

MARRS MUD, INC.

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• Phone 623-2432 •

Roswell, New Mexico 88201

Suggested Drilling Fluid Program

December 18, 1978

Boyd Operating Company
Drawer I
Artesia, NM 88210

Attn: Bill Morgan

Dear Mr. Morgan:

Thank you for the opportunity to submit our recommended mud program for your 12-15 Federal #1 Well to be drilled in Section 12, T-20-S, R-27-E, Eddy County, New Mexico.

Surface: 600' of 13 3/8"

Spud with a gel lime slurry having a viscosity of 34 to 36 Sec./1000^{cc}. Severe loss of circulation may be encountered through the surface hole interval. In the event of severe loss we suggest mixing approximately 400 to 500 bbls. of gel lime slurry containing a heavy concentration of lost circulation material. If this treatment fails to establish returns dry drill to surface casing point and repeat the above procedure before running casing.

Intermediate: 2800 of 8 5/8"

Loss of circulation through the intermediate sections have been a problem in this area. We suggest drilling this interval with fresh water employing the use of a paper type lost circulation material for seepage.

If loss of circulation is experienced attempt to regain with 300 to 400 bbls. of fluid containing a heavy concentration of lost circulation material. If this treatment fails to establish returns dry drill to casing point.