

CEMENTING PROGRAM

blp

Moore # 5-R

Well Name:	<u>Moore #5-R</u>	Field:	Basin Mesa Verde
Location:	sec 09-T30N-R08W, 790' FNL * 1840' FEL	API No.	
County:	San Juan	Well Flac	
State:	New Mexico	KB Elev. (est.)	5914 ft.
		GL Elev. (est.)	5898 ft.

Casing Program:

Casing String	Est. Depth MD = (ft.)	Hole Size (in.)	Casing Size (in.)	Casing Weight (lb/ft.)	Casing Grade	Thread	TOC (ft.)
Surface	500	17.50	13.375	61	K-55	8R, ST&C	Surface
Intermediate	3044	12.25	9.625	36	K-55	8R, LT&C	Surface
Protective	5580	8.50	7.000	23	K-55	8R, LT&C	2100
Prod. Liner	7446	6.25	4.500	11.6	K-55		NA

Casing Properties:

Casing String	Casing Weight (lb/ft.)	Burst (psi.)	Collapse (psi.)	Joint St. (1000 lbs.)	Capacity (bbl/ft.)	Torque(ft. lbs.) Opt/Min/Max	Drift (in.)
Surface	61	3090	1540	633	0.1521	6330/4750/7910	12.359
Intermediate	36	3520	2020	489	0.0773	4890/3670/6110	8.765
Protective	23	4360	3270	341	0.0393	3410/2560/4260	6.241
Prod. Liner	11.6						

Mud Program:

Apx. Interval (ft.)	Mud Type	Mud Weight (lb/gal)	<u>Recommended Mud Properties Prior Cementing:</u>	
			PV	<20
			YP	<10
			Fluid Loss	<15
Surface	Spud	8.5-9.0		
Intermediate	LSND	8.8-11.5		
Protective	LSND	8.8-9.0		
Prod. Liner	Air + N2/Gas	NA		

Cementing Program:

	Surface	Intermediate	Protective	Prod. Liner
Excess %, Bit	75	120	60	NA
Excess %, Caliper	NA	1st = 70 , 2nd = 50	1st = 30	NA
Pipe Movement	Rotate 10-20 rpm	Rotate 10-20 rpm	Rotate 10-20 rpm	NA
Rate, Max. (bpm)	1 truck	15	10 (mud)	NA
Rate, Recommended (bpm)	10	1st = 6 , 2nd = 10	6 (mud)	NA
Pressure, Max. (psi)	200	2000	2000	NA
Shoe Joint	40'	80'	80'	NA
Batch Mix	NA	NA	NA	NA
Circulating prior cmtng (hr.)	1	2	2	NA
Time Between Stages,(hr.)	NA	4	NA	NA
Special Instructions	1,5,7	1,3,5,6,9	1,3,5,6,8	NA

- 1 Do not wash pumps and lines
- 2 Do not reverse out
- 3 Run Blend Test on Cement
- 4 Record Rate , Pressure, and Density on 3.5" disk
- 5 Confirm densometer with pressurized mud scales
- 6 Run a temperature survey 12 hr. after bumping the plug if cement is not circulated to surface.
- 7 If cement is not circulated to surface , then 1" cement to surface.
- 8 Drop the plug on the fly.
- 9 If cement is not circulated to surface and temp. survey shows TOC below surface casing, then perforate and circulate cement to surface.

Notes:

- 1 The area is known for natural fractures in the Mesa Verde group.