30-04531173

Richardson Operating Co. F-RPC 29 #1 1080' FNL & 1585' FEL Sec. 29, T. 29 N., R. 13 W. San Juan County, New Mexico

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Blind rams will be hydraulically activated and checked for operational readiness each time pipe is pulled out of the hole. All checks of the BOP stack and equipment will be noted on the daily drilling report. BOP equipment will include a kelly, floor safety valve, and choke manifold all rated to 2000 psi. Maximum expected pressure is ≈640 psi.

4. CASING & CEMENT

<u>Hole Size</u>	<u>O. D.</u>	Weight (lb/ft)	<u>Grade</u>	<u>Age</u>	GL Setting Depth
8-3/4"	7"	20	K-55	New	120'
6-1/4"	4-1/2"	10.5	K-55	New	1,600'

Surface casing will be cemented to surface with ≈ 36 cu. ft. (≈ 30 sacks) Class B + 2% CaCl₂. Volume is based on 100% excess, yield of 1.18 cu. ft./sk, and slurry weight of 15.6 PPG. W.O.C. = 12 hours. Pressure test surface casing to 600 psi for 30 minutes.

Production casing hole will first be cleaned of rock chips by circulating at least 150% of hole volume with mud to the surface. Forty-five barrels of fresh water will next be circulated. Lead with ≈ 200 cubic feet (≈ 97 sacks) of Class B with 2% metasilicate (yield = 2.06 cubic feet per sack, slurry weight = 12.5 pounds per gallon). Tail with ≈ 130 cubic feet (≈ 111 sacks) of Class B with 2% CaCl₂ (yield = 1.18 cubic feet per sack, slurry weight = 15.6 pounds per gallon). Total cement volume is ≈ 330 cubic feet based on 100% excess and circulating to surface.

Production casing will have 4-1/2" cement guide shoe and self fill float collar. Float will be placed one joint above the shoe. Eight centralizers will be spaced on every other joint starting above the shoe. Eight turbolizers will be placed on every other joint starting from the top of the well.

ACCEPTED FOR RECORD

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