



EG&G

Idaho

6107300-3

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to R. R. Stiger

from S. Petty/D. Goldman

SP

subject QUICK LOOK REPORT: FET-7-79 AND ADDENDUMS FET-13-79 AND FET-14-79
SP-2-79 & DG-50-79

Purpose

Attempts at performing FET-7-79 were initiated on 9/22/79. The test was planned to check out the pump at RRGE-1, flush all the lines between RRGE-1 and RRGI-6 and 7, perform two 8 hr pulse tests, one to inject 84.8 lps into RRGI-7, the other 106.1 lps into RRGI-6, and to perform a 500 hr, 70.7 lps test from RRGE-1 to RRGI-7. These efforts were to test the production capacity of RRGE-1, the injection capacity of RRGI-6 and 7, and the capacity of the total system to handle the flow anticipated during operation of the 5MW generation plant. FET-13 & 14 were added in an attempt to determine how to operate the system at the above flow rates and when failure would occur.

Test Accomplishment

FET-13 and 14 were accomplished after several attempts. After numerous attempts, FET-7-79 was partially completed. The eight hour pulse test at 84.8 lps to RRGI-7 was successfully run. The 70.7 lps long term test to RRGI-7 was run for 80 hrs with a pump shut down due to power failure.

Significant Results

In attempting to run high rate tests on RRGE-1 and RRGI-6 and 7, there were numerous unexpected difficulties and results.

Start-up of each test was plagued by plugging of strainers numerous times. Flushing of lines did not always produce the desired correction. The source area for the black and white sand size quartz clogging the strainers remains uncertain.

Step test data from RRGE-1 is not consistent with lower rate projections. Preliminary analysis suggest that RRGE-1 may be able to produce 75.7 lps for five years with the present pump setting. However, difficulties with line pressures during testing were not caused by excessive well draw-down.

Step test data from RRGI-6 and 7 is relatively consistent with lower rate projections. Again, difficulties with line pressures during testing were not caused by excessive pressure build-up in the well.

Primary Data

The first planned pulse test in FET-7-79 at 106.1 lps to RRG1-6 was attempted twice and shut down due to high line pressure and plugging of the strainers. In order to evaluate the system after repeated failure to start FET-7-79, FET-13 and 14-79 were run. Five separate step tests were performed at RRG1-7 to meet the required goals. The maximum rate reached was 91.9 lps. Termination of each test was due to high line pressure and plugged strainers. The highest flow rate achieved in the three separate step tests to RRG1-6 was 91.9 lps. These tests also terminated due to high line pressure and plugged strainers.

Fet-7-79 was restarted by injecting 84.8 lps into RRG1-7. After one attempt using only one of the pumps at 7, which failed due to high line pressures and plugged strainers, a successful 8 hr pulse test was accomplished using both pumps. Plugging of strainers was prevented by removing particulates from the cyclone separator at 15 min. intervals. This test indicated that starting the 70.7 lps long term test from RRG1-1 to RRG1-7 was warranted. 80 hrs of pumping and injection were accomplished with one shut down due to a power outage. The final shut down was caused by a transformer failure and recovery was started.

Recommendations

1. The source of the fine sand causing plugging of the strainers should be determined and if possible eliminated. This could be accomplished by producing at high flow rates from RRG1-1 and running this water through strainers at RRG1-1.
2. The production capacity of RRG1-1 should be determined by testing at high flow rates and discharging to pond-1.
3. FET-7-79 should be re-run.

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