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30 June 1965

M E M O R A N D U M

TO: J. McBride, J. Sharp, M. Gardner

FROM: *Martin Mifflin* Martin Mifflin, Research Associate

SUBJECT: WATER SAMPLE ATTEMPT ON THE RE-ENTRY HOLE (PS-1) PROJECT
SHOAL, 28 JUNE 1965

Desert Research Institute personnel aided by Public Health Service personnel attempted to determine the depth to saturation in and obtain a water sample from the re-entry hole, PS #1.

Water was indicated at depths greater than 1,210⁺⁵ feet below the pressure gauge by an electrical tape. This new information suggests a water-level rise of 155 feet since January 16, 1964 when interpretation of temperature logs indicated water at 1,365 feet. It suggests the water level at about 230 feet below the pre-shot water level of 980 feet in the same region. In previous sample attempts, electric tape measurements were not obtained due to equipment limitations and problems.

In attempting to obtain a ground-water sample, three trips were made with a 1 X 24-inch bail before the batteries powering the electric winch failed. The bail was lowered as far as the obstruction (previously determined to be at approximately 1,244 feet) each time and returned to the surface about one-third filled. Increasing the length of time of the bail in the hole did not seem to influence the quantity of the sample, possibly due to vaporization of the water during the five or so minutes required to remove the bail from the hole. Upon reaching the surface, the metal bail was too hot to handle without gloves, and its temperature was estimated to be about 150°F. The lower 200 feet of the bailing cable was wetted. A total of approximately one pint of water was collected. These above relationships are similar to those experienced in the January 18, 1965 attempt.

Previous interpretations appear to be rendered invalid with the present water-level data. However, there are several factors unknown to us which prevents us from relying heavily upon the electric measurement as an indication of the present saturation in the ground zero vicinity. We (D.R.I.) are not certain of the perforation history in the re-entry hole, and the exact nature of the obstruction is also unknown. There is the possibility of water of condensation standing in the hole above the saturated zone.

MDM:cm

C.C. S.F. Jerome

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