

Well Name: COTTON DRAW UNIT	Well Location: T25S / R31E / SEC 1 / LOT 4 / 32.165733 / -103.73691	County or Parish/State: EDDY / NM
Well Number: 631H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM0503	Unit or CA Name: COTTON DRAW UNIT	Unit or CA Number: NMNM70928X
US Well Number: 3001555295	Operator: DEVON ENERGY PRODUCTION COMPANY LP	

Notice of Intent

Sundry ID: 2816657

Type of Submission: Notice of Intent	Type of Action: APD Change
Date Sundry Submitted: 11/05/2024	Time Sundry Submitted: 12:25
Date proposed operation will begin: 10/11/2024	

Procedure Description: Devon Energy Production Co., L.P. (Devon) respectfully requests to change the casing design, BHL, TVD, pool code and spacing on the subject well. Devon also requests a break test and offline cementing variance. New leases have been added since approved APD and notification has been given. Please see attached revised C102, Drill plan, directional plan, spec sheets, break test and offline cementing variance. Permitted BHL: SWSW, 20 FSL, 330 FWL, 12-25S-31E Proposed BHL: NWNW, 20 FNL, 330 FWL, 25-24S-31E Permitted TVD/MD: 12179/22308 - Purple Sage/Wolfcamp Proposed TVD/MD: 10936/21098 - Paduca/Bone Spring

NOI Attachments

Procedure Description

- COTTON_DRAW_UNIT_631H_R111Q_20241111163408.pdf
- Offline_Cementing___Variance_Request_20241105122251.pdf
- WA018390614_COTTON_DRAW_UNIT_631H_WL_R1_SIGNED_20241105122252.pdf
- break_test_variance_BOP_1_15_24_20241105122245.pdf
- COTTON_DRAW_UNIT_631H_Directional_Plan_09_18_24_20241105122244.pdf
- 8.625_32lb_P110_HSCY_MO_FXL_20241105122243.pdf
- 13.375_54.5lb_J55_20241105122243.pdf
- 10.75_45.5lb_J55_BTC_20241105122242.pdf

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US Well Number: 3001555295	Operator: DEVON ENERGY PRODUCTION COMPANY LP	

5.5_20lb_P110HP_CDC_HTQ_20241105122243.pdf

Conditions of Approval

Specialist Review

Cotton_Draw_Unit_631H_Sundry_ID_2816657_20241113094441.pdf

Operator

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

Operator Electronic Signature: CHELSEY GREEN

Signed on: NOV 11, 2024 04:34 PM

Name: DEVON ENERGY PRODUCTION COMPANY LP

Title: Regulatory Compliance Professional

Street Address: 333 WEST SHERIDAN AVENUE

City: OKLAHOMA CITYState: OK

Phone: (405) 228-8595

Email address: CHELSEY.GREEN@DVN.COM

Field

Representative Name:

Street Address:

City:State:Zip:

Phone:

Email address:

BLM Point of Contact

BLM POC Name: LONG VO

BLM POC Title: Petroleum Engineer

BLM POC Phone: 5759885402

BLM POC Email Address: LVO@BLM.GOV

Disposition: Approved

Disposition Date: 11/13/2024

Signature: Long Vo

Form 3160-5 (June 2019)	UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT	FORM APPROVED OMB No. 1004-0137 Expires: October 31, 2021
SUNDRY NOTICES AND REPORTS ON WELLS <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: LOT 4 / 332 FNL / 983 FWL / TWSP: 25S / RANGE: 31E / SECTION: 1 / LAT: 32.165733 / LONG: -103.73691 (TVD: 8346 feet, MD: 8412 feet)

PPP: LOT 4 / 100 FNL / 330 FWL / TWSP: 25S / RANGE: 31E / SECTION: 1 / LAT: 32.16638 / LONG: -103.739019 (TVD: 11650 feet, MD: 11716 feet)

BHL: SWSW / 20 FSL / 330 FWL / TWSP: 25S / RANGE: 31E / SECTION: 12 / LAT: 32.13761 / LONG: -103.73904 (TVD: 12179 feet, MD: 22308 feet)

CONFIDENTIAL

COTTON DRAW UNIT 631H

1. Geologic Formations

TVD of target	10936	Pilot hole depth	N/A
MD at TD:	21098	Deepest expected fresh water	

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone?	Hazards*
Rustler	660		
Salt	1105		
Base of Salt	4310		
Delaware	4385		
Cherry Canyon	5440		
Brushy Canyon	6790		
Bone Spring 1st lime	8360		
Bone Spring 1st	9148		
Bone Spring 2nd	9975		
Bone Spring 3rd lime	10490		
Salado, #126	1803		

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

COTTON DRAW UNIT 631H

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	685 MD	0	685 TVD
12 1/4	10 3/4	45.5	J-55	BTC SCC	0.0	4410 MD	0	4410 TVD
9 7/8	8 5/8	32.0	P110	MOFXL	0	10294	0	10294
7 7/8	5 1/2	20.0	P110HP	CDC-HTQ	0	21098 MD	0	10936 TVD

- All casing strings will be tested in accordance with 43 CFR 3172. 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	534	Surf	13.2	1.44	Lead: Class C Cement + additives
Int 1	294	Surf	9	3.27	Lead: Class C Cement + additives
	101	3910	13.2	1.44	Tail: Class H / C + additives
Int 2					
	169	8360	13.2	1.44	Tail: Class H / C + additives
Int 2 Intermediate Squeeze, Post completions	393	3910	9	1.44	Post Squeeze Lead: Class C Cement + additives
Production	117	8394	9	3.27	Lead: Class H / C + additives
	1417	10394	13.2	1.44	Tail: Class H / C + additives

- Devon will design around R111-Q: 4 String, Open 1st Int and 2nd Int Annulus, Figure D
 - Int 2 TOC will be, prior to completion, brought up to the 1st Bone Lime, leaving an open annulus for pressure monitoring
 - Following completion, a cement top out will be performed to bring TOC 500ft into Int 1, but below the POTASH interval
 - 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
- .Int 2 cement will adhere to R111-Q requirements

Casing String	% Excess
Surface	50%
Intermediate 1	30%
Intermediate 2 (Two Stage)	0%
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.

COTTON DRAW UNIT 631H

2. Casing Program (Secondary 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	685 MD	0	685 TVD
12 1/4	9 5/8	40.0	J-55	BTC	0.0	4410 MD	0	4410 TVD
8 3/4	7 5/8	29.7	P110HP	Talon SFC	0	10294	0	10294
6 3/4	5 1/2	20.0	P110HP	Talon RD	0	21098 MD	0	10936 TVD

- All casing strings will be tested in accordance with 43 CFR 3172. 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 (Secondary Design)

Casing	# Sks	TOC	Wt. (lb/gal)	Yld (ft3/sack)	Slurry Description
Surface	534	Surf	13.2	1.44	Lead: Class C Cement + additives
Int 1	480	Surf	9	3.27	Lead: Class C Cement + additives
	154	3910	13.2	1.44	Tail: Class H / C + additives
Int 2					
	132	8360	13.2	1.44	Tail: Class H / C + additives
Int 2 Intermediate Squeeze, Post completions	313	3910	9	1.44	Post Squeeze Lead: Class C Cement + additives
Production	62	8394	9	3.27	Lead: Class H / C + additives
	683	10394	13.2	1.44	Tail: Class H / C + additives

- Devon will design around R111-Q: 4 String, Open 1st Int and 2nd Int Annulus, Figure D
- Int 2 TOC will be, prior to completion, brought up to the 1st Bone Lime, leaving an open annulus for pressure monitoring
- Following completion, a cement top out will be performed to bring TOC 500ft into Int 1, but below the POTASH interval
- 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

.Int 2 cement will adhere to R111-Q requirements

Casing String	% Excess
Surface	50%
Intermediate 1	30%
Intermediate 2	0%
Prod	10%

COTTON DRAW UNIT 631H

4. Pressure Control Equipment (Four String Design)

BOP installed and tested before drilling which hole?		Size?	Min. Required WP	Type	✓	Tested to:
Int 1	13-5/8"	5M	Annular		X	50% of rated working pressure
			Blind Ram		X	5M
			Pipe Ram			
			Double Ram		X	
			Other*			
Int 2	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					

COTTON DRAW UNIT 631H

5. Mud Program (Four String Design)

Section	Type	Weight (ppg)
Surface	WBM	8.5-9
Intermediate	DBE / Cut Brine	10-10.5
Intermediate 2	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
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6. Logging and Testing Procedures

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

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

7. Drilling Conditions

Condition	Specify what type and where?
BH pressure at deepest TVD	5971
Abnormal temperature	No

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

Hydrogen Sulfide (H ₂ S) monitors will be installed prior to drilling out the surface shoe. If H ₂ S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of 43 CFR 3176. If Hydrogen Sulfide is encountered measured values and formations will be provided to the BLM.	
N	H ₂ S is present
Y	H ₂ S plan attached.

COTTON DRAW UNIT 631H

8. Other facets of operation

Is this a walking operation? Potentially

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

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

Will be pre-setting casing? Potentially

- 1 Spudder rig will move in and batch drill surface hole.
 - a. Rig will utilize fresh water based mud to drill surface hole to TD. Solids control will be handled entirely on a closed loop basis.,
- 2 After drilling the surface hole section, the spudder rig will run casing and cement following all of the applicable rules and regulations (43 CFR 3172, all COAs and NMOCD regulations).
- 3 The wellhead will be installed and tested once the surface casing is cut off and the WOC time has been reached.
- 4 A blind flange with the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with a pressure gauge installed on the wellhead.
- 5 Spudder rig operations is expected to take 4-5 days per well on a multi-well pa.
- 6 The NMOCD will be contacted and notified 24 hours prior to commencing spudder rig operations.
- 7 Drilling operations will be performed with drilling rig. A that time an approved BOP stack will be 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

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.

C-102 Submit Electronically Via OCD Permitting	State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION		Revised July, 2024	
			Submittal Type:	<input checked="" type="checkbox"/> Initial Submittal
				<input type="checkbox"/> Amended Report
		<input type="checkbox"/> As Drilled		

WELL LOCATION INFORMATION

API Number 30-015-55295	Pool Code 96641	Pool Name PADUCA; BONE SPRING
Property Code	Property Name COTTON DRAW UNIT	Well Number 631H
OGRID No. 6137	Operator Name DEVON ENERGY PRODUCTION COMPANY, L.P.	Ground Level Elevation 3474.8'
Surface Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input checked="" type="checkbox"/> Federal		Mineral Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input type="checkbox"/> Federal

Surface Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
	1	25-S	31-E	4	332' N	983' W	32.165733	103.736910	EDDY

Bottom Hole Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
D	25	24-S	31-E		20' N	330' W	32.195546	103.738979	EDDY

Dedicated Acres 319.11	Infill or Defining Well	Defining Well API	Overlapping Spacing Unit (Y/N)	Consolidation Code
Order Numbers			Well setbacks are under Common Ownership: <input type="checkbox"/> Yes <input type="checkbox"/> No	

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
	36	24S	31E	1	53 S	330 W	32.1667	103.7391	EDDY


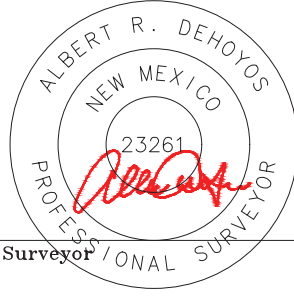
First Take Point (FTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
	36	24-S	31-E	1	100' S	330' W	32.166930	103.739018	EDDY

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
D	25	24-S	31-E		100' N	330' W	32.195326	103.738979	EDDY

Spacing Unit Type X Horizontal		Vertical	Ground Floor Elevation:
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OPERATOR CERTIFICATIONS I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.		SURVEYOR CERTIFICATIONS I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under supervision, and that the same is true and correct to the best of my belief.	
Signature 	Date 10/01/2024		
Printed Name Chelsey Green			
Email Address chelsey.green@dvn.com		Certificate Number 23261	Date of Survey 07/2024

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.

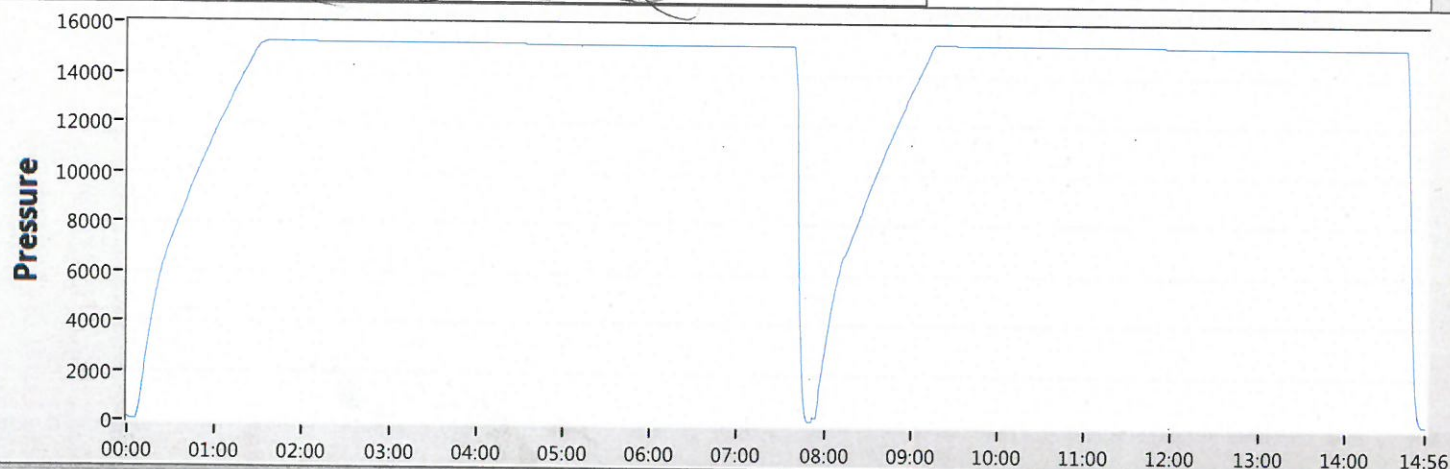
1. Well Control Response:
 1. Primary barrier remains fluid
 2. In the event of an influx due to being underbalanced and after a realized gain or flow, the order of closing BOPE is as follows:
 - a) Annular first
 - b) If annular were to not hold, Upper pipe rams second (which were tested on the skid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



10000 20000 30000 40000 50000 60000

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

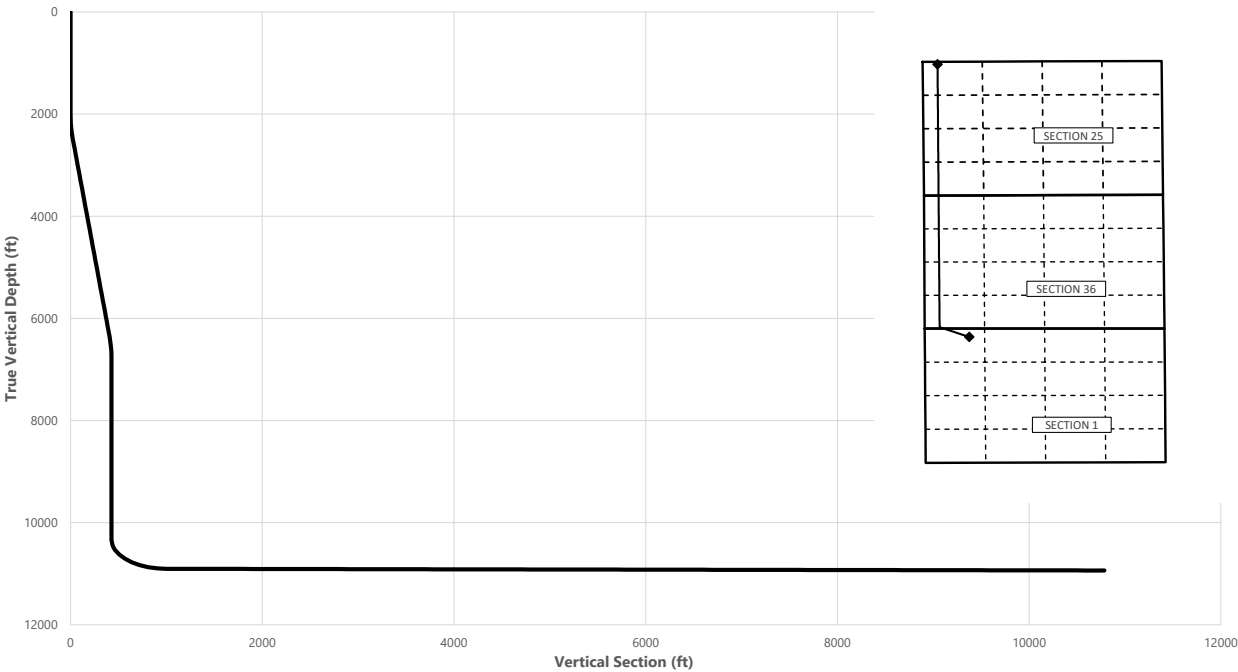
EXIT



Well: COTTON DRAW UNIT 631H
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	300.50	2000.00	0.00	0.00	0.00	0.00	Start Tangent
2500.00	10.00	300.50	2497.47	22.09	-37.50	24.48	2.00	Hold Tangent
6372.28	10.00	300.50	6310.92	363.37	-616.87	402.62	0.00	Drop to Vertical
6872.28	0.00	300.50	6808.39	385.46	-654.37	427.09	2.00	Hold Vertical
10393.94	0.00	359.75	10330.05	385.46	-654.37	427.09	0.00	KOP
11292.01	89.81	359.75	10903.00	956.48	-656.86	997.08	10.00	Landing Point
21097.77	89.81	359.75	10936.00	10762.09	-699.65	10784.81	0.00	BHL



Key Depths	MD	TVD
	(ft)	(ft)
Rustler	660.00	660.00
Salt	1105.00	1105.00
Base of Salt	4340.50	4310.00
Delaware	4416.65	4385.00
Cherry Canyon	5487.93	5440.00
Brushy Canyon	6853.90	6790.00
Bone Spring 1st lime	8423.90	8360.00
Bone Spring 1st	8423.90	8360.00
Bone Spring 2nd	10038.90	9975.00
Bone Spring 3rd lime / Point of Pene	10556.05	10490.00
exit	21017.77	10935.74

SHL
KOP
Point of Penetration
Exit
BHL

MD	TVD	Lat	Long	Section Footages
(ft)	(ft)	(°)	(°)	
0.00	0.00	32.1656	-103.7370	332' FNL, 983' FWL of Sec 1 in T25S, R31E
10393.94	10330.05	32.1667	-103.7391	53' FSL, 330' FWL of Sec 36 in T24S, R31E
10556.05	10490.00	32.1669	-103.7390	100' FSL, 330' FWL of Sec 36 in T24S, R31E
21017.77	10935.74	32.1953	-103.7390	100' FNL, 330' FWL of Sec 25 in T24S, R31E
21097.77	10936.00	32.1952	-103.7391	20' FNL, 330' FWL of Sec 25 in T24S, R31E

	Y	X	MD
KOP	424925	725235	10393.94

COTTON DRAW UNIT 631H



Well: COTTON DRAW UNIT 631H
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
100.00	0.00	300.50	100.00	0.00	0.00	0.00	0.00	
200.00	0.00	300.50	200.00	0.00	0.00	0.00	0.00	
300.00	0.00	300.50	300.00	0.00	0.00	0.00	0.00	
400.00	0.00	300.50	400.00	0.00	0.00	0.00	0.00	
500.00	0.00	300.50	500.00	0.00	0.00	0.00	0.00	
600.00	0.00	300.50	600.00	0.00	0.00	0.00	0.00	
660.00	0.00	300.50	660.00	0.00	0.00	0.00	0.00	Rustler
700.00	0.00	300.50	700.00	0.00	0.00	0.00	0.00	
800.00	0.00	300.50	800.00	0.00	0.00	0.00	0.00	
900.00	0.00	300.50	900.00	0.00	0.00	0.00	0.00	
1000.00	0.00	300.50	1000.00	0.00	0.00	0.00	0.00	
1100.00	0.00	300.50	1100.00	0.00	0.00	0.00	0.00	
1105.00	0.00	300.50	1105.00	0.00	0.00	0.00	0.00	Salt
1200.00	0.00	300.50	1200.00	0.00	0.00	0.00	0.00	
1300.00	0.00	300.50	1300.00	0.00	0.00	0.00	0.00	
1400.00	0.00	300.50	1400.00	0.00	0.00	0.00	0.00	
1500.00	0.00	300.50	1500.00	0.00	0.00	0.00	0.00	
1600.00	0.00	300.50	1600.00	0.00	0.00	0.00	0.00	
1700.00	0.00	300.50	1700.00	0.00	0.00	0.00	0.00	
1800.00	0.00	300.50	1800.00	0.00	0.00	0.00	0.00	
1900.00	0.00	300.50	1900.00	0.00	0.00	0.00	0.00	
2000.00	0.00	300.50	2000.00	0.00	0.00	0.00	0.00	Start Tangent
2100.00	2.00	300.50	2099.98	0.89	-1.50	0.98	2.00	
2200.00	4.00	300.50	2199.84	3.54	-6.01	3.92	2.00	
2300.00	6.00	300.50	2299.45	7.97	-13.52	8.83	2.00	
2400.00	8.00	300.50	2398.70	14.15	-24.02	15.68	2.00	
2500.00	10.00	300.50	2497.47	22.09	-37.50	24.48	2.00	Hold Tangent
2600.00	10.00	300.50	2595.95	30.90	-52.46	34.24	0.00	
2700.00	10.00	300.50	2694.43	39.72	-67.42	44.01	0.00	
2800.00	10.00	300.50	2792.91	48.53	-82.39	53.77	0.00	
2900.00	10.00	300.50	2891.39	57.34	-97.35	63.54	0.00	
3000.00	10.00	300.50	2989.87	66.16	-112.31	73.30	0.00	
3100.00	10.00	300.50	3088.35	74.97	-127.27	83.07	0.00	
3200.00	10.00	300.50	3186.83	83.78	-142.23	92.83	0.00	
3300.00	10.00	300.50	3285.31	92.60	-157.20	102.60	0.00	
3400.00	10.00	300.50	3383.79	101.41	-172.16	112.36	0.00	
3500.00	10.00	300.50	3482.27	110.22	-187.12	122.13	0.00	
3600.00	10.00	300.50	3580.75	119.03	-202.08	131.89	0.00	
3700.00	10.00	300.50	3679.23	127.85	-217.05	141.66	0.00	
3800.00	10.00	300.50	3777.72	136.66	-232.01	151.43	0.00	
3900.00	10.00	300.50	3876.20	145.47	-246.97	161.19	0.00	
4000.00	10.00	300.50	3974.68	154.29	-261.93	170.96	0.00	
4100.00	10.00	300.50	4073.16	163.10	-276.89	180.72	0.00	
4200.00	10.00	300.50	4171.64	171.91	-291.86	190.49	0.00	
4300.00	10.00	300.50	4270.12	180.73	-306.82	200.25	0.00	
4340.50	10.00	300.50	4310.00	184.30	-312.88	204.21	0.00	Base of Salt
4400.00	10.00	300.50	4368.60	189.54	-321.78	210.02	0.00	
4416.65	10.00	300.50	4385.00	191.01	-324.27	211.64	0.00	Delaware
4500.00	10.00	300.50	4467.08	198.35	-336.74	219.78	0.00	
4600.00	10.00	300.50	4565.56	207.17	-351.70	229.55	0.00	
4700.00	10.00	300.50	4664.04	215.98	-366.67	239.31	0.00	
4800.00	10.00	300.50	4762.52	224.79	-381.63	249.08	0.00	
4900.00	10.00	300.50	4861.00	233.61	-396.59	258.84	0.00	
5000.00	10.00	300.50	4959.48	242.42	-411.55	268.61	0.00	
5100.00	10.00	300.50	5057.97	251.23	-426.51	278.37	0.00	
5200.00	10.00	300.50	5156.45	260.05	-441.48	288.14	0.00	
5300.00	10.00	300.50	5254.93	268.86	-456.44	297.91	0.00	
5400.00	10.00	300.50	5353.41	277.67	-471.40	307.67	0.00	
5487.93	10.00	300.50	5440.00	285.42	-484.56	316.26	0.00	Cherry Canyon
5500.00	10.00	300.50	5451.89	286.49	-486.36	317.44	0.00	
5600.00	10.00	300.50	5550.37	295.30	-501.32	327.20	0.00	
5700.00	10.00	300.50	5648.85	304.11	-516.29	336.97	0.00	
5800.00	10.00	300.50	5747.33	312.93	-531.25	346.73	0.00	
5900.00	10.00	300.50	5845.81	321.74	-546.21	356.50	0.00	
6000.00	10.00	300.50	5944.29	330.55	-561.17	366.26	0.00	
6100.00	10.00	300.50	6042.77	339.37	-576.13	376.03	0.00	
6200.00	10.00	300.50	6141.25	348.18	-591.10	385.79	0.00	
6300.00	10.00	300.50	6239.73	356.99	-606.06	395.56	0.00	
6372.28	10.00	300.50	6310.92	363.37	-616.87	402.62	0.00	Drop to Vertical

COTTON DRAW UNIT 631H



Well: COTTON DRAW UNIT 631H
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
6400.00	9.45	300.50	6338.24	365.74	-620.91	405.25	2.00	
6500.00	7.45	300.50	6437.15	373.20	-633.56	413.51	2.00	
6600.00	5.45	300.50	6536.51	378.89	-643.23	419.82	2.00	
6700.00	3.45	300.50	6636.21	382.83	-649.91	424.18	2.00	
6800.00	1.45	300.50	6736.11	384.99	-653.59	426.58	2.00	
6853.90	0.37	300.50	6790.00	385.43	-654.32	427.06	2.00	Brushy Canyon
6872.28	0.00	300.50	6808.39	385.46	-654.37	427.09	2.00	Hold Vertical
6900.00	0.00	359.75	6836.10	385.46	-654.37	427.10	0.00	
7000.00	0.00	359.75	6936.10	385.46	-654.37	427.10	0.00	
7100.00	0.00	359.75	7036.10	385.46	-654.37	427.10	0.00	
7200.00	0.00	359.75	7136.10	385.46	-654.37	427.10	0.00	
7300.00	0.00	359.75	7236.10	385.46	-654.37	427.10	0.00	
7400.00	0.00	359.75	7336.10	385.46	-654.37	427.10	0.00	
7500.00	0.00	359.75	7436.10	385.46	-654.37	427.10	0.00	
7600.00	0.00	359.75	7536.10	385.46	-654.37	427.10	0.00	
7700.00	0.00	359.75	7636.10	385.46	-654.37	427.10	0.00	
7800.00	0.00	359.75	7736.10	385.46	-654.37	427.10	0.00	
7900.00	0.00	359.75	7836.10	385.46	-654.37	427.10	0.00	
8000.00	0.00	359.75	7936.10	385.46	-654.37	427.10	0.00	
8100.00	0.00	359.75	8036.10	385.46	-654.37	427.10	0.00	
8200.00	0.00	359.75	8136.10	385.46	-654.37	427.10	0.00	
8300.00	0.00	359.75	8236.10	385.46	-654.37	427.10	0.00	
8400.00	0.00	359.75	8336.10	385.46	-654.37	427.10	0.00	
8423.90	0.00	359.75	8360.00	385.46	-654.37	427.10	0.00	Bone Spring 1st lime
8500.00	0.00	359.75	8436.10	385.46	-654.37	427.10	0.00	
8600.00	0.00	359.75	8536.10	385.46	-654.37	427.10	0.00	
8700.00	0.00	359.75	8636.10	385.46	-654.37	427.10	0.00	
8800.00	0.00	359.75	8736.10	385.46	-654.37	427.10	0.00	
8900.00	0.00	359.75	8836.10	385.46	-654.37	427.10	0.00	
9000.00	0.00	359.75	8936.10	385.46	-654.37	427.10	0.00	
9100.00	0.00	359.75	9036.10	385.46	-654.37	427.10	0.00	
9200.00	0.00	359.75	9136.10	385.46	-654.37	427.10	0.00	
9211.90	0.00	359.75	9148.00	385.46	-654.37	427.10	0.00	Bone Spring 1st
9300.00	0.00	359.75	9236.10	385.46	-654.37	427.10	0.00	
9400.00	0.00	359.75	9336.10	385.46	-654.37	427.10	0.00	
9500.00	0.00	359.75	9436.10	385.46	-654.37	427.10	0.00	
9600.00	0.00	359.75	9536.10	385.46	-654.37	427.10	0.00	
9700.00	0.00	359.75	9636.10	385.46	-654.37	427.10	0.00	
9800.00	0.00	359.75	9736.10	385.46	-654.37	427.10	0.00	
9900.00	0.00	359.75	9836.10	385.46	-654.37	427.10	0.00	
10000.00	0.00	359.75	9936.10	385.46	-654.37	427.10	0.00	
10038.90	0.00	359.75	9975.00	385.46	-654.37	427.10	0.00	Bone Spring 2nd
10100.00	0.00	359.75	10036.10	385.46	-654.37	427.10	0.00	
10200.00	0.00	359.75	10136.10	385.46	-654.37	427.10	0.00	
10300.00	0.00	359.75	10236.10	385.46	-654.37	427.10	0.00	
10393.94	0.00	359.75	10330.05	385.46	-654.37	427.09	0.00	KOP
10400.00	0.61	359.75	10336.10	385.49	-654.37	427.13	10.00	
10500.00	10.61	359.75	10435.50	395.24	-654.42	436.87	10.00	
10556.05	16.21	359.75	10490.00	408.24	-654.47	449.83	10.00	Bone Spring 3rd lime / Point of Penetration
10600.00	20.61	359.75	10531.69	422.11	-654.53	463.68	10.00	
10700.00	30.61	359.75	10621.75	465.27	-654.72	506.77	10.00	
10800.00	40.61	359.75	10702.95	523.42	-654.98	564.81	10.00	
10900.00	50.61	359.75	10772.83	594.78	-655.29	636.04	10.00	
11000.00	60.61	359.75	10829.24	677.19	-655.65	718.30	10.00	
11100.00	70.61	359.75	10870.49	768.15	-656.05	809.09	10.00	
11200.00	80.61	359.75	10895.32	864.89	-656.47	905.65	10.00	
11292.01	89.81	359.75	10903.00	956.48	-656.86	997.08	10.00	Landing Point
11300.00	89.81	359.75	10903.03	964.46	-656.90	1005.05	0.00	
11400.00	89.81	359.75	10903.36	1064.46	-657.34	1104.87	0.00	
11500.00	89.81	359.75	10903.70	1164.46	-657.77	1204.68	0.00	
11600.00	89.81	359.75	10904.04	1264.46	-658.21	1304.50	0.00	
11700.00	89.81	359.75	10904.37	1364.46	-658.65	1404.31	0.00	
11800.00	89.81	359.75	10904.71	1464.46	-659.08	1504.13	0.00	
11900.00	89.81	359.75	10905.05	1564.46	-659.52	1603.95	0.00	
12000.00	89.81	359.75	10905.38	1664.45	-659.96	1703.76	0.00	
12100.00	89.81	359.75	10905.72	1764.45	-660.39	1803.58	0.00	
12200.00	89.81	359.75	10906.06	1864.45	-660.83	1903.39	0.00	
12300.00	89.81	359.75	10906.39	1964.45	-661.27	2003.21	0.00	
12400.00	89.81	359.75	10906.73	2064.45	-661.71	2103.03	0.00	
12500.00	89.81	359.75	10907.07	2164.45	-662.14	2202.84	0.00	

COTTON DRAW UNIT 631H



Well: COTTON DRAW UNIT 631H
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Zone: 3001 - NM East (NAD83)

MD	INC	AZI	TVD	NS	EW	VS	DLS	Comment
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	
12600.00	89.81	359.75	10907.40	2264.44	-662.58	2302.66	0.00	
12700.00	89.81	359.75	10907.74	2364.44	-663.02	2402.48	0.00	
12800.00	89.81	359.75	10908.08	2464.44	-663.45	2502.29	0.00	
12900.00	89.81	359.75	10908.41	2564.44	-663.89	2602.11	0.00	
13000.00	89.81	359.75	10908.75	2664.44	-664.33	2701.92	0.00	
13100.00	89.81	359.75	10909.09	2764.44	-664.76	2801.74	0.00	
13200.00	89.81	359.75	10909.42	2864.44	-665.20	2901.56	0.00	
13300.00	89.81	359.75	10909.76	2964.43	-665.64	3001.37	0.00	
13400.00	89.81	359.75	10910.10	3064.43	-666.07	3101.19	0.00	
13500.00	89.81	359.75	10910.43	3164.43	-666.51	3201.00	0.00	
13600.00	89.81	359.75	10910.77	3264.43	-666.95	3300.82	0.00	
13700.00	89.81	359.75	10911.11	3364.43	-667.38	3400.64	0.00	
13800.00	89.81	359.75	10911.44	3464.43	-667.82	3500.45	0.00	
13900.00	89.81	359.75	10911.78	3564.43	-668.26	3600.27	0.00	
14000.00	89.81	359.75	10912.12	3664.42	-668.69	3700.09	0.00	
14100.00	89.81	359.75	10912.45	3764.42	-669.13	3799.90	0.00	
14200.00	89.81	359.75	10912.79	3864.42	-669.57	3899.72	0.00	
14300.00	89.81	359.75	10913.13	3964.42	-670.01	3999.53	0.00	
14400.00	89.81	359.75	10913.46	4064.42	-670.44	4099.35	0.00	
14500.00	89.81	359.75	10913.80	4164.42	-670.88	4199.17	0.00	
14600.00	89.81	359.75	10914.14	4264.41	-671.32	4298.98	0.00	
14700.00	89.81	359.75	10914.47	4364.41	-671.75	4398.80	0.00	
14800.00	89.81	359.75	10914.81	4464.41	-672.19	4498.61	0.00	
14900.00	89.81	359.75	10915.15	4564.41	-672.63	4598.43	0.00	
15000.00	89.81	359.75	10915.48	4664.41	-673.06	4698.25	0.00	
15100.00	89.81	359.75	10915.82	4764.41	-673.50	4798.06	0.00	
15200.00	89.81	359.75	10916.16	4864.41	-673.94	4897.88	0.00	
15300.00	89.81	359.75	10916.49	4964.40	-674.37	4997.70	0.00	
15400.00	89.81	359.75	10916.83	5064.40	-674.81	5097.51	0.00	
15500.00	89.81	359.75	10917.17	5164.40	-675.25	5197.33	0.00	
15600.00	89.81	359.75	10917.50	5264.40	-675.68	5297.14	0.00	
15700.00	89.81	359.75	10917.84	5364.40	-676.12	5396.96	0.00	
15800.00	89.81	359.75	10918.18	5464.40	-676.56	5496.78	0.00	
15900.00	89.81	359.75	10918.51	5564.39	-677.00	5596.59	0.00	
16000.00	89.81	359.75	10918.85	5664.39	-677.43	5696.41	0.00	
16100.00	89.81	359.75	10919.19	5764.39	-677.87	5796.23	0.00	
16200.00	89.81	359.75	10919.52	5864.39	-678.31	5896.04	0.00	
16300.00	89.81	359.75	10919.86	5964.39	-678.74	5995.86	0.00	
16400.00	89.81	359.75	10920.20	6064.39	-679.18	6095.67	0.00	
16500.00	89.81	359.75	10920.53	6164.39	-679.62	6195.49	0.00	
16600.00	89.81	359.75	10920.87	6264.38	-680.05	6295.31	0.00	
16700.00	89.81	359.75	10921.21	6364.38	-680.49	6395.12	0.00	
16800.00	89.81	359.75	10921.54	6464.38	-680.93	6494.94	0.00	
16900.00	89.81	359.75	10921.88	6564.38	-681.36	6594.75	0.00	
17000.00	89.81	359.75	10922.22	6664.38	-681.80	6694.57	0.00	
17100.00	89.81	359.75	10922.55	6764.38	-682.24	6794.39	0.00	
17200.00	89.81	359.75	10922.89	6864.37	-682.67	6894.20	0.00	
17300.00	89.81	359.75	10923.23	6964.37	-683.11	6994.02	0.00	
17400.00	89.81	359.75	10923.56	7064.37	-683.55	7093.84	0.00	
17500.00	89.81	359.75	10923.90	7164.37	-683.98	7193.65	0.00	
17600.00	89.81	359.75	10924.24	7264.37	-684.42	7293.47	0.00	
17700.00	89.81	359.75	10924.57	7364.37	-684.86	7393.28	0.00	
17800.00	89.81	359.75	10924.91	7464.37	-685.30	7493.10	0.00	
17900.00	89.81	359.75	10925.25	7564.36	-685.73	7592.92	0.00	
18000.00	89.81	359.75	10925.58	7664.36	-686.17	7692.73	0.00	
18100.00	89.81	359.75	10925.92	7764.36	-686.61	7792.55	0.00	
18200.00	89.81	359.75	10926.26	7864.36	-687.04	7892.36	0.00	
18300.00	89.81	359.75	10926.59	7964.36	-687.48	7992.18	0.00	
18400.00	89.81	359.75	10926.93	8064.36	-687.92	8092.00	0.00	
18500.00	89.81	359.75	10927.27	8164.36	-688.35	8191.81	0.00	
18600.00	89.81	359.75	10927.60	8264.35	-688.79	8291.63	0.00	
18700.00	89.81	359.75	10927.94	8364.35	-689.23	8391.45	0.00	
18800.00	89.81	359.75	10928.28	8464.35	-689.66	8491.26	0.00	
18900.00	89.81	359.75	10928.61	8564.35	-690.10	8591.08	0.00	
19000.00	89.81	359.75	10928.95	8664.35	-690.54	8690.89	0.00	
19100.00	89.81	359.75	10929.29	8764.35	-690.97	8790.71	0.00	
19200.00	89.81	359.75	10929.62	8864.34	-691.41	8890.53	0.00	
19300.00	89.81	359.75	10929.96	8964.34	-691.85	8990.34	0.00	
19400.00	89.81	359.75	10930.30	9064.34	-692.29	9090.16	0.00	
19500.00	89.81	359.75	10930.63	9164.34	-692.72	9189.97	0.00	

COTTON DRAW UNIT 631H



Well: COTTON DRAW UNIT 631H

County: Eddy

Wellbore: Permit Plan

Design: Permit Plan #1

Geodetic System: US State Plane 1983

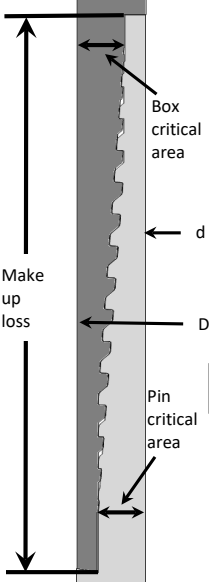
Datum: North American Datum 1927

Ellipsoid: Clarke 1866

Zone: 3001 - NM East (NAD83)

MD	INC	AZI	TVD	NS	EW	VS	DLS	Comment
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	
19600.00	89.81	359.75	10930.97	9264.34	-693.16	9289.79	0.00	
19700.00	89.81	359.75	10931.31	9364.34	-693.60	9389.61	0.00	
19800.00	89.81	359.75	10931.64	9464.34	-694.03	9489.42	0.00	
19900.00	89.81	359.75	10931.98	9564.33	-694.47	9589.24	0.00	
20000.00	89.81	359.75	10932.32	9664.33	-694.91	9689.06	0.00	
20100.00	89.81	359.75	10932.65	9764.33	-695.34	9788.87	0.00	
20200.00	89.81	359.75	10932.99	9864.33	-695.78	9888.69	0.00	
20300.00	89.81	359.75	10933.33	9964.33	-696.22	9988.50	0.00	
20400.00	89.81	359.75	10933.66	10064.33	-696.65	10088.32	0.00	
20500.00	89.81	359.75	10934.00	10164.32	-697.09	10188.14	0.00	
20600.00	89.81	359.75	10934.34	10264.32	-697.53	10287.95	0.00	
20700.00	89.81	359.75	10934.67	10364.32	-697.96	10387.77	0.00	
20800.00	89.81	359.75	10935.01	10464.32	-698.40	10487.58	0.00	
20900.00	89.81	359.75	10935.35	10564.32	-698.84	10587.40	0.00	
21000.00	89.81	359.75	10935.68	10664.32	-699.27	10687.22	0.00	
21017.77	89.81	359.75	10935.74	10682.09	-699.35	10704.96	0.00	exit
21097.77	89.81	359.75	10936.00	10762.09	-699.65	10784.81	0.00	BHL

Metal One Corp. Metal One	MO-FXL *1 Pipe Body: Borusan P110HSCY MinYS125ksi 95%RBW Special Drift 7.875" Connection Data Sheet	CDS# Date	MO-FXL 8-5/8 32.0 P110HSCY MinYS125ksi 95%RBW SD7.875 16-Jan-24
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MO-FXL

Geometry	Imperial		S.I.	
Pipe Body				
Grade *1	P110HSCY		P110HSCY	
MinYS *1	125	ksi	125	ksi
Pipe OD (D)	8 5/8	in	219.08	mm
Weight	32.00	lb/ft	47.68	kg/m
Actual weight	31.10		46.34	kg/m
Wall Thickness (t)	0.352	in	8.94	mm
Pipe ID (d)	7.921	in	201.19	mm
Pipe body cross section	9.149	in ²	5,902	mm ²
Special Drift Dia. *1	7.875	in	200.03	mm
-	-	-	-	-
Connection				
Box OD (W)	8.625	in	219.08	mm
PIN ID	7.921	in	201.19	mm
Make up Loss	3.847	in	97.71	mm
Box Critical Area	5.853	in ²	3686	mm ²
Joint load efficiency	69	%	69	%
Thread Taper	1 / 10 (1.2" per ft)			
Number of Threads	5 TPI			
Performance				
Performance Properties for Pipe Body				
S.M.Y.S. *1	1,144	kips	5,087	kN
M.I.Y.P. *1	9,690	psi	66.83	MPa
Collapse Strength *1	4,300	psi	29.66	MPa
Note S.M.Y.S.= Specified Minimum YIELD Strength of Pipe body M.I.Y.P. = Minimum Internal Yield Pressure of Pipe body *1: Borusan: SOP-12-F05 Rev.2, 10/17/2023 P110HSCY: MinYS125ksi, 95%RBW, SD7.875, Collapse Strength 4,300psi				
Performance Properties for Connection				
Tensile Yield load	789 kips (69% of S.M.Y.S.)			
Min. Compression Yield	789 kips (69% of S.M.Y.S.)			
Internal Pressure	6,780 psi (70% of M.I.Y.P.)			
External Pressure	100% of Collapse Strength			
Max. DLS (deg. /100ft)	29			
Recommended Torque				
Min.	13,600	ft-lb	18,400	N-m
Opti.	14,900	ft-lb	20,200	N-m
Max.	16,200	ft-lb	21,900	N-m
Operational Max.	28,400	ft-lb	38,500	N-m
Note : Operational Max. torque can be applied for high torque application				

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The use of this information is at the reader/user's risk and no warranty is implied or expressed by Metal One Corporation or its parents, subsidiaries or affiliates (herein collectively referred to as "Metal One") with respect to the use of information contained herein. The information provided on this Connection Data Sheet is for informational purposes only, and was prepared by reference to engineering information that is specific to the subject products, without regard to safety-related factors, all of which are the sole responsibility of the operators and users of the subject connectors. Metal One assumes no responsibility for any errors with respect to this information.

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

The products described in this Connection Data Sheet are not recommended for use in deep water offshore applications. For more information, please refer to http://www.mto.co.jp/mo-con/_images/top/WebsiteTerms_Active_2033287_1.pdf the contents of which are incorporated by reference into this Connection Data Sheet.



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.



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.



U. S. Steel Tubular Products

5.500" 20.00lb/ft (0.361" Wall) P110 HP USS-CDC HTQ[®]

2/21/2024 7:47:29 AM



MECHANICAL PROPERTIES	Pipe	USS-CDC HTQ [®]		--
Minimum Yield Strength	125,000	--	psi	--
Maximum Yield Strength	140,000	--	psi	--
Minimum Tensile Strength	130,000	--	psi	--
DIMENSIONS	Pipe	USS-CDC HTQ [®]		--
Outside Diameter	5.500	6.300	in.	--
Wall Thickness	0.361	--	in.	--
Inside Diameter	4.778	4.778	in.	--
Standard Drift	4.653	4.653	in.	--
Alternate Drift	--	--	in.	--
Nominal Linear Weight, T&C	20.00	--	lb/ft	--
Plain End Weight	19.83	--	lb/ft	--
SECTION AREA	Pipe	USS-CDC HTQ [®]		--
Critical Area	5.828	5.828	sq. in.	--
Joint Efficiency	--	97.0	%	--
PERFORMANCE	Pipe	USS-CDC HTQ [®]		--
Minimum Collapse Pressure	13,150	13,150	psi	--
External Pressure Leak Resistance	--	10,520	psi	--
Minimum Internal Yield Pressure	14,360	14,360	psi	--
Minimum Pipe Body Yield Strength	729,000	--	lb	--
Joint Strength	--	707,000	lb	--
Compression Rating	--	424,000	lb	--
Reference Length	--	23,567	ft	--
Maximum Uniaxial Bend Rating	--	60.6	deg/100 ft	--
MAKE-UP DATA	Pipe	USS-CDC HTQ [®]		--
Make-Up Loss	--	4.63	in.	--
Minimum Make-Up Torque	--	14,500	ft-lb	--
Maximum Make-Up Torque	--	20,500	ft-lb	--
Connection Yield Torque	--	25,300	ft-lb	--

UNCONTROLLED

Notes

1.

Other than proprietary collapse and connection values, performance properties have been calculated using standard equations defined by API 5C3 and do not incorporate any additional design or safety factors. Calculations assume nominal pipe OD, nominal wall thickness and Specified Minimum Yield Strength (SMYS).
2.

Uniaxial bending rating shown is structural only, and equal to compression efficiency.
3.

Torques have been calculated assuming a thread compound friction factor of 1.0 and are recommended only. Field make-up torques may require adjustment based on actual field conditions (e.g. make-up speed, temperature, thread compound, etc.).
4.

Reference length is calculated by joint strength divided by nominal threaded and coupled weight with 1.5 safety factor.
5.

Connection external pressure leak resistance has been verified to 80% API pipe body collapse pressure following the guidelines of API 5C5 Cal II.

Legal Notice

USS - CDC HTQ[®] (High Torque Casing Drilling Connection) is a trademark of U. S. Steel Corporation. This product is a modified API Buttress threaded and coupled connection designed for drilling with casing applications. All material contained in this publication is for general information only. This material should not therefore be used or relied upon for any specific application without independent competent professional examination and verification of accuracy, suitability and applicability. Anyone making use of this material does so at their own risk and assumes any and all liability resulting from such use. U. S. Steel disclaims any and all expressed or implied warranties of fitness for any general or particular application.

Well Name: COTTON DRAW UNIT	Well Location: T25S / R31E / SEC 1 / LOT 4 / 32.165733 / -103.73691	County or Parish/State: EDDY / NM
Well Number: 631H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM0503	Unit or CA Name: COTTON DRAW UNIT	Unit or CA Number: NMNM70928X
US Well Number: 3001555295	Operator: DEVON ENERGY PRODUCTION COMPANY LP	

Notice of Intent

Sundry ID: 2816657

Type of Submission: Notice of Intent	Type of Action: APD Change
Date Sundry Submitted: 11/05/2024	Time Sundry Submitted: 12:25
Date proposed operation will begin: 10/11/2024	

Procedure Description: Devon Energy Production Co., L.P. (Devon) respectfully requests to change the casing design, BHL, TVD, pool code and spacing on the subject well. Devon also requests a break test and offline cementing variance. New leases have been added since approved APD and notification has been given. Please see attached revised C102, Drill plan, directional plan, spec sheets, break test and offline cementing variance. Permitted BHL: SWSW, 20 FSL, 330 FWL, 12-25S-31E Proposed BHL: NWNW, 20 FNL, 330 FWL, 25-24S-31E Permitted TVD/MD: 12179/22308 - Purple Sage/Wolfcamp Proposed TVD/MD: 10936/21098 - Paduca/Bone Spring

NOI Attachments

Procedure Description

- COTTON_DRAW_UNIT_631H_R111Q_20241111163408.pdf
- Offline_Cementing___Variance_Request_20241105122251.pdf
- WA018390614_COTTON_DRAW_UNIT_631H_WL_R1_SIGNED_20241105122252.pdf
- break_test_variance_BOP_1_15_24_20241105122245.pdf
- COTTON_DRAW_UNIT_631H_Directional_Plan_09_18_24_20241105122244.pdf
- 8.625_32lb_P110_HSCY_MO_FXL_20241105122243.pdf
- 13.375_54.5lb_J55_20241105122243.pdf
- 10.75_45.5lb_J55_BTC_20241105122242.pdf

Well Name: COTTON DRAW UNIT	Well Location: T25S / R31E / SEC 1 / LOT 4 / 32.165733 / -103.73691	County or Parish/State: EDDY / NM
Well Number: 631H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM0503	Unit or CA Name: COTTON DRAW UNIT	Unit or CA Number: NMNM70928X
US Well Number: 3001555295	Operator: DEVON ENERGY PRODUCTION COMPANY LP	

5.5_20lb_P110HP_CDC_HTQ_20241105122243.pdf

Operator

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

Operator Electronic Signature: CHELSEY GREEN
Signed on: NOV 11, 2024 04:34 PM
Name: DEVON ENERGY PRODUCTION COMPANY LP
Title: Regulatory Compliance Professional
Street Address: 333 WEST SHERIDAN AVENUE
City: OKLAHOMA CITY State: OK
Phone: (405) 228-8595
Email address: CHELSEY.GREEN@DVN.COM

Field

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

**PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL**

OPERATOR'S NAME:	Devon Energy Production Company LP
LOCATION:	Section 1, T.25 S., R.31 E., NMPM
COUNTY:	Eddy County, New Mexico

WELL NAME & NO.:	Cotton Draw Unit 631H
ATS/API ID:	30-015-55295
APD ID:	104000
Sundry ID:	2816657

COA

Primary Design:

H2S	Yes		
Potash	R-111-Q	Figure D	
Cave/Karst Potential	Low		
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 checked="" type="checkbox"/> 4 String <input type="checkbox"/> 5 String	Capitan Reef None	<input type="checkbox"/> WIPP
Other	Pilot Hole None	<input checked="" 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 type="checkbox"/> COM	<input checked="" 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

Alternate Design:

Potash	R-111-Q ▼	Figure D ▼	
Cave/Karst Potential	Low ▼		
Cave/Karst Potential	<input type="checkbox"/> Critical		
Other	<input checked="" type="checkbox"/> 4 String <input type="checkbox"/> 5 String	Capitan Reef None ▼	<input type="checkbox"/> WIPP
Other	Pilot Hole None ▼	<input checked="" type="checkbox"/> Open Annulus	
Cementing	Contingency Squeeze None ▼	Echo-Meter Int 2 ▼	Primary Cement Squeeze None ▼

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.

PRIMARY DESIGN

B. CASING

1. The **13-3/8 inch** surface casing shall be set at approximately **725 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.

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

2. The minimum required fill of cement behind the **10-3/4 inch** intermediate casing shall be set at approximately **4410 feet** 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 or potash.**

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

3. The minimum required fill of cement behind the **8-5/8** inch intermediate casing is:
 - The top of cement in the annulus between the 1st intermediate and the 2nd intermediate casing strings shall stand un-cemented at least **500 feet** below the 1st intermediate shoe. Zero percent excess shall be pumped on the cement slurry to ensure no tie-back into the previous shoe.
 - After hydraulic fracturing operations have been concluded and no longer than 180 days after the well is brought online, the operator shall bradenhead cement at least **500 feet** tie-back into the previous casing but not higher than USGS Marker Bed No. 126. **(Squeeze 393 sxs Class C and 93.5 bbls Displacement Fluid)**
Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.

Operator has proposed to pump down **10-3/4" X 8-5/8"** annulus post completion. Operator must run Echo-meter to verify Cement Slurry/Fluid top in the annulus. Adjust cement volume and excess based on a fluid caliper or similar method that reflects the as-drilled size of the wellbore. Report the amount of fluid utilized to pump the cement slurry and the calculated top of cement slurry to the BLM. Operator may conduct a negative and positive pressure test during completion to remediate sustained casing pressure and ensure cement tie-back requirement.

Operator has proposed an open annulus completion in R-111-Q. Submit results to the BLM. Pressure monitoring device and Pressure Safety Valves must be installed at surface on the **10-3/4" x 8-5/8"** annulus for the life of the well.

In the event of a casing failure during completion, the operator must contact the BLM at (575-706-2779) and **(575-361-2822 Eddy County).**

4. The minimum required fill of cement behind the **5-1/2** inch production casing is:
 - Cement should tie-back **500 feet** into the previous casing but not higher than USGS Marker Bed No. 126. Operator must run a CBL from TD of the production casing to surface to verify top of cement. Submit results to the BLM.
Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.
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.

ALTERNATE DESIGN

C. CASING

5. The **13-3/8** inch surface casing shall be set at approximately **725 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.
 - e. 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.
 - f. 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)
 - g. 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.
 - h. If cement falls back, remedial cementing will be done prior to drilling out that string.

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

6. The minimum required fill of cement behind the **9-5/8** inch intermediate casing shall be set at approximately **4410 feet** 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 or potash.**
7. The minimum required fill of cement behind the **7-5/8** inch intermediate casing is:
 - The top of cement in the annulus between the 1st intermediate and the 2nd intermediate casing strings shall stand un-cemented at least **500 feet** below the 1st intermediate shoe. Zero percent excess shall be pumped on the cement slurry to ensure no tie-back into the previous shoe.
 - After hydraulic fracturing operations have been concluded and no longer than 180 days after the well is brought online, the operator shall bradenhead cement at least **500 feet** tie-back into the previous casing but not higher than USGS Marker Bed No. 126. **(Squeeze 393 sxs Class C and 72.5 bbls Displacement Fluid)**

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

Operator has proposed to pump down **9-5/8" X 7-5/8"** annulus post completion. Operator must run Echo-meter to verify Cement Slurry/Fluid top in the annulus. Adjust cement volume and excess based on a fluid caliper or similar method that reflects the as-drilled size of the wellbore. Report the amount of fluid utilized to pump the cement slurry and the calculated top of cement slurry to the BLM. Operator may conduct a negative and positive pressure test during completion to remediate sustained casing pressure and ensure cement tie-back requirement.

Operator has proposed an open annulus completion in R-111-Q. Submit results to the BLM. Pressure monitoring device and Pressure Safety Valves must be installed at surface on the 9-5/8" x 7-5/8" annulus for the life of the well.

In the event of a casing failure during completion, the operator must contact the BLM at (575-706-2779) and (575-361-2822 Eddy County).

8. The minimum required fill of cement behind the **5-1/2** inch production casing is:
 - Cement should tie-back **500 feet** into the previous casing but not higher than USGS Marker Bed No. 126. Operator must run a CBL from TD of the production casing to surface to verify top of cement. Submit results to the BLM.
Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.

D. 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 **9-5/8** intermediate casing shoe shall be **5000 (5M) psi. Annular which shall be tested to 3500 (70% Working Pressure) psi.**

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

Option 2:

- 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.

E. SPECIAL REQUIREMENT (S)

Unit Wells

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

Commercial Well Determination

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

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) 11/13/2024

Form 3160-5 (June 2019)	UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT	FORM APPROVED OMB No. 1004-0137 Expires: October 31, 2021
SUNDRY NOTICES AND REPORTS ON WELLS <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"/> 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: LOT 4 / 332 FNL / 983 FWL / TWSP: 25S / RANGE: 31E / SECTION: 1 / LAT: 32.165733 / LONG: -103.73691 (TVD: 8346 feet, MD: 8412 feet)

PPP: LOT 4 / 100 FNL / 330 FWL / TWSP: 25S / RANGE: 31E / SECTION: 1 / LAT: 32.16638 / LONG: -103.739019 (TVD: 11650 feet, MD: 11716 feet)

BHL: SWSW / 20 FSL / 330 FWL / TWSP: 25S / RANGE: 31E / SECTION: 12 / LAT: 32.13761 / LONG: -103.73904 (TVD: 12179 feet, MD: 22308 feet)

CONFIDENTIAL

COTTON DRAW UNIT 631H

1. Geologic Formations

TVD of target	10936	Pilot hole depth	N/A
MD at TD:	21098	Deepest expected fresh water	

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone?	Hazards*
Rustler	660		
Salt	1105		
Base of Salt	4310		
Delaware	4385		
Cherry Canyon	5440		
Brushy Canyon	6790		
Bone Spring 1st lime	8360		
Bone Spring 1st	9148		
Bone Spring 2nd	9975		
Bone Spring 3rd lime	10490		
Salado, #126	1803		

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

COTTON DRAW UNIT 631H

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	685 MD	0	685 TVD
12 1/4	10 3/4	45.5	J-55	BTC SCC	0.0	4410 MD	0	4410 TVD
9 7/8	8 5/8	32.0	P110	MOFXL	0	10294	0	10294
7 7/8	5 1/2	20.0	P110HP	CDC-HTQ	0	21098 MD	0	10936 TVD

- All casing strings will be tested in accordance with 43 CFR 3172. 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	534	Surf	13.2	1.44	Lead: Class C Cement + additives
Int 1	294	Surf	9	3.27	Lead: Class C Cement + additives
	101	3910	13.2	1.44	Tail: Class H / C + additives
Int 2					
	169	8360	13.2	1.44	Tail: Class H / C + additives
Int 2 Intermediate Squeeze, Post completions	393	3910	9	1.44	Post Squeeze Lead: Class C Cement + additives
Production	117	8394	9	3.27	Lead: Class H / C + additives
	1417	10394	13.2	1.44	Tail: Class H / C + additives

- Devon will design around R111-Q: 4 String, Open 1st Int and 2nd Int Annulus, Figure D
 - Int 2 TOC will be, prior to completion, brought up to the 1st Bone Lime, leaving an open annulus for pressure monitoring
 - Following completion, a cement top out will be performed to bring TOC 500ft into Int 1, but below the POTASH interval
 - 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
- .Int 2 cement will adhere to R111-Q requirements

Casing String	% Excess
Surface	50%
Intermediate 1	30%
Intermediate 2 (Two Stage)	0%
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.

COTTON DRAW UNIT 631H

2. Casing Program (Secondary 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	685 MD	0	685 TVD
12 1/4	9 5/8	40.0	J-55	BTC	0.0	4410 MD	0	4410 TVD
8 3/4	7 5/8	29.7	P110HP	Talon SFC	0	10294	0	10294
6 3/4	5 1/2	20.0	P110HP	Talon RD	0	21098 MD	0	10936 TVD

- All casing strings will be tested in accordance with 43 CFR 3172. 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 (Secondary Design)

Casing	# Sks	TOC	Wt. (lb/gal)	Yld (ft3/sack)	Slurry Description
Surface	534	Surf	13.2	1.44	Lead: Class C Cement + additives
Int 1	480	Surf	9	3.27	Lead: Class C Cement + additives
	154	3910	13.2	1.44	Tail: Class H / C + additives
Int 2					
	132	8360	13.2	1.44	Tail: Class H / C + additives
Int 2 Intermediate Squeeze, Post completions	313	3910	9	1.44	Post Squeeze Lead: Class C Cement + additives
Production	62	8394	9	3.27	Lead: Class H / C + additives
	683	10394	13.2	1.44	Tail: Class H / C + additives

- Devon will design around R111-Q: 4 String, Open 1st Int and 2nd Int Annulus, Figure D
- Int 2 TOC will be, prior to completion, brought up to the 1st Bone Lime, leaving an open annulus for pressure monitoring
- Following completion, a cement top out will be performed to bring TOC 500ft into Int 1, but below the POTASH interval
- 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

.Int 2 cement will adhere to R111-Q requirements

Casing String	% Excess
Surface	50%
Intermediate 1	30%
Intermediate 2	0%
Prod	10%

COTTON DRAW UNIT 631H

4. Pressure Control Equipment (Four String Design)

BOP installed and tested before drilling which hole?		Size?	Min. Required WP	Type	✓	Tested to:
Int 1	13-5/8"	5M	Annular		X	50% of rated working pressure
			Blind Ram		X	5M
			Pipe Ram			
			Double Ram		X	
			Other*			
Int 2	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					

COTTON DRAW UNIT 631H

5. Mud Program (Four String Design)

Section	Type	Weight (ppg)
Surface	WBM	8.5-9
Intermediate	DBE / Cut Brine	10-10.5
Intermediate 2	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	Int. shoe to KOP
Density	Int. shoe to KOP
X CBL	Production casing
X Mud log	Intermediate shoe to TD
PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH pressure at deepest TVD	5971
Abnormal temperature	No

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

Hydrogen Sulfide (H ₂ S) monitors will be installed prior to drilling out the surface shoe. If H ₂ S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of 43 CFR 3176. If Hydrogen Sulfide is encountered measured values and formations will be provided to the BLM.	
N	H ₂ S is present
Y	H ₂ S plan attached.

COTTON DRAW UNIT 631H

8. Other facets of operation

Is this a walking operation? Potentially

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

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

Will be pre-setting casing? Potentially

- 1 Spudder rig will move in and batch drill surface hole.
 - a. Rig will utilize fresh water based mud to drill surface hole to TD. Solids control will be handled entirely on a closed loop basis.,
- 2 After drilling the surface hole section, the spudder rig will run casing and cement following all of the applicable rules and regulations (43 CFR 3172, all COAs and NMOCD regulations).
- 3 The wellhead will be installed and tested once the surface casing is cut off and the WOC time has been reached.
- 4 A blind flange with the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with a pressure gauge installed on the wellhead.
- 5 Spudder rig operations is expected to take 4-5 days per well on a multi-well pa.
- 6 The NMOCD will be contacted and notified 24 hours prior to commencing spudder rig operations.
- 7 Drilling operations will be performed with drilling rig. A that time an approved BOP stack will be 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

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.

C-102 Submit Electronically Via OCD Permitting	State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION		Revised July, 2024	
			Submittal Type:	<input checked="" type="checkbox"/> Initial Submittal
				<input type="checkbox"/> Amended Report
		<input type="checkbox"/> As Drilled		

WELL LOCATION INFORMATION

API Number 30-015-55295	Pool Code 96641	Pool Name PADUCA; BONE SPRING
Property Code	Property Name COTTON DRAW UNIT	Well Number 631H
OGRID No. 6137	Operator Name DEVON ENERGY PRODUCTION COMPANY, L.P.	Ground Level Elevation 3474.8'
Surface Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input checked="" type="checkbox"/> Federal		Mineral Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input type="checkbox"/> Federal

Surface Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
	1	25-S	31-E	4	332' N	983' W	32.165733	103.736910	EDDY

Bottom Hole Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
D	25	24-S	31-E		20' N	330' W	32.195546	103.738979	EDDY

Dedicated Acres 319.11	Infill or Defining Well	Defining Well API	Overlapping Spacing Unit (Y/N)	Consolidation Code
Order Numbers			Well setbacks are under Common Ownership: <input type="checkbox"/> Yes <input type="checkbox"/> No	

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
	36	24S	31E	1	53 S	330 W	32.1667	103.7391	EDDY


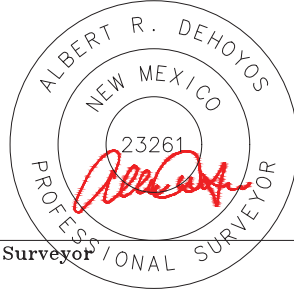
First Take Point (FTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
	36	24-S	31-E	1	100' S	330' W	32.166930	103.739018	EDDY

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
D	25	24-S	31-E		100' N	330' W	32.195326	103.738979	EDDY

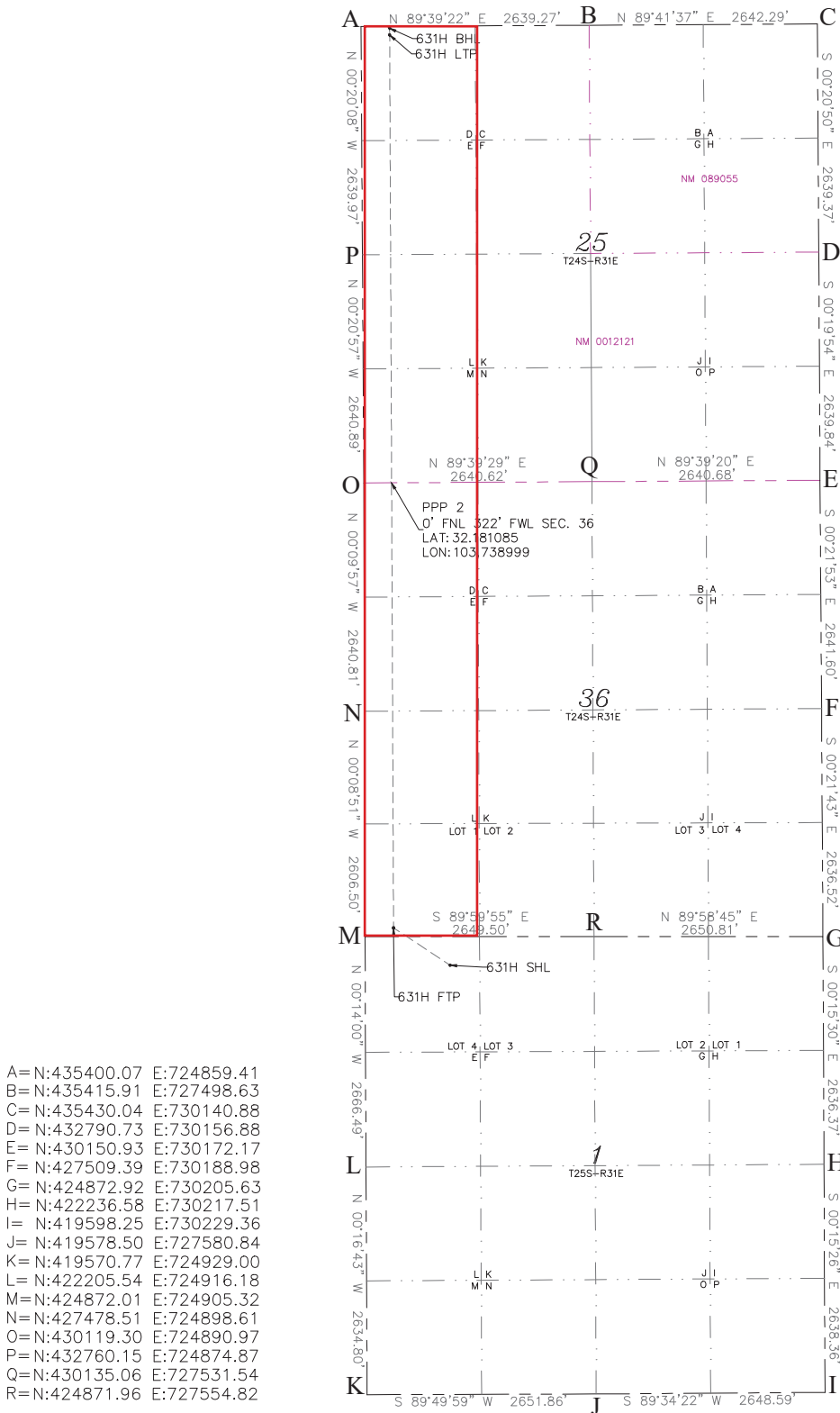
Spacing Unit Type X Horizontal		Vertical	Ground Floor Elevation:
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OPERATOR CERTIFICATIONS I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.		SURVEYOR CERTIFICATIONS I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under supervision, and that the same is true and correct to the best of my belief.	
Signature 	Date 10/01/2024		
Printed Name Chelsey Green			
Email Address chelsey.green@dvn.com		Certificate Number 23261	Date of Survey 07/2024

ACREAGE DEDICATION PLATS

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

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



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.

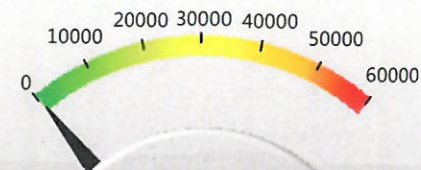
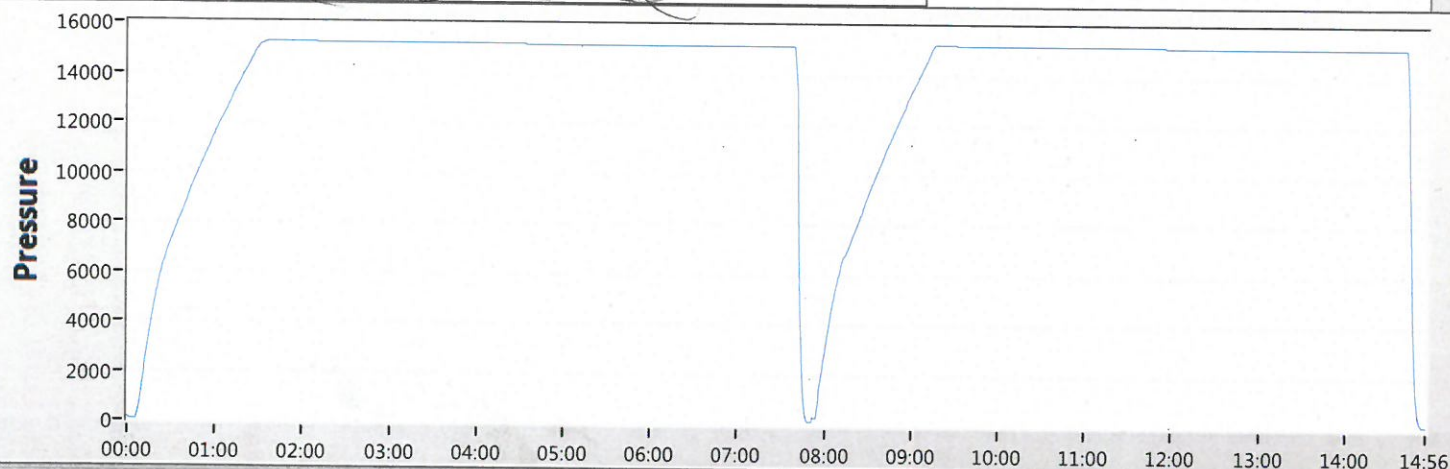
1. Well Control Response:
 1. Primary barrier remains fluid
 2. In the event of an influx due to being underbalanced and after a realized gain or flow, the order of closing BOPE is as follows:
 - a) Annular first
 - b) If annular were to not hold, Upper pipe rams second (which were tested on the skid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



Well: COTTON DRAW UNIT 631H

County: Eddy

Wellbore: Permit Plan

Design: Permit Plan #1

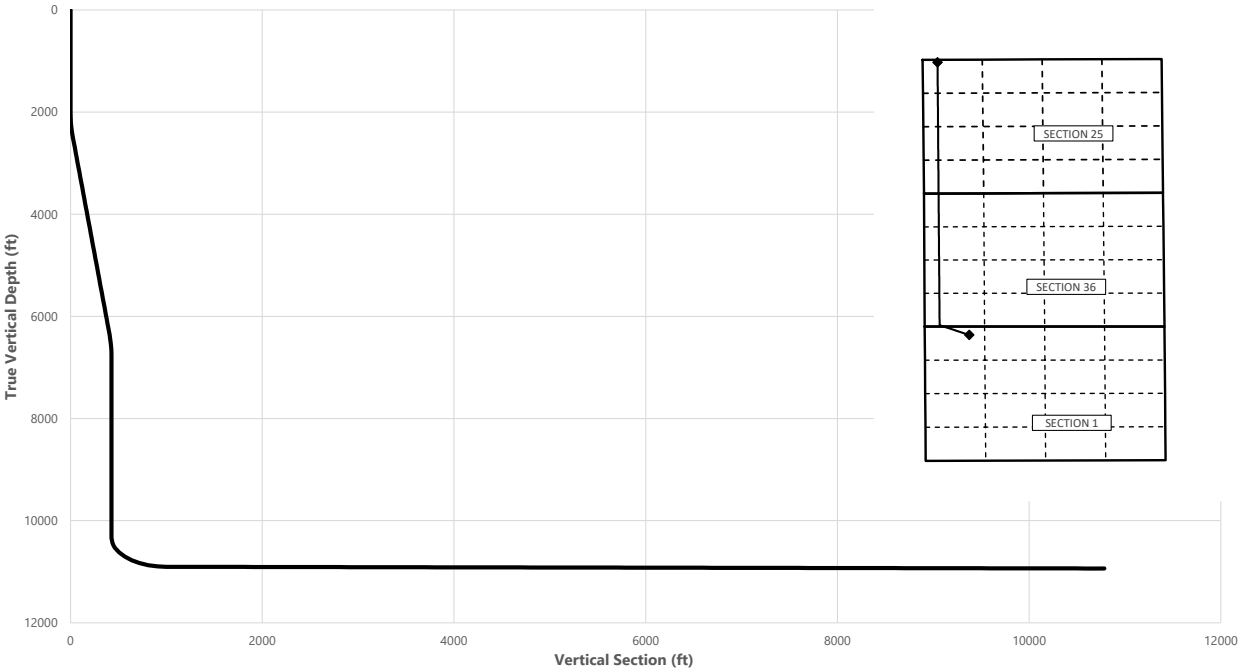
Geodetic System: US State Plane 1983

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	300.50	2000.00	0.00	0.00	0.00	0.00	Start Tangent
2500.00	10.00	300.50	2497.47	22.09	-37.50	24.48	2.00	Hold Tangent
6372.28	10.00	300.50	6310.92	363.37	-616.87	402.62	0.00	Drop to Vertical
6872.28	0.00	300.50	6808.39	385.46	-654.37	427.09	2.00	Hold Vertical
10393.94	0.00	359.75	10330.05	385.46	-654.37	427.09	0.00	KOP
11292.01	89.81	359.75	10903.00	956.48	-656.86	997.08	10.00	Landing Point
21097.77	89.81	359.75	10936.00	10762.09	-699.65	10784.81	0.00	BHL



Key Depths	MD	TVD
	(ft)	(ft)
Rustler	660.00	660.00
Salt	1105.00	1105.00
Base of Salt	4340.50	4310.00
Delaware	4416.65	4385.00
Cherry Canyon	5487.93	5440.00
Brushy Canyon	6853.90	6790.00
Bone Spring 1st lime	8423.90	8360.00
Bone Spring 1st	8423.90	8360.00
Bone Spring 2nd	10038.90	9975.00
Bone Spring 3rd lime / Point of Pene	10556.05	10490.00
exit	21017.77	10935.74

SHL
KOP
Point of Penetration
Exit
BHL

MD	TVD	Lat	Long	Section Footages
(ft)	(ft)	(°)	(°)	
0.00	0.00	32.1656	-103.7370	332' FNL, 983' FWL of Sec 1 in T25S, R31E
10393.94	10330.05	32.1667	-103.7391	53' FSL, 330' FWL of Sec 36 in T24S, R31E
10556.05	10490.00	32.1669	-103.7390	100' FSL, 330' FWL of Sec 36 in T24S, R31E
21017.77	10935.74	32.1953	-103.7390	100' FNL, 330' FWL of Sec 25 in T24S, R31E
21097.77	10936.00	32.1952	-103.7391	20' FNL, 330' FWL of Sec 25 in T24S, R31E

	Y	X	MD
KOP	424925	725235	10393.94

COTTON DRAW UNIT 631H



Well: COTTON DRAW UNIT 631H
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
100.00	0.00	300.50	100.00	0.00	0.00	0.00	0.00	
200.00	0.00	300.50	200.00	0.00	0.00	0.00	0.00	
300.00	0.00	300.50	300.00	0.00	0.00	0.00	0.00	
400.00	0.00	300.50	400.00	0.00	0.00	0.00	0.00	
500.00	0.00	300.50	500.00	0.00	0.00	0.00	0.00	
600.00	0.00	300.50	600.00	0.00	0.00	0.00	0.00	
660.00	0.00	300.50	660.00	0.00	0.00	0.00	0.00	Rustler
700.00	0.00	300.50	700.00	0.00	0.00	0.00	0.00	
800.00	0.00	300.50	800.00	0.00	0.00	0.00	0.00	
900.00	0.00	300.50	900.00	0.00	0.00	0.00	0.00	
1000.00	0.00	300.50	1000.00	0.00	0.00	0.00	0.00	
1100.00	0.00	300.50	1100.00	0.00	0.00	0.00	0.00	
1105.00	0.00	300.50	1105.00	0.00	0.00	0.00	0.00	Salt
1200.00	0.00	300.50	1200.00	0.00	0.00	0.00	0.00	
1300.00	0.00	300.50	1300.00	0.00	0.00	0.00	0.00	
1400.00	0.00	300.50	1400.00	0.00	0.00	0.00	0.00	
1500.00	0.00	300.50	1500.00	0.00	0.00	0.00	0.00	
1600.00	0.00	300.50	1600.00	0.00	0.00	0.00	0.00	
1700.00	0.00	300.50	1700.00	0.00	0.00	0.00	0.00	
1800.00	0.00	300.50	1800.00	0.00	0.00	0.00	0.00	
1900.00	0.00	300.50	1900.00	0.00	0.00	0.00	0.00	
2000.00	0.00	300.50	2000.00	0.00	0.00	0.00	0.00	Start Tangent
2100.00	2.00	300.50	2099.98	0.89	-1.50	0.98	2.00	
2200.00	4.00	300.50	2199.84	3.54	-6.01	3.92	2.00	
2300.00	6.00	300.50	2299.45	7.97	-13.52	8.83	2.00	
2400.00	8.00	300.50	2398.70	14.15	-24.02	15.68	2.00	
2500.00	10.00	300.50	2497.47	22.09	-37.50	24.48	2.00	Hold Tangent
2600.00	10.00	300.50	2595.95	30.90	-52.46	34.24	0.00	
2700.00	10.00	300.50	2694.43	39.72	-67.42	44.01	0.00	
2800.00	10.00	300.50	2792.91	48.53	-82.39	53.77	0.00	
2900.00	10.00	300.50	2891.39	57.34	-97.35	63.54	0.00	
3000.00	10.00	300.50	2989.87	66.16	-112.31	73.30	0.00	
3100.00	10.00	300.50	3088.35	74.97	-127.27	83.07	0.00	
3200.00	10.00	300.50	3186.83	83.78	-142.23	92.83	0.00	
3300.00	10.00	300.50	3285.31	92.60	-157.20	102.60	0.00	
3400.00	10.00	300.50	3383.79	101.41	-172.16	112.36	0.00	
3500.00	10.00	300.50	3482.27	110.22	-187.12	122.13	0.00	
3600.00	10.00	300.50	3580.75	119.03	-202.08	131.89	0.00	
3700.00	10.00	300.50	3679.23	127.85	-217.05	141.66	0.00	
3800.00	10.00	300.50	3777.72	136.66	-232.01	151.43	0.00	
3900.00	10.00	300.50	3876.20	145.47	-246.97	161.19	0.00	
4000.00	10.00	300.50	3974.68	154.29	-261.93	170.96	0.00	
4100.00	10.00	300.50	4073.16	163.10	-276.89	180.72	0.00	
4200.00	10.00	300.50	4171.64	171.91	-291.86	190.49	0.00	
4300.00	10.00	300.50	4270.12	180.73	-306.82	200.25	0.00	
4340.50	10.00	300.50	4310.00	184.30	-312.88	204.21	0.00	Base of Salt
4400.00	10.00	300.50	4368.60	189.54	-321.78	210.02	0.00	
4416.65	10.00	300.50	4385.00	191.01	-324.27	211.64	0.00	Delaware
4500.00	10.00	300.50	4467.08	198.35	-336.74	219.78	0.00	
4600.00	10.00	300.50	4565.56	207.17	-351.70	229.55	0.00	
4700.00	10.00	300.50	4664.04	215.98	-366.67	239.31	0.00	
4800.00	10.00	300.50	4762.52	224.79	-381.63	249.08	0.00	
4900.00	10.00	300.50	4861.00	233.61	-396.59	258.84	0.00	
5000.00	10.00	300.50	4959.48	242.42	-411.55	268.61	0.00	
5100.00	10.00	300.50	5057.97	251.23	-426.51	278.37	0.00	
5200.00	10.00	300.50	5156.45	260.05	-441.48	288.14	0.00	
5300.00	10.00	300.50	5254.93	268.86	-456.44	297.91	0.00	
5400.00	10.00	300.50	5353.41	277.67	-471.40	307.67	0.00	
5487.93	10.00	300.50	5440.00	285.42	-484.56	316.26	0.00	Cherry Canyon
5500.00	10.00	300.50	5451.89	286.49	-486.36	317.44	0.00	
5600.00	10.00	300.50	5550.37	295.30	-501.32	327.20	0.00	
5700.00	10.00	300.50	5648.85	304.11	-516.29	336.97	0.00	
5800.00	10.00	300.50	5747.33	312.93	-531.25	346.73	0.00	
5900.00	10.00	300.50	5845.81	321.74	-546.21	356.50	0.00	
6000.00	10.00	300.50	5944.29	330.55	-561.17	366.26	0.00	
6100.00	10.00	300.50	6042.77	339.37	-576.13	376.03	0.00	
6200.00	10.00	300.50	6141.25	348.18	-591.10	385.79	0.00	
6300.00	10.00	300.50	6239.73	356.99	-606.06	395.56	0.00	
6372.28	10.00	300.50	6310.92	363.37	-616.87	402.62	0.00	Drop to Vertical

COTTON DRAW UNIT 631H



Well: COTTON DRAW UNIT 631H
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
6400.00	9.45	300.50	6338.24	365.74	-620.91	405.25	2.00	
6500.00	7.45	300.50	6437.15	373.20	-633.56	413.51	2.00	
6600.00	5.45	300.50	6536.51	378.89	-643.23	419.82	2.00	
6700.00	3.45	300.50	6636.21	382.83	-649.91	424.18	2.00	
6800.00	1.45	300.50	6736.11	384.99	-653.59	426.58	2.00	
6853.90	0.37	300.50	6790.00	385.43	-654.32	427.06	2.00	Brushy Canyon
6872.28	0.00	300.50	6808.39	385.46	-654.37	427.09	2.00	Hold Vertical
6900.00	0.00	359.75	6836.10	385.46	-654.37	427.10	0.00	
7000.00	0.00	359.75	6936.10	385.46	-654.37	427.10	0.00	
7100.00	0.00	359.75	7036.10	385.46	-654.37	427.10	0.00	
7200.00	0.00	359.75	7136.10	385.46	-654.37	427.10	0.00	
7300.00	0.00	359.75	7236.10	385.46	-654.37	427.10	0.00	
7400.00	0.00	359.75	7336.10	385.46	-654.37	427.10	0.00	
7500.00	0.00	359.75	7436.10	385.46	-654.37	427.10	0.00	
7600.00	0.00	359.75	7536.10	385.46	-654.37	427.10	0.00	
7700.00	0.00	359.75	7636.10	385.46	-654.37	427.10	0.00	
7800.00	0.00	359.75	7736.10	385.46	-654.37	427.10	0.00	
7900.00	0.00	359.75	7836.10	385.46	-654.37	427.10	0.00	
8000.00	0.00	359.75	7936.10	385.46	-654.37	427.10	0.00	
8100.00	0.00	359.75	8036.10	385.46	-654.37	427.10	0.00	
8200.00	0.00	359.75	8136.10	385.46	-654.37	427.10	0.00	
8300.00	0.00	359.75	8236.10	385.46	-654.37	427.10	0.00	
8400.00	0.00	359.75	8336.10	385.46	-654.37	427.10	0.00	
8423.90	0.00	359.75	8360.00	385.46	-654.37	427.10	0.00	Bone Spring 1st lime
8500.00	0.00	359.75	8436.10	385.46	-654.37	427.10	0.00	
8600.00	0.00	359.75	8536.10	385.46	-654.37	427.10	0.00	
8700.00	0.00	359.75	8636.10	385.46	-654.37	427.10	0.00	
8800.00	0.00	359.75	8736.10	385.46	-654.37	427.10	0.00	
8900.00	0.00	359.75	8836.10	385.46	-654.37	427.10	0.00	
9000.00	0.00	359.75	8936.10	385.46	-654.37	427.10	0.00	
9100.00	0.00	359.75	9036.10	385.46	-654.37	427.10	0.00	
9200.00	0.00	359.75	9136.10	385.46	-654.37	427.10	0.00	
9211.90	0.00	359.75	9148.00	385.46	-654.37	427.10	0.00	Bone Spring 1st
9300.00	0.00	359.75	9236.10	385.46	-654.37	427.10	0.00	
9400.00	0.00	359.75	9336.10	385.46	-654.37	427.10	0.00	
9500.00	0.00	359.75	9436.10	385.46	-654.37	427.10	0.00	
9600.00	0.00	359.75	9536.10	385.46	-654.37	427.10	0.00	
9700.00	0.00	359.75	9636.10	385.46	-654.37	427.10	0.00	
9800.00	0.00	359.75	9736.10	385.46	-654.37	427.10	0.00	
9900.00	0.00	359.75	9836.10	385.46	-654.37	427.10	0.00	
10000.00	0.00	359.75	9936.10	385.46	-654.37	427.10	0.00	
10038.90	0.00	359.75	9975.00	385.46	-654.37	427.10	0.00	Bone Spring 2nd
10100.00	0.00	359.75	10036.10	385.46	-654.37	427.10	0.00	
10200.00	0.00	359.75	10136.10	385.46	-654.37	427.10	0.00	
10300.00	0.00	359.75	10236.10	385.46	-654.37	427.10	0.00	
10393.94	0.00	359.75	10330.05	385.46	-654.37	427.09	0.00	KOP
10400.00	0.61	359.75	10336.10	385.49	-654.37	427.13	10.00	
10500.00	10.61	359.75	10435.50	395.24	-654.42	436.87	10.00	
10556.05	16.21	359.75	10490.00	408.24	-654.47	449.83	10.00	Bone Spring 3rd lime / Point of Penetration
10600.00	20.61	359.75	10531.69	422.11	-654.53	463.68	10.00	
10700.00	30.61	359.75	10621.75	465.27	-654.72	506.77	10.00	
10800.00	40.61	359.75	10702.95	523.42	-654.98	564.81	10.00	
10900.00	50.61	359.75	10772.83	594.78	-655.29	636.04	10.00	
11000.00	60.61	359.75	10829.24	677.19	-655.65	718.30	10.00	
11100.00	70.61	359.75	10870.49	768.15	-656.05	809.09	10.00	
11200.00	80.61	359.75	10895.32	864.89	-656.47	905.65	10.00	
11292.01	89.81	359.75	10903.00	956.48	-656.86	997.08	10.00	Landing Point
11300.00	89.81	359.75	10903.03	964.46	-656.90	1005.05	0.00	
11400.00	89.81	359.75	10903.36	1064.46	-657.34	1104.87	0.00	
11500.00	89.81	359.75	10903.70	1164.46	-657.77	1204.68	0.00	
11600.00	89.81	359.75	10904.04	1264.46	-658.21	1304.50	0.00	
11700.00	89.81	359.75	10904.37	1364.46	-658.65	1404.31	0.00	
11800.00	89.81	359.75	10904.71	1464.46	-659.08	1504.13	0.00	
11900.00	89.81	359.75	10905.05	1564.46	-659.52	1603.95	0.00	
12000.00	89.81	359.75	10905.38	1664.45	-659.96	1703.76	0.00	
12100.00	89.81	359.75	10905.72	1764.45	-660.39	1803.58	0.00	
12200.00	89.81	359.75	10906.06	1864.45	-660.83	1903.39	0.00	
12300.00	89.81	359.75	10906.39	1964.45	-661.27	2003.21	0.00	
12400.00	89.81	359.75	10906.73	2064.45	-661.71	2103.03	0.00	
12500.00	89.81	359.75	10907.07	2164.45	-662.14	2202.84	0.00	

COTTON DRAW UNIT 631H



Well: COTTON DRAW UNIT 631H
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)	
12600.00	89.81	359.75	10907.40	2264.44	-662.58	2302.66	0.00	
12700.00	89.81	359.75	10907.74	2364.44	-663.02	2402.48	0.00	
12800.00	89.81	359.75	10908.08	2464.44	-663.45	2502.29	0.00	
12900.00	89.81	359.75	10908.41	2564.44	-663.89	2602.11	0.00	
13000.00	89.81	359.75	10908.75	2664.44	-664.33	2701.92	0.00	
13100.00	89.81	359.75	10909.09	2764.44	-664.76	2801.74	0.00	
13200.00	89.81	359.75	10909.42	2864.44	-665.20	2901.56	0.00	
13300.00	89.81	359.75	10909.76	2964.43	-665.64	3001.37	0.00	
13400.00	89.81	359.75	10910.10	3064.43	-666.07	3101.19	0.00	
13500.00	89.81	359.75	10910.43	3164.43	-666.51	3201.00	0.00	
13600.00	89.81	359.75	10910.77	3264.43	-666.95	3300.82	0.00	
13700.00	89.81	359.75	10911.11	3364.43	-667.38	3400.64	0.00	
13800.00	89.81	359.75	10911.44	3464.43	-667.82	3500.45	0.00	
13900.00	89.81	359.75	10911.78	3564.43	-668.26	3600.27	0.00	
14000.00	89.81	359.75	10912.12	3664.42	-668.69	3700.09	0.00	
14100.00	89.81	359.75	10912.45	3764.42	-669.13	3799.90	0.00	
14200.00	89.81	359.75	10912.79	3864.42	-669.57	3899.72	0.00	
14300.00	89.81	359.75	10913.13	3964.42	-670.01	3999.53	0.00	
14400.00	89.81	359.75	10913.46	4064.42	-670.44	4099.35	0.00	
14500.00	89.81	359.75	10913.80	4164.42	-670.88	4199.17	0.00	
14600.00	89.81	359.75	10914.14	4264.41	-671.32	4298.98	0.00	
14700.00	89.81	359.75	10914.47	4364.41	-671.75	4398.80	0.00	
14800.00	89.81	359.75	10914.81	4464.41	-672.19	4498.61	0.00	
14900.00	89.81	359.75	10915.15	4564.41	-672.63	4598.43	0.00	
15000.00	89.81	359.75	10915.48	4664.41	-673.06	4698.25	0.00	
15100.00	89.81	359.75	10915.82	4764.41	-673.50	4798.06	0.00	
15200.00	89.81	359.75	10916.16	4864.41	-673.94	4897.88	0.00	
15300.00	89.81	359.75	10916.49	4964.40	-674.37	4997.70	0.00	
15400.00	89.81	359.75	10916.83	5064.40	-674.81	5097.51	0.00	
15500.00	89.81	359.75	10917.17	5164.40	-675.25	5197.33	0.00	
15600.00	89.81	359.75	10917.50	5264.40	-675.68	5297.14	0.00	
15700.00	89.81	359.75	10917.84	5364.40	-676.12	5396.96	0.00	
15800.00	89.81	359.75	10918.18	5464.40	-676.56	5496.78	0.00	
15900.00	89.81	359.75	10918.51	5564.39	-677.00	5596.59	0.00	
16000.00	89.81	359.75	10918.85	5664.39	-677.43	5696.41	0.00	
16100.00	89.81	359.75	10919.19	5764.39	-677.87	5796.23	0.00	
16200.00	89.81	359.75	10919.52	5864.39	-678.31	5896.04	0.00	
16300.00	89.81	359.75	10919.86	5964.39	-678.74	5995.86	0.00	
16400.00	89.81	359.75	10920.20	6064.39	-679.18	6095.67	0.00	
16500.00	89.81	359.75	10920.53	6164.39	-679.62	6195.49	0.00	
16600.00	89.81	359.75	10920.87	6264.38	-680.05	6295.31	0.00	
16700.00	89.81	359.75	10921.21	6364.38	-680.49	6395.12	0.00	
16800.00	89.81	359.75	10921.54	6464.38	-680.93	6494.94	0.00	
16900.00	89.81	359.75	10921.88	6564.38	-681.36	6594.75	0.00	
17000.00	89.81	359.75	10922.22	6664.38	-681.80	6694.57	0.00	
17100.00	89.81	359.75	10922.55	6764.38	-682.24	6794.39	0.00	
17200.00	89.81	359.75	10922.89	6864.37	-682.67	6894.20	0.00	
17300.00	89.81	359.75	10923.23	6964.37	-683.11	6994.02	0.00	
17400.00	89.81	359.75	10923.56	7064.37	-683.55	7093.84	0.00	
17500.00	89.81	359.75	10923.90	7164.37	-683.98	7193.65	0.00	
17600.00	89.81	359.75	10924.24	7264.37	-684.42	7293.47	0.00	
17700.00	89.81	359.75	10924.57	7364.37	-684.86	7393.28	0.00	
17800.00	89.81	359.75	10924.91	7464.37	-685.30	7493.10	0.00	
17900.00	89.81	359.75	10925.25	7564.36	-685.73	7592.92	0.00	
18000.00	89.81	359.75	10925.58	7664.36	-686.17	7692.73	0.00	
18100.00	89.81	359.75	10925.92	7764.36	-686.61	7792.55	0.00	
18200.00	89.81	359.75	10926.26	7864.36	-687.04	7892.36	0.00	
18300.00	89.81	359.75	10926.59	7964.36	-687.48	7992.18	0.00	
18400.00	89.81	359.75	10926.93	8064.36	-687.92	8092.00	0.00	
18500.00	89.81	359.75	10927.27	8164.36	-688.35	8191.81	0.00	
18600.00	89.81	359.75	10927.60	8264.35	-688.79	8291.63	0.00	
18700.00	89.81	359.75	10927.94	8364.35	-689.23	8391.45	0.00	
18800.00	89.81	359.75	10928.28	8464.35	-689.66	8491.26	0.00	
18900.00	89.81	359.75	10928.61	8564.35	-690.10	8591.08	0.00	
19000.00	89.81	359.75	10928.95	8664.35	-690.54	8690.89	0.00	
19100.00	89.81	359.75	10929.29	8764.35	-690.97	8790.71	0.00	
19200.00	89.81	359.75	10929.62	8864.34	-691.41	8890.53	0.00	
19300.00	89.81	359.75	10929.96	8964.34	-691.85	8990.34	0.00	
19400.00	89.81	359.75	10930.30	9064.34	-692.29	9090.16	0.00	
19500.00	89.81	359.75	10930.63	9164.34	-692.72	9189.97	0.00	

COTTON DRAW UNIT 631H



Well: COTTON DRAW UNIT 631H

County: Eddy

Wellbore: Permit Plan

Design: Permit Plan #1

Geodetic System: US State Plane 1983

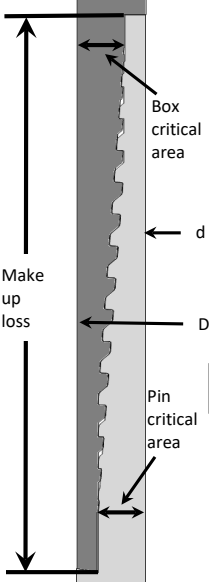
Datum: North American Datum 1927

Ellipsoid: Clarke 1866

Zone: 3001 - NM East (NAD83)

MD	INC	AZI	TVD	NS	EW	VS	DLS	Comment
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100ft)	
19600.00	89.81	359.75	10930.97	9264.34	-693.16	9289.79	0.00	
19700.00	89.81	359.75	10931.31	9364.34	-693.60	9389.61	0.00	
19800.00	89.81	359.75	10931.64	9464.34	-694.03	9489.42	0.00	
19900.00	89.81	359.75	10931.98	9564.33	-694.47	9589.24	0.00	
20000.00	89.81	359.75	10932.32	9664.33	-694.91	9689.06	0.00	
20100.00	89.81	359.75	10932.65	9764.33	-695.34	9788.87	0.00	
20200.00	89.81	359.75	10932.99	9864.33	-695.78	9888.69	0.00	
20300.00	89.81	359.75	10933.33	9964.33	-696.22	9988.50	0.00	
20400.00	89.81	359.75	10933.66	10064.33	-696.65	10088.32	0.00	
20500.00	89.81	359.75	10934.00	10164.32	-697.09	10188.14	0.00	
20600.00	89.81	359.75	10934.34	10264.32	-697.53	10287.95	0.00	
20700.00	89.81	359.75	10934.67	10364.32	-697.96	10387.77	0.00	
20800.00	89.81	359.75	10935.01	10464.32	-698.40	10487.58	0.00	
20900.00	89.81	359.75	10935.35	10564.32	-698.84	10587.40	0.00	
21000.00	89.81	359.75	10935.68	10664.32	-699.27	10687.22	0.00	
21017.77	89.81	359.75	10935.74	10682.09	-699.35	10704.96	0.00	exit
21097.77	89.81	359.75	10936.00	10762.09	-699.65	10784.81	0.00	BHL

Metal One Corp. Metal One	MO-FXL *1 Pipe Body: Borusan P110HSCY MinYS125ksi 95%RBW Special Drift 7.875" Connection Data Sheet	CDS# Date	MO-FXL 8-5/8 32.0 P110HSCY MinYS125ksi 95%RBW SD7.875 16-Jan-24
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MO-FXL

Geometry	Imperial		S.I.	
Pipe Body				
Grade *1	P110HSCY		P110HSCY	
MinYS *1	125	ksi	125	ksi
Pipe OD (D)	8 5/8	in	219.08	mm
Weight	32.00	lb/ft	47.68	kg/m
Actual weight	31.10		46.34	kg/m
Wall Thickness (t)	0.352	in	8.94	mm
Pipe ID (d)	7.921	in	201.19	mm
Pipe body cross section	9.149	in ²	5,902	mm ²
Special Drift Dia. *1	7.875	in	200.03	mm
-	-	-	-	-
Connection				
Box OD (W)	8.625	in	219.08	mm
PIN ID	7.921	in	201.19	mm
Make up Loss	3.847	in	97.71	mm
Box Critical Area	5.853	in ²	3686	mm ²
Joint load efficiency	69	%	69	%
Thread Taper	1 / 10 (1.2" per ft)			
Number of Threads	5 TPI			
Performance				
Performance Properties for Pipe Body				
S.M.Y.S. *1	1,144	kips	5,087	kN
M.I.Y.P. *1	9,690	psi	66.83	MPa
Collapse Strength *1	4,300	psi	29.66	MPa
Note S.M.Y.S.= Specified Minimum YIELD Strength of Pipe body M.I.Y.P. = Minimum Internal Yield Pressure of Pipe body *1: Borusan: SOP-12-F05 Rev.2, 10/17/2023 P110HSCY: MinYS125ksi, 95%RBW, SD7.875, Collapse Strength 4,300psi				
Performance Properties for Connection				
Tensile Yield load	789 kips (69% of S.M.Y.S.)			
Min. Compression Yield	789 kips (69% of S.M.Y.S.)			
Internal Pressure	6,780 psi (70% of M.I.Y.P.)			
External Pressure	100% of Collapse Strength			
Max. DLS (deg. /100ft)	29			
Recommended Torque				
Min.	13,600	ft-lb	18,400	N-m
Opti.	14,900	ft-lb	20,200	N-m
Max.	16,200	ft-lb	21,900	N-m
Operational Max.	28,400	ft-lb	38,500	N-m
Note : Operational Max. torque can be applied for high torque application				

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

The products described in this Connection Data Sheet are not recommended for use in deep water offshore applications. For more information, please refer to http://www.mto.co.jp/mo-con/_images/top/WebsiteTerms_Active_2033287_1.pdf the contents of which are incorporated by reference into this Connection Data Sheet.



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.



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

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U. S. Steel Tubular Products

5.500" 20.00lb/ft (0.361" Wall) P110 HP USS-CDC HTQ[®]

2/21/2024 7:47:29 AM

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MECHANICAL PROPERTIES	Pipe	USS-CDC HTQ [®]		--
Minimum Yield Strength	125,000	--	psi	--
Maximum Yield Strength	140,000	--	psi	--
Minimum Tensile Strength	130,000	--	psi	--
DIMENSIONS	Pipe	USS-CDC HTQ [®]		--
Outside Diameter	5.500	6.300	in.	--
Wall Thickness	0.361	--	in.	--
Inside Diameter	4.778	4.778	in.	--
Standard Drift	4.653	4.653	in.	--
Alternate Drift	--	--	in.	--
Nominal Linear Weight, T&C	20.00	--	lb/ft	--
Plain End Weight	19.83	--	lb/ft	--
SECTION AREA	Pipe	USS-CDC HTQ [®]		--
Critical Area	5.828	5.828	sq. in.	--
Joint Efficiency	--	97.0	%	--
PERFORMANCE	Pipe	USS-CDC HTQ [®]		--
Minimum Collapse Pressure	13,150	13,150	psi	--
External Pressure Leak Resistance	--	10,520	psi	--
Minimum Internal Yield Pressure	14,360	14,360	psi	--
Minimum Pipe Body Yield Strength	729,000	--	lb	--
Joint Strength	--	707,000	lb	--
Compression Rating	--	424,000	lb	--
Reference Length	--	23,567	ft	--
Maximum Uniaxial Bend Rating	--	60.6	deg/100 ft	--
MAKE-UP DATA	Pipe	USS-CDC HTQ [®]		--
Make-Up Loss	--	4.63	in.	--
Minimum Make-Up Torque	--	14,500	ft-lb	--
Maximum Make-Up Torque	--	20,500	ft-lb	--
Connection Yield Torque	--	25,300	ft-lb	--

UNCONTROLLED

Notes

1.

Other than proprietary collapse and connection values, performance properties have been calculated using standard equations defined by API 5C3 and do not incorporate any additional design or safety factors. Calculations assume nominal pipe OD, nominal wall thickness and Specified Minimum Yield Strength (SMYS).
2.

Uniaxial bending rating shown is structural only, and equal to compression efficiency.
3.

Torques have been calculated assuming a thread compound friction factor of 1.0 and are recommended only. Field make-up torques may require adjustment based on actual field conditions (e.g. make-up speed, temperature, thread compound, etc.).
4.

Reference length is calculated by joint strength divided by nominal threaded and coupled weight with 1.5 safety factor.
5.

Connection external pressure leak resistance has been verified to 80% API pipe body collapse pressure following the guidelines of API 5C5 Cal II.

Legal Notice

USS - CDC HTQ[®] (High Torque Casing Drilling Connection) is a trademark of U. S. Steel Corporation. This product is a modified API Buttress threaded and coupled connection designed for drilling with casing applications. All material contained in this publication is for general information only. This material should not therefore be used or relied upon for any specific application without independent competent professional examination and verification of accuracy, suitability and applicability. Anyone making use of this material does so at their own risk and assumes any and all liability resulting from such use. U. S. Steel disclaims any and all expressed or implied warranties of fitness for any general or particular application.

1-25-31-4 Sundry ID 2816657 Cotton Draw Unit 631H Eddy NM0503 DEVON ENERGY PRODUCTION COMPANY LP 13-22g 2-27-2024 LV-Alt

Cotton Draw Unit 631H

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	21.59	3.33	1.13	725	9	1.90	6.30	39,513
"B"				btc				0				0
w/8.4#/g mud, 30min Sfc Csg Test psig: 1,500				Tail Cmt	does not	circ to sfc.	Totals:	725				39,513
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	534	769	504	53	9.00	1435	2M				1.56
Site plot (pipe racks 3 or 4) as per D.O.D. (1-in D.A.), not found.												

9 5/8		casing inside the		13 3/8		Design Factors				Int 1		
Segment	#/ft	Grade		Coupling	Body	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	40.00		j 55	btc	3.57	1.07	0.82	4,410	2	1.55	1.79	176,400
"B"								0				0
w/8.4#/g mud, 30min Sfc Csg Test psig: 841								Totals:	4,410			176,400
The cement volume(s) are intended to achieve a top of						0	ft from surface or a		725	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	0.3132	634	1791	1417	26	10.50	2548	3M				0.81
D V Tool(s):								sum of sx	Σ CuFt			Σ%excess
t by stage %:								#VALUE!	#VALUE!			
Class 'C' tail cmt yld > 1.35												
Burst Frac Gradient(s) for Segment(s): A, B, C, D = 0.9, b, c, d All > 0.70, OK.												

7 5/8	casing inside the		9 5/8	Design Factors					Int 2			
Segment	#/ft	Grade		Coupling	Joint	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	29.70		p 110	talon sfc	3.00	1.51	1.8	10,294	2	3.02	2.85	305,732
"B"								0				0
"C"								0				0
"D"								0				0
w/8.4#/g mud, 30min Sfc Csg Test psig: 2,265								Totals:	10,294			305,732
The cement volume(s) are intended to achieve a top of					3910	ft from surface or a		500				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
8 3/4	0.1005	132	190	646	-71	9.00	3559	5M				0.43
Setting Depths for D V Tool(s):			8360				sum of sx	Σ CuFt				Σ%excess
% excess cmt by stage:			0				445	641				-1
Class 'C' tail cmt yld > 1.35												

Tail cmt		5 1/2		casing inside the		7 5/8		Design Factors				Prod 1	
Segment	#/ft	Grade		Coupling	Joint	Collapse	Burst	Length	B@s	a-B	a-C	Weight	
"A"	20.00			p 110	talon rd	3.33	2.2	2.41	21,098	2	4.03	3.69 421,960	
"B"									0			0	
w/8.4#/g mud, 30min Sfc Csg Test psig: 2,406								Totals:	21,098			421,960	
The cement volume(s) are intended to achieve a top of								9794	ft from surface or a		500	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	
6 3/4	0.0835	745	1186	946	25	10.50						0.43	
Class 'H' tail cmt yld > 1.20													
Capitan Reef est top XXXX.													

1-25-31-4 Sundry ID 2816657 Cotton Draw Unit 631H

Cotton Draw Unit 631H

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		21.59	3.33	1.13	725	9	1.90	6.30	39,513
"B"					btc					0				0
w/8.4#/g mud, 30min Sfc Csg Test psig: 1,500														
				Tail Cmt	does not	circ to sfc.		Totals:		725				39,513
<u>Comparison of Proposed to Minimum Required Cement Volumes</u>														
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	534		769	504	53	9.00	1435	2M					1.56
Site plot (pipe racks 3 or 4) as per 0.03 (1.00 D 4), not found														

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 sc	2.52	0.87	0.74	4,410	1	1.40	1.46	200,655
"B"								0				0
w/8.4#/g mud, 30min Sfc Csg Test psig: 582								Totals:	4,410			200,655
The cement volume(s) are intended to achieve a top of 0								ft from surface or a	725			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
12 1/4	0.1882	395	1107	866	28	10.50	2548	3M				0.50
D V Tool(s):						sum of sx		Σ CuFt				Σ%excess
t by stage % :						#VALUE!		#VALUE!	395	1107		28
Class 'C' tail cmt yld > 1.35												
Burst Frac Gradient(s) for Segment(s): A, B, C, D = 0.81, b, c, d All > 0.70, OK.												

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	mo-fxl	2.40	0.89	1.05	10,294	1	1.76	1.69	329,408
"B"							0				0	
"C"							0				0	
"D"							0				0	
w/8.4#/g mud, 30min Sfc Csg Test psig: -117							Totals:	10,294			329,408	
The cement volume(s) are intended to achieve a top of					3910	ft from surface or a		500			overlap.	
Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE			Min Dist Hole-Cplg	
9 7/8	0.1261	169	243	809	-70	9.00	3559	5M			0.63	
Setting Depths for D V Tool(s):				8360	sum of sx			Σ CuFt			Σ%excess	
% excess cmt by stage:				0				562	809		0	
Class 'C' tail cmt yld > 1.35												

Tail cmt													
5 1/2		casing inside the		8 5/8		Design Factors				Prod 1			
Segment	#/ft	Grade		Coupling	Joint	Collapse	Burst	Length	B@s	a-B	a-C	Weight	
"A"	20.00			p 110	cdc-htq	2.93	2.05	2.12	21,098	2	3.55	3.43	421,960
"B"								0				0	
w/8.4#/g mud, 30min Sfc Csg Test psig: 2,406								Totals:	21,098			421,960	
The cement volume(s) are intended to achieve a top of								9794	ft from surface or a		500	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	1534	2423	1960	24	10.50						0.79	
Class 'H' tail cmt yld > 1.20													
Capitan Reef est top XXXX.													

Sante Fe Main Office
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<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 404310

CONDITIONS

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 404310
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

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