

GL07197

INTEROFFICE CORRESPONDENCE

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to R. R. Stiger

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subject INCREASED INJECTION WELL AND 5 MW PLANT EFFLUENT DISPOSAL CAPACITY AT RAFT RIVER - DWA-21-79/DG-37-79/WLN-29-79

Additional injection capacity is required at Raft River regardless of whether or not the cased depth of RRG1-6 is increased. The following sequence for additional drilling projects is arranged from the more likely to be successful in accepting water to those offering the least hope.

1. Additional disposal capacity can be provided by surface water irrigation of commercial farm land. Water quality could be enhanced by shutting-in RRGE-3. Net power plant output could be increased as power for injection pumps would not be required. Additional power could be saved by the shutting-in of the pumps normally used to supply irrigation water. Injection wells and RRGE-3 would recover to some extent during this period, giving a power savings after the irrigation season has finished. The accumulation of fluoride in irrigated alfalfa may require the transfer of the feed to low fluoride areas and/or the mixing with other feed.
2. Drill small diameter (\approx 6-inch) and shallow injection wells into the widespread sedimentary aquifer occurring between depths of \approx 1200 ft to 2000 ft. Inject using only pipeline pressure (\approx 90 psi) with no booster pumps. Water could be backflowed from RRG1-6 and RRG1-7 to the small diameter wells during recovery periods, facilitating recovery in RRG1-6 and RRG1-7 and allowing pipeline operation without throttling production pumps.
3. Drill small diameter (6-inch) exploration well(s) with a workover drilling rig to a depth of \approx 3450 ft within \approx 100 ft of RRGE-3. A lost circulation zone which accepted 550 gpm was encountered at a depth of 3430 ft while drilling RRGE-3. Thus, a relatively high probability of success is likely at this location. If the receiving aquifer is hydrologically acceptable and is capable of accepting water at an economic rate greater than that possible with a single well, additional small diameter well(s) could be drilled nearby.

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4. The construction of a small diameter exploratory hole penetrating the Bridge Fault in the vicinity of the Narrows would provide data on the feasibility of injecting in this area. Hydrogeologic data indicate that the transmissivity of the Bridge Fault aquifer increases, while the temperature decreases toward the west.

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