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40-8903

HOMESTAKE MINING COMPANY

P.O. BOX 98
GRANTS, NEW MEXICO
87020

January 29, 1988

RETURN ORIGINAL TO PDR, HQ.

CERTIFIED MAIL NO. P-562 229 657



Mr. Harry Pettengill, Chief
Licensing Branch 2
Uranium Field Recovery Office
US Nuclear Regulatory Commission
750 Simms Street, Suite 100
Lakewood, Colorado 80215

Re: License Number SUA-1471
Docket No. 40-8903

Dear Mr. Pettengill:

We are in receipt of your letter (from Mr. Edward Hawkins) concerning the submittal of a license amendment application for ground water monitoring. Your letter was addressed to the attention of John Parker, General Manager. Mr. Parker retired from Homestake Mining Company in early 1987. At that time, Mr. Thomas G. White became the General Manager for the Grants Uranium Operations. Would you please notify the appropriate NRC personnel and replace Mr. Parker's name with Mr. White's name as General Manager?

Pursuant to your December 15, 1987 letter, please find attached a copy of Homestake Mining Company of California's (Homestake) proposed ground water monitoring and management plan. Please amend Homestake's above described license according to the provisions of the attached plan. Also, please find enclosed a check for \$150.00 for the processing of the amendment.

Homestake is submitting this ground water plan voluntarily. At the same time, Homestake wishes to reserve all of its legal positions, and is submitting this plan without prejudice to any of its rights, as was done with respect to the Tailing Stabilization and Site Reclamation Plan submittal. We understand that this reservation is satisfactory to the NRC.

DESIGNATED ORIGINAL

Certified By Dwight C. Hood

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C PDR

License Fee Information
on next page

88-0407

Mr. Harry Pettengill, Chief
January 29, 1988
Page 2

If you have any comments or questions concerning
this submittal, please don't hesitate to contact me.

Very truly yours,

HOMESTAKE MINING COMPANY

Edward E. Kennedy

Edward E. Kennedy
Director of Environmental
Affairs

EEK:jg

Enclosures

xc: T. G. White
R. F. Farrell
T. R. Beck
D. B. Crouch

Log	Feb 88-3
Remitter	
Check No.	2100642
Amount	\$160
Fee	2A
Type	uncollected
Date Check	2/22/88
Date Completed	3/4/88
By:	Jacobs

HOMESTAKE MINING COMPANY

The following is Homestake's submittal of a detection monitoring plan as requested by NRC's letter of December 15, 1987.

Background Wells

Alluvial wells P, Q and R are proposed to define the background conditions for the Homestake tailings. These wells are each upgradient of the tailings and their water quality has not been affected by tailings seepage.

Indicator Constituents

Selenium, radium-226 and pH are proposed to be the three constituents to be used as indicators of hazardous constituents. Selenium is a heavy metal of concern at this site and is a good indicator of several of the other heavy metals. Radium-226 is a good parameter to indicate movement of radionuclides. The pH of the alluvial water was also selected as an indicator because the tailings solution is alkaline.

Detection Monitoring Wells

Monitoring wells W & F are proposed as the detection monitoring wells. Well W is located in the very permeable area of the alluvial aquifer to the southwest of the tailings, while Well F is located in the lower permeability zone to the south of the tails. These wells will be sampled at least every six months and evaluated to determine if a significant difference exists between the water quality in the detection wells and the background wells.

Hazardous Constituents

A list of hazardous constituents that are thought likely to exist at this site will be selected if the indicator constituent ions significantly exceed background levels. A list similar to that presented in NRC's December 15, 1987 letter to Homestake will be first measured on water from two of the collection wells (one from the S and one from the D collection wells) at the toe of tailings. Constituents that exist in significant concentrations will be used to define the extent and magnitude of hazardous constituents. Organic constituents would be expected to be extremely low as determined to be below detection concentrations in the NRC samples from the east and west ponds on April 6, 1987. These results show that the right column of parameters listed in the NRC letter of December 15, 1987 are not appropriate for this site. Also, the parameter listed as fluorene in the NRC letter of December 15, 1987 is thought to be fluorene, which was also determined to be below the detection level of 10 ug/l in the tailings solution.

Rate and Direction of Ground-Water Flow

The rate and direction of ground-water movement will be developed annually for the alluvial aquifer. This data will be developed for several locations for this complex flow system.

Extent and Magnitude of Hazardous Constituents

If detection monitoring indicates significant levels above background, a list of hazardous constituents will be selected as stated above. Numerous alluvial wells will be sampled and analyzed for this list. Wells will be used to define the distribution of concentrations over the alluvial aquifer. Concentration maps will be developed to portray the areal extent and levels observed. Points of compliance and clean-up standards would also be established.