

GEOHERMAL BRANCH**INTER-OFFICE MEMORANDUM**

SUBJECT: Drilling at our McCoy Prospect,
Lander and Churchill Counties, Nevada

DATE: October 19, 1979

TO: Percy Wicklund, Harry Olson, Dean Pilkington, Ron Barr, Andy Pfaff,
John Deymonaz, Alan Shenker

FROM: W. M. Dolan

This memo is intended to provide a simple summary of the discussion held in my office on October 17th involving Ron Barr, Harry Olson, Dean Pilkington, Harley Barnes, Percy Wicklund, John King, Alan Shenker, and myself.

The principle topics discussed were:

1. Elevating the rig to accommodate the prescribed stack.
2. Obtaining 1,600 feet of 8 5/8" J55 24 pound per foot casing; the identified sources of supply and probable cost.
3. A drilling procedure compatible with both rig capability and Plan of Operation.
4. The appropriate deployment of collars and stabilizers.
5. Setting the casing.
6. The mud pump and air compressor.
7. Stress on the rotary table ring gear and universal joints.
8. Rentals.
9. The AGD-AMAX contract and cost schedules.

The following items of advice or agreement are herewith listed:

1. AGD has obtained 500 feet of 4½" flush joint drill pipe.
2. AGD has identified out of Billings, 8 5/8" J55 casing at \$980 per hundred foot.
3. A 17½" hole will be drilled to 20 feet and a 13 3/8" conductor casing installed and cemented by AGD. Then a 6 3/4" hole will be drilled to 500 feet with a downhole hammer (to be rented). In the event of water entry during that procedure

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AGD and AMAX will collaborate in obtaining a fresh water sample from the well. The well will then be opened to 12 $\frac{1}{4}$ " in two stages, 9 $\frac{7}{8}$ ", then 12 $\frac{1}{4}$ " employing mud as the circulating fluid. During the opening operation fluted stabilizers will be employed at 50 and 100 feet above the drilling assembly. The 8 $\frac{5}{8}$ " surface casing will then be installed from 0-500 feet employing the services of a contract casing crew with power tongs to be arranged by AGD. AGD will also arrange for Halliburton to cement the 13 $\frac{3}{8}$ " casing. AMAX will arrange for a dual induction log of the 500 foot well prior to installing the casing and will also arrange for a cement bond log following installation of the casing. Following determination that the casing is satisfactorily cemented, the well will be drilled ahead employing a 6 $\frac{1}{4}$ " rock bit and AGD's 2 $\frac{7}{8}$ " drill pipe. The drilling assembly will include 2-20 foot 5 $\frac{1}{2}$ " collars and 2-20 foot 4 $\frac{1}{2}$ " collars plus one or more stabilizers if appropriate. A centralizer will be employed initially at the casing shoe. The hole will be drilled with mud until the collars are below the casing shoe. At that point an attempt will be made to blow the hole. In the instance of minimal water entry, it will then be rigged for air drilling and will drill ahead with air to 2,000 feet or to such depth as can be successfully drilled with air. Otherwise it will be drilled with mud or water.

4. Rentals to be obtained will include hole openers, rotating head for air drilling, 2-20 foot 5 $\frac{1}{2}$ " collars, geolograph and a hole deviation tool (probably both Eastman), downhole hammer for 6 $\frac{3}{4}$ " drilling, 1200CFM-250psi compressor, 2-9 $\frac{5}{8}$ " stabilizers and 2-12 $\frac{1}{4}$ " stabilizers, a blow-out preventor with accumulator consistent with the plan of operations (unless the USGS will approve AGD's mechanical blow-out preventor), and a mud pump (5x10 Gardner-Denver or equivalent).
5. Percy Wicklund will check on the applicability of float valves that were purchased for the Livermore well in 1978.
6. AGD will insure that its 4 $\frac{1}{2}$ " drill pipe has been tuboscoped prior to taking delivery.
7. The rig will be elevated (by jack, then cribbed with ties) four feet (7 feet from rotary table to ground level) which in combination

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with a 3 foot collar will accommodate the prescribed stack.

8. In the instance that break out torque requirements seriously exceed the rotary table's torquing capacity, strategic deployment of "cheaters" and the acetylene torch may suffice.
9. The terms of the contract were agreed upon, inclusive of pricing. The contract is being prepared.



W. M. Dolan

WMD/c