

600496

August 31, 1988

Charles R. Snyder
P.O. Box 3965
San Francisco, CA 94119
Mail Code 50/15/D10

Dear Charles:

Please find enclosed a camera-ready copy abstract and results to date of our research on the fluid from the Salton Sea Deep Hole. I hope that this is sufficient for your purposes. If you have any questions, feel free to call me at (801) 524-3435.

Sincerely,

Michael C. Adams
Geochemist

CHEMICAL SAMPLING - UNIVERSITY OF UTAH RESEARCH INSTITUTE

Liquid and gas samples of the fluid from the Salton Sea Deep Hole were taken by Mike Adams and Michelle Lemieux of the University of Utah Research Institute during the long-term flow test. Three samples were taken during a one hour period from 0900 to 1000 on June 8, which corresponds to the lowest flowrate of the test. Four samples were taken during a two hour period from 0930 to 1130 on June 17, which corresponds to the highest flow-rate of the test.

The samples were taken from the brine and steam lines downstream of the separator. The liquid samples were taken by two different methods. The first method involved cooling the hot brine in a one fourth inch stainless steel tube coil prior to capturing the fluid in a preservative solution. Although this method is commonly employed it may promote precipitation of silica in the cooling coil prior to collection. The second method was designed to prevent precipitation of silica prior to sampling. This method utilized a six inch by one eighth inch tube that was inserted directly into the preservative solution with no prior cooling. Both methods used a preservative solution of 5 wt% nitric acid for ICP analysis, 5 wt% hydrochloric acid for sulfate and ammonia, a non-diluted sample for chloride, fluoride, and TDS. The acid to sample dilutions in the samples were 10 to 1.

Steam samples were taken through a one fourth inch stainless steel cooling coil. The samples were taken in evacuated pyrex flasks that contained solutions of sodium hydroxide and cadmium chloride.

The liquid and gas samples are being analyzed to determine if differences in the chemistry of the fluid exist as a result of changing flow rates, and if silica does precipitate when a cooling coil is used during collection. At this time only the gas samples and the liquid samples from the low-flow portion of the test have been analyzed, and are summarized in Tables 1 and 2. The liquid samples listed in Table 2 were collected through the 1/4" cooling coil. Comparison of the silica concentrations in these analyses with those from the samples collected through the 1/8" short tube indicates that silica precipitated in the 1/4" cooling coil when sample MA-52 was taken. Silica concentrations were similar for both methods in Samples MA-50 and -51. However, the variability of the silica concentrations from sample to sample in a closely spaced time interval indicates that silica may be precipitating in the wellbore, or, more likely, the separator.