

Well Name: BENT TREE 9-11 FED COM	Well Location: T21S / R27E / SEC 9 / SENW / 32.497026 / -104.195319	County or Parish/State: EDDY / NM
Well Number: 333H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM134862	Unit or CA Name:	Unit or CA Number:
US Well Number: 3001548796	Operator: DEVON ENERGY PRODUCTION COMPANY LP	

Notice of Intent

Sundry ID: 2825282

Type of Submission: Notice of Intent	Type of Action: APD Change
Date Sundry Submitted: 12/04/2024	Time Sundry Submitted: 09:40
Date proposed operation will begin: 12/03/2024	

Procedure Description: Devon Energy Production Co., L.P. (Devon) respectfully requests to change the depth and drilling updates on the subject well. Devon would also like to request a variance for break test and offline cementing. Please see attached revised Drill plan, directional plan, break test, and offline cementing. Permitted TVD/MD: 2662/2662 Proposed TVD/MD: 2737/2737

NOI Attachments

Procedure Description

- Offline_Cementing___Variance_Request_20241204093612.pdf
- break_test_variance_BOP_1_15_24_20241203074323.pdf
- MB_Wellhd_10M_WC_4_STRING_13.375_10.75_8.625_5.5_20241203074323.pdf
- 13.375_54.5lb_J55_20241203074323.pdf
- 8.625_32lb_P110EC_SPRINT_FJ_VST_20241203074323.pdf
- 5.5_17lb_P110EC_DWC_C_IS_PLUS_20241203074323.pdf
- 10.75_45.5lb_J55_BTC_20241203074323.pdf
- BENT_TREE_9_11_Fed_COM_333H_20241203074200.pdf
- BENT_TREE_9_11_Fed_COM_333H_Directional_Plan_11_19_24_20241203074200.pdf

Received by OCD: 12/18/2024 9:19:53 AM

Page 2 of 59

Well Name: BENT TREE 9-11 FED COM	Well Location: T21S / R27E / SEC 9 / SENW / 32.497026 / -104.195319	County or Parish/State: EDDY / NM
Well Number: 333H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM134862	Unit or CA Name:	Unit or CA Number:
US Well Number: 3001548796	Operator: DEVON ENERGY PRODUCTION COMPANY LP	

Conditions of Approval

Specialist Review

Bent_Tree_9_11_Fed_Com_333H_Sundry_ID_2825282_20241218072537.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: SHANDEE THOMAS	Signed on: DEC 03, 2024 07:43 AM
Name: DEVON ENERGY PRODUCTION COMPANY LP	
Title: Regulatory Professional	
Street Address: 333 W SHERDIAN AVE	
City: OKLAHOMA CITY	State: OK
Phone: (405) 552-7853	
Email address: SHANDEE.THOMAS@DVN.COM	

Field

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

BLM Point of Contact

BLM POC Name: LONG VO	BLM POC Title: Petroleum Engineer
BLM POC Phone: 5759885402	BLM POC Email Address: LVO@BLM.GOV
Disposition: Approved	Disposition Date: 12/18/2024
Signature: Long Vo	

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

SUBMIT IN TRIPLICATE - Other instructions on page 2		7. If Unit of CA/Agreement, Name and/or No.
1. Type of Well <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		8. Well Name and No.
2. Name of Operator		9. API Well No.
3a. Address	3b. Phone No. (include area code)	10. Field and Pool or Exploratory Area
4. Location of Well (Footage, Sec., T.,R.,M., or Survey Description)		11. Country or Parish, State

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

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

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

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

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

(Instructions on page 2)

GENERAL INSTRUCTIONS

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

SPECIFIC INSTRUCTIONS

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

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

NOTICES

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

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

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

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

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

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

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

Response to this request is mandatory.

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

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

Additional Information

Location of Well

0. SHL: SENW / 1843 FNL / 2497 FWL / TWSP: 21S / RANGE: 27E / SECTION: 9 / LAT: 32.497026 / LONG: -104.195319 (TVD: 0 feet, MD: 0 feet)

PPP: SWNE / 2200 FNL / 2545 FEL / TWSP: 21S / RANGE: 27E / SECTION: 9 / LAT: 32.496041 / LONG: -104.194563 (TVD: 8434 feet, MD: 8481 feet)

PPP: SWNW / 2144 FNL / 185 FWL / TWSP: 21S / RANGE: 27E / SECTION: 10 / LAT: 32.495926 / LONG: -104.18579 (TVD: 8694 feet, MD: 11400 feet)

PPP: SENW / 2156 FNL / 1485 FWL / TWSP: 21S / RANGE: 27E / SECTION: 10 / LAT: 32.495921 / LONG: -104.181574 (TVD: 8722 feet, MD: 12700 feet)

BHL: SENW / 2200 FNL / 2659 FWL / TWSP: 21S / RANGE: 27E / SECTION: 11 / LAT: 32.495987 / LONG: -104.160478 (TVD: 8867 feet, MD: 19218 feet)

CONFIDENTIAL

Offline Cementing

Variance Request

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

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 43 CFR 3172, 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 43 CFR 3172 per the following: Devon Energy will perform a full BOP test per 43 CFR 3172 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

Cactus
Wellhead

2-9-17
E Bell

80.7 °F

15:49



50

Date 02-09-17

Tested By E.BELL

Transducer bay2

Transducer Serial 181504

Calibration Date 9/6/15

Job#	Part#	Serial#	Description	Test Pressure
1	TRJ0006341-0007	116966	TRJ6341-7-1 ADPT,DRLG,CW,MBU-3T,13-5/8 10M	15000
2				
3				
4				
5			TRANSDUCER CALIBRATION DUE 03/13/2017	
6				
7				
8				



Start



Stop



Zero



Config

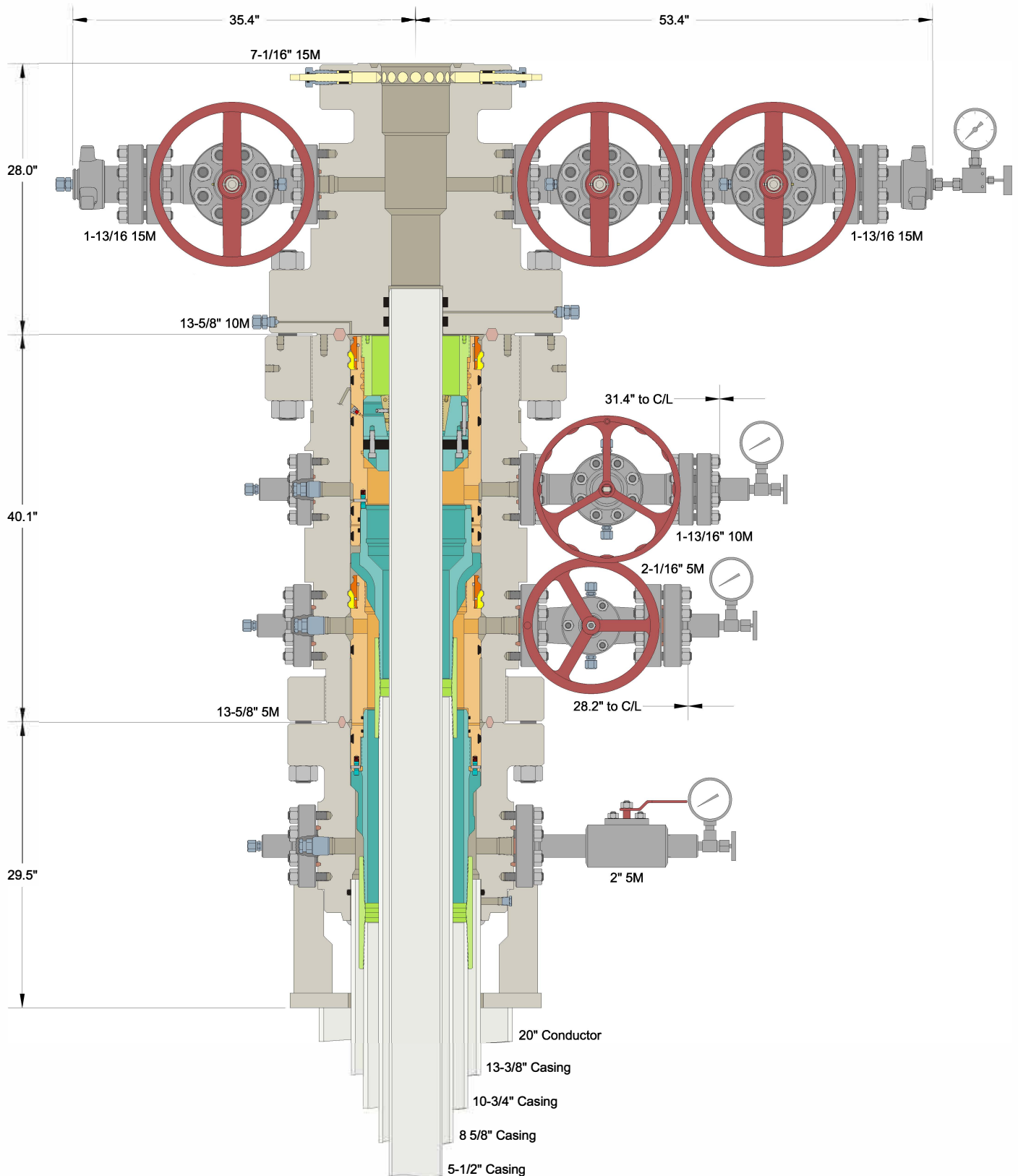


Save



Print

EXIT



INFORMATION CONTAINED HEREIN IS THE PROPERTY OF CACTUS WELLHEAD, LLC. REPRODUCTION, DISCLOSURE, OR USE THEREOF IS PERMISSIBLE ONLY AS PROVIDED BY CONTRACT OR AS EXPRESSLY AUTHORIZED BY CACTUS WELLHEAD, LLC.

ALL DIMENSIONS APPROXIMATE

CACTUS WELLHEAD LLC

MATADOR RESOURCES
WOLFCAMP A WELLS (TEXAS)

20" x 13-3/8" x 10-3/4" x 8-5/8" x 5-1/2" MBU-4T-SOW Wellhead
With 13-5/8" 10M x 7-1/16" 15M CTH-DBLHPS Tubing Head,
10-3/4" & 8-5/8" Mandrel Hangers And 5-1/2" Slip Casing Hanger

DRAWN	DLE	09AUG19
APPRV		
DRAWING NO.	HBE0000156	



13-3/8" 54.50# .380 J-55

Dimensions (Nominal)

Outside Diameter	13.375	in.
Wall	0.380	in.
Inside Diameter	12.615	in.
Drift	12.459	in.
Weight, T&C	54.500	lbs/ft
Weight, PE	52.790	lbs/ft

Performance Ratings, Minimum

Collapse, PE	1130	psi
Internal Yields Pressure		
PE	2730	psi
STC	2730	PSI
BTC	2730	psi
Yield Strength, Pipe Body	853	1000 lbs
Joint Strength, STC	514	1000 lbs
Joint Strength, BTC	909	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: 16 Dec. 2020 by Logan Van Gorp



Connection Data Sheet

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

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

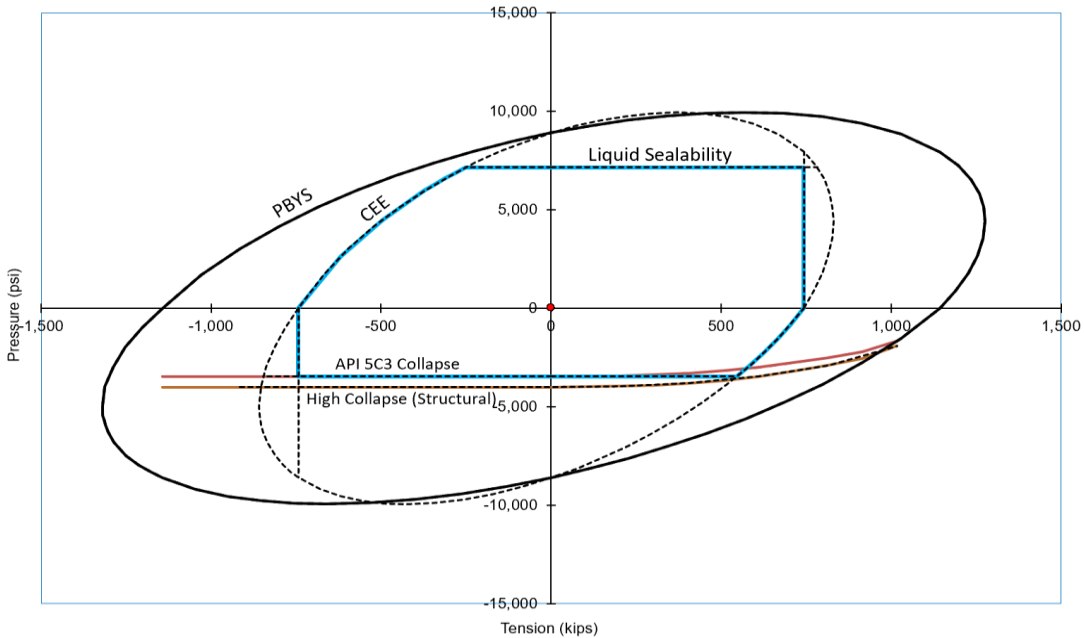
CONNECTION PROPERTIES		
Connection Type	Semi-Premium Integral Flush	
Connection OD (nom):	8.665	in.
Connection ID (nom):	7.954	in.
Make-Up Loss	2.614	in.
Critical Cross Section	6.038	sqin.
Tension Efficiency	65.0	% of pipe
Compression Efficiency	65.0	% of pipe
Internal Pressure Efficiency	80.0	% of pipe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

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

* 87.5% RBW

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

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



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

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

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



Connection Data Sheet

OD (in.)	WEIGHT (lbs./ft.)	WALL (in.)	GRADE	DRIFT (in.)	RBW%	CONNECTION
5.500	Nominal: 17.00 Plain End: 16.89	0.304	VST P110 EC	4.767	87.5	DWC/C-IS PLUS

PIPE PROPERTIES

Nominal OD	5.500	in.
Nominal ID	4.892	in.
Nominal Area	4.962	sq.in.
Grade Type	API 5CT	
Min. Yield Strength	125	ksi
Max. Yield Strength	140	ksi
Min. Tensile Strength	135	ksi
Yield Strength	620	klb
Ultimate Strength	670	klb
Min. Internal Yield	12,090	psi
High Collapse	8,840	psi

CONNECTION PROPERTIES

Connection Type	Semi-Premium T&C	
Connection OD (nom)	6.300	in.
Connection ID (nom)	4.892	in.
Make-Up Loss	4.125	in.
Coupling Length	9.250	in.
Critical Cross Section	4.962	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	620	klb
Parting Load	670	klb
Compression Rating	620	klb
Min. Internal Yield	12,090	psi
High Collapse	8,840	psi
Maximum Uniaxial Bend Rating	104.2	°/100 ft
Ref String Length w 1.4 Design Factor	26,050	ft

FIELD TORQUE VALUES

Min. Make-up Torque	13,400	ft.lbs
Opti. Make-up Torque	14,350	ft.lbs
Max. Make-up Torque	15,300	ft.lbs
Min. Shoulder Torque	1,340	ft.lbs
Max. Shoulder Torque	10,720	ft.lbs
Max. Delta Turn	0.200	Turns
Max Operational Torque	17,200	ft.lbs
Maximum Torsional Value (MTV)	18,920	ft.lbs

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 4:15 PM



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

DWC Connection Data Notes:

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

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 4:15 PM





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

Dimensions (Nominal)

Outside Diameter	10.750	in.
Wall	0.400	in.
Inside Diameter	9.950	in.
Drift	9.875	in.
Weight, T&C	45.500	lbs/ft
Weight, PE	44.260	lbs/ft

Performance Properties

Collapse	2090	psi
Internal Yield Pressure at Minimum Yield		
PE	3580	psi
STC	3580	psi
BTC	3580	psi
Yield Strength, Pipe Body	715	1000 lbs
Joint Strength		
STC	493	1000 lbs
BTC	796	1000 lbs
BTC Special Clearance (11.25" OD Cplg)	506	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.

1. Geologic Formations

TVD of target	7648	Pilot hole depth	N/A
MD at TD:	17820	Deepest expected fresh water	

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone?	Hazards*
Rustler	100		
Salt	189		
Base of Salt	418		
Capitan Reef Top	842		
Capitan Reef Base	2600		
Delaware	2687		
Bone Spring 1st	6404		
Bone Spring 2nd	7120		

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

BENT TREE 9-11 Fed COM 333H

2. Casing Program (Primary Design)

Hole Size	Csg. Size	Wt (PPF)	Grade	Conn	Top (MD)	Bottom (MD)	Top (TVD)	Bottom (TVD)
17 1/2	13 3/8	54.5	J-55	BTC	0.0	125 MD	0	125 TVD
12 1/4	10 3/4	45.5	J-55	BTC SCC	0.0	792 MD	0	792 TVD
9 7/8	8 5/8	32.0	P110EC	Sprint FJ	0	2737 MD	0	2737 TVD
7 7/8	5 1/2	17.0	P110	DWC/C IS+	0	17820 MD	0	7648 TVD

- All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 IILB.1.h Must have table for contingency casing.
- The Rustler top will be validated via drilling parameters (i.e. reduction in ROP), and the surface casing setting depth will be revised accordingly. In addition, surface casing will be set a minimum of 25' above the top of the salt.

3. Cementing Program (Primary Design)

Casing	# Sks	TOC	Wt. (lb/gal)	Yld (ft ³ /sack)	Slurry Description
Surface	127	Surf	13.2	1.44	Lead: Class C Cement + additives
Int	21	Surf	9	3.27	Lead: Class C Cement + additives
	101	292	13.2	1.44	Tail: Class H / C + additives
Int 1	84	Surf	9	3.27	Lead: Class C Cement + additives
	67	2237	13.2	1.44	Tail: Class H / C + additives
Int 1 Intermediate Squeeze	192	Surf	9	1.44	Squeeze Lead: Class C Cement + additives
	21	Surf	9	3.27	Lead: Class C Cement + additives
	101	2237	13.2	1.44	Tail: Class H / C + additives
Production	351	792	9	3.27	Lead: Class H / C + additives
	1446	6892	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 1 casing string with the first stage being pumped conventionally with the calculated top of cement at the Capitan Reef and the second stage performed as a bradenhead squeeze with planned cement from the Capitan Reef 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.

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

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

BENT TREE 9-11 Fed COM 333H

4. Pressure Control Equipment (Four String Design)

BOP installed and tested before drilling which hole?		Size?	Min. Required WP	Type	✓	Tested to:	
Int				Annular			n/a
				Blind Ram			500psi
				Pipe Ram			
				Double Ram			
				Other*	diverter	X	
Int 1		13-5/8"	5M	Annular (5M)		X	100% of rated working pressure
				Blind Ram		X	5M
				Pipe Ram			
				Double Ram		X	
				Other*			
Production		13-5/8"	5M	Annular (5M)		X	100% of rated working pressure
				Blind Ram		X	5M
				Pipe Ram			
				Double Ram		X	
				Other*			
N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.						
N	A variance is requested to run a 5 M annular on a 10M system						

By definition, the diverter will only be used to divert flow from the well and not to shut in the well. Prior to drilling out, the diverter will be tested to 250 PSI to ensure functionality.

5. Mud Program (Four String Design)

Section	Type	Weight (ppg)
Surface	WBM	8.5-9
Intermediate	DBE / Cut Brine	10-10.5
Intermediate 1	WBM	8.5-9
Production	OBM	10-10.5

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

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

6. Logging and Testing Procedures

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

Additional logs planned	Interval
	Resistivity
	Density
X	CBL
X	Mud log
	PEX

7. Drilling Conditions

Condition	Specify what type and where?
BH pressure at deepest TVD	4176
Abnormal temperature	No

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

Hydrogen 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	H ₂ S is present
Y	H ₂ S 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 nipped up and tested on the wellhead before drilling operations commences on each well.
 - a. The NMOCD will be contacted / notified 24 hours before the drilling rig moves back on to the pad with the pre-set surface casing.

Attachments

X Directional Plan
Other, describe



Well: BENT TREE 9-11 Fed COM 333H

County: Eddy

Wellbore: Permit Plan

Design: Permit Plan #1

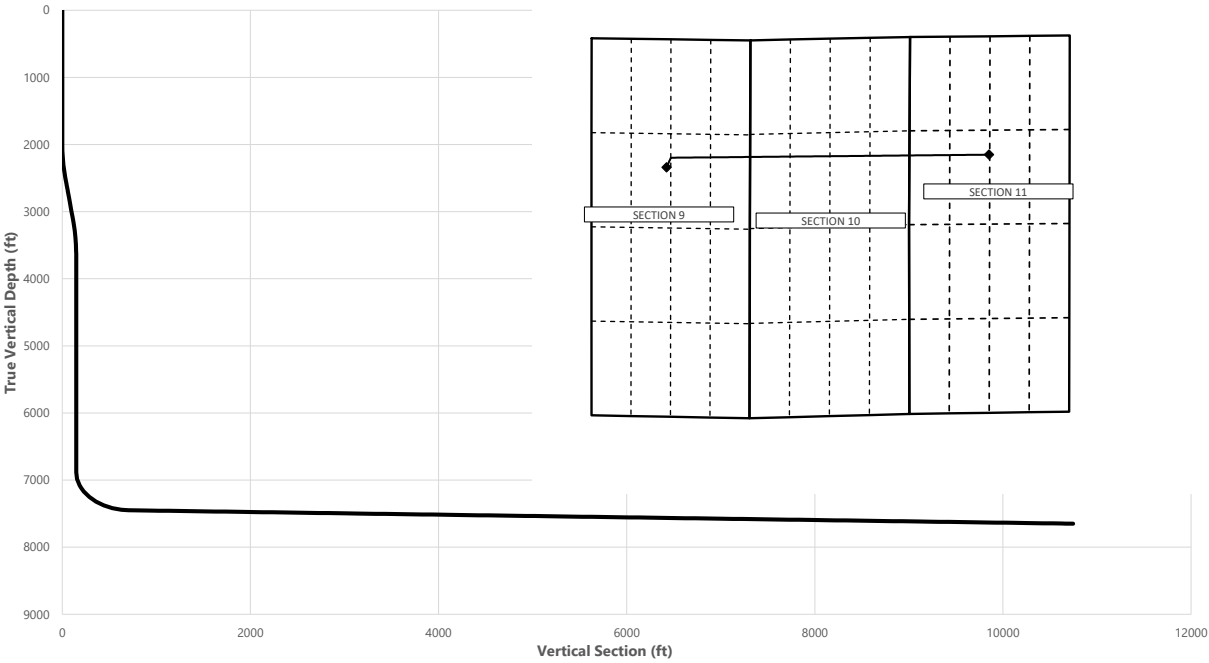
Geodetic System: US State Plane 1983

Datum: North American Datum 1927

Ellipsoid: Clarke 1866

Zone: 3001 - NM East (NAD83)

MD	INC	AZI	TVD	NS	EW	VS	DLS	Comment
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	SHL
2000.00	0.00	47.00	2000.00	0.00	0.00	0.00	0.00	Start Tangent
2500.00	10.00	47.00	2497.47	29.68	31.83	32.32	2.00	Hold Tangent
3141.97	10.00	47.00	3129.68	105.71	113.36	115.09	0.00	Drop to Vertical
3641.97	0.00	47.00	3627.14	135.39	145.19	147.41	2.00	Hold Vertical
6891.98	0.00	89.77	6877.16	135.39	145.19	147.41	0.00	KOP
7780.56	88.86	89.77	7450.00	137.65	706.73	708.91	10.00	Landing Point
17820.43	88.86	89.77	7650.00	177.94	10744.52	10745.99	0.00	BHL



Key Depths	MD	TVD
	(ft)	(ft)
Rustler	100.00	100.00
Salt	189.00	189.00
Base of Salt	418.00	418.00
Capitan Reef Top	842.00	842.00
Capitan Reef Base	2604.12	2600.00
Delaware	2692.46	2687.00
Bone Spring 1st	6418.82	6404.00
Bone Spring 2nd / Point of Penetrati	7142.75	7120.00
exit	17740.43	7648.42

	MD	TVD	Lat	Long	Section Footages
	(ft)	(ft)	(°)	(°)	
SHL	0.00	0.00	32.4969	-104.1954	1843' FNL, 2497' FWL of Sec 9 in T21S, R27E
KOP	6891.98	6877.16	32.4973	-104.1949	1660' FNL, 2640' FEL of Sec 9 in T21S, R27E
Point of Penetration	7142.75	7120.00	32.4975	-104.1946	1660' FNL, 2549' FEL of Sec 9 in T21S, R27E
Exit	17740.43	7648.42	32.4975	-104.1607	1660' FNL, 2574' FWL of Sec 11 in T21S, R27E
BHL	17820.43	7650.00	32.4974	-104.1605	1660' FNL, 2654' FWL of Sec 11 in T21S, R27E

	Y	X	MD
KOP	544712	584033	6891.98

BENT TREE 9-11 Fed COM 333H



Well: BENT TREE 9-11 Fed COM 333H
County: Eddy
Wellbore: Permit Plan
Design: Permit Plan #1

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

MD (ft)	INC (°)	AZI (°)	TVD (ft)	NS (ft)	EW (ft)	VS (ft)	DLS (°/100ft)	Comment
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	SHL
100.00	0.00	47.00	100.00	0.00	0.00	0.00	0.00	Rustler,
189.00	0.00	47.00	189.00	0.00	0.00	0.00	0.00	Salt
200.00	0.00	47.00	200.00	0.00	0.00	0.00	0.00	
300.00	0.00	47.00	300.00	0.00	0.00	0.00	0.00	
400.00	0.00	47.00	400.00	0.00	0.00	0.00	0.00	
418.00	0.00	47.00	418.00	0.00	0.00	0.00	0.00	Base of Salt
500.00	0.00	47.00	500.00	0.00	0.00	0.00	0.00	
600.00	0.00	47.00	600.00	0.00	0.00	0.00	0.00	
700.00	0.00	47.00	700.00	0.00	0.00	0.00	0.00	
800.00	0.00	47.00	800.00	0.00	0.00	0.00	0.00	
842.00	0.00	47.00	842.00	0.00	0.00	0.00	0.00	Capitan Reef Top
900.00	0.00	47.00	900.00	0.00	0.00	0.00	0.00	
1000.00	0.00	47.00	1000.00	0.00	0.00	0.00	0.00	
1100.00	0.00	47.00	1100.00	0.00	0.00	0.00	0.00	
1200.00	0.00	47.00	1200.00	0.00	0.00	0.00	0.00	
1300.00	0.00	47.00	1300.00	0.00	0.00	0.00	0.00	
1400.00	0.00	47.00	1400.00	0.00	0.00	0.00	0.00	
1500.00	0.00	47.00	1500.00	0.00	0.00	0.00	0.00	
1600.00	0.00	47.00	1600.00	0.00	0.00	0.00	0.00	
1700.00	0.00	47.00	1700.00	0.00	0.00	0.00	0.00	
1800.00	0.00	47.00	1800.00	0.00	0.00	0.00	0.00	
1900.00	0.00	47.00	1900.00	0.00	0.00	0.00	0.00	
2000.00	0.00	47.00	2000.00	0.00	0.00	0.00	0.00	Start Tangent
2100.00	2.00	47.00	2099.98	1.19	1.28	1.30	2.00	
2200.00	4.00	47.00	2199.84	4.76	5.10	5.18	2.00	
2300.00	6.00	47.00	2299.45	10.70	11.48	11.65	2.00	
2400.00	8.00	47.00	2398.70	19.01	20.39	20.70	2.00	
2500.00	10.00	47.00	2497.47	29.68	31.83	32.32	2.00	Hold Tangent
2600.00	10.00	47.00	2595.95	41.53	44.53	45.21	0.00	
2604.12	10.00	47.00	2600.00	42.01	45.05	45.74	0.00	Capitan Reef Base
2692.46	10.00	47.00	2687.00	52.47	56.27	57.13	0.00	Delaware
2700.00	10.00	47.00	2694.43	53.37	57.23	58.11	0.00	
2800.00	10.00	47.00	2792.91	65.21	69.93	71.00	0.00	
2900.00	10.00	47.00	2891.39	77.05	82.63	83.89	0.00	
3000.00	10.00	47.00	2989.87	88.90	95.33	96.79	0.00	
3100.00	10.00	47.00	3088.35	100.74	108.03	109.68	0.00	
3141.97	10.00	47.00	3129.68	105.71	113.36	115.09	0.00	Drop to Vertical
3200.00	8.84	47.00	3186.93	112.19	120.31	122.15	2.00	
3300.00	6.84	47.00	3285.99	121.49	130.28	132.27	2.00	
3400.00	4.84	47.00	3385.47	128.43	137.72	139.83	2.00	
3500.00	2.84	47.00	3485.24	132.99	142.62	144.80	2.00	
3600.00	0.84	47.00	3585.18	135.18	144.96	147.18	2.00	
3641.97	0.00	47.00	3627.14	135.39	145.19	147.41	2.00	Hold Vertical
3700.00	0.00	89.77	3685.18	135.39	145.19	147.41	0.00	
3800.00	0.00	89.77	3785.18	135.39	145.19	147.41	0.00	
3900.00	0.00	89.77	3885.18	135.39	145.19	147.41	0.00	
4000.00	0.00	89.77	3985.18	135.39	145.19	147.41	0.00	
4100.00	0.00	89.77	4085.18	135.39	145.19	147.41	0.00	
4200.00	0.00	89.77	4185.18	135.39	145.19	147.41	0.00	
4300.00	0.00	89.77	4285.18	135.39	145.19	147.41	0.00	
4400.00	0.00	89.77	4385.18	135.39	145.19	147.41	0.00	
4500.00	0.00	89.77	4485.18	135.39	145.19	147.41	0.00	
4600.00	0.00	89.77	4585.18	135.39	145.19	147.41	0.00	
4700.00	0.00	89.77	4685.18	135.39	145.19	147.41	0.00	
4800.00	0.00	89.77	4785.18	135.39	145.19	147.41	0.00	
4900.00	0.00	89.77	4885.18	135.39	145.19	147.41	0.00	
5000.00	0.00	89.77	4985.18	135.39	145.19	147.41	0.00	
5100.00	0.00	89.77	5085.18	135.39	145.19	147.41	0.00	
5200.00	0.00	89.77	5185.18	135.39	145.19	147.41	0.00	
5300.00	0.00	89.77	5285.18	135.39	145.19	147.41	0.00	
5400.00	0.00	89.77	5385.18	135.39	145.19	147.41	0.00	
5500.00	0.00	89.77	5485.18	135.39	145.19	147.41	0.00	
5600.00	0.00	89.77	5585.18	135.39	145.19	147.41	0.00	
5700.00	0.00	89.77	5685.18	135.39	145.19	147.41	0.00	
5800.00	0.00	89.77	5785.18	135.39	145.19	147.41	0.00	
5900.00	0.00	89.77	5885.18	135.39	145.19	147.41	0.00	
6000.00	0.00	89.77	5985.18	135.39	145.19	147.41	0.00	
6100.00	0.00	89.77	6085.18	135.39	145.19	147.41	0.00	
6200.00	0.00	89.77	6185.18	135.39	145.19	147.41	0.00	

BENT TREE 9-11 Fed COM 333H




Well: BENT TREE 9-11 Fed COM 333H
County: Eddy
Wellbore: Permit Plan
Design: Permit Plan #1

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

MD (ft)	INC (")	AZI (")	TVD (ft)	NS (ft)	EW (ft)	VS (ft)	DLS (°/100ft)	Comment
6300.00	0.00	89.77	6285.18	135.39	145.19	147.41	0.00	
6400.00	0.00	89.77	6385.18	135.39	145.19	147.41	0.00	
6418.82	0.00	89.77	6404.00	135.39	145.19	147.41	0.00	Bone Spring 1st
6500.00	0.00	89.77	6485.18	135.39	145.19	147.41	0.00	
6600.00	0.00	89.77	6585.18	135.39	145.19	147.41	0.00	
6700.00	0.00	89.77	6685.18	135.39	145.19	147.41	0.00	
6800.00	0.00	89.77	6785.18	135.39	145.19	147.41	0.00	
6891.98	0.00	89.77	6877.16	135.39	145.19	147.41	0.00	KOP
6900.00	0.80	89.77	6885.18	135.39	145.25	147.47	10.00	
7000.00	10.80	89.77	6984.54	135.43	155.34	157.56	10.00	
7100.00	20.80	89.77	7080.64	135.54	182.54	184.76	10.00	
7142.75	25.08	89.77	7120.00	135.61	199.20	201.42	10.00	Bone Spring 2nd / Point of Penetration
7200.00	30.80	89.77	7170.55	135.72	226.01	228.23	10.00	
7300.00	40.80	89.77	7251.56	135.95	284.43	286.65	10.00	
7400.00	50.80	89.77	7321.18	136.24	356.04	358.24	10.00	
7500.00	60.80	89.77	7377.31	136.57	438.64	440.84	10.00	
7600.00	70.80	89.77	7418.25	136.94	529.74	531.93	10.00	
7700.00	80.80	89.77	7442.75	137.32	626.56	628.75	10.00	
7780.56	88.86	89.77	7450.00	137.65	706.73	708.91	10.00	Landing Point
7800.00	88.86	89.77	7450.39	137.72	726.16	728.34	0.00	
7900.00	88.86	89.77	7452.38	138.13	826.14	828.32	0.00	
8000.00	88.86	89.77	7454.37	138.53	926.12	928.29	0.00	
8100.00	88.86	89.77	7456.36	138.93	1026.10	1028.26	0.00	
8200.00	88.86	89.77	7458.36	139.33	1126.08	1128.23	0.00	
8300.00	88.86	89.77	7460.35	139.73	1226.06	1228.20	0.00	
8400.00	88.86	89.77	7462.34	140.13	1326.04	1328.18	0.00	
8500.00	88.86	89.77	7464.33	140.53	1426.02	1428.15	0.00	
8600.00	88.86	89.77	7466.32	140.94	1526.00	1528.12	0.00	
8700.00	88.86	89.77	7468.32	141.34	1625.98	1628.09	0.00	
8800.00	88.86	89.77	7470.31	141.74	1725.96	1728.07	0.00	
8900.00	88.86	89.77	7472.30	142.14	1825.93	1828.04	0.00	
9000.00	88.86	89.77	7474.29	142.54	1925.91	1928.01	0.00	
9100.00	88.86	89.77	7476.29	142.94	2025.89	2027.98	0.00	
9200.00	88.86	89.77	7478.28	143.34	2125.87	2127.95	0.00	
9300.00	88.86	89.77	7480.27	143.75	2225.85	2227.93	0.00	
9400.00	88.86	89.77	7482.26	144.15	2325.83	2327.90	0.00	
9500.00	88.86	89.77	7484.25	144.55	2425.81	2427.87	0.00	
9600.00	88.86	89.77	7486.25	144.95	2525.79	2527.84	0.00	
9700.00	88.86	89.77	7488.24	145.35	2625.77	2627.82	0.00	
9800.00	88.86	89.77	7490.23	145.75	2725.75	2727.79	0.00	
9900.00	88.86	89.77	7492.22	146.15	2825.73	2827.76	0.00	
10000.00	88.86	89.77	7494.22	146.56	2925.71	2927.73	0.00	
10100.00	88.86	89.77	7496.21	146.96	3025.69	3027.71	0.00	
10200.00	88.86	89.77	7498.20	147.36	3125.67	3127.68	0.00	
10300.00	88.86	89.77	7500.19	147.76	3225.65	3227.65	0.00	
10400.00	88.86	89.77	7502.18	148.16	3325.62	3327.62	0.00	
10500.00	88.86	89.77	7504.18	148.56	3425.60	3427.59	0.00	
10600.00	88.86	89.77	7506.17	148.96	3525.58	3527.57	0.00	
10700.00	88.86	89.77	7508.16	149.37	3625.56	3627.54	0.00	
10800.00	88.86	89.77	7510.15	149.77	3725.54	3727.51	0.00	
10900.00	88.86	89.77	7512.15	150.17	3825.52	3827.48	0.00	
11000.00	88.86	89.77	7514.14	150.57	3925.50	3927.46	0.00	
11100.00	88.86	89.77	7516.13	150.97	4025.48	4027.43	0.00	
11200.00	88.86	89.77	7518.12	151.37	4125.46	4127.40	0.00	
11300.00	88.86	89.77	7520.11	151.78	4225.44	4227.37	0.00	
11400.00	88.86	89.77	7522.11	152.18	4325.42	4327.35	0.00	
11500.00	88.86	89.77	7524.10	152.58	4425.40	4427.32	0.00	
11600.00	88.86	89.77	7526.09	152.98	4525.38	4527.29	0.00	
11700.00	88.86	89.77	7528.08	153.38	4625.36	4627.26	0.00	
11800.00	88.86	89.77	7530.07	153.78	4725.34	4727.23	0.00	
11900.00	88.86	89.77	7532.07	154.18	4825.32	4827.21	0.00	
12000.00	88.86	89.77	7534.06	154.59	4925.29	4927.18	0.00	
12100.00	88.86	89.77	7536.05	154.99	5025.27	5027.15	0.00	
12200.00	88.86	89.77	7538.04	155.39	5125.25	5127.12	0.00	
12300.00	88.86	89.77	7540.04	155.79	5225.23	5227.10	0.00	
12400.00	88.86	89.77	7542.03	156.19	5325.21	5327.07	0.00	
12500.00	88.86	89.77	7544.02	156.59	5425.19	5427.04	0.00	
12600.00	88.86	89.77	7546.01	156.99	5525.17	5527.01	0.00	
12700.00	88.86	89.77	7548.00	157.40	5625.15	5626.98	0.00	
12800.00	88.86	89.77	7550.00	157.80	5725.13	5726.96	0.00	

BENT TREE 9-11 Fed COM 333H

		Well: BENT TREE 9-11 Fed COM 333H						Geodetic System: US State Plane 1983	
		County: Eddy						Datum: North American Datum 1927	
		Wellbore: Permit Plan						Ellipsoid: Clarke 1866	
		Design: Permit Plan #1						Zone: 3001 - NM East (NAD83)	
MD	INC	AZI	TVD	NS	EW	VS	DLS	Comment	
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)		
12900.00	88.86	89.77	7551.99	158.20	5825.11	5826.93	0.00		
13000.00	88.86	89.77	7553.98	158.60	5925.09	5926.90	0.00		
13100.00	88.86	89.77	7555.97	159.00	6025.07	6026.87	0.00		
13200.00	88.86	89.77	7557.97	159.40	6125.05	6126.85	0.00		
13300.00	88.86	89.77	7559.96	159.80	6225.03	6226.82	0.00		
13400.00	88.86	89.77	7561.95	160.21	6325.01	6326.79	0.00		
13500.00	88.86	89.77	7563.94	160.61	6424.98	6426.76	0.00		
13600.00	88.86	89.77	7565.93	161.01	6524.96	6526.74	0.00		
13700.00	88.86	89.77	7567.93	161.41	6624.94	6626.71	0.00		
13800.00	88.86	89.77	7569.92	161.81	6724.92	6726.68	0.00		
13900.00	88.86	89.77	7571.91	162.21	6824.90	6826.65	0.00		
14000.00	88.86	89.77	7573.90	162.62	6924.88	6926.62	0.00		
14100.00	88.86	89.77	7575.90	163.02	7024.86	7026.60	0.00		
14200.00	88.86	89.77	7577.89	163.42	7124.84	7126.57	0.00		
14300.00	88.86	89.77	7579.88	163.82	7224.82	7226.54	0.00		
14400.00	88.86	89.77	7581.87	164.22	7324.80	7326.51	0.00		
14500.00	88.86	89.77	7583.86	164.62	7424.78	7426.49	0.00		
14600.00	88.86	89.77	7585.86	165.02	7524.76	7526.46	0.00		
14700.00	88.86	89.77	7587.85	165.43	7624.74	7626.43	0.00		
14800.00	88.86	89.77	7589.84	165.83	7724.72	7726.40	0.00		
14900.00	88.86	89.77	7591.83	166.23	7824.70	7826.38	0.00		
15000.00	88.86	89.77	7593.82	166.63	7924.67	7926.35	0.00		
15100.00	88.86	89.77	7595.82	167.03	8024.65	8026.32	0.00		
15200.00	88.86	89.77	7597.81	167.43	8124.63	8126.29	0.00		
15300.00	88.86	89.77	7599.80	167.83	8224.61	8226.26	0.00		
15400.00	88.86	89.77	7601.79	168.24	8324.59	8326.24	0.00		
15500.00	88.86	89.77	7603.79	168.64	8424.57	8426.21	0.00		
15600.00	88.86	89.77	7605.78	169.04	8524.55	8526.18	0.00		
15700.00	88.86	89.77	7607.77	169.44	8624.53	8626.15	0.00		
15800.00	88.86	89.77	7609.76	169.84	8724.51	8726.13	0.00		
15900.00	88.86	89.77	7611.75	170.24	8824.49	8826.10	0.00		
16000.00	88.86	89.77	7613.75	170.64	8924.47	8926.07	0.00		
16100.00	88.86	89.77	7615.74	171.05	9024.45	9026.04	0.00		
16200.00	88.86	89.77	7617.73	171.45	9124.43	9126.01	0.00		
16300.00	88.86	89.77	7619.72	171.85	9224.41	9225.99	0.00		
16400.00	88.86	89.77	7621.72	172.25	9324.39	9325.96	0.00		
16500.00	88.86	89.77	7623.71	172.65	9424.37	9425.93	0.00		
16600.00	88.86	89.77	7625.70	173.05	9524.34	9525.90	0.00		
16700.00	88.86	89.77	7627.69	173.46	9624.32	9625.88	0.00		
16800.00	88.86	89.77	7629.68	173.86	9724.30	9725.85	0.00		
16900.00	88.86	89.77	7631.68	174.26	9824.28	9825.82	0.00		
17000.00	88.86	89.77	7633.67	174.66	9924.26	9925.79	0.00		
17100.00	88.86	89.77	7635.66	175.06	10024.24	10025.77	0.00		
17200.00	88.86	89.77	7637.65	175.46	10124.22	10125.74	0.00		
17300.00	88.86	89.77	7639.65	175.86	10224.20	10225.71	0.00		
17400.00	88.86	89.77	7641.64	176.27	10324.18	10325.68	0.00		
17500.00	88.86	89.77	7643.63	176.67	10424.16	10425.65	0.00		
17600.00	88.86	89.77	7645.62	177.07	10524.14	10525.63	0.00		
17700.00	88.86	89.77	7647.61	177.47	10624.12	10625.60	0.00		
17740.43	88.86	89.77	7648.42	177.63	10664.54	10666.02	0.00	exit	
17800.00	88.86	89.77	7649.61	177.87	10724.10	10725.57	0.00		
17820.43	88.86	89.77	7650.00	177.94	10744.52	10745.99	0.00	BHL	

Well Name: BENT TREE 9-11 FED COM	Well Location: T21S / R27E / SEC 9 / SENW / 32.497026 / -104.195319	County or Parish/State: EDDY / NM
Well Number: 333H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM134862	Unit or CA Name:	Unit or CA Number:
US Well Number: 3001548796	Operator: DEVON ENERGY PRODUCTION COMPANY LP	

Notice of Intent

Sundry ID: 2825282

Type of Submission: Notice of Intent	Type of Action: APD Change
Date Sundry Submitted: 12/04/2024	Time Sundry Submitted: 09:40
Date proposed operation will begin: 12/03/2024	

Procedure Description: Devon Energy Production Co., L.P. (Devon) respectfully requests to change the depth and drilling updates on the subject well. Devon would also like to request a variance for break test and offline cementing. Please see attached revised Drill plan, directional plan, break test, and offline cementing. Permitted TVD/MD: 2662/2662 Proposed TVD/MD: 2737/2737

NOI Attachments

Procedure Description

- Offline_Cementing___Variance_Request_20241204093612.pdf
- break_test_variance_BOP_1_15_24_20241203074323.pdf
- MB_Wellhd_10M_WC_4_STRING_13.375_10.75_8.625_5.5_20241203074323.pdf
- 13.375_54.5lb_J55_20241203074323.pdf
- 8.625_32lb_P110EC_SPRINT_FJ_VST_20241203074323.pdf
- 5.5_17lb_P110EC_DWC_C_IS_PLUS_20241203074323.pdf
- 10.75_45.5lb_J55_BTC_20241203074323.pdf
- BENT_TREE_9_11_Fed_COM_333H_20241203074200.pdf
- BENT_TREE_9_11_Fed_COM_333H_Directional_Plan_11_19_24_20241203074200.pdf

Received by OCD: 12/18/2024 9:19:53 AM

Page 25 of 59

Well Name: BENT TREE 9-11 FED COM	Well Location: T21S / R27E / SEC 9 / SENW / 32.497026 / -104.195319	County or Parish/State: EDDY / NM
Well Number: 333H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM134862	Unit or CA Name:	Unit or CA Number:
US Well Number: 3001548796	Operator: DEVON ENERGY PRODUCTION COMPANY LP	

Operator

I certify that the foregoing is true and correct. Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction. Electronic submission of Sundry Notices through this system satisfies regulations requiring a

Operator Electronic Signature: SHANDEE THOMAS

Signed on: DEC 03, 2024 07:43 AM

Name: DEVON ENERGY PRODUCTION COMPANY LP

Title: Regulatory Professional

Street Address: 333 W SHERDIAN AVE

City: OKLAHOMA CITYState: OK

Phone: (405) 552-7853

Email address: SHANDEE.THOMAS@DVN.COM

Field

Representative Name:

Street Address:

City:State:Zip:

Phone:

Email address:

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Devon Energy Production Company LP
LOCATION:	Section 9, T.21 S., R.27 E., NMPM
COUNTY:	Eddy County, New Mexico

WELL NAME & NO.:	Bent Tree 9-11 Fed Com 333H
ATS/API ID:	30-015-48796
APD ID:	10400063235
Sundry ID:	2825282

COA

H2S	Yes		
Potash	None	None	
Cave/Karst Potential	Medium		
Cave/Karst Potential	<input type="checkbox"/> Critical		
Variance	<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> Flex Hose	<input checked="" type="checkbox"/> Other
Wellhead	Conventional and Multibowl		
Other	<input type="checkbox"/> 4 String <input type="checkbox"/> 5 String	Capitan Reef Int 2	<input type="checkbox"/> WIPP
Other	Pilot Hole None	<input type="checkbox"/> Open Annulus	
Cementing	Contingency Squeeze None	Echo-Meter Int 2	Primary Cement Squeeze None
Special Requirements	<input type="checkbox"/> Water Disposal/Injection	<input checked="" type="checkbox"/> COM	<input type="checkbox"/> Unit
Special Requirements	<input type="checkbox"/> Batch Sundry	Waste Prevention None	
Special Requirements Variance	<input checked="" type="checkbox"/> Break Testing	<input checked="" type="checkbox"/> Offline Cementing	<input type="checkbox"/> 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 **13-3/8** inch surface casing shall be set at approximately **400 feet** (a minimum of **70 feet (Eddy County)** into the Rustler Anhydrite and above the salt when present, and below usable fresh water) and cemented to the surface. The surface hole shall be **17 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.

Cement excess is less than 25%, more cement is required if washout occurs. Adjust cement volume and excess based on a fluid caliper or similar method that reflects the as-drilled size of the wellbore.

2. The minimum required fill of cement behind the **10-3/4** inch intermediate casing is:
 - Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, potash or capitan reef.**

3. 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.
Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, potash or capitan reef.

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.

- First stage: Operator will cement with intent to reach the top of the **Capitan Reef at 1050'**.
- 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 192 sxs Class C)**
Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, potash or capitan reef.

Operator has proposed to pump down **10-3/4" X 8-5/8"** annulus after primary cementing stage. Operator must run Echo-meter to verify Cement Slurry/Fluid top in the annulus Or operator shall run a CBL from TD of the **8-5/8"** casing to surface after the second stage BH to verify TOC.

Submit results to the BLM. No displacement fluid/wash out shall be utilized at the top of the cement slurry between second stage BH and top out. Operator must run one CBL per Well Pad. Operator may conduct a negative and positive pressure test during completion to remediate sustained casing pressure.

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

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

- ❖ In Medium Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.
- ❖ In Capitan Reef Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

❖ **Special Capitan Reef requirements.** If lost circulation (50% or greater) occurs below the Base of the Salt, the operator shall do the following:

- Switch to fresh water mud to protect the Capitan Reef and use fresh water mud until setting the intermediate casing. The appropriate BLM office is to be notified for a PET to witness the switch to fresh water.
- Daily drilling reports from the Base of the Salt to the setting of the intermediate casing are to be submitted to the BLM CFO engineering staff via e-mail by 0800 hours each morning. Any lost circulation encountered is to be recorded on these drilling reports. The daily drilling report should show mud volume per shift/tour. Failure to submit these reports will result in an Incidence of Non-Compliance being issued for failure to comply with the Conditions of Approval. If not already planned, the operator shall run a caliper survey for the intermediate well bore and submit to the appropriate BLM office.

4. 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.
Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, potash or capitan reef. Cement excess is less than 25%, more cement is required if washout occurs. Adjust cement volume and excess based on a fluid caliper or similar method that reflects the as-drilled size of the wellbore.

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 **3000 (3M) psi. Annular which shall be tested to 2100 (70% Working Pressure) psi.**
- b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **10-3/4** intermediate casing shoe shall be **3000 (3M) psi. Annular which shall be tested to 2100 (70% Working Pressure) psi.**

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

Option 2:

- a. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the **13-3/8** 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 43 CFR 3172.6(b)(9) 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 **(575-361-2822 Eddy 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 **43 CFR part 3170 Subpart 3172**.
- If in the event break testing is not utilized, then a full BOPE test would be conducted.

Offline Cementing

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

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

Notify the BLM 4hrs prior to cementing offline at **Eddy County: 575-361-2822**.

GENERAL REQUIREMENTS

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

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

☒ Eddy County

EMAIL or call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,

BLM_NM_CFO_DrillingNotifications@BLM.GOV

(575) 361-2822

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

A. CASING

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

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

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends of both lead and tail cement, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in **43 CFR part 3170 Subpart 3172 and API STD 53 Sec. 5.3.**

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

done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve open. (only applies to single stage cement jobs, prior to the cement setting up.)

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

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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

Long Vo (LVO) 12/17/2024

Form 3160-5
(June 2019)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

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

5. Lease Serial No.	
6. If Indian, Allottee or Tribe Name	
7. If Unit of CA/Agreement, Name and/or No.	
8. Well Name and No.	
9. API Well No.	
10. Field and Pool or Exploratory Area	11. Country or Parish, State

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

2. Name of Operator

3a. Address 3b. Phone No. (include area code)

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

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

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

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

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

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

(Instructions on page 2)

GENERAL INSTRUCTIONS

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

SPECIFIC INSTRUCTIONS

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

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

NOTICES

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

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

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

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

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

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

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

Response to this request is mandatory.

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

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

Additional Information

Location of Well

0. SHL: SENW / 1843 FNL / 2497 FWL / TWSP: 21S / RANGE: 27E / SECTION: 9 / LAT: 32.497026 / LONG: -104.195319 (TVD: 0 feet, MD: 0 feet)

PPP: SWNE / 2200 FNL / 2545 FEL / TWSP: 21S / RANGE: 27E / SECTION: 9 / LAT: 32.496041 / LONG: -104.194563 (TVD: 8434 feet, MD: 8481 feet)

PPP: SWNW / 2144 FNL / 185 FWL / TWSP: 21S / RANGE: 27E / SECTION: 10 / LAT: 32.495926 / LONG: -104.18579 (TVD: 8694 feet, MD: 11400 feet)

PPP: SENW / 2156 FNL / 1485 FWL / TWSP: 21S / RANGE: 27E / SECTION: 10 / LAT: 32.495921 / LONG: -104.181574 (TVD: 8722 feet, MD: 12700 feet)

BHL: SENW / 2200 FNL / 2659 FWL / TWSP: 21S / RANGE: 27E / SECTION: 11 / LAT: 32.495987 / LONG: -104.160478 (TVD: 8867 feet, MD: 19218 feet)

CONFIDENTIAL

Offline Cementing

Variance Request

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

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 43 CFR 3172, 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 43 CFR 3172 per the following: Devon Energy will perform a full BOP test per 43 CFR 3172 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.

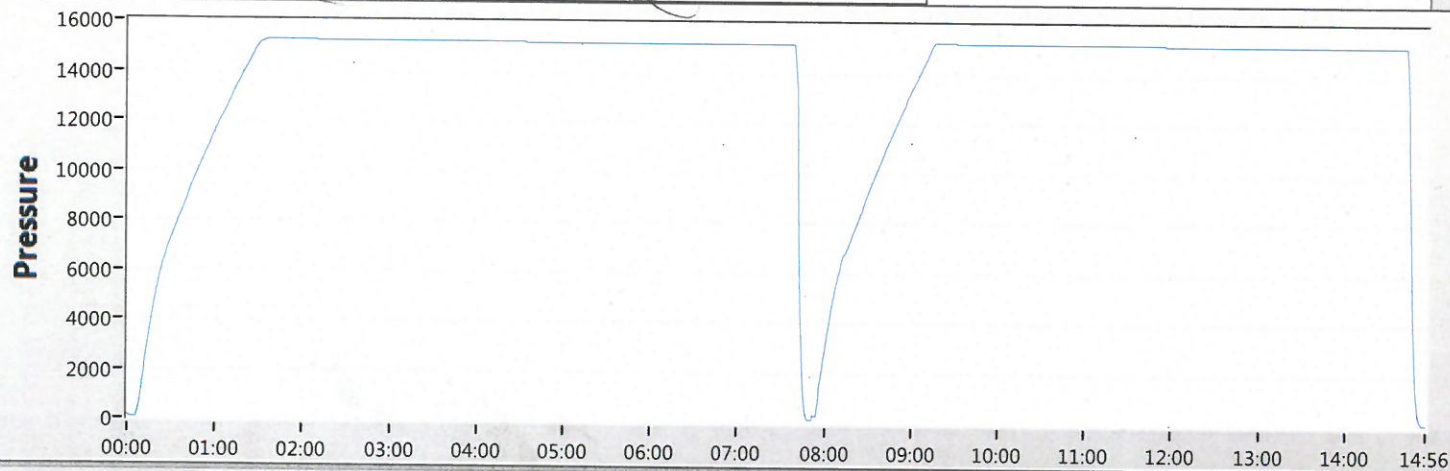
1. Well Control Response:
 1. Primary barrier remains fluid
 2. In the event of an influx due to being underbalanced and after a realized gain or flow, the order of closing BOPE is as follows:
 - a) Annular first
 - b) If annular were to not hold, Upper pipe rams second (which were tested on the skid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

Cactus
Wellhead

2-9-17
E Bell

80.7 °F

15:49



50

Date 02-09-17

Tested By E.BELL

Transducer bay2

Transducer Serial 181504

Calibration Date 9/6/15

Job#	Part#	Serial#	Description	Test Pressure
1	TRJ0006341-0007	116966	TRJ6341-7-1 ADPT,DRLG,CW,MBU-3T,13-5/8 10M	15000
2				
3				
4				
5			TRANSDUCER CALIBRATION DUE 03/13/2017	
6				
7				
8				



Start



Stop



Zero



Config

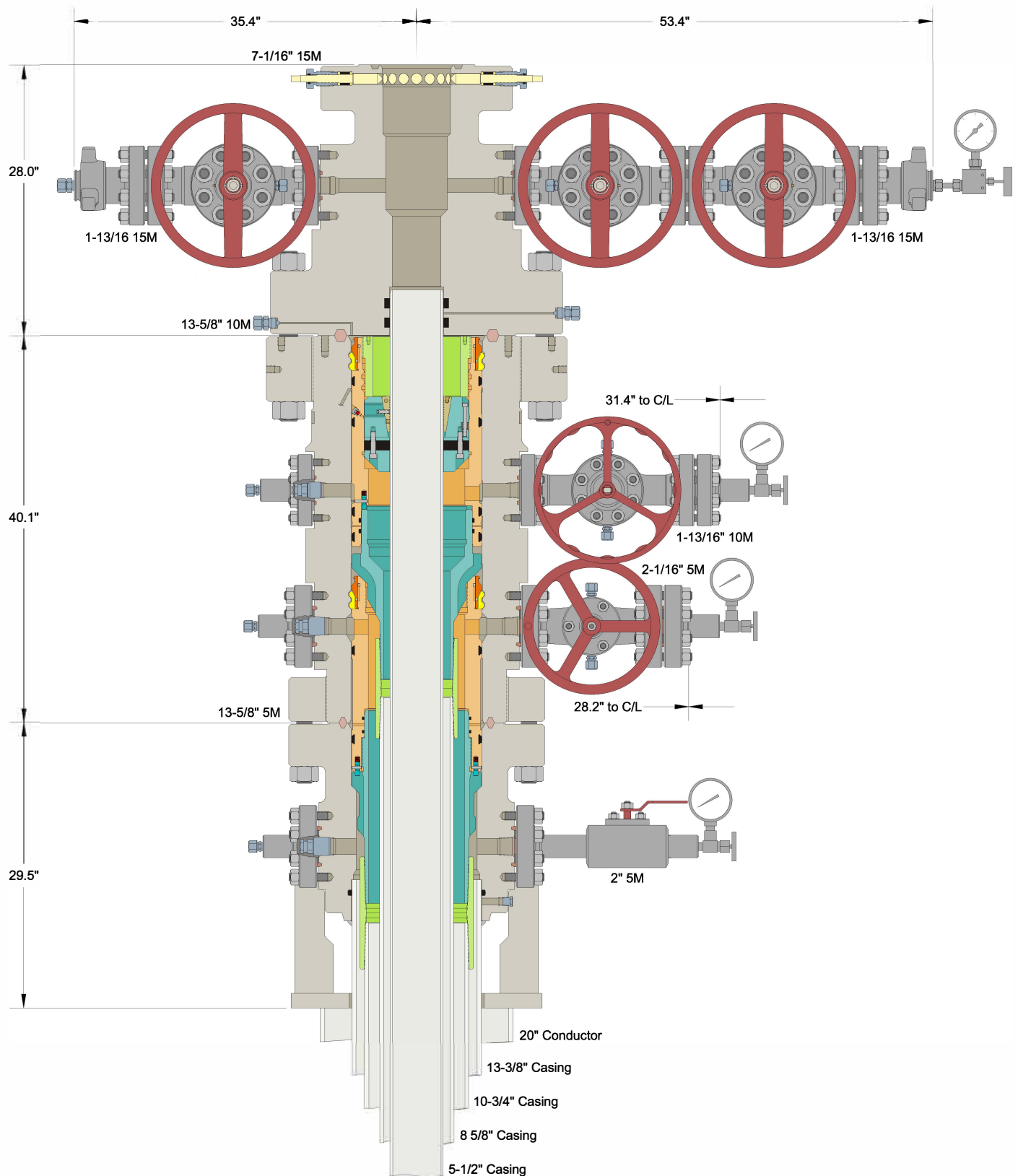


Save



Print

EXIT



INFORMATION CONTAINED HEREIN IS THE PROPERTY OF CACTUS WELLHEAD, LLC. REPRODUCTION, DISCLOSURE, OR USE THEREOF IS PERMISSIBLE ONLY AS PROVIDED BY CONTRACT OR AS EXPRESSLY AUTHORIZED BY CACTUS WELLHEAD, LLC.

ALL DIMENSIONS APPROXIMATE

CACTUS WELLHEAD LLC

MATADOR RESOURCES
WOLFCAMP A WELLS (TEXAS)

20" x 13-3/8" x 10-3/4" x 8-5/8" x 5-1/2" MBU-4T-SOW Wellhead
With 13-5/8" 10M x 7-1/16" 15M CTH-DBLHPS Tubing Head,
10-3/4" & 8-5/8" Mandrel Hangers And 5-1/2" Slip Casing Hanger

DRAWN	DLE	09AUG19
APPRV		
DRAWING NO.	HBE0000156	



13-3/8" 54.50# .380 J-55

Dimensions (Nominal)

Outside Diameter	13.375	in.
Wall	0.380	in.
Inside Diameter	12.615	in.
Drift	12.459	in.
Weight, T&C	54.500	lbs/ft
Weight, PE	52.790	lbs/ft

Performance Ratings, Minimum

Collapse, PE	1130	psi
Internal Yields Pressure		
PE	2730	psi
STC	2730	PSI
BTC	2730	psi
Yield Strength, Pipe Body	853	1000 lbs
Joint Strength, STC	514	1000 lbs
Joint Strength, BTC	909	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: 16 Dec. 2020 by Logan Van Gorp



Connection Data Sheet

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

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

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

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

* 87.5% RBW

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

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



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

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

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



Connection Data Sheet

OD (in.)	WEIGHT (lbs./ft.)	WALL (in.)	GRADE	DRIFT (in.)	RBW%	CONNECTION
5.500	Nominal: 17.00 Plain End: 16.89	0.304	VST P110 EC	4.767	87.5	DWC/C-IS PLUS

PIPE PROPERTIES

Nominal OD	5.500	in.
Nominal ID	4.892	in.
Nominal Area	4.962	sq.in.
Grade Type	API 5CT	
Min. Yield Strength	125	ksi
Max. Yield Strength	140	ksi
Min. Tensile Strength	135	ksi
Yield Strength	620	klb
Ultimate Strength	670	klb
Min. Internal Yield	12,090	psi
High Collapse	8,840	psi

CONNECTION PROPERTIES

Connection Type	Semi-Premium T&C
Connection OD (nom)	6.300 in.
Connection ID (nom)	4.892 in.
Make-Up Loss	4.125 in.
Coupling Length	9.250 in.
Critical Cross Section	4.962 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	620	klb
Parting Load	670	klb
Compression Rating	620	klb
Min. Internal Yield	12,090	psi
High Collapse	8,840	psi
Maximum Uniaxial Bend Rating	104.2	°/100 ft
Ref String Length w 1.4 Design Factor	26,050	ft

FIELD TORQUE VALUES

Min. Make-up Torque	13,400	ft.lbs
Opti. Make-up Torque	14,350	ft.lbs
Max. Make-up Torque	15,300	ft.lbs
Min. Shoulder Torque	1,340	ft.lbs
Max. Shoulder Torque	10,720	ft.lbs
Max. Delta Turn	0.200	Turns
Max Operational Torque	17,200	ft.lbs
Maximum Torsional Value (MTV)	18,920	ft.lbs

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 4:15 PM



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

DWC Connection Data Notes:

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

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 4:15 PM





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

Dimensions (Nominal)

Outside Diameter	10.750	in.
Wall	0.400	in.
Inside Diameter	9.950	in.
Drift	9.875	in.
Weight, T&C	45.500	lbs/ft
Weight, PE	44.260	lbs/ft

Performance Properties

Collapse	2090	psi
Internal Yield Pressure at Minimum Yield		
PE	3580	psi
STC	3580	psi
BTC	3580	psi
Yield Strength, Pipe Body	715	1000 lbs
Joint Strength		
STC	493	1000 lbs
BTC	796	1000 lbs
BTC Special Clearance (11.25" OD Cplg)	506	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.

1. Geologic Formations

TVD of target	7648	Pilot hole depth	N/A
MD at TD:	17820	Deepest expected fresh water	

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone?	Hazards*
Rustler	100		
Salt	189		
Base of Salt	418		
Capitan Reef Top	842		
Capitan Reef Base	2600		
Delaware	2687		
Bone Spring 1st	6404		
Bone Spring 2nd	7120		

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

BENT TREE 9-11 Fed COM 333H

2. Casing Program (Primary Design)

Hole Size	Csg. Size	Wt (PPF)	Grade	Conn	Top (MD)	Bottom (MD)	Top (TVD)	Bottom (TVD)
17 1/2	13 3/8	54.5	J-55	BTC	0.0	125 MD	0	125 TVD
12 1/4	10 3/4	45.5	J-55	BTC SCC	0.0	792 MD	0	792 TVD
9 7/8	8 5/8	32.0	P110EC	Sprint FJ	0	2737 MD	0	2737 TVD
7 7/8	5 1/2	17.0	P110	DWC/C IS+	0	17820 MD	0	7648 TVD

- All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 IILB.1.h Must have table for contingency casing.
- The Rustler top will be validated via drilling parameters (i.e. reduction in ROP), and the surface casing setting depth will be revised accordingly. In addition, surface casing will be set a minimum of 25' above the top of the salt.

3. Cementing Program (Primary Design)

Casing	# Sks	TOC	Wt. (lb/gal)	Yld (ft3/sack)	Slurry Description
Surface	127	Surf	13.2	1.44	Lead: Class C Cement + additives
Int	21	Surf	9	3.27	Lead: Class C Cement + additives
	101	292	13.2	1.44	Tail: Class H / C + additives
Int 1	84	Surf	9	3.27	Lead: Class C Cement + additives
	67	2237	13.2	1.44	Tail: Class H / C + additives
Int 1 Intermediate Squeeze	192	Surf	9	1.44	Squeeze Lead: Class C Cement + additives
	21	Surf	9	3.27	Lead: Class C Cement + additives
	101	2237	13.2	1.44	Tail: Class H / C + additives
Production	351	792	9	3.27	Lead: Class H / C + additives
	1446	6892	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 1 casing string with the first stage being pumped conventionally with the calculated top of cement at the Capitan Reef and the second stage performed as a bradenhead squeeze with planned cement from the Capitan Reef 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.

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

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

BENT TREE 9-11 Fed COM 333H

4. Pressure Control Equipment (Four String Design)

BOP installed and tested before drilling which hole?		Size?	Min. Required WP	Type	✓	Tested to:
Int			Annular			n/a
			Blind Ram			500psi
			Pipe Ram			
			Double Ram			
			Other*	diverter	X	
Int 1	13-5/8"	5M	Annular (5M)		X	100% of rated working pressure
			Blind Ram		X	5M
			Pipe Ram			
			Double Ram		X	
			Other*			
Production	13-5/8"	5M	Annular (5M)		X	100% of rated working pressure
			Blind Ram		X	5M
			Pipe Ram			
			Double Ram		X	
			Other*			
N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.					
N	A variance is requested to run a 5 M annular on a 10M system					

By definition, the diverter will only be used to divert flow from the well and not to shut in the well. Prior to drilling out, the diverter will be tested to 250 PSI to ensure functionality.

5. Mud Program (Four String Design)

Section	Type	Weight (ppg)
Surface	WBM	8.5-9
Intermediate	DBE / Cut Brine	10-10.5
Intermediate 1	WBM	8.5-9
Production	OBM	10-10.5

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

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

6. Logging and Testing Procedures

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

Additional logs planned	Interval
	Resistivity
	Density
X	CBL
X	Mud log
	PEX

7. Drilling Conditions

Condition	Specify what type and where?
BH pressure at deepest TVD	4176
Abnormal temperature	No

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

Hydrogen 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	H ₂ S is present
Y	H ₂ S 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 nipped up and tested on the wellhead before drilling operations commences on each well.
 - a. The NMOCD will be contacted / notified 24 hours before the drilling rig moves back on to the pad with the pre-set surface casing.

Attachments

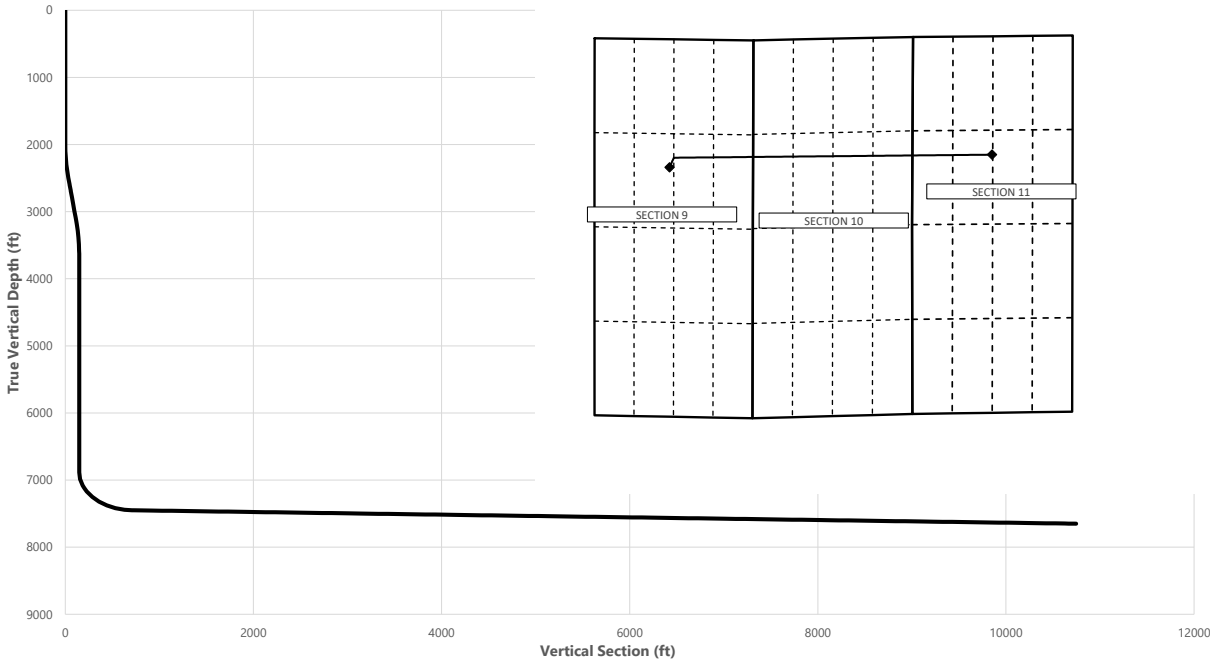
X Directional Plan
Other, describe



Well: BENT TREE 9-11 Fed COM 333H
County: Eddy
Wellbore: Permit Plan
Design: Permit Plan #1

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

MD (ft)	INC (°)	AZI (°)	TVD (ft)	NS (ft)	EW (ft)	VS (ft)	DLS (°/100ft)	Comment
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	SHL
2000.00	0.00	47.00	2000.00	0.00	0.00	0.00	0.00	Start Tangent
2500.00	10.00	47.00	2497.47	29.68	31.83	32.32	2.00	Hold Tangent
3141.97	10.00	47.00	3129.68	105.71	113.36	115.09	0.00	Drop to Vertical
3641.97	0.00	47.00	3627.14	135.39	145.19	147.41	2.00	Hold Vertical
6891.98	0.00	89.77	6877.16	135.39	145.19	147.41	0.00	KOP
7780.56	88.86	89.77	7450.00	137.65	706.73	708.91	10.00	Landing Point
17820.43	88.86	89.77	7650.00	177.94	10744.52	10745.99	0.00	BHL




Key Depths	MD (ft)	TVD (ft)
Rustler	100.00	100.00
Salt	189.00	189.00
Base of Salt	418.00	418.00
Capitan Reef Top	842.00	842.00
Capitan Reef Base	2604.12	2600.00
Delaware	2692.46	2687.00
Bone Spring 1st	6418.82	6404.00
Bone Spring 2nd / Point of Penetrati exit	7142.75 17740.43	7120.00 7648.42


	MD (ft)	TVD (ft)	Lat (°)	Long (°)	Section Footages
SHL	0.00	0.00	32.4969	-104.1954	1843' FNL, 2497' FWL of Sec 9 in T21S, R27E
KOP	6891.98	6877.16	32.4973	-104.1949	1660' FNL, 2640' FEL of Sec 9 in T21S, R27E
Point of Penetration	7142.75	7120.00	32.4975	-104.1946	1660' FNL, 2549' FEL of Sec 9 in T21S, R27E
Exit	17740.43	7648.42	32.4975	-104.1607	1660' FNL, 2574' FWL of Sec 11 in T21S, R27E
BHL	17820.43	7650.00	32.4974	-104.1605	1660' FNL, 2654' FWL of Sec 11 in T21S, R27E

Y X MD
KOP 544712 584033 6891.98


BENT TREE 9-11 Fed COM 333H

		Well: BENT TREE 9-11 Fed COM 333H						Geodetic System: US State Plane 1983	
		County: Eddy						Datum: North American Datum 1927	
		Wellbore: Permit Plan						Ellipsoid: Clarke 1866	
		Design: Permit Plan #1						Zone: 3001 - NM East (NAD83)	
MD	INC	AZI	TVD	NS	EW	VS	DLS	Comment	
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)		
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	SHL	
100.00	0.00	47.00	100.00	0.00	0.00	0.00	0.00	Rustler,	
189.00	0.00	47.00	189.00	0.00	0.00	0.00	0.00	Salt	
200.00	0.00	47.00	200.00	0.00	0.00	0.00	0.00		
300.00	0.00	47.00	300.00	0.00	0.00	0.00	0.00		
400.00	0.00	47.00	400.00	0.00	0.00	0.00	0.00		
418.00	0.00	47.00	418.00	0.00	0.00	0.00	0.00	Base of Salt	
500.00	0.00	47.00	500.00	0.00	0.00	0.00	0.00		
600.00	0.00	47.00	600.00	0.00	0.00	0.00	0.00		
700.00	0.00	47.00	700.00	0.00	0.00	0.00	0.00		
800.00	0.00	47.00	800.00	0.00	0.00	0.00	0.00		
842.00	0.00	47.00	842.00	0.00	0.00	0.00	0.00	Capitan Reef Top	
900.00	0.00	47.00	900.00	0.00	0.00	0.00	0.00		
1000.00	0.00	47.00	1000.00	0.00	0.00	0.00	0.00		
1100.00	0.00	47.00	1100.00	0.00	0.00	0.00	0.00		
1200.00	0.00	47.00	1200.00	0.00	0.00	0.00	0.00		
1300.00	0.00	47.00	1300.00	0.00	0.00	0.00	0.00		
1400.00	0.00	47.00	1400.00	0.00	0.00	0.00	0.00		
1500.00	0.00	47.00	1500.00	0.00	0.00	0.00	0.00		
1600.00	0.00	47.00	1600.00	0.00	0.00	0.00	0.00		
1700.00	0.00	47.00	1700.00	0.00	0.00	0.00	0.00		
1800.00	0.00	47.00	1800.00	0.00	0.00	0.00	0.00		
1900.00	0.00	47.00	1900.00	0.00	0.00	0.00	0.00		
2000.00	0.00	47.00	2000.00	0.00	0.00	0.00	0.00	Start Tangent	
2100.00	2.00	47.00	2099.98	1.19	1.28	1.30	2.00		
2200.00	4.00	47.00	2199.84	4.76	5.10	5.18	2.00		
2300.00	6.00	47.00	2299.45	10.70	11.48	11.65	2.00		
2400.00	8.00	47.00	2398.70	19.01	20.39	20.70	2.00		
2500.00	10.00	47.00	2497.47	29.68	31.83	32.32	2.00	Hold Tangent	
2600.00	10.00	47.00	2595.95	41.53	44.53	45.21	0.00		
2604.12	10.00	47.00	2600.00	42.01	45.05	45.74	0.00	Capitan Reef Base	
2692.46	10.00	47.00	2687.00	52.47	56.27	57.13	0.00	Delaware	
2700.00	10.00	47.00	2694.43	53.37	57.23	58.11	0.00		
2800.00	10.00	47.00	2792.91	65.21	69.93	71.00	0.00		
2900.00	10.00	47.00	2891.39	77.05	82.63	83.89	0.00		
3000.00	10.00	47.00	2989.87	88.90	95.33	96.79	0.00		
3100.00	10.00	47.00	3088.35	100.74	108.03	109.68	0.00		
3141.97	10.00	47.00	3129.68	105.71	113.36	115.09	0.00	Drop to Vertical	
3200.00	8.84	47.00	3186.93	112.19	120.31	122.15	2.00		
3300.00	6.84	47.00	3285.99	121.49	130.28	132.27	2.00		
3400.00	4.84	47.00	3385.47	128.43	137.72	139.83	2.00		
3500.00	2.84	47.00	3485.24	132.99	142.62	144.80	2.00		
3600.00	0.84	47.00	3585.18	135.18	144.96	147.18	2.00		
3641.97	0.00	47.00	3627.14	135.39	145.19	147.41	2.00	Hold Vertical	
3700.00	0.00	89.77	3685.18	135.39	145.19	147.41	0.00		
3800.00	0.00	89.77	3785.18	135.39	145.19	147.41	0.00		
3900.00	0.00	89.77	3885.18	135.39	145.19	147.41	0.00		
4000.00	0.00	89.77	3985.18	135.39	145.19	147.41	0.00		
4100.00	0.00	89.77	4085.18	135.39	145.19	147.41	0.00		
4200.00	0.00	89.77	4185.18	135.39	145.19	147.41	0.00		
4300.00	0.00	89.77	4285.18	135.39	145.19	147.41	0.00		
4400.00	0.00	89.77	4385.18	135.39	145.19	147.41	0.00		
4500.00	0.00	89.77	4485.18	135.39	145.19	147.41	0.00		
4600.00	0.00	89.77	4585.18	135.39	145.19	147.41	0.00		
4700.00	0.00	89.77	4685.18	135.39	145.19	147.41	0.00		
4800.00	0.00	89.77	4785.18	135.39	145.19	147.41	0.00		
4900.00	0.00	89.77	4885.18	135.39	145.19	147.41	0.00		
5000.00	0.00	89.77	4985.18	135.39	145.19	147.41	0.00		
5100.00	0.00	89.77	5085.18	135.39	145.19	147.41	0.00		
5200.00	0.00	89.77	5185.18	135.39	145.19	147.41	0.00		
5300.00	0.00	89.77	5285.18	135.39	145.19	147.41	0.00		
5400.00	0.00	89.77	5385.18	135.39	145.19	147.41	0.00		
5500.00	0.00	89.77	5485.18	135.39	145.19	147.41	0.00		
5600.00	0.00	89.77	5585.18	135.39	145.19	147.41	0.00		
5700.00	0.00	89.77	5685.18	135.39	145.19	147.41	0.00		
5800.00	0.00	89.77	5785.18	135.39	145.19	147.41	0.00		
5900.00	0.00	89.77	5885.18	135.39	145.19	147.41	0.00		
6000.00	0.00	89.77	5985.18	135.39	145.19	147.41	0.00		
6100.00	0.00	89.77	6085.18	135.39	145.19	147.41	0.00		
6200.00	0.00	89.77	6185.18	135.39	145.19	147.41	0.00		

BENT TREE 9-11 Fed COM 333H

		Well: BENT TREE 9-11 Fed COM 333H						Geodetic System: US State Plane 1983	
		County: Eddy						Datum: North American Datum 1927	
		Wellbore: Permit Plan						Ellipsoid: Clarke 1866	
		Design: Permit Plan #1						Zone: 3001 - NM East (NAD83)	
MD	INC	AZI	TVD	NS	EW	VS	DLS	Comment	
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)		
6300.00	0.00	89.77	6285.18	135.39	145.19	147.41	0.00		
6400.00	0.00	89.77	6385.18	135.39	145.19	147.41	0.00		
6418.82	0.00	89.77	6404.00	135.39	145.19	147.41	0.00	Bone Spring 1st	
6500.00	0.00	89.77	6485.18	135.39	145.19	147.41	0.00		
6600.00	0.00	89.77	6585.18	135.39	145.19	147.41	0.00		
6700.00	0.00	89.77	6685.18	135.39	145.19	147.41	0.00		
6800.00	0.00	89.77	6785.18	135.39	145.19	147.41	0.00		
6891.98	0.00	89.77	6877.16	135.39	145.19	147.41	0.00	KOP	
6900.00	0.80	89.77	6885.18	135.39	145.25	147.47	10.00		
7000.00	10.80	89.77	6984.54	135.43	155.34	157.56	10.00		
7100.00	20.80	89.77	7080.64	135.54	182.54	184.76	10.00		
7142.75	25.08	89.77	7120.00	135.61	199.20	201.42	10.00	Bone Spring 2nd / Point of Penetration	
7200.00	30.80	89.77	7170.55	135.72	226.01	228.23	10.00		
7300.00	40.80	89.77	7251.56	135.95	284.43	286.65	10.00		
7400.00	50.80	89.77	7321.18	136.24	356.04	358.24	10.00		
7500.00	60.80	89.77	7377.31	136.57	438.64	440.84	10.00		
7600.00	70.80	89.77	7418.25	136.94	529.74	531.93	10.00		
7700.00	80.80	89.77	7442.75	137.32	626.56	628.75	10.00		
7780.56	88.86	89.77	7450.00	137.65	706.73	708.91	10.00	Landing Point	
7800.00	88.86	89.77	7450.39	137.72	726.16	728.34	0.00		
7900.00	88.86	89.77	7452.38	138.13	826.14	828.32	0.00		
8000.00	88.86	89.77	7454.37	138.53	926.12	928.29	0.00		
8100.00	88.86	89.77	7456.36	138.93	1026.10	1028.26	0.00		
8200.00	88.86	89.77	7458.36	139.33	1126.08	1128.23	0.00		
8300.00	88.86	89.77	7460.35	139.73	1226.06	1228.20	0.00		
8400.00	88.86	89.77	7462.34	140.13	1326.04	1328.18	0.00		
8500.00	88.86	89.77	7464.33	140.53	1426.02	1428.15	0.00		
8600.00	88.86	89.77	7466.32	140.94	1526.00	1528.12	0.00		
8700.00	88.86	89.77	7468.32	141.34	1625.98	1628.09	0.00		
8800.00	88.86	89.77	7470.31	141.74	1725.96	1728.07	0.00		
8900.00	88.86	89.77	7472.30	142.14	1825.93	1828.04	0.00		
9000.00	88.86	89.77	7474.29	142.54	1925.91	1928.01	0.00		
9100.00	88.86	89.77	7476.29	142.94	2025.89	2027.98	0.00		
9200.00	88.86	89.77	7478.28	143.34	2125.87	2127.95	0.00		
9300.00	88.86	89.77	7480.27	143.75	2225.85	2227.93	0.00		
9400.00	88.86	89.77	7482.26	144.15	2325.83	2327.90	0.00		
9500.00	88.86	89.77	7484.25	144.55	2425.81	2427.87	0.00		
9600.00	88.86	89.77	7486.25	144.95	2525.79	2527.84	0.00		
9700.00	88.86	89.77	7488.24	145.35	2625.77	2627.82	0.00		
9800.00	88.86	89.77	7490.23	145.75	2725.75	2727.79	0.00		
9900.00	88.86	89.77	7492.22	146.15	2825.73	2827.76	0.00		
10000.00	88.86	89.77	7494.22	146.56	2925.71	2927.73	0.00		
10100.00	88.86	89.77	7496.21	146.96	3025.69	3027.71	0.00		
10200.00	88.86	89.77	7498.20	147.36	3125.67	3127.68	0.00		
10300.00	88.86	89.77	7500.19	147.76	3225.65	3227.65	0.00		
10400.00	88.86	89.77	7502.18	148.16	3325.62	3327.62	0.00		
10500.00	88.86	89.77	7504.18	148.56	3425.60	3427.59	0.00		
10600.00	88.86	89.77	7506.17	148.96	3525.58	3527.57	0.00		
10700.00	88.86	89.77	7508.16	149.37	3625.56	3627.54	0.00		
10800.00	88.86	89.77	7510.15	149.77	3725.54	3727.51	0.00		
10900.00	88.86	89.77	7512.15	150.17	3825.52	3827.48	0.00		
11000.00	88.86	89.77	7514.14	150.57	3925.50	3927.46	0.00		
11100.00	88.86	89.77	7516.13	150.97	4025.48	4027.43	0.00		
11200.00	88.86	89.77	7518.12	151.37	4125.46	4127.40	0.00		
11300.00	88.86	89.77	7520.11	151.78	4225.44	4227.37	0.00		
11400.00	88.86	89.77	7522.11	152.18	4325.42	4327.35	0.00		
11500.00	88.86	89.77	7524.10	152.58	4425.40	4427.32	0.00		
11600.00	88.86	89.77	7526.09	152.98	4525.38	4527.29	0.00		
11700.00	88.86	89.77	7528.08	153.38	4625.36	4627.26	0.00		
11800.00	88.86	89.77	7530.07	153.78	4725.34	4727.23	0.00		
11900.00	88.86	89.77	7532.07	154.18	4825.32	4827.21	0.00		
12000.00	88.86	89.77	7534.06	154.59	4925.29	4927.18	0.00		
12100.00	88.86	89.77	7536.05	154.99	5025.27	5027.15	0.00		
12200.00	88.86	89.77	7538.04	155.39	5125.25	5127.12	0.00		
12300.00	88.86	89.77	7540.04	155.79	5225.23	5227.10	0.00		
12400.00	88.86	89.77	7542.03	156.19	5325.21	5327.07	0.00		
12500.00	88.86	89.77	7544.02	156.59	5425.19	5427.04	0.00		
12600.00	88.86	89.77	7546.01	156.99	5525.17	5527.01	0.00		
12700.00	88.86	89.77	7548.00	157.40	5625.15	5626.98	0.00		
12800.00	88.86	89.77	7550.00	157.80	5725.13	5726.96	0.00		

BENT TREE 9-11 Fed COM 333H

		Well: BENT TREE 9-11 Fed COM 333H						Geodetic System: US State Plane 1983	
		County: Eddy						Datum: North American Datum 1927	
		Wellbore: Permit Plan						Ellipsoid: Clarke 1866	
		Design: Permit Plan #1						Zone: 3001 - NM East (NAD83)	
MD	INC	AZI	TVD	NS	EW	VS	DLS	Comment	
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)		
12900.00	88.86	89.77	7551.99	158.20	5825.11	5826.93	0.00		
13000.00	88.86	89.77	7553.98	158.60	5925.09	5926.90	0.00		
13100.00	88.86	89.77	7555.97	159.00	6025.07	6026.87	0.00		
13200.00	88.86	89.77	7557.97	159.40	6125.05	6126.85	0.00		
13300.00	88.86	89.77	7559.96	159.80	6225.03	6226.82	0.00		
13400.00	88.86	89.77	7561.95	160.21	6325.01	6326.79	0.00		
13500.00	88.86	89.77	7563.94	160.61	6424.98	6426.76	0.00		
13600.00	88.86	89.77	7565.93	161.01	6524.96	6526.74	0.00		
13700.00	88.86	89.77	7567.93	161.41	6624.94	6626.71	0.00		
13800.00	88.86	89.77	7569.92	161.81	6724.92	6726.68	0.00		
13900.00	88.86	89.77	7571.91	162.21	6824.90	6826.65	0.00		
14000.00	88.86	89.77	7573.90	162.62	6924.88	6926.62	0.00		
14100.00	88.86	89.77	7575.90	163.02	7024.86	7026.60	0.00		
14200.00	88.86	89.77	7577.89	163.42	7124.84	7126.57	0.00		
14300.00	88.86	89.77	7579.88	163.82	7224.82	7226.54	0.00		
14400.00	88.86	89.77	7581.87	164.22	7324.80	7326.51	0.00		
14500.00	88.86	89.77	7583.86	164.62	7424.78	7426.49	0.00		
14600.00	88.86	89.77	7585.86	165.02	7524.76	7526.46	0.00		
14700.00	88.86	89.77	7587.85	165.43	7624.74	7626.43	0.00		
14800.00	88.86	89.77	7589.84	165.83	7724.72	7726.40	0.00		
14900.00	88.86	89.77	7591.83	166.23	7824.70	7826.38	0.00		
15000.00	88.86	89.77	7593.82	166.63	7924.67	7926.35	0.00		
15100.00	88.86	89.77	7595.82	167.03	8024.65	8026.32	0.00		
15200.00	88.86	89.77	7597.81	167.43	8124.63	8126.29	0.00		
15300.00	88.86	89.77	7599.80	167.83	8224.61	8226.26	0.00		
15400.00	88.86	89.77	7601.79	168.24	8324.59	8326.24	0.00		
15500.00	88.86	89.77	7603.79	168.64	8424.57	8426.21	0.00		
15600.00	88.86	89.77	7605.78	169.04	8524.55	8526.18	0.00		
15700.00	88.86	89.77	7607.77	169.44	8624.53	8626.15	0.00		
15800.00	88.86	89.77	7609.76	169.84	8724.51	8726.13	0.00		
15900.00	88.86	89.77	7611.75	170.24	8824.49	8826.10	0.00		
16000.00	88.86	89.77	7613.75	170.64	8924.47	8926.07	0.00		
16100.00	88.86	89.77	7615.74	171.05	9024.45	9026.04	0.00		
16200.00	88.86	89.77	7617.73	171.45	9124.43	9126.01	0.00		
16300.00	88.86	89.77	7619.72	171.85	9224.41	9225.99	0.00		
16400.00	88.86	89.77	7621.72	172.25	9324.39	9325.96	0.00		
16500.00	88.86	89.77	7623.71	172.65	9424.37	9425.93	0.00		
16600.00	88.86	89.77	7625.70	173.05	9524.34	9525.90	0.00		
16700.00	88.86	89.77	7627.69	173.46	9624.32	9625.88	0.00		
16800.00	88.86	89.77	7629.68	173.86	9724.30	9725.85	0.00		
16900.00	88.86	89.77	7631.68	174.26	9824.28	9825.82	0.00		
17000.00	88.86	89.77	7633.67	174.66	9924.26	9925.79	0.00		
17100.00	88.86	89.77	7635.66	175.06	10024.24	10025.77	0.00		
17200.00	88.86	89.77	7637.65	175.46	10124.22	10125.74	0.00		
17300.00	88.86	89.77	7639.65	175.86	10224.20	10225.71	0.00		
17400.00	88.86	89.77	7641.64	176.27	10324.18	10325.68	0.00		
17500.00	88.86	89.77	7643.63	176.67	10424.16	10425.65	0.00		
17600.00	88.86	89.77	7645.62	177.07	10524.14	10525.63	0.00		
17700.00	88.86	89.77	7647.61	177.47	10624.12	10625.60	0.00		
17740.43	88.86	89.77	7648.42	177.63	10664.54	10666.02	0.00	exit	
17800.00	88.86	89.77	7649.61	177.87	10724.10	10725.57	0.00		
17820.43	88.86	89.77	7650.00	177.94	10744.52	10745.99	0.00	BHL	

9-21-27-F Sundry ID 2825282 Bent Tree 9-11 Fed Com 333H

Bent Tree 9-11 Fed Com 333H

13 3/8	surface csg in a		17 1/2	inch hole.		Design Factors				Surface			
Segment	#/ft	Grade		Coupling	Body	Collapse	Burst	Length	B@s	a-B	a-C	Weight	
"A"	54.50		j 55	btc	39.14	6.04	6.32	400	15	10.59	11.41	21,800	
"B"				btc				0				0	
w/8.4#/g mud, 30min Sfc Csg Test psig: 1,500													
				Tail Cmt	does not	circ to sfc.	Totals:	400					21,800
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
17 1/2	0.6946	127	183	278	-34	9.00	258	2M					1.56
Site plot (page racks S or E) as per O.O. 131 D.3.1 not found													

Proposed

10 3/4		casing inside the		13 3/8		Design Factors					Int 1	
Segment	#/ft	Grade		Coupling	Joint	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	45.50		j 55	btc scc	14.04	4.84	2.8	792	8	5.28	8.11	36,036
"B"								0				0
w/8.4#/g mud, 30min Sfc Csg Test psig:								Totals:	792			36,036
The cement volume(s) are intended to achieve a top of						0	ft from surface or a		400			overlap.
Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE				Min Dist Hole-Cplg
12 1/4	0.1882	122	214	169	27	10.50	677	2M				0.50
Class 'C' tail cmt yld > 1.35												

8 5/8		casing inside the		10 3/4		Design Factors					Int 2			
Segment	#/ft	Grade		Coupling		Joint	Collapse	Burst	Length	B@s	a-B	a-C	Weight	
"A"	32.00			p 110		vam sprint fj	8.49	3.13	1.71	2,737	6	2.87	5.90	87,584
"B"										0				0
w/8.4#/g mud, 30min Sfc Csg Test psig: 1,500									Totals:	2,737				87,584
The cement volume(s) are intended to achieve a top of							592	ft from surface or a		200				overlap.
Hole	Annular	1 Stage		1 Stage		Min	1 Stage	Drilling	Calc		Min Dist			
Size	Volume	Cmt Sx		CuFt Cmt		Cu Ft	% Excess	Mud Wt	MASP		Req'd	Hole-Cplg		
9 7/8	0.1261	122		214		272	-21	9.00	2489		BOPE	0.61		
Setting Depths for D V Tool(s):				1050					sum of sx	Σ CuFt	Σ%excess			
% excess cmt by stage:				1		366			314	491	80			
Class 'C' tail cmt yld > 1.35														

5 1/2		casing inside the		8 5/8		Design Factors					Prod 1		
Segment	#/ft	Grade		Coupling	Joint	Collapse	Burst	Length	B@s	a-B	a-C	Weight	
"A"	17.00		p 110	dwc/c is+	4.20	1.79	2.55	17,820	3	4.27	3.01	302,940	
"B"								0				0	
w/8.4#/g mud, 30min Sfc Csg Test psig: 1,683								Totals:	17,820			302,940	
The cement volume(s) are intended to achieve a top of								2537	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	
7 7/8	0.1733	1797	3230	2649	22	10.50						0.91	
Class 'H' tail cmt yld > 1.20													
Capitan Reef est top XXXX.													

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

General Information
Phone: (505) 629-6116

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

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

CONDITIONS

Action 413335

CONDITIONS

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 413335
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
matthew.gomez	The C-103 NOI was not approved or rejected; however, the work requested in the C-103 NOI was performed and completed without NMOCD approval. This action will result in review for potential compliance actions.	4/3/2025