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:

Signed on: JUL 27, 2023 01:46 PM

Zip:

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	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

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

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 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.
- 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

Formation	Depth	Water/Mineral	Hazards*
Formation	(TVD) from KB	Bearing/Target Zone?	nazarus*
Rustler	995	Lone.	
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
Int I			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 installed and tested before drilling which hole?	Size?	Min. Required WP	Туре		~	Tested to:			
			Anı	nular	X	50% of rated working pressure			
Int 1	13-5/8"	5M		d Ram	Х				
Int I	15 5/0	5101		e Ram		5M			
			Doub	le Ram	Х	5101			
			Other*						
			Annul	ar (5M)	Х	50% of rated working pressure			
Production	13-5/8"	5M	Blind Ram		Х				
Tioduction		15-5/6 5141	15-5/6 5101		5111	Pipe	e Ram		5M
									le Ram
			Other*						
			Annular (5M)						
			Blind Ram						
			Pipe Ram						
			Double Ram						
			Other*						
N A variance is requested for	the use of a	a diverter or	the surface	casing. See	attached for	schematic.			
Y A variance is requested to r	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, C	Coring and Testing
	Will run GR/CNL from TD to surface (horizontal well - vertical portion of hole). Stated logs run will be in the
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
Х	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

Formation	Depth (TVD)	Water/Mineral 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	Face 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
Froduction	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	Туре		~	Tested to:																																														
			Annular		X	50% of rated working pressure																																														
Int 1	13-5/8"	5M		d Ram	Х																																															
Int 1	15 5/0	5101	^	e Ram		- 5M																																														
			Doub	le Ram	Х	5111																																														
			Other*																																																	
	13-5/8"	10M	Annular (5M)		Х	100% of rated working pressure																																														
Production			Blind Ram		Х																																															
Fioduction			Pipe Ram																																																	
																																																	Doub	le Ram	Х	10101
			Other*																																																	
			Annul	ar (5M)																																																
			Blind Ram																																																	
			Pipe Ram			7																																														
			Double Ram			7																																														
			Other*																																																	
N A variance is requested for	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.																																																			
Y A variance is requested to	A 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.

With at smith he mand to manifor the lass on asin of fluid?	DVT/Decon/Visual Monitoring
What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring
∂	

6. Logging and Testing Procedures

Logging, Coring and Testing					
	Will run GR/CNL from TD to surface (horizontal well - vertical portion of hole). Stated logs run will be in the				
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	
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	Hydrogren Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations				
greater than	greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is				
encountered	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

Formation	Depth (TVD)	Water/Mineral 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	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
Froduction	1431	11561	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:																													
			Anı	nular	X	50% of rated working pressure																													
Int 1	13-5/8"	5M		d Ram	Х																														
	15 5/0	5101	-	Ram		5M																													
			Doub	le Ram	X	5111																													
			Other*																																
	13-5/8"		Annul	ar (5M)	Х	100% of rated working pressure																													
Production		10M	Blind Ram		Х																														
Troduction		15-5/6	15-5/6	15-5/6	10101	10101	10111	15-5/6 10141	J-5/6 10141		10101	10101	10101	10101	10101	10101	10101	10101	10101	10101	10101	10101	10101	10101	10101	10101	10101	10101	10101	10101	10101	10101	Pipe Ram		
				le Ram	X	10111																													
			Other*																																
			Annular (5M)																																
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Section	Туре	Weight (ppg)
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Production	OBM	10-10.5

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

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

6. Logging and Testing Procedures

Logging, C	foring 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.			

Addition	al logs planned	Interval
	Resistivity	Int. shoe to KOP
	Density	Int. shoe to KOP
Х	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	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.

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Is this a walking operation? Potentially

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Attachments

X Directional Plan Other, describe

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Van Doo Dah 33-28 Fed Com 734H

10 3/4	surfa	ace csg in a	14 3/4	inch hole.		Design	Factors			Surfac	e	
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	0.35	1,075	5	0.59	5.22	43,538
"B"				btc				0				0
	w/8.4#/g	mud, 30min Sfc Csg Test	psig: 1.127	Tail Cmt	does not	circ to sfc.	Totals:	1,075				43,538
omparison of		imum Required Ceme						.,				-,
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Reg'd				Min Dis
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE				Hole-Cp
14 3/4	0.5563	617	888	598	49	9.00	3876	5M				2.00
urst Frac Grad	dient(s) for Segmer	nt(s) A, B = , b All > 0).70, OK.			e racks S or E)						
8 5/8	casin	g 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	2.83	0.65	1.33	11,910	1	2.24	1.09	381,12
"B"								0				0
	w/8.4#/g	mud, 30min Sfc Csg Test	psig:				Totals:	11,910	_			381,12
				ded to achieve a top of	0	ft from su	Inface or a	1075				overlap.
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Reg'd				Min Dis
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE				Hole-Cp
9 7/8	0.1261	544	783	1523	-49	10.50	3995	5M				0.44
				1020	-40	10.00		-				Σ%exces
			7170									
O V Tool(s):		24	7170				sum of sx	<u>Σ CuFt</u>				
O V Tool(s): by stage % :	nt yld > 1.35	31	7170 32				<u>sum of sx</u> 1073	<u>2000</u>				31
D V Tool(s): by stage % : lass 'C' tail cm Tail cmt	•		32			Design Fa	1073		a	Prod 1		
D V Tool(s): by stage % : lass 'C' tail cm Tail cmt 5 1/2	casin	g inside the		Coupling	Body	Design Fa	1073	2000	B@s		-	31
D V Tool(s): by stage % : lass 'C' tail cm Tail cmt 5 1/2 Segment	casin #/ft		32 8 5/8	Coupling	Body	Collapse	1073 <u>ctors</u> Burst	2000	B@s	a-B	a-C	31 Weigh
V Tool(s): by stage % : lass 'C' tail cm Tail cmt 5 1/2 Segment "A"	casin	g inside the	32	Coupling btc	Body 2.62		1073	2000 Length 22,624	B@s 2		-	31 Weigh 384,60
D V Tool(s): by stage % : lass 'C' tail cm Tail cmt 5 1/2 Segment	casin; #/ft 17.00	g inside the Grade	32 85/8 p 110			Collapse	1073 <u>ctors</u> Burst 1.59	2000 Length 22,624 0	-	a-B	a-C	31 Weigh 384,60 0
D V Tool(s): by stage % : class 'C' tail cm Tail cmt 5 1/2 Segment "A"	casin; #/ft 17.00	g inside the Grade mud, 30min Sfc Csg Test	32 8 5/8 p 110 psig: 2,701	btc	2.62	Collapse 1.12	1073 ctors Burst 1.59 Totals:	2000 Length 22,624 0 22,624	-	a-B	a-C 1.87	31 Weigh 384,60 384,60
D V Tool(s): by stage % : class 'C' tail cmt 5 1/2 Segment "A" "B"	casin; #/ft 17.00 w/8.4#/g	g inside the Grade mud, 30min Sfc Csg Test The cement	32 8 5/8 p 110 volume(s) are inter	btc Ided to achieve a top of	2.62	Collapse 1.12 ft from su	1073 ctors Burst 1.59 Totals: urface or a	2000 Length 22,624 0 22,624 200	-	a-B	a-C 1.87	31 Weigh 384,600 384,600 overlap.
D V Tool(s): by stage % : class 'C' tail cmt 5 1/2 Segment "A" "B" Hole	casin, #/ft 17.00 w/8.4#/g Annular	g inside the Grade mud, 30min Sfc Csg Test The cement 1 Stage	32 8 5/8 p 110 psig: 2,701 volume(s) are inter 1 Stage	btc Ided to achieve a top of Min	2.62 11710 1 Stage	Collapse 1.12 ft from su Drilling	1073 ctors Burst 1.59 Totals: urface or a Calc	2000 Length 22,624 0 22,624 200 Req'd	-	a-B	a-C 1.87	31 Weigh 384,600 384,600 overlap. Min Dis
by Tool(s) : by stage % : lass 'C' tail cm Tail cmt 5 1/2 Segment "A" "B" Hole Size	casin; #/ft 17.00 w/8.4#/g Annular Volume	g inside the Grade mud, 30min Sfc Csg Test The cement of 1 Stage Cmt Sx	32 8 5/8 p 110 psig: 2,701 volume(s) are inter 1 Stage CuFt Cmt	btc Ided to achieve a top of Min Cu Ft	2.62 11710 1 Stage % Excess	Collapse 1.12 ft from su Drilling Mud Wt	1073 ctors Burst 1.59 Totals: urface or a	2000 Length 22,624 0 22,624 200	-	a-B	a-C 1.87	31 Weigh 384,600 0 384,600 overlap. Min Dis Hole-Cpl
D V Tool(s): by stage % : lass 'C' tail cm 5 1/2 Segment "A" "B" Hole Size 7 7/8	casin; #/ft 17.00 w/8.4#/g Annular Volume 0.1733	g inside the Grade mud, 30min Sfc Csg Test The cement 1 Stage	32 8 5/8 p 110 psig: 2,701 volume(s) are inter 1 Stage	btc Ided to achieve a top of Min	2.62 11710 1 Stage	Collapse 1.12 ft from su Drilling	1073 ctors Burst 1.59 Totals: urface or a Calc	2000 Length 22,624 0 22,624 200 Req'd	-	a-B	a-C 1.87	31 Weigh 384,600 384,600 overlap. Min Dis
D V Tool(s): by stage % : class 'C' tail cm Tail cmt 5 1/2 Segment "A" "B" Hole Size	casin; #/ft 17.00 w/8.4#/g Annular Volume 0.1733	g inside the Grade mud, 30min Sfc Csg Test The cement of 1 Stage Cmt Sx	32 8 5/8 p 110 psig: 2,701 volume(s) are inter 1 Stage CuFt Cmt	btc Ided to achieve a top of Min Cu Ft	2.62 11710 1 Stage % Excess	Collapse 1.12 ft from su Drilling Mud Wt	1073 ctors Burst 1.59 Totals: urface or a Calc	2000 Length 22,624 0 22,624 200 Req'd	-	a-B	a-C 1.87	31 Weigh 384,600 0 384,600 overlap. Min Dis Hole-Cpl
D V Tool(s): by stage % : class 'C' tail cm 5 1/2 Segment "A" "B" Hole Size 7 7/8 class 'C' tail cm	casin; #/ft 17.00 w/8.4#/g Annular Volume 0.1733	g inside the Grade mud, 30min Sfc Csg Test The cement of 1 Stage Cmt Sx	32 8 5/8 p 110 psig: 2,701 volume(s) are inter 1 Stage CuFt Cmt 2442	btc Ided to achieve a top of Min Cu Ft	2.62 11710 1 Stage % Excess	Collapse 1.12 ft from su Drilling Mud Wt 10.50	1073 ctors Burst 1.59 Totals: urface or a Calc MASP	2000 Length 22,624 0 22,624 200 Req'd	2	a-B 2.66	a-C 1.87	31 Weigh 384,600 0 384,600 overlap. Min Dis Hole-Cpl
0 V Tool(s): by stage % : lass 'C' tail cm 5 1/2 Segment "A" "B" Hole Size 7 7/8 lass 'C' tail cm #N/A 0	casin, #/ft 17.00 w/8.4#/g Annular Volume 0.1733 itt yld > 1.35	g inside the Grade mud, 30min Sfc Csg Test The cement 1 Stage Cmt Sx 1547	32 8 5/8 p 110 psig: 2,701 volume(s) are inter 1 Stage CuFt Cmt	btc Ided to achieve a top of Min Cu Ft 1892	2.62 11710 1 Stage % Excess 29	Collapse 1.12 ft from su Drilling Mud Wt 10.50 Design	1073 ctors Burst 1.59 Totals: Inface or a Calc MASP Factors	2000 Length 22,624 0 22,624 200 Req'd BOPE	2	a-B 2.66	a-C 1.87	31 Weigh 384,600 0 384,600 overlap. Min Dis Hole-Cpl 0.91
D V Tool(s): by stage % : lass 'C' tail cm 5 1/2 Segment "A" "B" Hole Size 7 7/8 lass 'C' tail cm #N/A 0 Segment	casin; #/ft 17.00 w/8.4#/g Annular Volume 0.1733	g inside the Grade mud, 30min Sfc Csg Test The cement of 1 Stage Cmt Sx	32 8 5/8 p 110 psig: 2,701 volume(s) are inter 1 Stage CuFt Cmt 2442	btc Ided to achieve a top of Min Cu Ft 1892 Coupling	2.62 11710 1 Stage % Excess	Collapse 1.12 ft from su Drilling Mud Wt 10.50	1073 ctors Burst 1.59 Totals: urface or a Calc MASP	2000 Length 22,624 0 22,624 200 Req'd BOPE	2	a-B 2.66	a-C 1.87	31 Weigh 384,60 0 384,60 overlap. Min Dis Hole-Cpi 0.91 Weigh
D V Tool(s): by stage % : lass 'C' tail cm 5 1/2 Segment "A" "B" Hole Size 7 7/8 lass 'C' tail cm #N/A 0 Segment "A"	casin, #/ft 17.00 w/8.4#/g Annular Volume 0.1733 itt yld > 1.35	g inside the Grade mud, 30min Sfc Csg Test The cement 1 Stage Cmt Sx 1547	32 8 5/8 p 110 psig: 2,701 volume(s) are inter 1 Stage CuFt Cmt 2442	btc Ided to achieve a top of Min Cu Ft 1892 Coupling 0.00	2.62 11710 1 Stage % Excess 29	Collapse 1.12 ft from su Drilling Mud Wt 10.50 Design	1073 ctors Burst 1.59 Totals: Inface or a Calc MASP Factors	2000 Length 22,624 0 22,624 200 Req'd BOPE	2	a-B 2.66	a-C 1.87 asing>	31 Weigh 384,60 0 384,60 overlap. Min Dis Hole-Cp) 0.91 Weigh 0
<pre>> V Tool(s): by stage % : lass 'C' tail cmt 5 1/2 Segment "A" "B" Hole Size 7 7/8 lass 'C' tail cm #N/A 0 Segment</pre>	casin, #/ft 17.00 w/8.4#/g Annular Volume 0.1733 itt yld > 1.35	g inside the Grade mud, 30min Sfc Csg Test The cement 1 Stage Cmt Sx 1547	32 8 5/8 p 110 psig: 2,701 volume(s) are inter 1 Stage CuFt Cmt 2442	btc Ided to achieve a top of Min Cu Ft 1892 Coupling	2.62 11710 1 Stage % Excess 29	Collapse 1.12 ft from su Drilling Mud Wt 10.50 Design	1073 ctors Burst 1.59 Totals: urface or a Calc MASP Factors Burst	2000 Length 22,624 0 22,624 200 Req'd BOPE	2	a-B 2.66	a-C 1.87 asing>	31 Weigh 384,60 0 384,60 0 overlap. Min Dis Hole-Cpj 0.91 0.91
D V Tool(s): by stage % : lass 'C' tail cm 5 1/2 Segment "A" "B" Hole Size 7 7/8 lass 'C' tail cm #N/A 0 Segment "A"	casin; #/ft 17.00 w/8.4#/g Annular Volume 0.1733 ut yld > 1.35 #/ft	g inside the Grade mud, 30min Sfc Csg Test The cement 1 Stage Cmt Sx 1547	32 8 5/8 p 110 psig: 2,701 volume(s) are inter 1 Stage CuFI Cmt 2442 5 1/2	btc Ided to achieve a top of Min Cu Ft 1892 Coupling 0.00	2.62 11710 1 Stage % Excess 29	Collapse 1.12 ft from su Drilling Mud Wt 10.50 Design	1073 ctors Burst 1.59 Totals: Inface or a Calc MASP Factors	2000 Length 22,624 0 22,624 200 Req'd BOPE	2	a-B 2.66	a-C 1.87 asing>	31 Weigh 384,60 0 overlap. Min Dis Hole-Cp 0.91 Weigh 0
D V Tool(s): by stage % : ilass 'C' tail cm 5 1/2 Segment "A" "B" Hole Size 7 7/8 ilass 'C' tail cm #N/A 0 Segment "A"	casin; #/ft 17.00 w/8.4#/g Annular Volume 0.1733 ut yld > 1.35 #/ft	g inside the Grade mud, 30min Sfc Csg Test The cement 'n 1 Stage Cmt Sx 1547 Grade mud, 30min Sfc Csg Test	32 8 5/8 p 110 psig: 2,701 volume(s) are inter 1 Stage CuFt Cmt 2442 5 1/2	btc Ided to achieve a top of Min Cu Ft 1892 Coupling 0.00	2.62 11710 1 Stage % Excess 29 #N/A	Collapse 1.12 ft from su Drilling Mud Wt 10.50 Design	1073 ctors Burst 1.59 Totals: urface or a Calc MASP Factors Burst Totals:	2000 Length 22,624 0 22,624 200 Req'd BOPE	2	a-B 2.66	a-C 1.87 asing> a-C	31 Weigh 384,60 0 384,60 0 overlap. Min Dis Hole-Cp 0.91 Weigh 0 0
D V Tool(s): by stage % : ilass 'C' tail cm 5 1/2 Segment "A" "B" Hole Size 7 7/8 ilass 'C' tail cm #N/A 0 Segment "A"	casin; #/ft 17.00 w/8.4#/g Annular Volume 0.1733 ut yld > 1.35 #/ft	g inside the Grade mud, 30min Sfc Csg Test The cement 'n 1 Stage Cmt Sx 1547 Grade mud, 30min Sfc Csg Test	32 8 5/8 p 110 psig: 2,701 volume(s) are inter 1 Stage CuFt Cmt 2442 5 1/2	btc Ided to achieve a top of Min Cu Ft 1892 Coupling 0.00 0.00	2.62 11710 1 Stage % Excess 29 #N/A	Collapse 1.12 ft from su Drilling Mud Wt 10.50 <u>Design</u> Collapse	1073 ctors Burst 1.59 Totals: urface or a Calc MASP Factors Burst Totals:	2000 Length 22,624 0 22,624 200 Req'd BOPE Length 0 0 0	2	a-B 2.66	a-C 1.87 asing> a-C	31 Weigh 384,60 0 384,60 0 verlap. Min Dis Hole-Cp 0.91 Weigh 0 0 0 0 0 0 0 0
D V Tool(s): by stage % : ilass 'C' tail cm 5 1/2 Segment "A" "B" Hole Size 7 7/8 ilass 'C' tail cm #N/A 0 Segment "A" "B"	casin; #/ft 17.00 w/8.4#/g Annular Volume 0.1733 ot y/d > 1.35 #/ft w/8.4#/g	g inside the Grade mud, 30min Sfc Csg Test The cement of 1 Stage Cmt Sx 1547 Grade mud, 30min Sfc Csg Test Cmt vol cs	32 8 5/8 p 110 psig: 2,701 volume(s) are inter 1 Stage CuFt Cmt 2442 5 1/2 psig: alc below includes	btc ided to achieve a top of Min Cu Ft 1892 Coupling 0.00 0.00 this csg, TOC intended	2.62 11710 1 Stage % Excess 29 #N/A #N/A	Collapse 1.12 ft from su Drilling Mud Wt 10.50 <u>Design</u> Collapse ft from su	1073 ctors Burst 1.59 Totals: urface or a Calc MASP Factors Burst Totals: urface or a	2000 Length 22,624 200 Req'd BOPE Length 0 0 0 0 #N/A	2	a-B 2.66	a-C 1.87 asing> a-C	31 Weigh 384,60 0 384,60 0 overlap. Min Dis Hole-Cp 0.91 Weigh 0 0 0
D V Tool(s): by stage % : lass 'C' tail cm 5 1/2 Segment "A" "B" Hole Size 7 7/8 lass 'C' tail cm #N/A 0 Segment "A" "B" Hole	casin; #/ft 17.00 w/8.4#/g Annular Volume 0.1733 it yld > 1.35 #/ft w/8.4#/g Annular	g inside the Grade mud, 30min Sfc Csg Test The cement 1 Stage Cmt Sx 1547 Grade mud, 30min Sfc Csg Test Cmt vol c: 1 Stage	32 8 5/8 p 110 psig: 2,701 volume(s) are inter 1 Stage CuFt Cmt 2442 5 1/2	btc Min Cu Ft 1892 Coupling 0.00 0.00 this csg, TOC intended Min	2.62 11710 1 Stage % Excess 29 #N/A 1 Stage	Collapse 1.12 ft from su Drilling Mud Wt 10.50 <u>Design</u> Collapse ft from su Drilling	1073 ctors Burst 1.59 Totals: urface or a Calc MASP Factors Burst Totals: urface or a Calc	2000 Length 22,624 200 Req'd BOPE Length 0 0 0 wN/A Req'd	2	a-B 2.66	a-C 1.87 asing> a-C	31 Weigh 384,60 overlap. Min Dis Hole-Cp 0.91 Weigh 0 0 0 overlap. Min Dis

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Van Doo Dah 33-28 Fed Com 624H

	S	urface csg in a	14 3/4	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
	w/8	.4#/g mud, 30min Sfc Csg Test	psig: 1,127	Tail Cmt	does not	circ to sfc.	Totals:	1,075				43,538
omparison o		Minimum Required Ceme										
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd				Min Dist
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE				Hole-Cpl
14 3/4	0.5563	615	886	598	48	9.00	3715	5M				2.00
urst Frac Grad	lient(s) for Seg	ment(s) A, B = , b All > 0.	70, OK.									
8 5/8		sing inside the	103/4			<u>Design</u>				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	,
"B"								0				0
	w/8	.4#/g mud, 30min Sfc Csg Test					Totals:	11,415				365,280
				ded to achieve a top of	0	ft from su		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-Cpl
9 7/8	0.1261	490	706	1460	-52	10.50	3876	5M				0.44
D V Tool(s):			7170				sum of sx	<u>Σ CuFt</u>				Σ%exces
by stage % :		32	26				995	1867				28
	t yld > 1.35										,	
Tail cm Tail cmt 5 1/2		sing inside the	8 5/8			Design Fa	<u>ctors</u>			Prod 1		
Tail cmt 5 1/2 Segment	ca #/ft	sing inside the Grade	8 5/8	Coupling	Body	<u>Design Fa</u> Collapse	<u>ctors</u> Burst	Length	B@s	Prod 1 a-B	a-C	Weight
Tail cmt 5 1/2 Segment "A"	са	•	8 5/8 p 110	Coupling btc	Body 2.70			22,299	B@s 2		a-C 1.93	379,083
Tail cmt 5 1/2 Segment "A" "B"	ca #/ft	•				Collapse	Burst	22,299 0	<u> </u>	a-B	-	379,08 0
Tail cmt 5 1/2 Segment "A" "B" "C"	ca #/ft	•		btc		Collapse	Burst	22,299 0 0	<u> </u>	a-B	-	379,083 0 0
Tail cmt 5 1/2 Segment "A" "B"	ca #/ft 17.00	Grade	p 110			Collapse	Burst 1.64	22,299 0 0 0	<u> </u>	a-B	-	379,083 0 0 0
Tail cmt 5 1/2 Segment "A" "B" "C"	ca #/ft 17.00	Grade	p 110	btc 0	2.70	Collapse 1.15	Burst 1.64 Totals:	22,299 0 0 22,299	<u> </u>	a-B	1.93	379,083 0 0 379,083
Tail cmt 5 1/2 Segment "A" "B" "C" "D"	ca #/ft 17.00 w/8	Grade .4#/g mud, 30min Sfc Csg Test The cement v	p 110 psig: 2,620 volume(s) are intend	btc 0 ded to achieve a top of	2.70	Collapse 1.15 ft from su	Burst 1.64 Totals:	22,299 0 0 22,299 200	<u> </u>	a-B	1.93	379,083 0 0 379,083 overlap.
Tail cmt 5 1/2 Segment "A" "B" "C" "D" Hole	ca #/ft 17.00 w/8 Annular	Grade .4#/g mud, 30min Sfc Csg Test The cement v 1 Stage	p 110 psig: 2,620 volume(s) are intend 1 Stage	btc O ded to achieve a top of Min	2.70 11215 1 Stage	Collapse 1.15 ft from su Drilling	Burst 1.64 Totals: Irface or a Calc	22,299 0 0 22,299 200 Req'd	<u> </u>	a-B	1.93	379,083 0 0 379,083 overlap. Min Dist
Tail cmt 51/2 Segment "A" "B" "C" "D" Hole Size	ca #/ft 17.00 w/8 Annular Volume	Grade .4#/g mud, 30min Sfc Csg Test The cement v 1 Stage Cmt Sx	p 110 psig: 2,620 volume(s) are intend 1 Stage CuFt Cmt	btc 0 ded to achieve a top of Min Cu Ft	2.70 11215 1 Stage % Excess	Collapse 1.15 ft from su Drilling Mud Wt	Burst 1.64 Totals:	22,299 0 0 22,299 200	<u> </u>	a-B	1.93	379,083 0 0 379,083 overlap. Min Dist Hole-Cpl
Tail cmt 51/2 Segment "A" "B" "C" "D" Hole Size 7 7/8	ca #/ft 17.00 w/8 Annular Volume 0.1733	Grade .4#/g mud, 30min Sfc Csg Test The cement v 1 Stage	p 110 psig: 2,620 volume(s) are intend 1 Stage	btc O ded to achieve a top of Min	2.70 11215 1 Stage	Collapse 1.15 ft from su Drilling	Burst 1.64 Totals: Irface or a Calc	22,299 0 0 22,299 200 Req'd	<u> </u>	a-B	1.93	379,083 0 0 379,083 overlap. Min Dist
Tail cmt 51/2 Segment "A" "B" "C" "D" Hole Size 7 7/8	ca #/ft 17.00 w/8 Annular Volume 0.1733	Grade .4#/g mud, 30min Sfc Csg Test The cement v 1 Stage Cmt Sx	p 110 psig: 2,620 volume(s) are intend 1 Stage CuFt Cmt	btc 0 ded to achieve a top of Min Cu Ft	2.70 11215 1 Stage % Excess	Collapse 1.15 ft from su Drilling Mud Wt	Burst 1.64 Totals: Irface or a Calc	22,299 0 0 22,299 200 Req'd	<u> </u>	a-B	1.93	379,083 0 0 379,083 overlap. Min Dist Hole-Cpl
5 1/2 Segment "A" "B" "C" "D" Hole Size 7 7/8 Class 'C' tail cm	ca #/ft 17.00 w/8 Annular Volume 0.1733	Grade .4#/g mud, 30min Sfc Csg Test The cement v 1 Stage Cmt Sx	p 110 psig: 2,620 volume(s) are intend 1 Stage CuFt Cmt	btc 0 ded to achieve a top of Min Cu Ft	2.70 11215 1 Stage % Excess	Collapse 1.15 ft from su Drilling Mud Wt	Burst 1.64 Totals: Irface or a Calc	22,299 0 0 22,299 200 Req'd	<u> </u>	a-B	1.93	379,083 0 0 379,083 overlap. Min Dist Hole-Cpl
Tail cmt 5 1/2 Segment "A" "B" "C" "D" Hole Size 7 7/8 Class 'C' tail cm	ca #/ft 17.00 w/8 Annular Volume 0.1733	Grade .4#/g mud, 30min Sfc Csg Test The cement v 1 Stage Cmt Sx	p 110 psig: 2,620 volume(s) are intend 1 Stage CuFt Cmt 2443	btc 0 ded to achieve a top of Min Cu Ft	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	22,299 0 0 22,299 200 Req'd	2	a-B 2.74	1.93	0 0 379,083 overlap. Min Dist Hole-Cpl
Tail cmt 51/2 Segment "A" "B" "C" "D" Hole Size 7 7/8 class 'C' tail cm #N/A 0	ca #/ft 17.00 w/8 Annular Volume 0.1733 tyld > 1.35	Grade .4#/g 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	btc 0 ded to achieve a top of Min Cu Ft 1921	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	22,299 0 0 22,299 200 Req'd BOPE	2	a-B 2.74	1.93 ing>	379,083 0 0 379,083 overlap. Min Dist Hole-Cpl 0.91
Tail cmt 51/2 Segment "A" "B" "C" "D" Hole Size 7 7/8 Class 'C' tail cm #N/A 0 Segment	ca #/ft 17.00 w/8 Annular Volume 0.1733	Grade .4#/g mud, 30min Sfc Csg Test The cement v 1 Stage Cmt Sx	p 110 psig: 2,620 volume(s) are intend 1 Stage CuFt Cmt 2443	btc 0 ded to achieve a top of Min Cu Ft 1921 Coupling	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	22,299 0 0 22,299 200 Req'd BOPE	2	a-B 2.74	1.93	379,083 0 0 379,083 overlap. Min Dist Hole-Cpl 0.91
Tail cmt 51/2 Segment "A" "B" "C" "D" Hole Size 7 7/8 Jass 'C' tail cm #N/A 0 Segment "A"	ca #/ft 17.00 w/8 Annular Volume 0.1733 tyld > 1.35	Grade .4#/g 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	btc 0 ded to achieve a top of Min Cu Ft 1921 Coupling 0.00	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	22,299 0 0 22,299 200 Req'd BOPE	2	a-B 2.74	1.93 ing>	379,083 0 0 379,083 overlap. Min Dist Hole-Cpl 0.91
Tail cmt 51/2 Segment "A" "B" "C" "D" Hole Size 7 7/8 class 'C' tail cm #N/A 0 Segment	ca #/ft 17.00 w/8 Annular Volume 0.1733 tyld > 1.35 #/ft	Grade 4#/g mud, 30min Sfc Csg Test The cement w 1 Stage Cmt Sx 1 548 Grade	p 110 psig: 2,620 volume(s) are intend 1 Stage CuFt Cmt 2443 5 1/2	btc 0 ded to achieve a top of Min Cu Ft 1921 Coupling	2.70 11215 1 Stage % Excess 27	Collapse 1.15 ft from su Drilling Mud Wt 10.50 Design	Burst 1.64 Totals: Inface or a Calc MASP Factors Burst	22,299 0 0 22,299 200 Req'd BOPE	2	a-B 2.74	1.93 ing>	379,08: 0 0 379,08: overlap. Min Dis Hole-Cpl 0.91 Weigh 0 0
Tail cmt 51/2 Segment "A" "B" "C" "D" Hole Size 7 7/8 Jass 'C' tail cm #N/A 0 Segment "A"	ca #/ft 17.00 w/8 Annular Volume 0.1733 tyld > 1.35 #/ft	Grade .4#/g mud, 30min Sfc Csg Test The cement v 1 Stage Cmt Sx 1548 Grade .4#/g mud, 30min Sfc Csg Test	p 110 psig: 2,620 volume(s) are intend 1 Stage CuFt Cmt 2443 5 1/2	btc 0 ded to achieve a top of Min Cu Ft 1921 Coupling 0.00 0.00	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:	22,299 0 0 22,299 200 Req'd BOPE	2	a-B 2.74	1.93 ing> a-C	379,08: 0 0 379,08: overlap. Min Dis: Hole-Cpl 0.91 Weigh 0 0
Tail cmt 5 1/2 Segment "A" "D" Hole Size 7 7/8 Class 'C' tail cm #N/A 0 Segment "A" "B"	ca #/ft 17.00 w/8 Annular Volume 0.1733 tyld > 1.35 #/ft w/8	Grade .4#/g mud, 30min Sfc Csg Test The cement v 1 Stage Cmt Sx 1548 Grade .4#/g mud, 30min Sfc Csg Test Cmt vol ca	p 110 p 110 psig: 2,620 volume(s) are intend 1 Stage CuFt Cmt 2443 5 1/2 psig: alc below includes t	btc 0 ded to achieve a top of Min Cu Ft 1921 Coupling 0.00 0.00 this csg, TOC intended	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	Burst 1.64 Totals: urface or a Calc MASP Factors Burst Totals: urface or a	22,299 0 0 22,299 200 Req'd BOPE Length 0 0 0 #N/A	2	a-B 2.74	1.93 ing> a-C	379,08: 0 0 379,08: overlap. Min Dis Hole-Cpj 0.91
Tail cmt 51/2 Segment "A" "B" "C" "D" Hole Size 7 7/8 class 'C' tail cm #N/A 0 Segment "A" "B" Hole	ca #/ft 17.00 w/8 Annular Volume 0.1733 tyld > 1.35 #/ft w/8 Annular	Grade .4#/g mud, 30min Sfc Csg Test The cement v 1 Stage Cmt Sx 1548 Grade .4#/g 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 5 1/2 psig: alc below includes t 1 Stage	btc 0 ded to achieve a top of Min Cu Ft 1921 Coupling 0.00 0.00 0.00 this csg, TOC intended Min	2.70 11215 1 Stage % Excess 27 #N/A 1 Stage	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	22,299 0 0 22,299 200 Req'd BOPE Length 0 0 #N/A Req'd	2	a-B 2.74	1.93 ing> a-C	379,08: 0 0 379,08: verlap. Min Dis Hole-Cpl 0.91 Weigh 0 0 0 overlap. Min Dis
Tail cmt 51/2 Segment "A" "B" "C" "D" Hole Size 7 7/8 Class 'C' tail cm #N/A 0 Segment "A" "B" Hole Size	ca #/ft 17.00 w/8 Annular Volume 0.1733 tyld > 1.35 #/ft w/8	Grade .4#/g mud, 30min Sfc Csg Test The cement v 1 Stage Cmt Sx 1548 Grade .4#/g 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 5 1/2 psig: alc below includes t 1 Stage CuFt Cmt	btc 0 ded to achieve a top of Min Cu Ft 1921 Coupling 0.00 0.00 this csg, TOC intended Min Cu Ft	2.70 11215 1 Stage % Excess 27 #N/A 1 Stage % Excess	Collapse 1.15 ft from su Drilling Mud Wt 10.50 <u>Design</u> Collapse ft from su	Burst 1.64 Totals: urface or a Calc MASP Factors Burst Totals: urface or a	22,299 0 0 22,299 200 Req'd BOPE Length 0 0 0 #N/A	2	a-B 2.74	1.93 ing> a-C	379,083 0 0 379,083 overlap. Min Dist Hole-Cpl 0.91 Weight 0 0 0
Tail cmt 5 1/2 Segment "A" "B" "C" "D" Hole Size 7 7/8 Hole Segment "A" "B" Hole	ca #/ft 17.00 w/8 Annular Volume 0.1733 tyld > 1.35 #/ft w/8 Annular	Grade .4#/g mud, 30min Sfc Csg Test The cement v 1 Stage Cmt Sx 1548 Grade .4#/g 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 5 1/2 psig: alc below includes t 1 Stage	btc 0 ded to achieve a top of Min Cu Ft 1921 Coupling 0.00 0.00 0.00 this csg, TOC intended Min Cu Ft 0	2.70 11215 1 Stage % Excess 27 #N/A 1 Stage	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	22,299 0 0 22,299 200 Req'd BOPE Length 0 0 #N/A Req'd	2	a-B 2.74	1.93 ing> a-C	379,08: 0 0 379,08: verlap. Min Dis Hole-Cpl 0.91 Weigh 0 0 0 overlap. Min Dis

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Van Doo Dah 33-28 Fed Com 714H

10 3/4	su	irface csg in a	14 3/4	inch hole.		Design I	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"	10100			btc	10.00		0.01	0	Ŭ	0.01	0.22	0
_	w/8.4	#/g mud, 30min Sfc Csg Test	nsig: 1 127	Tail Cmt	does not	circ to sfc.	Totals:	1,075				43.538
omparison o		Minimum Required Cem		Tuil Onic			Totais.	1,070				10,000
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd				Min Dis
Size	Volume		CuFt Cmt	Cu Ft	-	Mud Wt	MASP	BOPE				
		Cmt Sx			% Excess							Hole-Cp
14 3/4	0.5563	615	886	598	48	9.00	3715	5M				2.00
urst Frac Grac	lient(s) for Seg	ment(s) A, B = , b All > (D.70, OK.									
					· — · — · —				-			·· ··· ·
8 5/8		sing inside the	10 3/4			Design I				Int 1		
Segment	#/ft	Grade		Coupling	Joint	Collapse	Burst	Length	B@s	a-B	a-C	Weigh
"A"	32.00		р 110	tlw	2.95	0.68	1.36	11,415	1	2.28	1.14	365,28
"B"								0				0
	w/8.4	#/g mud, 30min Sfc Csg Test	psig:				Totals:	11,415				365,28
		The cement	volume(s) are inter	nded to achieve a top of	0	ft from su	Inface or a	1075				overlap.
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Reg'd				Min Dis
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE				Hole-Cr
	0.1261	492	708	1460	-51	10.50	3916	5M				0.44
		432	700	1400	-01	10.50		-				Σ%exce
9 7/8	0.1201		7470				ours of ov					
V Tool(s):	0.1201		7170				sum of sx	<u>Σ CuFt</u>				
V Tool(s): by stage % :		32	7170 25				<u>sum of sx</u> 995	<u>Σ CuFt</u> 1865				28
D V Tool(s): by stage % : lass 'C' tail cm Tail cmt	nt yld > 1.35		25				995					
D V Tool(s): by stage % : lass 'C' tail cm Tail cmt 5 1/2	it yld > 1.35	ing inside the				Design Fac	995	1865		Prod 1		28
V Tool(s): by stage % : lass 'C' tail cm Tail cmt 5 1/2 Segment	it yld > 1.35 cas #/ft		25 8 5/8	Coupling	Body	Collapse	995 <u>ctors</u> Burst	1865	B@s	a-B	a-C	28 Weigh
V Tool(s): by stage % : lass 'C' tail cm Tail cmt 5 1/2 Segment "A"	it yld > 1.35	ing inside the	25	Coupling btc	Body 2.67		995	1865 Length 22,377	B@s 2			28 Weigh 380,40
D V Tool(s): by stage % : lass 'C' tail cm Tail cmt 5 1/2 Segment	it yld > 1.35 cas #/ft	ing inside the	25 8 5/8			Collapse	995 <u>ctors</u> Burst 1.62	1865 Length 22,377 0	<u> </u>	a-B	a-C	28 Weigh 380,40 0
V Tool(s): by stage % : lass 'C' tail cm Tail cmt 5 1/2 Segment "A"	t yld > 1.35 cas #/ft 17.00	ing inside the	25 8 5/8 p 110			Collapse	995 <u>ctors</u> Burst	1865 Length 22,377	<u> </u>	a-B	a-C	28 Weigh 380,40 0
V Tool(s): by stage % : lass 'C' tail cm Tail cmt 5 1/2 Segment "A"	t yld > 1.35 cas #/ft 17.00	sing inside the Grade #/g mud, 30min Sfc Csg Test	25 8 5/8 p 110 psig: 2,647		2.67	Collapse	995 ctors Burst 1.62 Totals:	1865 Length 22,377 0	<u> </u>	a-B	a-C 1.91	28 Weigh 380,40 0
V Tool(s): by stage % : lass 'C' tail cm Tail cmt 5 1/2 Segment "A"	t yld > 1.35 cas #/ft 17.00	sing inside the Grade #/g mud, 30min Sfc Csg Test	25 8 5/8 p 110 psig: 2,647	btc	2.67	Collapse 1.14	995 ctors Burst 1.62 Totals:	1865 Length 22,377 0 22,377	<u> </u>	a-B	a-C 1.91	28 Weigh 380,40 0 380,40 overlap.
) V Tool(s): by stage % : lass 'C' tail cmt 5 1/2 Segment "A" "B"	tt yld > 1.35 cas #/ft 17.00 w/8.4	sing inside the Grade #/g mud, 30min Sfc Csg Test The cement	25 8 5/8 p 110 psig: 2,647 volume(s) are inter	btc nded to achieve a top of	2.67 11215 1 Stage	Collapse 1.14 ft from su	995 ctors Burst 1.62 Totals: inface or a	1865 Length 22,377 0 22,377 200	<u> </u>	a-B	a-C 1.91	28 Weigh 380,40 0 380,40 overlap. Min Dis
by Tool(s) : by stage % : lass 'C' tail cmt 5 1/2 Segment "A" "B" Hole Size	t yld > 1.35 cas #/ft 17.00 w/8.4 Annular Volume	sing inside the Grade #/g mud, 30min Sfc Csg Test The cement 1 Stage Cmt Sx	25 8 5/8 p 110 psig: 2,647 volume(s) are inter 1 Stage CuFt Cmt	btc nded to achieve a top of Min Cu Ft	2.67 11215 1 Stage % Excess	Collapse 1.14 ft from su Drilling Mud Wt	995 ctors Burst 1.62 Totals: urface or a Calc	1865 Length 22,377 0 22,377 200 Req'd	<u> </u>	a-B	a-C 1.91	28 Weigh 380,40 0 380,40 overlap. Min Dis Hole-Cp
D V Tool(s): by stage % : ilass 'C' tail cm 5 1/2 Segment "A" "B" Hole Size 7 7/8	t yld > 1.35 cas #/ft 17.00 w/8.4 Annular Volume 0.1733	sing inside the Grade #/g mud, 30min Sfc Csg Test The cement 1 Stage	25 8 5/8 p 110 psig: 2,647 volume(s) are inter 1 Stage	btc nded to achieve a top of Min	2.67 11215 1 Stage	Collapse 1.14 ft from su Drilling	995 ctors Burst 1.62 Totals: urface or a Calc	1865 Length 22,377 0 22,377 200 Req'd	<u> </u>	a-B	a-C 1.91	28 Weigh 380,40 0 380,40
D V Tool(s): by stage % : class 'C' tail cm 5 1/2 Segment "A" "B" Hole Size 7 7/8 class 'C' tail cm #N/A	t yld > 1.35 cas #/ft 17.00 w/8.4 Annular Volume 0.1733	sing inside the Grade #/g mud, 30min Sfc Csg Test The cement 1 Stage Cmt Sx	25 8 5/8 p 110 psig: 2,647 volume(s) are inter 1 Stage CuFt Cmt	btc nded to achieve a top of Min Cu Ft	2.67 11215 1 Stage % Excess	Collapse 1.14 ft from su Drilling Mud Wt	995 ctors Burst 1.62 Totals: urface or a Calc	1865 Length 22,377 0 22,377 200 Req'd	2	a-B 2.72	a-C 1.91	28 Weigh 380,40 0 380,40 overlap. Min Dis Hole-Cp
D V Tool(s): by stage % : lass 'C' tail cm 5 1/2 Segment "A" "B" Hole Size 7 7/8 lass 'C' tail cm	tt yld > 1.35 cas #/ft 17.00 w/8.4 Annular Volume 0.1733 it yld > 1.35	sing inside the Grade #/g mud, 30min Sfc Csg Test The cement 1 Stage Cmt Sx	25 8 5/8 p 110 psig: 2,647 volume(s) are inter 1 Stage CuFt Cmt	btc nded to achieve a top of Min Cu Ft	2.67 11215 1 Stage % Excess 26	Collapse 1.14 ft from su Drilling Mud Wt	995 Ctors Burst 1.62 Totals: Inface or a Calc MASP	1865 Length 22,377 0 22,377 200 Req'd	2	a-B 2.72 Choose Ca	a-C 1.91	28 Weigh 380,40 0 380,40 overlap. Min Dis Hole-Cp
0 V Tool(s): by stage % : lass 'C' tail cm 5 1/2 Segment "A" "B" Hole Size 7 7/8 lass 'C' tail cm	t yld > 1.35 cas #/ft 17.00 w/8.4 Annular Volume 0.1733	sing inside the Grade #/g mud, 30min Sfc Csg Test The cement 1 Stage Cmt Sx	25 8 5/8 p 110 psig: 2,647 volume(s) are inter 1 Stage CuFt Cmt 2443	btc nded to achieve a top of Min Cu Ft	2.67 11215 1 Stage % Excess	Collapse 1.14 ft from su Drilling Mud Wt 10.50	995 Ctors Burst 1.62 Totals: Inface or a Calc MASP	1865 Length 22,377 0 22,377 200 Req'd	2	a-B 2.72 Choose Ca	a-C 1.91	28 Weigh 380,40 0 380,40 overlap. Min Dis Hole-Cp
V V Tool(s): by stage % : lass 'C' tail cm 5 1/2 Segment "A" "B" Hole Size 7 7/8 lass 'C' tail cm #N/A 0	tt yld > 1.35 cas #/ft 17.00 w/8.4 Annular Volume 0.1733 it yld > 1.35	sing inside the Grade #/g mud, 30min Sfc Csg Test The cement 1 Stage Cmt Sx 1548	25 8 5/8 p 110 psig: 2,647 volume(s) are inter 1 Stage CuFt Cmt 2443	btc nded to achieve a top of Min Cu Ft 1935	2.67 11215 1 Stage % Excess 26	Collapse 1.14 ft from su Drilling Mud Wt 10.50 Design I	995 ctors Burst 1.62 Totals: Inface or a Calc MASP Factors	1865 Length 22,377 0 22,377 200 Req'd BOPE	2	a-B 2.72 Choose Ca	a-C 1.91	28 Weigh 380,40 0 380,40 overlap. Min Dis Hole-Cp 0.91
Y Tool(s): by stage % : lass 'C' tail cm Tail cmt 5 1/2 Segment "A" "B" Hole Size 7 7/8 lass 'C' tail cm #N/A 0 Segment	tt yld > 1.35 cas #/ft 17.00 w/8.4 Annular Volume 0.1733 it yld > 1.35	sing inside the Grade #/g mud, 30min Sfc Csg Test The cement 1 Stage Cmt Sx 1548	25 8 5/8 p 110 psig: 2,647 volume(s) are inter 1 Stage CuFt Cmt 2443	btc nded to achieve a top of Min Cu Ft 1935 Coupling	2.67 11215 1 Stage % Excess 26	Collapse 1.14 ft from su Drilling Mud Wt 10.50 Design I	995 ctors Burst 1.62 Totals: Inface or a Calc MASP Factors	1865 Length 22,377 0 22,377 200 Req'd BOPE	2	a-B 2.72 Choose Ca	a-C 1.91	28 Weigh 380,40 0 380,40 overlap. Min Dis Hole-Cp 0.91 Weigh
V Tool(s): by stage % : lass 'C' tail cm Tail cmt 5 1/2 Segment "A" "B" Hole Size 7 7/8 lass 'C' tail cm #N/A 0 Segment "A"	tt yld > 1.35 cas #/ft 17.00 w/8.4 Annular Volume 0.1733 tt yld > 1.35 #/ft	sing inside the Grade #/g mud, 30min Sfc Csg Test The cement 1 Stage Cmt Sx 1548 Grade	25 8 5/8 p 110 psig: 2,647 volume(s) are inter CuFt Cmt 2443 5 1/2	btc nded to achieve a top of Min Cu Ft 1935 Coupling 0.00	2.67 11215 1 Stage % Excess 26	Collapse 1.14 ft from su Drilling Mud Wt 10.50 Design I	995 Ctors Burst 1.62 Totals: urface or a Calc MASP Factors Burst	1865 Length 22,377 0 22,377 200 Req'd BOPE Length 0 0	2	a-B 2.72 Choose Ca	a-C 1.91	28 Weigh 380,40 0 380,40 overlap. Min Dis Hole-Cp 0.91
0 V Tool(s): by stage % : lass 'C' tail cm 5 1/2 Segment "A" "B" Hole Size 7 7/8 lass 'C' tail cm #N/A 0 Segment "A"	tt yld > 1.35 cas #/ft 17.00 w/8.4 Annular Volume 0.1733 tt yld > 1.35 #/ft	sing inside the Grade #/g mud, 30min Sfc Csg Test The cement 1 Stage Cmt Sx 1548 Grade #/g mud, 30min Sfc Csg Test	25 8 5/8 p 110 psig: 2,647 volume(s) are inter 1 Stage CuFt Cmt 2443 5 1/2 psig:	btc nded to achieve a top of Min Cu Ft 1935 Coupling 0.00 0.00	2.67 11215 1 Stage % Excess 26 #N/A	Collapse 1.14 ft from su Drilling Mud Wt 10.50 <u>Design I</u> Collapse	995 Ctors Burst 1.62 Totals: urface or a Calc MASP Factors Burst Totals:	1865 Length 22,377 0 22,377 200 Req'd BOPE Length 0 0	2	a-B 2.72 Choose Ca	a-C 1.91 sing> a-C	28 Weigh 380,40 0 380,40 0 verlap. Min Dis Hole-Cp 0.91 Weigh 0 0 0
D V Tool(s): by stage % : lass 'C' tail cm 5 1/2 Segment "A" "B" Hole Size 7 7/8 lass 'C' tail cm % YN/A 0 Segment "A" "B"	tt yld > 1.35 cas #/ft 17.00 w/8.4 Annular Volume 0.1733 tt yld > 1.35 #/ft w/8.4	sing inside the Grade #/g mud, 30min Sfc Csg Test The cement 1 Stage Cmt Sx 1548 Grade #/g mud, 30min Sfc Csg Test Cmt vol c	25 8 5/8 p 110 psig: 2,647 volume(s) are inter 1 Stage CuFt Cmt 2443 5 1/2 psig: alc below includes	btc nded to achieve a top of Min Cu Ft 1935 Coupling 0.00 0.00 0.00 this csg, TOC intended	2.67 11215 1 Stage % Excess 26 #N/A #N/A	Collapse 1.14 ft from su Drilling Mud Wt 10.50 <u>Design I</u> Collapse ft from su	995 <u>ctors</u> Burst 1.62 Totals: urface or a Calc MASP Factors Burst Totals: urface or a	1865 Length 22,377 0 22,377 200 Req'd BOPE Length 0 0 0 #N/A	2	a-B 2.72 Choose Ca	a-C 1.91 sing> a-C	28 Weigh 380,40 0 380,40 0 verlap. Min Dis Hole-Cp 0.91 Weigh 0 0 0 0 0 0 0 0
D V Tool(s): by stage % : class 'C' tail cm 5 1/2 Segment "A" "B" Hole Size 7 7/8 class 'C' tail cm #N/A 0 Segment "A" "B" Hole	tt yld > 1.35 cas #/ft 17.00 w/8.4 Annular Volume 0.1733 tt yld > 1.35 #/ft w/8.4 Annular	sing inside the Grade #/g mud, 30min Sfc Csg Test The cement 1 Stage Cmt Sx 1548 Grade #/g mud, 30min Sfc Csg Test Cmt vol c 1 Stage	25 8 5/8 p 110 psig: 2,647 volume(s) are inter 1 Stage CuFt Cmt 2443 5 1/2 psig: alc below includes 1 Stage	btc nded to achieve a top of Min Cu Ft 1935 Coupling 0.00 0.00 0.00 this csg, TOC intended Min	2.67 11215 1 Stage % Excess 26 #N/A #N/A 1 Stage	Collapse 1.14 ft from su Drilling Mud Wt 10.50 <u>Design I</u> Collapse ft from su Drilling	995 ctors Burst 1.62 Totals: urface or a Calc MASP Factors Burst Totals: urface or a Calc	1865 Length 22,377 0 22,377 200 Req'd BOPE Length 0 0 0 #N/A Req'd	2	a-B 2.72 Choose Ca	a-C 1.91 sing> a-C	28 Weigh 380,40 overlap. Min Dis Hole-Cp 0.91 Weigh 0 0 0 overlap. Min Dis
D V Tool(s): by stage % : lass 'C' tail cm Tail cmt 5 1/2 Segment "A" "B" Hole Size 7 7/8 lass 'C' tail cm #N/A 0 Segment "A" "B" Hole Size	tt yld > 1.35 cas #/ft 17.00 w/8.4 Annular Volume 0.1733 tt yld > 1.35 #/ft w/8.4	sing inside the Grade #/g mud, 30min Sfc Csg Test The cement 1 Stage Cmt Sx 1548 Grade #/g mud, 30min Sfc Csg Test Cmt vol c 1 Stage Cmt Sx	25 8 5/8 p 110 psig: 2,647 volume(s) are inter 1 Stage CuFt Cmt 2443 5 1/2 psig: alc below includes 1 Stage CuFt Cmt	btc nded to achieve a top of Min Cu Ft 1935 Coupling 0.00 0.00 this csg, TOC intended Min Cu Ft	2.67 11215 1 Stage % Excess 26 #N/A 1 Stage % Excess	Collapse 1.14 ft from su Drilling Mud Wt 10.50 <u>Design I</u> Collapse ft from su	995 <u>ctors</u> Burst 1.62 Totals: urface or a Calc MASP Factors Burst Totals: urface or a	1865 Length 22,377 0 22,377 200 Req'd BOPE Length 0 0 0 #N/A	2	a-B 2.72 Choose Ca	a-C 1.91 sing> a-C	28 Weigh 380,40 overlap. Min Dis Hole-Cp 0.91 Weigh 0 0 0 overlap. Min Dis
D V Tool(s): by stage % : lass 'C' tail cm 5 1/2 Segment "A" "B" Hole Size 7 7/8 lass 'C' tail cm #N/A 0 Segment "A" "B" Hole	tt yld > 1.35 cas #/ft 17.00 w/8.4 Annular Volume 0.1733 tt yld > 1.35 #/ft w/8.4 Annular	sing inside the Grade #/g mud, 30min Sfc Csg Test The cement 1 Stage Cmt Sx 1548 Grade #/g mud, 30min Sfc Csg Test Cmt vol c 1 Stage	25 8 5/8 p 110 psig: 2,647 volume(s) are inter 1 Stage CuFt Cmt 2443 5 1/2 psig: alc below includes 1 Stage	btc nded to achieve a top of Min Cu Ft 1935 Coupling 0.00 0.00 0.00 this csg, TOC intended Min	2.67 11215 1 Stage % Excess 26 #N/A #N/A 1 Stage	Collapse 1.14 ft from su Drilling Mud Wt 10.50 <u>Design I</u> Collapse ft from su Drilling	995 ctors Burst 1.62 Totals: urface or a Calc MASP Factors Burst Totals: urface or a Calc	1865 Length 22,377 0 22,377 200 Req'd BOPE Length 0 0 0 #N/A Req'd	2	a-B 2.72 Choose Ca	a-C 1.91 sing> a-C	28 Weigh 380,40 0 380,40 0 verlap. Min Dis Hole-Cp 0.91 Weigh 0 0 0 0 0 0 0 0

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

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

CONDITIONS

Operator:	OGRID:
DEVON ENERGY PRODUCTION COMPANY, LP	6137
333 West Sheridan Ave.	Action Number:
Oklahoma City, OK 73102	248697
	Action Type:
	[C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition 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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