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

Well Name	Well Number	US Well Number	Lease Number	Case Number	Operator
VAN DOO DAH	714H	3002549517	NMNM0359295A	NMNM0359295A	DEVON
VAN DOO DAH	624H	3002549519	NMNM0359295A	NMNM0359295A	DEVON
VAN DOO DAH	734H	3002549520	NMNM0359295A	NMNM0359295A	DEVON

# **Notice of Intent**

Sundry ID: 2743200 Type of Submission: Notice of Intent Date Sundry Submitted: 07/27/2023

Date proposed operation will begin: 07/27/2023

LONG VO Digitally signed by LONG VO Date: 2023.08.04 09:07:44 -05'00'

Sundry Print Repor

Type of Action: APD Change

Time Sundry Submitted: 01:48

**Procedure Description:** Devon Energy Production Company, L.P. respectfully requests approval to increase surface hole size from a 13-1/2" to a 14-3/4" hole. Devon also requests approval to utilize an echo-meter for each well. Please see the attached drill plans including the echo-meter verbiage and cementing details.

**NOI Attachments** 

# **Procedure Description**

Van\_Doo\_Dah\_33\_28\_Fed\_Com\_734H\_20230727134654.pdf

Van\_Doo\_Dah\_33\_28\_Fed\_Com\_714H\_20230727134631.pdf

Van\_Doo\_Dah\_33\_28\_Fed\_Com\_624H\_20230727134631.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 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

State:

# Field

**Representative Name:** 

Street Address:

City:

Phone:

Email address:

Zip:

Signed on: JUL 27, 2023 01:46 PM

# PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

<b>OPERATOR'S NAME:</b>	Devon Energy Production Company LP
LEASE NO.:	NMNM0359295A
LOCATION:	Section 33, T.25 S., R.32 E., NMPM
COUNTY:	Lea County, New Mexico
WELL NAME & NO.:	Van Doo Dah 33-28 Fed Com 624H
SURFACE HOLE FOOTAGE:	180'/S & 2246'/E
BOTTOM HOLE FOOTAGE	20'/N & 1890'/E
ATS/API ID:	3002549519
APD ID:	
Sundry ID:	2743200
WELL NAME & NO.:	Van Doo Dah 33-28 Fed Com 714H
SURFACE HOLE FOOTAGE:	180'/S & 2276'/E
BOTTOM HOLE FOOTAGE	20'/N & 2310'/E
ATS/API ID:	
APD ID:	
Sundry ID:	2743200
WELL NAME & NO.:	Van Doo Dah 33-28 Fed Com 734H
SURFACE HOLE FOOTAGE:	180'/S & 2216'/E
BOTTOM HOLE FOOTAGE	20'/N & 1650'/E
ATS/API ID:	3002549520
APD ID:	
Sundry ID:	2743200

COA

H2S	Yes		
Potash	None		
Cave/Karst Potential	Low		
Cave/Karst Potential	Critical		
Variance	C None	🖸 Flex Hose	C Other
Wellhead	Conventional and Multibow	/I	
Other	□ 4 String	Capitan Reef None	□WIPP
Other	Pilot Hole None	Open Annulus	
Cementing	Contingency Squeeze	Echo-Meter Int 1	Primary Cement Squeeze None
Special Requirements	□ Water Disposal/Injection	COM	🗖 Unit
Special Requirements	□ Batch Sundry		
Special Requirements Variance	□ Break Testing	□ Offline Cementing	Casing Clearance

# A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the **Jennings** formation. As a result, the Hydrogen Sulfide area must meet **43 CFR part 3170 Subpart 3176** requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

# **B. CASING**

- 1. The 10-3/4 inch surface casing shall be set at approximately 1075 feet (a minimum of 25 feet (Lea County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface. The surface hole shall be 14 3/4 inch in diameter.
  - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of

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

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

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

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

# **Option 1 (Single Stage):**

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

# **Option 2:**

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

- a. First stage: Operator will cement with intent to reach the top of the **Brushy** Canyon at 7170' (544 sxs Class H/C+ additives).
- b. Second stage:
  - Operator will perform bradenhead squeeze and top-out. Cement to surface. If cement does not reach surface, the appropriate BLM office shall be notified. (Squeeze 529 sxs Class C)

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

Submit results to the BLM. No displacement fluid/wash out shall be utilized at the top of the cement slurry between second stage BH and top out. Operator must run one CBL per Well Pad.

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

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

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

- 3. The minimum required fill of cement behind the 5-1/2 inch production casing is:
  - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

# C. PRESSURE CONTROL

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

# 2.

# **Option 1:**

- a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.
- b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 8-5/8 inch intermediate casing shoe shall be 10,000 (10M) psi. Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) psi.

# **Option 2:**

Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the **10-3/4** inch surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **10,000** (**10M**) psi. Variance is approved to use a **5000** (**5M**) Annular which shall be tested to **5000** (**5M**) psi.

- a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
- b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
- c. Manufacturer representative shall install the test plug for the initial BOP test.

- d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
- e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

# **D. SPECIAL REQUIREMENT (S)**

# **Communitization Agreement**

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- The operator will submit an as-drilled survey well plat of the well completion, but are not limited to, those specified in **43 CFR part 3170 Subpart 3171**
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. <u>When the Communitization Agreement number is known, it shall also be on the sign.</u>

# 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)

# $\boxtimes$ Eddy County

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

BLM\_NM\_CFO\_DrillingNotifications@BLM.GOV (575) 361-2822

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

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

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

# A. CASING

- 1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
- <u>Wait on cement (WOC) for Potash Areas:</u> After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least <u>24 hours</u>. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.
- 3. <u>Wait on cement (WOC) for Water Basin:</u> 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 <u>8 hours</u>. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.
- 4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
- 5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
- 6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
- 7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

# B. PRESSURE CONTROL

- All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in 43 CFR part 3170 Subpart 3172 and API STD 53 Sec. 5.3.
- 2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
- 3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
- 4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
  - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
  - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
  - c. Manufacturer representative shall install the test plug for the initial BOP test.
  - d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
  - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
- 5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
  - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after

installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead cement), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

- b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve open. (only applies to single stage cement jobs, prior to the cement setting up.)
- c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to 43 CFR part 3170
  Subpart 3172 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
- d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- e. The results of the test shall be reported to the appropriate BLM office.
- f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per **43 CFR**

# part 3170 Subpart 3172.

### C. DRILLING MUD

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

# D. WASTE MATERIAL AND FLUIDS

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

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

LVO 8/4/2023

# 1. Geologic Formations

TVD of target	11911	Pilot hole depth	N/A
MD at TD:	22292	Deepest expected fresh water	

Basin

	Depth	Water/Mineral	
Formation	(TVD)	Bearing/Target	Hazards*
	from KB	Zone?	
Rustler	995		
Salt	1380		
Base of Salt	4625		
Delaware	4625		
Cherry Canyon	5580		
Brushy Canyon	7170		
1st Bone Spring Lime	8680		
Bone Spring 1st	9665		
Bone Spring 2nd	10310		
3rd Bone Spring Lime	10805		
Bone Spring 3rd	11415		
Wolfcamp	11910		

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

		Wt			Casing	Interval	Casing	Interval
Hole Size	Csg. Size	(PPF)	Grade	Conn	From (MD)	To (MD)	From (TVD)	To (TVD)
14 3/4	10 3/4	40 1/2	H40	BTC	0	1020	0	1020
9 7/8	8 5/8	32	P110	TLW	0	11415	0	11415
7 7/8	5 1/2	17	P110	BTC	0	22292	0	11911

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

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

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

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

Casing	# Sks	тос	Wt. ppg	Yld (ft3/sack)	Slurry Description
Surface	615	Surf	13.2	1.44	Lead: Class C Cement + additives
Int 1	505	Surf	13.0	2.3	2nd State: Bradenhead Squeeze - Lead: Class C Cement + additives
IIIt I	490	7200	13.2	1.44	Tail: Class H / C + additives
Production	117	9477	9	3.27	Lead: Class H /C + additives
Production	1431	11477	13.2	1.44	Tail: Class H / C + additives

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

.

BOP inst dri	alled and tested before lling which hole?	Size?	Min. Required WP	Туре		~	Tested to:
				An	nular	Х	50% of rated working pressure
	Int 1	13-5/8"	5M	Blin	d Ram	Х	
		15-5/0	5101	Pipe	e Ram		5M
				Doub	le Ram	Х	JIVI
				Other*			
				Annular (5M)	Х	50% of rated working	
		13-5/8"	5M				pressure
	Production			Blind Ram		X	5M
				Pipe Ram			
1				Double Ram		X	
				Other*			
				Annular (5M)			
				Blind Ram			
				Pipe Ram			
				Double Ram			
Other*							
N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.						
Y	A variance is requested to run a 5 M annular on a 10M system						

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

#### 5. Mud Program (Three String Design)

Section	Туре	Weight (ppg)
Surface	FW Gel	8.5-9
Intermediate	DBE / Cut Brine	10-10.5
Production	OBM	10-10.5

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

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

#### 6. Logging and Testing Procedures

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

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

#### 7. Drilling Conditions

Condition	Specfiy what type and where?
BH pressure at deepest TVD	6503
Abnormal temperature	No

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

Hydrogren Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrationsgreater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide isencountered measured values and formations will be provided to the BLM.NH2S is present

Y H2S plan attached.

#### 8. Other facets of operation

Is this a walking operation? Potentially

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

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

Will be pre-setting casing? Potentially

- 1 Spudder rig will move in and batch drill surface hole.
  - a. Rig will utilize fresh water based mud to drill surface hole to TD. Solids control will be handled entirely on a closed loop basis.,
- 2 After drilling the surface hole section, the spudder rig will run casing and cement following all of the applicable rules and regulations (OnShore Order 2, all COAs and NMOCD regulations).

 $^{3}$  The wellhead will be installed and tested once the surface casing is cut off and the WOC time has been reached.

- 4 A blind flange with the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with a pressure gauge installed on the wellhead.
- 5 Spudder rig operations is expected to take 4-5 days per well on a multi-well pa.
- 6 The NMOCD will be contacted and notified 24 hours prior to commencing spudder rig operations.
- 7 Drilling operations will be performed with drilling rig. A that time an approved BOP stack will be nippled up and tested on the wellhead before drilling operations commences on each well.
  - a. The NMOCD will be contacted / notified 24 hours before the drilling rig moves back on to the pad with the pre-set surface casing.

#### Attachments

X Directional Plan Other, describe

#### 1. Geologic Formations

TVD of target	12276	Pilot hole depth	N/A
MD at TD:	22624	Deepest expected fresh water	

Basin

	Depth	Water/Mineral	
Formation	(TVD)	Bearing/Target	Hazards*
	from KB	Zone?	
Rustler	995		
Salt	1380		
Base of Salt	4625		
Delaware	4625		
Cherry Canyon	5580		
Brushy Canyon	7170		
1st Bone Spring Lime	8680		
Bone Spring 1st	9665		
Bone Spring 2nd	10310		
3rd Bone Spring Lime	10805		
Bone Spring 3rd	11415		
Wolfcamp	11910		

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

		Wt			Casing	Interval	Casing Interval	
Hole Size	Csg. Size	(PPF)	Grade	Conn	From (MD)	To (MD)	From (TVD)	To (TVD)
14 3/4	10 3/4	40 1/2	H40	BTC	0	1020	0	1020
9 7/8	8 5/8	32	P110	TLW	0	11910	0	11910
7 7/8	5 1/2	17	P110	BTC	0	22624	0	12276

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

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

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

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

Casing	# Sks	тос	Wt. ppg	Yld (ft3/sack)	Slurry Description
Surface	617	Surf	13.2	1.44	Lead: Class C Cement + additives
Int 1	529	Surf	13.0	2.3	2nd State: Bradenhead Squeeze - Lead: Class C Cement + additives
Int I	544	7217	13.2	1.44	Tail: Class H / C + additives
Production	117	9820	9	3.27	Lead: Class H /C + additives
Production	1430	11820	13.2	1.44	Tail: Class H / C + additives

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

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	T	уре	~	Tested to:
			Annular		Х	50% of rated working pressure
Int 1	13-5/8"	5M	Blin	d Ram	X	
	15-5/0	5101	Pipe	e Ram		5M
			Doub	le Ram	X	5101
			Other*			
			Annular (5M)		x	100% of rated working
	13-5/8"				21	pressure
Production		10M	Blind Ram		X	10M
Troduction		10101	Pipe Ram			
			Double Ram		X	
			Other*			
			Annular (5M)			
			Blind Ram			
			Pipe Ram			
			Double Ram			
			Other*			
N A variance is requested for	the use of a	a diverter or	on the surface casing. See attached for schematic.			
Y A variance is requested to r	run a 5 M ai	a 5 M annular on a 10M system				

# 4. Pressure Control Equipment (Three String Design)

#### 5. Mud Program (Three String Design)

Section	Туре	Weight (ppg)
Surface	FW Gel	8.5-9
Intermediate	DBE / Cut Brine	10-10.5
Production	OBM	10-10.5

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

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

#### 6. Logging and Testing Procedures

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

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

#### 7. Drilling Conditions

Condition	Specfiy what type and where?
BH pressure at deepest TVD	6702
Abnormal temperature	No

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

Hydrogren S	Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations
greater than	100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is
encountered	measured values and formations will be provided to the BLM.
Ν	H2S is present
Y	H2S plan attached.

# 8. Other facets of operation

Is this a walking operation? Potentially

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

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

Will be pre-setting casing? Potentially

- 1 Spudder rig will move in and batch drill surface hole.
  - a. Rig will utilize fresh water based mud to drill surface hole to TD. Solids control will be handled entirely on a closed loop basis.,
- 2 After drilling the surface hole section, the spudder rig will run casing and cement following all of the applicable rules and regulations (OnShore Order 2, all COAs and NMOCD regulations).

 $^{3}$  The wellhead will be installed and tested once the surface casing is cut off and the WOC time has been reached.

- 4 A blind flange with the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with a pressure gauge installed on the wellhead.
- 5 Spudder rig operations is expected to take 4-5 days per well on a multi-well pa.
- 6 The NMOCD will be contacted and notified 24 hours prior to commencing spudder rig operations.
- 7 Drilling operations will be performed with drilling rig. A that time an approved BOP stack will be nippled up and tested on the wellhead before drilling operations commences on each well.
  - a. The NMOCD will be contacted / notified 24 hours before the drilling rig moves back on to the pad with the pre-set surface casing.

#### Attachments

X Directional Plan Other, describe

# 1. Geologic Formations

TVD of target	12031	Pilot hole depth	N/A
MD at TD:	22377	Deepest expected fresh water	

Basin

	Depth	Water/Mineral	
Formation	(TVD)	Bearing/Target	Hazards*
	from KB	Zone?	
Rustler	995		
Salt	1380		
Base of Salt	4625		
Delaware	4625		
Cherry Canyon	5580		
Brushy Canyon	7170		
1st Bone Spring Lime	8680		
Bone Spring 1st	9665		
Bone Spring 2nd	10310		
3rd Bone Spring Lime	10805		
Bone Spring 3rd	11415		
Wolfcamp	11910		

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

		W/t			Casing	Interval	Casing	Interval
Hole Size	Csg. Size	(PPF)	Grade	Conn	From (MD)	To (MD)	From (TVD)	To (TVD)
14 3/4	10 3/4	40 1/2	H40	BTC	0	1020	0	1020
9 7/8	8 5/8	32	P110	TLW	0	11415	0	11415
7 7/8	5 1/2	17	P110	BTC	0	22377	0	12031

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

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

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

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

Casing	# Sks	тос	Wt. ppg	Yld (ft3/sack)	Slurry Description
Surface	615	Surf	13.2	1.44	Lead: Class C Cement + additives
Int 1	503	Surf	13.0	2.3	2nd State: Bradenhead Squeeze - Lead: Class C Cement + additives
int i	492	7179	13.2	1.44	Tail: Class H / C + additives
Production	117	9561	9	3.27	Lead: Class H /C + additives
rioduction	1431	11561	13.2	1.44	Tail: Class H / C + additives

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

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BOP inst dri	alled and tested before lling which hole?	Size?	Min. Required WP	T	уре	~	Tested to:
				An	nular	Х	50% of rated working pressure
	Int 1	13-5/8"	5M	Blin	d Ram	Х	
		15-5/0	5101	Pipe	e Ram		5M
				Doub	ole Ram	Х	JIVI
				Other*			
				Annular (5M)		Х	100% of rated working pressure
	Production	13-5/8"	10M	Blind Ram		Х	1014
				Pipe Ram			
				Doub	le Ram	Х	10M
				Other*	Other*		
				Annular (5M)			
		Blind Ram					
				Pipe Ram			
				Double Ram			
				Other*			
N	A variance is requested for	the use of a	a diverter or	n the surface	casing. See a	ttached for s	chematic.
Y	A variance is requested to 1	un a 5 M a	in a 5 M annular on a 10M system				

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

#### 5. Mud Program (Three String Design)

Section	Туре	Weight (ppg)
Surface	FW Gel	8.5-9
Intermediate	DBE / Cut Brine	10-10.5
Production	OBM	10-10.5

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

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

#### 6. Logging and Testing Procedures

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

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

#### 7. Drilling Conditions

Condition	Specfiy what type and where?
BH pressure at deepest TVD	6569
Abnormal temperature	No

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

Hydrogren Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrationsgreater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide isencountered measured values and formations will be provided to the BLM.NH2S is present

Y H2S plan attached.

#### 8. Other facets of operation

Is this a walking operation? Potentially

- 1 If operator elects, drilling rig will batch drill the surface holes and run/cement surface casing; walking the rig to next wells on the pad.
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- 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.

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 $^{3}$  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.
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- 7 Drilling operations will be performed with drilling rig. A that time an approved BOP stack will be nippled up and tested on the wellhead before drilling operations commences on each well.
  - a. The NMOCD will be contacted / notified 24 hours before the drilling rig moves back on to the pad with the pre-set surface casing.

#### Attachments

X Directional Plan Other, describe

#### *Received by OCD: 8/7/2023 7:19:02 AM*

Page 28 of 31 33-25-32-O ATS-21-854 Van Doo Dah 33-28 Fed Com 734H Lea NM0359295A Devon Energy Production Company LP 13-22c 7-8-2021 LV.xlsm

#### Van Doo Dah 33-28 Fed Com 734H

10 3/4	S	surface csg in a	14 3/4	inch hole.		Design	Factors			Surfa	æ	
Segment	#/ft	Grade		Coupling	Joint	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	40.50	ł	n 40	btc	10.50	2.77	0.35	1,075	5	0.59	5.22	43,538
"B"				btc				0				0
1	w/8.	.4#/g mud, 30min Sfc Csg Test psig	: 1,127	Tail Cmt	does not	circ to sfc.	Totals:	1,075				43,538
Comparison o	f Proposed to	Minimum Required Cement	Volumes									
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd				Min Dist
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE				Hole-Cplg
14 3/4	0.5563	617	888	598	49	9.00	3876	5M				2.00
Burst Frag Cra	diant(c) for Co	$a_{mont(c)} \land B = b \land M > 0.70$	OK									
Burst Frac Grad	dient(s) for se	gment(s) A, $B = , D$ All > 0.70	, UK.									
8 5/8	Са	sing inside the	10 3/4			Desian	Factors			Int 1		
Segment	#/ft	Grade		Coupling	Joint	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	32.00	ļ	0 110	tlw	2.83	0.65	1.33	11.910	1	2.24	1.09	381,120
"B"		1						0				0
	w/8.	.4#/g mud, 30min Sfc Csg Test psig	:				Totals:	11,910				381,120
		The cement volu	ume(s) are inte	nded to achieve a top of	0	ft from su	urface or a	1075				overlap.
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd				Min Dist
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE				Hole-Cplg
9 7/8	0.1261	544	783	1523	-49	10.50	3995	5M				0.44
D V Tool(s):			7170				sum of sx	Σ CuFt				Σ%excess
t by stage % :		31	32				1073	2000				31
Class 'C' tail cm	nt yld > 1.35											
ļ												
Tail cmt									-			
5 1/2	Ca	ising inside the	8 5/8	<u> </u>		Design Fa	ctors			Prod	1	
Segment	#/ft	Grade		Coupling	Body	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	17.00	F	5 110	btc	2.62	1.12	1.59	22,624	2	2.66	1.87	384,608
B							m . 1	0				0
	w/8.	.4#/g mud, 30min Sfc Csg Test psig	: 2,701		44740	6 C	Totals:	22,624				384,608
		The cement volu	ime(s) are inter	nded to achieve a top of	11/10	ft from su	intace or a	200				overlap.
Hole	Annular	1 Stage	1 Stage	Min Ou Et	1 Stage	Drilling	Calc	Req'a				Min Dist
Size	volume			CU Ft	% Excess		MASP	BOPE				Hole-Cpig
	0.1733	1047	2442	1092	29	10.50						0.91
	it yiu > 1.55											
									-			
#IN/A			5 1/2			Design	Factors			hoose (	acings	
Segment	#/ft	Grade	51/2	Coupling	#N/Δ	Collanse	Burst	l enath	B@s	a-B	a-C	Weight
"A"		Ciudo		0.00		Conapoo	Buildt	0	260	40		0
"B"				0.00				0				0
_	w/8	.4#/g mud. 30min Sfc Csg Test psig	:				Totals	0				0
	11/0.	Cmt vol calc	below includes	this csg. TOC intended	#N/A	ft from su	urface or a	#N/A				overlap.
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Rea'd				Min Dist
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE				Hole-Cpla
0		#N/A	#N/A	0	#N/A							
#N/A			Capitan Reef	est top XXXX.								
			·									

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#### Van Doo Dah 33-28 Fed Com 624H

10 3/4	surfa	ce csg in a	<b>14 3/4</b>	inch hole.		Design	Factors			Surface		
Segment	#/ft	Grade		Coupling	Joint	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	40.50		h 40	btc	10.50	2.77	0.37	1,075	5	0.61	5.22	43,538
"B"				btc				0				0
í	w/8.4#/g	mud, 30min Sfc Csg Test	psig: 1,127	Tail Cmt	does not	circ to sfc.	Totals:	1,075				43,538
Comparison o	of Proposed to Mini	mum Required Cem	ent Volumes		4.01	B				_		
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd				Min Dist
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE				Hole-Cplg
14 3/4	0.5563	615	886	598	48	9.00	3715	5M				2.00
Burst Frac Grad	dient(s) for Segment	(s) A, B = , b All > 0.	70, OK.									
l												
8 5/8	casing	, inside the	10 3/4			Design	Factors			Int 1		
Segment	#/ft	Grade		Coupling	Joint	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	32.00		p 110	tlw	2.95	0.68	1.37	11,415	1	2.30	1.14	365,280
"B"								0				0
	w/8.4#/g	mud, 30min Sfc Csg Test	psig: 1,270				Totals:	11,415				365,280
		The cement v	volume(s) are intend	led to achieve a top of	0	ft from su	Irface or a	1075				overlap.
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd				Min Dist
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE				Hole-Cplg
9 7/8	0.1261	490	706	1460	-52	10.50	3876	5M				0.44
r D V Tool(s):			7170				sum of sx	<u>Σ CuFt</u>				Σ%excess
t by stage % :		32	26				995	1867				28
Tail cmt												
51/2	casing	inside the	8 5/8	_		Design Fa	ctors			Prod 1		
Soamont		·									-	
Geginent	#/ft	Grade		Coupling	Body	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	<b>#/ft</b> 17.00	Grade	p 110	Coupling btc	<b>Body</b> 2.70	Collapse 1.15	<b>Burst</b> 1.64	Length 22,299	<b>B@s</b> 2	<b>a-B</b> 2.74	<b>a-C</b> 1.93	Weight 379,083
"A" "B"	<b>#/ft</b> 17.00	Grade	p 110	Coupling btc	<b>Body</b> 2.70	Collapse 1.15	<b>Burst</b> 1.64	Length 22,299 0	<b>B@s</b> 2	<b>a-B</b> 2.74	<b>a-C</b> 1.93	Weight 379,083 0
"A" "B" "C"	<b>#/ft</b> 17.00	Grade	p 110	Coupling btc	<b>Body</b> 2.70	Collapse 1.15	Burst 1.64	Length 22,299 0 0	<b>B@s</b> 2	<b>a-B</b> 2.74	<b>a-C</b> 1.93	Weight 379,083 0 0
"A" "B" "C" "D"	#/ft 17.00	Grade	p 110	Coupling btc 0	<b>Body</b> 2.70	Collapse 1.15	<b>Burst</b> 1.64	Length 22,299 0 0 0	<b>B@s</b> 2	<b>a-B</b> 2.74	<b>a-C</b> 1.93	Weight 379,083 0 0 0
"A" "B" "C" "D"	<b>#/ft</b> 17.00 w/8.4#/g	Grade	p 110	Coupling btc	<b>Body</b> 2.70	Collapse 1.15	Burst 1.64 Totals:	Length 22,299 0 0 22,299 22,299	<b>B@s</b> 2	<b>a-B</b> 2.74	<b>a-C</b> 1.93	Weight 379,083 0 0 0 379,083
"A" "B" "C" "D"	#/ft 17.00 w/8.4#/g	Grade mud, 30min Sfc Csg Test The cement v	p 110 psig: 2,620 volume(s) are intend	Coupling btc 0 led to achieve a top of	Body 2.70	Collapse 1.15 ft from su	Burst 1.64 Totals:	Length 22,299 0 0 22,299 200	<b>B@s</b> 2	<b>a-B</b> 2.74	<b>a-C</b> 1.93	Weight 379,083 0 0 379,083 overlap.
"A" "B" "C" "D" Hole	#/ft 17.00 w/8.4#/g Annular	Grade mud, 30min Sfc Csg Test The cement v 1 Stage	p 110 psig: 2,620 volume(s) are intend 1 Stage	Coupling btc 0 led to achieve a top of Min Ov 54	Body 2.70 11215 1 Stage	Collapse 1.15 ft from su Drilling	Burst 1.64 Totals: urface or a Calc	Length 22,299 0 0 22,299 200 Req'd	<b>B@s</b> 2	<b>a-B</b> 2.74	<b>a-C</b> 1.93	Weight 379,083 0 0 379,083 overlap. Min Dist
"A" "B" "C" "D" Hole Size	#/ft 17.00 w/8.4#/g Annular Volume 0.1722	Grade mud, 30min Sfc Csg Test The cement of 1 Stage Cmt Sx 1 Ese	p 110 psig: 2,620 volume(s) are intend 1 Stage CuFt Cmt 2412	Coupling btc 0 led to achieve a top of Min Cu Ft 1024	Body 2.70 11215 1 Stage % Excess	Collapse 1.15 ft from su Drilling Mud Wt 10.50	Burst 1.64 Totals: Inface or a Calc MASP	Length 22,299 0 0 22,299 200 Req'd BOPE	<b>B@s</b> 2	<b>a-B</b> 2.74	<b>a-C</b> 1.93	Weight 379,083 0 0 379,083 overlap. Min Dist Hole-Cplg
"A" "B" "C" "D" Hole Size 7 7/8 Class 'C' tail cm	#/ft 17.00 w/8.4#/g Annular Volume 0.1733 it yld > 1.35	Grade mud, 30min Sfc Csg Test The cement v 1 Stage Cmt Sx 1548	p 110 psig: 2,620 volume(s) are intend 1 Stage CuFt Cmt 2443	Coupling btc 0 led to achieve a top of Min Cu Ft 1921	Body 2.70 11215 1 Stage % Excess 27	Collapse 1.15 ft from su Drilling Mud Wt 10.50	Burst 1.64 Totals: Irface or a Calc MASP	Length 22,299 0 0 22,299 200 Req'd BOPE	<b>B@s</b> 2	<b>a-B</b> 2.74	<b>a-C</b> 1.93	Weight 379,083 0 0 379,083 overlap. Min Dist Hole-Cplg 0.91
"A" "B" "C" "D" Hole Size 7 7/8 Class 'C' tail cm	#/ft 17.00 w/8.4#/g Annular Volume 0.1733 attyld > 1.35	Grade mud, 30min Sfc Csg Test The cement v 1 Stage Cmt Sx 1548	p 110 psig: 2,620 volume(s) are intend 1 Stage CuFt Cmt 2443	Coupling btc 0 led to achieve a top of Min Cu Ft 1921	Body 2.70 11215 1 Stage % Excess 27	Collapse 1.15 ft from su Drilling Mud Wt 10.50	Burst 1.64 Totals: Inface or a Calc MASP	Length 22,299 0 0 22,299 200 Req'd BOPE	<b>B@s</b> 2	<b>a-B</b> 2.74	<b>a-C</b> 1.93	Weight 379,083 0 0 379,083 overlap. Min Dist Hole-Cplg 0.91
An "A" "B" "C" "D" Hole Size 7 7/8 Class 'C' tail cm #N/A	#/ft 17.00 w/8.4#/g Annular Volume 0.1733 it yld > 1.35	Grade mud, 30min Sfc Csg Test The cement v 1 Stage Cmt Sx 1548	p 110 psig: 2,620 volume(s) are intend 1 Stage CuFt Cmt 2443 5 1/2	Coupling btc 0 led to achieve a top of Min Cu Ft 1921	Body 2.70 11215 1 Stage % Excess 27	Collapse 1.15 ft from su Drilling Mud Wt 10.50 Design	Burst 1.64 Totals: urface or a Calc MASP Factors	Length 22,299 0 0 22,299 200 Req'd BOPE	8@s 2	a-B 2.74	a-C 1.93	Weight 379,083 0 0 379,083 overlap. Min Dist Hole-Cplg 0.91
Hole Size 7 7/8 Class 'C' tail cm #N/A 0 Seament	#/ft 17.00 w/8.4#/g Annular Volume 0.1733 nt yld > 1.35 #/ft	Grade mud, 30min Sfc Csg Test The cement of 1 Stage Cmt Sx 1548 Grade	p 110 psig: 2,620 volume(s) are intend 1 Stage CuFt Cmt 2443 5 1/2	Coupling btc 0 led to achieve a top of Min Cu Ft 1921	Body 2.70 11215 1 Stage % Excess 27 #N/A	Collapse 1.15 ft from su Drilling Mud Wt 10.50 <u>Design</u> Collapse	Burst 1.64 Inface or a Calc MASP	Length 22,299 0 0 22,299 200 Req'd BOPE	B@s 2	a-B 2.74	a-C 1.93 sing> a-C	Weight 379,083 0 0 379,083 overlap. Min Dist Hole-Cplg 0.91
Hole Size 77/8 Class 'C' tail cm #N/A 0 Segment "A"	#/ft 17.00 w/8.4#/g Annular Volume 0.1733 ht yld > 1.35 #/ft	Grade mud, 30min Sfc Csg Test The cement of 1 Stage Cmt Sx 1548 Grade	p 110 p 110 psig: 2,620 volume(s) are intend 1 Stage CuFt Cmt 2443 5 1/2	Coupling btc 0 led to achieve a top of Min Cu Ft 1921 Coupling 0.00	Body 2.70 11215 1 Stage % Excess 27 #N/A	Collapse 1.15 ft from su Drilling Mud Wt 10.50 <u>Design</u> Collapse	Burst 1.64 Inface or a Calc MASP Factors Burst	Length 22,299 0 0 22,299 200 Req'd BOPE	B@s 2 CB@s	a-B 2.74 hoose Cas a-B	a-C 1.93 sing> a-C	Weight 379,083 0 0 379,083 overlap. Min Dist Hole-Cplg 0.91 Weight 0
Hole Size 77/8 Class 'C' tail cm #N/A 0 Segment "A"	#/ft 17.00 w/8.4#/g Annular Volume 0.1733 ot yld > 1.35 #/ft	Grade mud, 30min Sfc Csg Test The cement of 1 Stage Cmt Sx 1548 Grade	p 110 psig: 2,620 volume(s) are intend 1 Stage CuFt Cmt 2443 5 1/2	Coupling btc 0 led to achieve a top of Min Cu Ft 1921 Coupling 0.00 0.00	Body 2.70 11215 1 Stage % Excess 27 #N/A	Collapse 1.15 ft from su Drilling Mud Wt 10.50 <u>Design</u> Collapse	Burst 1.64 Totals: urface or a Calc MASP Factors Burst	Length 22,299 0 0 22,299 200 Req'd BOPE	B@s 2 2 s@s	a-B 2.74	a-C 1.93 sing> a-C	Weight 379,083 0 0 379,083 overlap. Min Dist Hole-Cplg 0.91 Weight 0 0
A" "B" "C" "D" Hole Size 7 7/8 Class 'C' tail cm #N/A 0 Segment "A" "B"	#/ft 17.00 w/8.4#/g Annular Volume 0.1733 ht yld > 1.35 #/ft w/8.4#/g	Grade mud, 30min Sfc Csg Test The cement v 1 Stage Cmt Sx 1548 Grade mud, 30min Sfc Csg Test	p 110 : psig: 2,620 volume(s) are intend 1 Stage CuFt Cmt 2443 5 1/2	Coupling btc 0 led to achieve a top of Min Cu Ft 1921 Coupling 0.00 0.00	Body 2.70 11215 1 Stage % Excess 27 #N/A	Collapse 1.15 ft from su Drilling Mud Wt 10.50 <u>Design</u> Collapse	Burst 1.64 Totals: urface or a Calc MASP Factors Burst Totals:	Length 22,299 0 0 22,299 200 Req'd BOPE	B@s 2 2 cc B@s	a-B 2.74 hoose Cas a-B	a-C 1.93 sing> a-C	Weight 379,083 0 0 379,083 overlap. Min Dist Hole-Cplg 0.91 Weight 0 0 0
Hole Size 77/8 Class 'C' tail cm #N/A 0 Segment "A" "B"	#/ft 17.00 w/8.4#/g Annular Volume 0.1733 htt yld > 1.35 #/ft w/8.4#/g	Grade mud, 30min Sfc Csg Test The cement v 1 Stage Cmt Sx 1548 Grade mud, 30min Sfc Csg Test Cmt vol cc	p 110 psig: 2,620 volume(s) are intend 1 Stage CuFt Cmt 2443 5 1/2 psig: alc below includes t	Coupling btc 0 led to achieve a top of Min Cu Ft 1921 Coupling 0.00 0.00 his csg, TOC intended	Body 2.70 11215 1 Stage % Excess 27 #N/A	Collapse 1.15 ft from su Drilling Mud Wt 10.50 <u>Design</u> Collapse	Burst 1.64 Totals: urface or a Calc MASP Factors Burst Totals: urface or a	Length 22,299 0 22,299 200 Req'd BOPE Length 0 0 0	B@s 2 < B@s	a-B 2.74 hoose Cas a-B	a-C 1.93 sing> a-C	Weight 379,083 0 0 379,083 overlap. Min Dist Hole-Cplg 0.91 Weight 0 0 0 overlap.
"A" "B" "C" "D" Hole Size 7 7/8 Class 'C' tail cm #N/A 0 Segment "A" "B" Hole	#/ft 17.00 w/8.4#/g Annular Volume 0.1733 nt yld > 1.35 #/ft w/8.4#/g Annular	Grade mud, 30min Sfc Csg Test The cement v 1 Stage Cmt Sx 1548 Grade mud, 30min Sfc Csg Test Cmt vol ca 1 Stage	p 110 p 110 psig: 2,620 volume(s) are intend 1 Stage CuFt Cmt 2443 5 1/2 spig: alc below includes t 1 Stage	Coupling btc 0 led to achieve a top of Min Cu Ft 1921 Coupling 0.00 0.00 his csg, TOC intended Min	Body 2.70 11215 1 Stage % Excess 27 #N/A #N/A	Collapse 1.15 ft from su Drilling Mud Wt 10.50 <u>Design</u> Collapse ft from su Drilling	Burst 1.64 Totals: urface or a Calc MASP Factors Burst Totals: urface or a Calc	Length 22,299 0 22,299 200 Req'd BOPE Length 0 0 0 #N/A Req'd	B@s 2 <c B@s</c 	a-B 2.74 hoose Cas a-B	a-C 1.93 sing> a-C	Weight 379,083 0 379,083 overlap. Min Dist Hole-Cplg 0.91 Weight 0 0 0 overlap. Min Dist
A" "A" "B" "C" "D" Hole Size 7 7/8 Class 'C' tail cm #N/A 0 Segment "A" "B" Hole Size	#/ft 17.00 w/8.4#/g Annular Volume 0.1733 it yld > 1.35 #/ft w/8.4#/g Annular Volume	Grade mud, 30min Sfc Csg Test The cement v 1 Stage Cmt Sx 1548 Grade mud, 30min Sfc Csg Test Cmt vol ca 1 Stage Cmt Sx	p 110 p 110 psig: 2,620 volume(s) are intend 1 Stage CuFt Cmt 2443 5 1/2 spig: alc below includes tt 1 Stage CuFt Cmt	Coupling btc 0 led to achieve a top of Min Cu Ft 1921 Coupling 0.00 0.00 his csg, TOC intended Min Cu Ft	Body 2.70 11215 1 Stage % Excess 27 #N/A #N/A 1 Stage % Excess	Collapse 1.15 ft from su Drilling Mud Wt 10.50 Design Collapse ft from su Drilling Mud Wt	Burst 1.64 Totals: urface or a Calc MASP Factors Burst Totals: urface or a Calc MASP	Length 22,299 0 22,299 200 Req'd BOPE	B@s 2 <c B@s</c 	a-B 2.74 hoose Cas a-B	a-C 1.93 sing> a-C	Weight 379,083 0 0 379,083 overlap. Min Dist Hole-Cplg 0.91 Weight 0 0 overlap. Min Dist Hole-Cplg
A" "B" "C" "D" Hole Size 7 7/8 Class 'C' tail cm #N/A 0 Segment "A" "B" Hole Size 0	#/ft 17.00 w/8.4#/g Annular Volume 0.1733 at yld > 1.35 #/ft w/8.4#/g Annular Volume	Grade mud, 30min Sfc Csg Test The cement v 1 Stage Cmt Sx 1548 Grade mud, 30min Sfc Csg Test Cmt vol ca 1 Stage Cmt Sx #N/A	p 110 p 110 psig: 2,620 volume(s) are intence 1 Stage CuFt Cmt 2443 5 1/2 5 1/2 psig: alc below includes t 1 Stage CuFt Cmt #N/A	Coupling btc 0 led to achieve a top of Min Cu Ft 1921 Coupling 0.00 0.00 his csg, TOC intended Min Cu Ft 0	Body 2.70 11215 1 Stage % Excess 27 #N/A #N/A 1 Stage % Excess #N/A	Collapse 1.15 ft from su Drilling Mud Wt 10.50 <u>Design</u> Collapse ft from su Drilling Mud Wt	Burst 1.64 Totals: urface or a Calc MASP Factors Burst Totals: urface or a Calc MASP	Length 22,299 0 22,299 200 Req'd BOPE	B@s 2 <c B@s</c 	a-B 2.74	a-C 1.93 sing> a-C	Weight 379,083 0 379,083 overlap. Min Dist Hole-Cplg 0.91 Weight 0 0 0 overlap. Min Dist Hole-Cplg
war           "A"           "B"           "C"           "D"           Hole           Size           7 7/8           Class 'C' tail cm           #N/A           0           Segment           "A"           "B"           Hole           Size           0           #N/A	#/ft 17.00 w/8.4#/g Annular Volume 0.1733 ut yld > 1.35 #/ft w/8.4#/g Annular Volume	Grade mud, 30min Sfc Csg Test The cement v 1 Stage Cmt Sx 1548 Grade mud, 30min Sfc Csg Test Cmt vol ca 1 Stage Cmt Sx #N/A	p 110 p 110 psig: 2,620 volume(s) are intence 1 Stage CuFt Cmt 2443 5 1/2 spig: alc below includes the 1 Stage CuFt Cmt #N/A Capitan Reef es	Coupling btc 0 led to achieve a top of Min Cu Ft 1921 Coupling 0.00 0.00 0.00 his csg, TOC intended Min Cu Ft 0 t top XXX.	Body 2.70 11215 1 Stage % Excess 27 #N/A 1 Stage % Excess #N/A	Collapse 1.15 ft from su Drilling Mud Wt 10.50 <u>Design</u> Collapse ft from su Drilling Mud Wt	Burst 1.64 Totals: urface or a Calc MASP Factors Burst Totals: urface or a Calc MASP	Length 22,299 0 22,299 200 Req'd BOPE Length 0 0 #N/A Req'd BOPE	B@s 2 S@s	a-B 2.74	a-C 1.93 sing> a-C	Weight 379,083 0 379,083 overlap. Min Dist Hole-Cplg 0.91 Weight 0 0 0 overlap. Min Dist Hole-Cplg

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#### Van Doo Dah 33-28 Fed Com 714H

10 3/4		surface csg in a	14 3/4	inch hole.		Design	Factors			Surfa	æ	
Segment	#/ft	Grade		Coupling	Joint	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	40.50		H 40	btc	10.50	2.77	0.37	1,075	5	0.61	5.22	43,538
"B"				btc				0				0
i	w/8	3.4#/g mud, 30min Sfc Csg Test p	sig: 1,127	Tail Cmt	does not	circ to sfc.	Totals:	1,075				43,538
Comparison o	of Proposed t	o Minimum Required Cemer	nt Volumes									
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd				Min Dist
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE				Hole-Cplg
14 3/4	0.5563	615	886	598	48	9.00	3715	5M				2.00
ļ												
Burst Frac Gra	dient(s) for Se	egment(s) A. B = . b All > 0.	70. OK.									
									_			
8 5/8	С	asing inside the	10 3/4			Design	Factors			Int 1		
Segment	#/ft	Grade		Coupling	Joint	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	32.00		p 110	tlw	2.95	0.68	1.36	11,415	1	2.28	1.14	365,280
"В"								0				0
ļ	w/8	3.4#/g mud, 30min Sfc Csg Test p	sig:	ulad ta anhiava a tan af	0	64 from	Totals:	11,415				365,280
llala	Annular	I ne cement v	biume(s) are inter	ided to achieve a top of	U 4 Sterre	Tt from su	Colo	1075 Deald				overiap.
Size	Volumo	T Stage	1 Stage	WIN Cu Et	V Execce	Drilling Mud W/t		Requ				Will Dist
0.7/9	0 1261			50 FL	70 EXCess	10 50	2016	EM				
	0.1201	452	700	1400	-01	10.50	SUM of ex	Σ CuEt				Σ%excess
t by stage %		32	25				995	1865				28
Class 'C' tail cm	1  vld > 1.35	52	25				000	1000				20
	.,											
ĺ												
Tail cmt		·····										
5 1/2	C	asing inside the	8 5/8	_		Design Fa	ctors			Prod	1	
Segment	#/ft	Grade		Coupling	Body	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	17.00		p 110	btc	2.67	1.14	1.62	22,377	2	2.72	1.91	380,409
"B"								0				0
	w/8	3.4#/g mud, 30min Sfc Csg Test p	sig: 2,647				Totals:	22,377				380,409
		The cement ve	olume(s) are inter	ided to achieve a top of	11215	ft from su	irface or a	200				overlap.
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd				Min Dist
Size	volume	Cmt Sx	Curt Cmt	CU Ft 4025	% Excess		MASP	BOPE				Hole-Cpig
Class 'C' tail on	0.1733	1040	2443	1935	20	10.50						0.91
	it yiu > 1.55											
#NI/Δ												
0			5 1/2			Design	Factors		<	Choose C	asing>	
Seament	#/ft	Grade	· -/ -	Coupling	#N/A	Collapse	Burst	Lenath	B@s	a-B	a-C	Weiaht
"A"				0.00				0	0			0
"B"				0.00				0				Ō
	w/8	3.4#/g mud, 30min Sfc Csg Test p	sig:				Totals:	0				0
		Cmt vol ca	c below includes	this csg, TOC intended	#N/A	ft from su	irface or a	#N/A				overlap.
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd				Min Dist
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE				Hole-Cplg
0		#N/A	#N/A	0	#N/A							
#N/A			Capitan Reef e	st top XXXX.								

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District I 1625 N. French Dr., Hobbs, NM 88240 Phone:(575) 393-6161 Fax:(575) 393-0720 District II

811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

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

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

CONDITIONS

Operator:	OGRID:
DEVON ENERGY PRODUCTION COMPANY, LP	6137
333 West Sheridan Ave.	Action Number:
Oklahoma City, OK 73102	248696
	Action Type:
	[C-103] NOI Change of Plans (C-103A)

#### CONDITIONS

Created	Condition	Condition
Ву		Date
pkautz	IF ON ANY STRING CEMENT DOES NOT CIRCULATE, A CBL MUST BE RUN ON THAT STRING OF CASING.	8/9/2023

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Action 248696