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HOMESTAKE MINING COMPANY

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RETURN ORIGINAL TO PDR, HQ.

September 15, 1989

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TRACKING NO. 1185 3208 557

Mr. Fay Hall, Director
Uranium Recovery Field Office
U.S. Nuclear Regulatory Commission
730 Simms Street, Suite 100
Lakewood, Colorado 80225

Re: License No. SUA-1471
Amendment Request

Dear Mr. Hall:

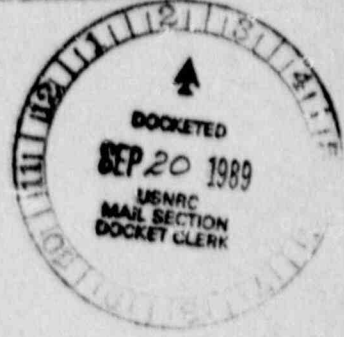
Homestake Mining Company of California (Homestake) takes this opportunity to request an amendment to their Radioactive Materials License No. SUA-1471. Along with this request, also please find a check for \$150.00, pursuant to the NRC regulations, for your review of Homestake's proposal.

Homestake hereby requests an amendment to license condition No. 33 concerning their ground water protection and restoration program. During the Homestake/NRC meeting of August 17, 1989 concerning this same subject, you indicated that, if Homestake could provide you with a legal means of allowing NRC not to have to set the "point of compliance" at the toe of the tailing pile and some site specific reasons why the point of compliance could be further away than the immediate toe of the pile, you would have your staff seriously consider our request for an amendment.

The following discussion is a brief summary of two basic reasons why the NRC has the flexibility to locate the point of compliance beyond the toe of the pile.

First, as the NRC has noted, EPA's Uranium byproduct regulations at 40 C.F.R. 192 do not provide any definition of the term "point of compliance." Nor do these regulations incorporate by reference any definition of the term "point of compliance," see 48 Fed. Reg. 45926, at 45942 (Oct. 7, 1983); see also 52 Fed. Reg. 43553 at 43555, 43557 (November 13, 1987). Therefore, the NRC is not required to use any specific definition for point of compliance in its own implementing regulations at 10 C.F.R. Part 46, Appendix A. In fact, the NRC's regulations provide their own definition of point of compliance as "the site specific location where the groundwater protection standard must be met" (10 C.F.R. Part 46,

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Certified By: *Man C. Herl*

Appendix A). Furthermore, these regulations allow the NRC to "adjust" the point of compliance in accordance with site specific data regarding the presence and flow of contaminants. *Id.* at Criterion 5.

Second, Section 84(c) of the Atomic Energy Act, as amended (42 U.S.C. 2114(c)) specifically authorizes the NRC to approve licensee proposed, site specific alternatives to both the EPA and the NRC regulations. Furthermore, these site specific exemptions from the EPA and NRC regulations need not achieve a level of protection equivalent to the EPA and NRC regulations when doing so would not be practicable. As explained by the NRC Office of General Counsel in a 1985 Memorandum to the Commissioners:

....EPA is incorrect in asserting that licensee proposed alternatives approved by the NRC must provide the same level of containment, stabilization and protection of health and the environment as provided by existing NRC requirements and EPA standards. Section 84c explicitly states that NRC may approve alternatives which, to the extent practicable, would achieve safety levels equivalent to those which would be achieved by compliance with NRC's requirements and EPA's standards. Thus the NRC is authorized to approve an alternative which does not provide the same level of protection of public health which would be achieved if EPA's standards were complied with fully."

Memorandum from Herzel Plaine, General Counsel, U.S. NRC, to the NRC commissioners re: Uranium Mill Tailings -- Jurisdictional Bases for EPA's Standards. SECY-85-125 (April 10, 1985). (Emphasis added.)

This interpretation of Section 84(c) was confirmed by the United States Court of Appeals for the 10th Circuit in Environmental Defense Fund v. United States Nuclear Regulatory Commission, No. 86-1235 (Jan. 27, 1989). The court's ruling is directly on point:

We hold only that AEA 84(c), 42 U.S.C. 2114(c), allows the NRC to approve licenses containing site specific alternatives to EPA's general standards; that the power to approve such licenses exists when literal compliance with the EPA's general standards is not practicable; and that in approving such licenses the NRC need not obtain EPA's concurrence. *id.* at p. 16.

Thus, it is clear that the NRC may approve site specific, licensee proposed alternatives to the EPA and NRC requirements.

Mr. Ray Hall, NRC

Sept. 12, 1989

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Regardless of the content of either EPA or NRC regulations, the Commission retains the authority to approve licensee proposed site specific alternatives. This authority exists independent of the NRC's obligation to promulgate regulations that "conform" to the EPA standards. Thus, the NRC has the authority under AEA Section 84(c) to approve a point of compliance at some other location than the toe of the tailing pile.

We have examined this question of NRC's flexibility regarding the point of compliance in considerable detail. Should you have any further questions regarding this issue, we would be glad to provide you with a more detailed response.

The main purpose of the point of compliance for the Homestake site is not to detect new seepage, because the hazardous constituent migration at this site is already well defined. The purpose that these points of compliance will serve is to determine if any significant concentrations are migrating down-gradient of the site after restoration. Points of compliance that account for some of the natural cleaning that occurs in ground water is reasonable to be used for this particular site. For example, a small amount of selenium should be able to seep from the reclaimed tailings as long as the selenium is naturally tied up by the alluvium prior to reaching the points of compliance. If the point of compliance is very near the tailings, the benefit of the natural cleansing process cannot be used. Homestake's proposed point of compliance would allow for several years to initiate additional remediation if the points of compliance demonstrate a hazardous constituent movement.

The area near the tailing piles will be greatly disturbed as surface reclamation occurs. Maintaining wells in the area will take additional significant effort. A large part of the area, just south of the tailing pile, will likely be used for lined evaporation ponds. Wells in the area of the ponds will be difficult to maintain and sample. It is Homestake's opinion that the points of compliance should be same during and after aquifer restoration. We, therefore, propose wells WR11, WR7, B, PM, Y and CW4 because they should be adequate points of compliance for the long term.

Pursuant to the regulatory and statutory right and the site specific reasons cited above, Homestake hereby formally requests that their Radioactive Materials Licence Condition No. 35 be amended to read as follows:

35. The licensee shall implement a compliance monitoring program containing the following:
 - A. Sample wells WR11, WR7, PM, B, Y and CW4 on a quarterly frequency for water level, SO₄, uranium and selenium, and sample wells WR11, WR7, B, PM, Y, P and CW4 on a semi-annual frequency for chromium, molybdenum, radium-226 and

228, selenium, thorium-230, uranium, vanadium, TDS, pH, SO₄, Cl, HCO₃, CO₃, Na, Ca, Mg, K and NO₃. Additionally, the volumes of water injected and recovered as part of the ground-water cleanup program shall be monitored and the values documented quarterly.

- B. Comply with the following ground-water protection standards at point of compliance wells WR11, WR7, B and PN for the alluvium and CW4 for the Upper Chinle for the Active Tailings and well Y for the alluvium and Well CW4 for the Upper Chinle for the Inactive Tailings with background recognized in Well P.

Chromium = 0.06 mg/l, molybdenum = 0.03 mg/l, selenium = 0.10 mg/l, vanadium = 0.02 mg/l, uranium = 0.04 mg/l, radium-226 and 228 = 5.0 pCi/l and thorium-230 = 0.30 pCi/l.

The average of the concentrations among the point of compliance wells will be used in compliance determination.

- C. Implement the September, 1989 Corrective Action Program (included in letter of September 15, 1989) with the objective of returning the concentrations of chromium, molybdenum, selenium, thorium-230, uranium and vanadium to the concentration limits specified in Subsection (B). The corrective action program shall be fully operational by November 1, 1990.
- D. Determine the extent and concentration of hazardous constituents in the uppermost aquifer. An areal extent evaluation shall be submitted to the NRC by January 31, 1990.

Pursuant to your letter of May 18, 1989, please find included in this submittal two copies of Homestake's proposed Corrective Action Program for ground water protection and restoration pursuant to 10 CFR 40, Appendix A, Criteria 5. This Corrective Action Program includes an extensive ground water monitoring program that has been designed to be sufficient to characterize the entire site.

An evaluation of the areal extent and concentration of hazardous constituents that meets with the intent described in Criterion 5B (2)(a,b and c) shall be submitted to the Uranium Recovery Field Office by January 31, 1990 pursuant to our agreement reached at the meeting of August 17, 1989.

In Homestake's March 15, 1989 submittal to the NRC, an apparent analytical incongruence with chromium was evident. Further analysis indicates that the analyses performed by Barringer Laboratories are suspiciously high. Homestake conducted a second set of comparative analyses for chromium with a different outside

contract laboratory. Below, please find the results of comparative analyses performed by Homestake's analytical laboratory and the contract laboratory, Controls for Environmental Pollution (CEP):

Chromium Concentration (mg/l) 7-17-89

<u>Well</u>	<u>HMC</u>	<u>CEP</u>
DB	0.03	0.04
DE	0.02	0.04
DG	0.03	0.04
SA	0.03	0.01
SB	0.02	0.02
SV	<.01	0.05

In previous discussions, the NRC has recommended that Homestake evaluate the potential for removing some of the hazardous constituents from their recycle water to enhance the ground water cleanup effort. Since the meeting held in Santa Fe earlier this year, Homestake has been working toward that end. Homestake's ion exchange system has recently been modified to divert the back-wash water, carrying brine solutions and some heavy metals (molybdenum and vanadium), to a lined evaporation pond rather than back into the tailings system.

In addition, Homestake is currently evaluating a new experimental water treatment pilot plant where, under triple-point vacuum pressurization, tailing solutions may be able to be stripped of significant portions of salts and heavy metals. If found to be economically viable, this system may provide a good means of reducing hazardous constituent concentrations in Homestake's recycle waters.

We take this opportunity to thank you in advance for your consideration of this proposal. If you have any questions or comments concerning this matter, please don't hesitate to contact me.

Very truly yours,

HOMESTAKE MINING COMPANY

Edward E. Kennedy

Edward E. Kennedy
Director of Environmental
Affairs

EEK/bgj

xc: F.E. Craft
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