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LAND COMMISSIONER
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March 17, 1977



STATE GEOLOGIST
EMERY C. ARNOLD

Mr. George F. Biller
Fireman's Fund Insurance Co.
1385 South Colorado Blvd.
Denver, Colorado 80222

Subject: O.C.C. Order No. R-5300
Abandoned Well, Mora County

Dear Mr. Biller:

With respect to questions raised by your letter of March 10, 1977, please be advised that the Commission does have certain requirements for plugged wells. In the case of the subject location (Kayser Well No. 1, Section 14, Township 19 North, Range 21 East) there is very little information available concerning depth, water zones, casing or cementing. Consequently, the tentative plugging program is quite general and would undoubtedly be modified once the well was opened and its actual condition determined.

The operation which presumably discovered carbon dioxide gas in the immediate locality of the subject well reached a depth of 3225', reportedly in granite. To our knowledge, none of the other drilling in this vicinity has approached such a depth. Thus it is assumed that the Frigidice operation stopped at some lesser depth, also. A re-entry attempt of a nearby well (originally drilled by Arkansas Fuel to 2613') was scheduled to test the reported gas shows at 1420'. This operation failed because of mechanical problems and at least two other locations were subsequently drilled, also to depths assumed to be approximately 1500'. Therefore, it seems quite probable that the subject well is bottomed at a comparable depth, presumably in the gas zone previously reported by Arkansas Fuel Co. However, a study of the records of the Arkansas Fuel well show that CO₂ gas was reported at depths of 1620' and 1710' also. Thus it is possible that the Frigidice well went that deep. There is definitely some casing in the hole but no clue whatever as to the amount.

With the foregoing in mind, you will recognize the difficulty of predicting the amounts of cement required and/or the number of plugs needed. Thus for a tentative program it is assumed the well depth is 1800', that the hole diameter is 7" below the casing, which is assumed to be 8 5/8" O.D. casing set at 750' (Very likely, the actual conditions will be different and the plugging program will have to be adjusted accordingly). Three plugs are called for below the casing, each occupying approximately 40 linear feet. In a 7" hole, this requires 15 sacks cement. There would be at least two plugs in the casing, each occupying approximately 20'. In 8 5/8" casing, this requires about six sacks. Thus, five plugs of cement totalling 57 sacks are expected to be required. The hole should have mud between the plugs. However, it might be assumed that the hole is presently empty of any solids or liquids if it was completed as a gas well. Therefore, it will be necessary for the bore-hole to be filled with a fairly dense mud to support the cement slurry while it sets and to decrease the potential for caving thereafter. Obviously, there is no danger of caving where casing is present, but plugs must still be kept in place there also.

It will be apparent that the foregoing program is based upon the least attractive hole conditions visualized. The best possible condition would be that in which casing extends to total depth with perforations into the gas zones. Probably the actual condition is somewhat between these two extremes but for initial planning, it would be wise to assume the most extensive program will be required.

There are a number of well-servicing companies in this general area, but only one headquartered nearby. The Commission cannot recommend any particular contractor so the following is given only for your information, with no rating or classification implied:

Stinebaugh Drilling Company
Roy, New Mexico

Daco Lease and Well Service
Borger, Texas

Panhandle Pluggers, Inc.
Pampa, Texas

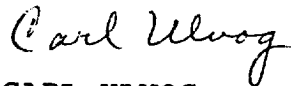
The Pool Company
Levelland, Texas

Pennsylvania Drilling Company
Lovington, New Mexico

Cactus Drilling Company
Hobbs, New Mexico

Any contractor which you might choose will be provided essentially the same data and requirements here given. Normally, several different contractors submit bids and it is of no concern to the Commission who you select. We simply wish to be notified of the time the work is planned to start, by either the bond company or the contractor, and as far in advance as possible.

Yours truly,



CARL ULVOG
Senior Geologist

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