

HOMESTAKE MINING COMPANY

P.O. BOX 98
GRANTS, NEW MEXICO 87020
(505) 287-4456

May 20, 1994

U.S. Nuclear Regulatory Commission
Division of Waste Management, MS5E2
Attn. Mr. Joseph J. Holonich, Chief
High Level Waste and Uranium
Recovery Projects Branch
11555 Rockville Pike
Rockville, MD 20850

Re: License SUA-1471 Docket No. 40-8903
Groundwater Pilot Plant Testing

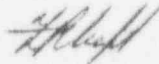
Dear Mr. Holonich:

Homestake Mining Company of California is notifying Nuclear Regulatory Commission that a reverse osmosis (RO) pilot plant is to be tested at the Grants mill site. Selected collection water will be pumped through the RO pilot plant to determine the feasibility of treating the collection water. RO permeate (treated water) is to be injected into an injection well that is located within site monitoring, injection, collection system. See attached write up by the site hydrologist.

This letter is for your information and should you have any questions please contact me at (505) 287-4456.

Sincerely,

HOMESTAKE MINING COMPANY



F. R. Craft
Resident Manager

FRC:jg

Attachment

xc: Pete Garcia (NRC)
Harold Barnes

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PDR ADDCK 04008903
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NLOS /



May 6, 1994

Mr. Fred Craft
Homestake Mining Company
PO Box 98
Grants, New Mexico 87020

RE: Proposed Injection of the Permeate from the RO Pilot Test

Dear Fred:

An evaluation of reverse osmosis (RO) is being conducted as a water treatment option at the Homestake site. A pilot test plant is going to be used to aid in this evaluation. The pilot test plant should operate for approximately 90 days with an input of approximately 6 GPM resulting in 4 GPM of permeate (treated water). The brine from the RO test plant will be discharged to the lined evaporation ponds. The permeate is proposed to be injected into well K to aid our evaluation of the use of this good quality water in the restoration of the alluvial aquifer. Well K was selected because an existing well is location approximately 7' from this well for monitoring purposes. The existing well is K2. This location was also selected because it is within the zone of reversal containment being north of the line of fresh-water injection wells.

The quantity of water proposed to be injected into the alluvial aquifer at this location is slightly greater than 500,000 gallons of water based on an average injection rate of 4 GPM for 90 days. The saturated thickness at well K is approximately 20' and the specific yield for the alluvial aquifer has been determined to be 0.2. These parameters and the 500,000 gallons of water indicates that the movement of the injection water will extend out approximately 74' from well K at the end of the injection test. Therefore, the zone of influence from this injection should be near well K and well within the control zone of the collection wells. All of the water from this injection test should be recollected due to the test area being located in an area that is being restored with collection. Therefore, even if this injection test resulted in developing some unexpected concentrations, these concentrations will be collected in the future. A total collection rate of approximately 15 GPM is presently in operation in the K-line.

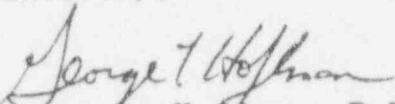
Monitoring of the injection test will be conducted to define the effectiveness of the use of this water during restoration. The source of water to the RO and the permeate will be monitored on a daily basis for pH, TDS, molybdenum, selenium, uranium, and sulfate. The monitoring well K2 will be monitored on a weekly basis for the same parameters. This data should be very helpful in

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determining the most efficient use of the fresh-water source developed by an RO treatment. The fresh-water source is expected to contain a TDS of <1,000 mg/l, a selenium concentration of <0.1 mg/l, and a molybdenum and uranium concentration of approximately 0.03 and 0.04 mg/l, respectively. This water is expected to be more effective than the present fresh-water injection due to the better quality of this water. The RO permeate injection test is very important to our evaluation of determining the effectiveness of the use of the treated water for restoration of the alluvial aquifer.

Please give me a call if you have any questions on this injection test.

Sincerely,


George L. Hoffman, P.E.
Hydrologist

GLH/pc