

Palmillo 26 State 313H

30-015-44905

NMOCD permit for Palmillo wells (Spudder rig)

Apache respectfully request approval to utilize spudder rig to drill & pre-set surf hole section. After drlg surf hole, rig will run csg & cmt following all applicable rules & regulations (19.15.16 NMAC drilling & production). Solids control will be handled entirely on closed loop basis. Wellhead will be installed & tested once 13-3/8" surf csg is cut off & WOC time has been reached. A blind flange with same pressure rating as wellhead will be installed to seal wellbore. Pressure will be monitored with pressure gauge installed on wellhead. A means for intervention will be maintained while drilling rig is not over well. Spudder rig ops expected to take 1-2 days on single well pad. NMOCD will be contacted & notified 24hrs prior to commencing spudder rig ops. Drillings ops will be performed with drilling rig. At that time, an approved BOP stack will be nipped up & tested on wellhead before drilling ops commences on each well. NMOCD will be contacted/notified 24 hrs before drilling rig moves back on pad. Apache Corp will have supervision over rig to ensure compliance with all NMOCD regulations & to oversee ops. Once rig is moved, Apache will secure wellhead area by placing a guard rail around cellar area.

## PALMILLO 26 STATE 313H

30-015-44905

	Fluid Type (air, FW, Cut Brine, Brine, Prod Wtr, Mud, Oil Base Mud)	Hole Sz	Csg Sz	Csg Grade	Csg Wt (lbs/ft)	Top MD	Setting Depth	Total Sx Cmt (lead/tail)	Est TOC
Surf	FW	17-1/2"	13-3/8"	H-40	48	0	400	285	0
Interm1	Brine	12-1/4"	9-5/8"	J-55	40	0	8400	1365	0
Interm2									
Prod	Cut Brine/Mud	8-3/4"	5-1/2"	P-110	17	0	8860	205	7600
	Cut Brine/Mud	8-1/2"	5-1/2"	P-110	17	8860	13345	840	8860

## BOP type for

Interm1:

13-5/8" Annular & Double Ram **WP: 3000** psi **TP: 3000** psi for Rams and 1500 psi for Annular

## BOP type for

Production:

13-5/8" Annular & Double Ram **WP: 5000** psi **TP: 5000** psi for Rams and 2500 psi for Annular

(Types: Annular, Double Ram, Pipe, Blind, Hydril)

A spudder rig will be used to set surface (See attachment).

A flex line will be used with the big rig for the choke manifold.

This will be a pilot hole with the pilot hole depth being drilled to 10250' MD / 10,250' TVD.

3 Cement plugs will be set as per below:

## CEMENT: 770' Bottom Plug to Cover Strawn &amp; Canyon/Cisco

Tail:

257 sx CL H	Top MD of Segment:	9480	Btm MD of	10250
-------------	-----------------------	------	--------------	-------

## CEMENT: 100' Wolfcamp Plug

Wolfcamp plug will be tagged for verification

Tail:

34 sx CL H	Top MD of Segment:	8910	Btm MD of	9010
------------	-----------------------	------	--------------	------

## CEMENT: 100' Casing Shoe Plug

Tail:

34 sx CL H	Top MD of Segment:	8350	Btm MD of	8450
------------	-----------------------	------	--------------	------

A cased hole whipstock & bridge plug will be placed around 8,100' MD. A window will be milled through deepset intermediate csg & curve/lateral will be drilled into 3rd Bone Spring Sand.

**Contingencies:**

For the deep set intermediate casing string if lost circulation is encountered, Apache may 2-stage intermediate casing. A DVT may be used in the 9-5/8" casing & ECP may be placed below DVT. DVT depth(s) will be adjusted based on hole conditions and cement volumes will be adjusted proportionally. Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

	Fluid Type (air, FW, Cut Brine, Brine, Prod Wtr, Mud, Oil Base Mud)	Hole Sz	Csg Sz	Csg Grade	Csg Wt (lbs/ft)	Top MD	Setting Depth	Total Sx Cmt (lead/tail)	Est TOC
Interm1	Brine	12-1/4"	9-5/8"	J-55	40	0	8400	1820	0

The deep set intermediate casing is being planned due to the possible risk of overpressure in the lateral based on a nearby offset well. Below is the contingent shallow set intermediate casing design if there is no overpressure seen in the lateral:

	Fluid Type (air, FW, Cut Brine, Brine, Prod Wtr, Mud, Oil Base Mud)	Hole Sz	Csg Sz	Csg Grade	Csg Wt (lbs/ft)	Top MD	Setting Depth	Total Sx Cmt (lead/tail)	Est TOC
Surf	FW	17-1/2"	13-3/8"	H-40	48	0	400	285	0
Interm1	Brine	12-1/4"	9-5/8"	J-55	36	0	3000	625	0
Interm2									
Prod	Cut Brine/Mud	8-3/4"	5-1/2"	P-110	17	0	8860	720	2500
	Cut Brine/Mud	8-1/2"	5-1/2"	P-110	17	8860	13345	840	8860