

Mud, Casing, Cementing, and BOP Attachment

California 29 Fee No. 1

Cimarex Energy Co. of Colorado

Unit L, Section 29

T18S-R26E, Eddy County, NM

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In response to questions asked under Section II B of Bulletin NTL-6, the following information is provided for your consideration:

Location: 2310 FSL & 990 FWL

Elevation above sea level: 3433' GR

Proposed drilling depth: 3,000'

Proposed Mud Circulating System:

Depth	Mud Wt	Visc	Fluid Loss	Type Mud
0' to 950'	8.4 - 8.8	28	NC	FW
0' to 3000'	9.9 - 10.1	30-32	NC	Brine water

Sufficient mud materials will be kept on location at all times in order to combat lost circulation or unexpected kicks. In order to run DSTs, open hole logs, and casing, the viscosity and water loss may have to be adjusted in order to meet these needs.

Casing & Cementing Plan:

String	Hole Size	Depth	Casing OD	Weight	Collar	Grade
Surface	14 3/4"	0' to 950'	New 9 5/8"	36#	STC	J55
Production	8 3/4"	0' to 3000'	New 5 1/2"	17#	LTC	N80

Cementing Plan:

Surface Lead Slurry: 870 sx Class "C" + 10% W-60 + 1% CaCl₂ + 0.25% R-38 + 5# Gilsonite per sx, 14.4 ppg, 1.56 cuft/sx, 7.04 gal/sx fw.

Tail Slurry: 330 sx Class C + 2% CaCl₂ + 0.25% R-38, 14.8 ppg, 1.35 cuft/sx, 6.34 gal/sx fw

TOC Surface

Production Lead Slurry: 380 sacks Class C 50/50 Poz + 10% Bentonite + 0.3% FL-10 + 0.25% R-38 + 5% Salt, Mixed at 11.92 ppg. Yeild 2.37 cuft/sx, 13.52 gal/sx Fresh Water

Tail Slurry: 260 sacks C Star Bond + 0.3% FL-10 + 0.1% C-20 + 0.25% R-38. Mixed at 13.2 ppg, Yeild 1.55 cuft/sx, 7.86 gal/sx Fresh Water

TOC Surface

Collapse Factor

1.125

Burst Factor

1.125

Tension Factor

1.6

Pressure control Equipment:

Exhibit "E-1" - A 13 $\frac{3}{8}$ " 3000 PSI working pressure B.O.P. consisting of a one set of blind rams and one set of pipe rams and a 3000 psi annular-type preventor. A choke manifold and 120 gallon accumulator with floor and remote operating stations and auxiliary power system. A kelly cock will be installed and maintained in operable condition and a drill string safety valve in the open position will be available on the rig floor. Mud gas separator will be available if drilling in H2S areas.

BOP unit will be hydraulically operated. Below intermediate casing shoe, BOP will be operated at least once a day while drilling and the blind rams will be operated when out of hole during trips. No abnormal pressure or temperature is expected while drilling. From the base of the surface pipe through the running of production casing, the well will be equipped with a 3000 psi BOP system.

Test BOP equipment and choke manifold to 250 psi low and 3000 psi high and annular BOP to 250 psi low and 1500 psi high by an independent service company.