipe	Ram							
			Doub	le Ram							
			Other*								
N A variance is requested for	the use of a	diverter or	n the surface	casing. See	attached for s	chematic.					
Y A variance is requested to a	run a 5 M ai	nnular on a	10M system								

5. Mud Program (Three String Design)

Section	Туре	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, C	Logging, Coring and Testing						
	Will run GR/CNL from TD to surface (horizontal well - vertical portion of hole). Stated logs run will be in the						
X	Completion Report 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 In		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	6766
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.

measured va	alues and formations will be provided to the BEW.
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.

Attachment	ts
X	Directional Plan
	Other, describe

# PAINT 4-33 FED COM 622H

# 1. Geologic Formations

TVD of target	12091	Pilot hole depth	N/A
MD at TD:	22300	Deepest expected fresh water	

# Basin

Dasin		TT : 72.51	
	Depth	Water/Mineral	
Formation	(TVD)	Bearing/Target	Hazards*
	from KB	Zone?	
Rustler	770		
Salt	1075		
Base of Salt	4420		
Delaware	4690		
Cherry Canyon	5570		
Brushy Canyon	6980		
1st Bone Spring Lime	8530		
Bone Spring 1st	9630		
Bone Spring 2nd	10230		
3rd Bone Spring Lime	10760		
Bone Spring 3rd	11480		
Wolfcamp	11950		
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<sup>\*</sup>H2S, water flows, loss of circulation, abnormal pressures, etc.

2. Casing Program

		Wt			Casing Interval		Casing Interval	
Hole Size	Csg. Size	(PPF)	Grade	Conn	From (MD)	To (MD)	From (TVD)	To (TVD)
14 3/4	10 3/4	45.5	J55	ВТС	0	795	0	795
9 7/8	8 5/8	32	P110	Sprint FJ	0	11480	0	11480
7 7/8	5 1/2	20	P110	DWC / C-IS+	0	22300	0	12091

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

# 3. Cementing Program

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	485	Surf	13.2	1.44	Lead: Class C Cement + additives
Int 1	493	Surf	13.0	2.3	2nd State: Bradenhead Squeeze - Lead: Class C Cement + additives
IIIt I	519 7004 13.2 1.44		Tail: Class H / C + additives		
Production	117	9471	9	3.27	Lead: Class H /C + additives
Froduction	1433	11471	13.2	1.44	Tail: Class H / C + additives

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

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

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Туре		✓	Tested to:
			Anı	nular	X	50% of rated working pressure
Int 1	13-5/8"	5M	Blind	Blind Ram		
Int 1	13-3/6	J1 <b>V1</b>	Pipe	Ram		5M
			Doub	le Ram	X	JIVI
			Other*			
	13-5/8"	10M	Annular (5M)		X	100% of rated working pressure
Dun danation			Blind Ram		X	10M
Production			Pipe Ram			
			Double Ram		X	TOW
			Other*			
			Annul	ar (5M)		
			Bline	d Ram		
Pipe Ram						
			Double Ram			
			Other*			
N A variance is requested for	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.					
Y A variance is requested to a	A variance is requested to run a 5 M annular on a 10M system					

5. Mud Program (Three String Design)

Section	Туре	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				
	Will run GR/CNL from TD to surface (horizontal well - vertical portion of hole). Stated logs run will be in the			
X	Completion Report 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	6602		
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.

measured va	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	1
X	Directional Plan
	Other, describe



# <u>10-3/4"</u> <u>45.50#</u> <u>0.400"</u> <u>J-55</u>

in.

in.

10.750

0.400

# **Dimensions (Nominal)**

**Outside Diameter** 

Wall

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
ВТС	3580	psi
Yield Strength, Pipe Body	715	1000 lbs
Joint Strength, STC		
STC	493	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.

796

1000 lbs

**BTC** 

#### **Section 2 - Blowout Preventer Testing Procedure**

Variance Request

Devon Energy requests to only test BOP connection breaks after drilling out of surface casing and while skidding between wells which conforms to API Standard 53 and industry standards. This test will include the Top Pipe Rams, HCR, Kill Line Check Valve, QDC (quick disconnect to wellhead) and Shell of the 10M BOPE to 5M for 10 minutes. If a break to the flex hose that runs to the choke manifold is required due to repositioning from a skid, the HCR will remain open during the shell test to include that additional break. The variance only pertains to intermediate hole-sections and no deeper than the Bone Springs Formation where 5M BOP tests are required. The initial BOP test will follow OOGO2.III.A.2.i, and subsequent tests following a skid will only test connections that are broken. The annular preventer will be tested to 100% working pressure. This variance will meet or exceed OOGO2.III.A.2.i per the following: Devon Energy will perform a full BOP test per OOGO2.III.A.2.i before drilling out of the intermediate casing string(s) and starting the production hole, before starting any hole section that requires a 10M test, before the expiration of the allotted 14-days for 5M intermediate batch drilling or when the drilling rig is fully mobilized to a new well pad, whichever is sooner. We will utilize a 200' TVD tolerance between intermediate shoes as the cutoff for a full BOP test. The BLM will be contacted 4hrs prior to a BOPE test. The BLM will be notified if and when a well control event is encountered. Break test will be a 14 day interval and not a 30 day full BOPE test interval. If in the event break testing is not utilized, then a full BOPE test would be conducted.

- 1. Well Control Response:
- 1. Primary barrier remains fluid
- 2. In the event of an influx due to being underbalanced and after a realized gain or flow, the order of closing BOPE is as follows:
  - a) Annular first
  - b) If annular were to not hold, Upper pipe rams second (which were tested on the skid BOP test)
  - c) If the Upper Pipe Rams were to not hold, Lower Pipe Rams would be third



Issued on: 16 Sep. 2022 by Logan Van Gorp



# **Connection Data Sheet**

#### HIGHER TORQUE VERSION

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

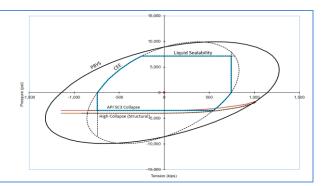
PIPE PROPERTIES		
Nominal OD	8.625	in.
Nominal ID	7.921	in.
Nominal Cross Section Area	9.149	sqin.
Grade Type	Hig	gh Yield
Min. Yield Strength	125	ksi
Max. Yield Strength	140	ksi
Min. Ultimate Tensile Strength	135	ksi

CONNECTION PROP	ERTIES	
Connection Type	Semi-Premium Int	egral Flush
Connection OD (nom):	8.665	in.
Connection ID (nom):	7.954	in.
Make-Up Loss	2.614	in.
Critical Cross Section	5.978	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. Structural Bending	41	°/100ft
Max. Bending with Sealability	10	°/100ft

23,000	ft.lb
25,500	ft.lb
28,000	ft.lb
48,000	ft.lb
	28,000

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.



canada@vamfieldservice.com usa@vamfieldservice.com mexico@vamfieldservice.com brazil@vamfieldservice.com Do you need help on this product? - Remember no one knows  $\mathrm{VAM}^{\scriptsize{\textcircled{\tiny{\$}}}}$  like  $\mathrm{VAM}^{\scriptsize{\textcircled{\$}}}$ 

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



<sup>\* 87.5%</sup> RBW



# **Connection Data Sheet**

OD (in.)	WEIGHT (lbs./ft.)	WALL (in.)	GRADE	DRIFT (in.)	RBW%	CONNECTION
5.500	Nominal: 20.00 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).

Connection specifications within the control of VAM USA were correct as of the date printed. Specifications are subject to change without notice. Certain connection specifications are dependent on the mechanical properties of the pipe. Mechanical properties of mill proprietary pipe grades were obtained from mill publications and are subject to change. Properties of mill proprietary grades should be confirmed with the mill. Users are advised to obtain current connection specifications and verify pipe mechanical properties for each application.

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#### **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.
- 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.
- 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.

Connection specifications within the control of VAM USA were correct as of the date printed. Specifications are subject to change without notice. Certain connection specifications are dependent on the mechanical properties of the pipe. Mechanical properties of mill proprietary pipe grades were obtained from mill publications and are subject to change. Properties of mill proprietary grades should be confirmed with the mill. Users are advised to obtain current connection specifications and verify pipe mechanical properties for each application.

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#### Paint 4-33 Fed Com 712H

10 3/4	sur	ace csg in a	14 3/4	13/4 inch hole. <u>Design Factors</u> Sur	13/4 inch hole. <u>Design Fact</u>		ole. <u>Design Factors</u>			Surfac	e	
Segment	#/ft	Grade		Coupling	Body	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	45.50		j 55	btc	17.97	5.11	0.55	875	9	0.92	9.65	39,813
"B"				btc				0				0
	w/8.4#/	g mud, 30min Sfc Csg Test	osig: 1,500	Tail Cmt	does not	circ to sfc.	Totals:	875				39,813
comparison of	Proposed to Mi	nimum Required Ceme	ent 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-Cpl
14 3/4	0.5563	485	698	487	43	9.00	3889	5M				1.50
urst Frac Grad	ient(s) for Segme	ent(s) A, B = , b All > 0	.70, OK.		Site plat (pip	e racks S or E)	as per 0.0.1.	III.D.4.i. not	found.			

8 5/8	ca	sing 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	р	110	vam sprint fj	1.95	0.61	1.06	11,950	1	1.77	1.03	382,400
"B"								0				0
í	w/8.	4#/g mud, 30min Sfc Csg Test psig:	-210				Totals:	11,950	_			382,400
		The cement volui	me(s) are inter	nded to achieve a top of	0	ft from su	urface or a	875				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
9 7/8	0.1261	571	822	1514	-46	10.50	4033	5M				0.61
D V Tool(s):			6980				sum of sx	Σ CuFt				Σ%excess
t by stage % :		31	28				1065	1958				29
Class 'C' tail cm	nt yld > 1.35											

Grade		Coupling								
		Coupling	Joint	Collapse	Burst	Length	B@s	a-B	a-C	Weight
)	p 110	dwc/c is+	2.94	1.79	2.12	22,611	2	3.56	3.00	452,220
						0				0
w/8.4#/g mud, 30min Sfc Csg Test psi	g: 2,726				Totals:	22,611				452,220
The cement vol	ume(s) are inter	nded to achieve a top of	11750	ft from su	rface or a	200				overlap.
r 1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd				Min Dist
e Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE				Hole-Cpl
3 <b>1549</b>	2445	1883	30	10.50						1.19
35										
	The cement vol 1 Stage Cmt Sx 3 1549	1 Stage 1 Stage c Cmt Sx CuFt Cmt 3 1549 2445	The cement volume(s) are intended to achieve a top of ar 1 Stage 1 Stage Min Cmt Sx CuFt Cmt Cu Ft 1549 2445 1883	The cement volume(s) are intended to achieve a top of 11750 ar 1 Stage 1 Stage Min 1 Stage e Cmt Sx CuFt Cmt Cu Ft % Excess 3 1549 2445 1883 30	The cement volume(s) are intended to achieve a top of 11750 ft from sur 1 Stage 1 Stage Min 1 Stage Drilling e Cmt Sx CuFt Cmt Cu Ft % Excess Mud Wt 3 1549 2445 1883 30 10.50	The cement volume(s) are intended to achieve a top of 11750 ft from surface or a 1 Stage 1 Stage Min 1 Stage Drilling Calc Cmt Sx CuFt Cmt Cu Ft % Excess Mud Wt MASP 1549 2445 1883 30 10.50 MASP	w/8.4#/g mud, 30min Sfc Csg Test psig: 2,726       Totals: 22,611         The cement volume(s) are intended to achieve a top of 11750       ft from surface or a 200         or       1 Stage       Min       1 Stage       Drilling       Calc       Req'd         e       Cmt Sx       CuFt Cmt       Cu Ft       Excess       Mud Wt       MASP       BOPE         3       1549       2445       1883       30       10.50	w/8.4#/g mud, 30min Sfc Csg Test psig: 2,726       Totals: 22,611         The cement volume(s) are intended to achieve a top of 11750       ft from surface or a 200         ur       1 Stage       Min       1 Stage       Drilling       Calc       Req'd         e       Cmt Sx       CuFt Cmt       Cu Ft       Excess       Mud Wt       MASP       BOPE         3       1549       2445       1883       30       10.50	w/8.4#/g mud, 30min Sfc Csg Test psig: 2,726 Totals: 22,611 The cement volume(s) are intended to achieve a top of 11750 ft from surface or a 200 IT 1 Stage 1 Stage Min 1 Stage Drilling Calc Req'd e Cmt Sx CuFt Cmt Cu Ft % Excess Mud Wt MASP 30 1549 2445 1883 30 10.50	w/8.4#/g mud, 30min Sfc Csg Test psig: 2,726 The cement volume(s) are intended to achieve a top of 11750 IT 1 Stage

0	5 1/2				<choose casing=""></choose>							
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#/ <sub>8</sub>	g mud, 30min Sfc Csg Test p	osig:				Totals:	0				0
Cmt vol calc below includes this csg, TOC intended				#N/A	ft from su	rface 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	t top XXXX.								

Carlsbad Field Office 9/13/2023

#### Paint 4-33 Fed Com 622H

10 3/4	surf	ace csg in a	14 3/4	inch hole.		Design I	Factors	Surface			e	
Segment	#/ft	Grade		Coupling	Body	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	45.50		j 55	btc	17.97	5.11	0.57	875	9	0.96	9.65	39,813
"B"				btc				0				0
	w/8.4#/g	mud, 30min Sfc Csg Test	psig: 1,500	Tail Cmt	does not	circ to sfc.	Totals:	875	_			39,813
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
14 3/4	0.5563	485	698	487	43	9.00	3736	5M				1.50
Burst Frac Grac	dient(s) for Segme	nt(s) A, B = , b All > 0	).70, OK.		Site plat (pip	e racks S or E)	as per O.O.1.	III.D.4.i. not	found.			

8 5/8	C	asing inside the	10 3/4			Design	Factors -		-	Int 1	1	
Segment	#/ft	Grade		Coupling	Joint	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	32.00	р	110	vam sprint fj	2.03	0.64	1.08	11,480	1	1.82	1.07	367,360
"B"								0				0
í	w/8	3.4#/g mud, 30min Sfc Csg Test psig:					Totals:	11,480	_			367,360
		The cement volu	me(s) are inter	nded to achieve a top of	0	ft from su	urface or a	875				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
9 7/8	0.1261	519	747	1455	-49	10.50	3935	5M				0.61
D V Tool(s):			6980				sum of sx	Σ CuFt				Σ%excess
t by stage % :		32	28				1012	1881				29
Class 'C' tail cm	nt yld > 1.35											

5 1/2	cas	sing inside the	8 5/8			Design Fa	ctors			Prod 1		
Segment	#/ft	Grade		Coupling	Joint	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	20.00	1	110	dwc/c is+	3.01	1.83	2.18	22,300	2	3.65	3.07	446,000
"B"								0				0
w/8.4#/g mud, 30min Sfc Csg Test psig: 2,660							Totals:	22,300				446,000
		The cement vol	ume(s) are inter	nded to achieve a top of	11280	ft from su	rface 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
7 7/8	0.1733	1550	2446	1910	28	10.50						1.19
Class 'C' tail cm	lass 'C' tail cmt yld > 1.35											
	•											

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	osig:				Totals:	0				0
Cmt vol calc below includes this csg, TOC intended				#N/A	ft from su	rface 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.								

Carlsbad Field Office 9/13/2023

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

CONDITIONS

Action 266246

# **CONDITIONS**

Operator:	OGRID:
DEVON ENERGY PRODUCTION COMPANY, LP	6137
333 West Sheridan Ave.	Action Number:
Oklahoma City, OK 73102	266246
	Action Type:
	[C-103] NOI Change of Plans (C-103A)

#### CONDITIONS

Crea By	ndition	Condition Date
pka	ON ANY STRING CEMENT DOES NOT CIRCULATE, A RCBL MUST BE RUN ON THAT STRING OF CASING.	10/2/2023