

Palmillo 26 State 314 H

30-015-44906

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 COM 314H

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	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	8050	1315	0
Prod	Cut Brine/Mud	8-3/4"	5-1/2"	P-110	17	0	9071	230	7550
	Cut Brine/Mud	8-1/2"	5-1/2"	P-110	17	9071	13632	855	9071

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

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. DV tool 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	8050	1750	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	9071	740	2500
	Cut Brine/Mud	8-1/2"	5-1/2"	P-110	17	9071	13632	855	9071