

HOMESTAKE MINING COMPANY

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40-8903
RETURN ORIGINAL TO PDR, HQ.

January 25, 1990

EXPRESS MAIL: B65638576

Mr. Ramon E. Hall, Director
Uranium Recovery Field Office
U.S. Nuclear Regulatory Commission
730 Simms St. - Suite 100
Golden, Co 80401

Re: License No. SUA-1471

Dear Mr. Hall:

Homestake Mining Company of California's (Homestake) Grants uranium mill was inspected by the Nuclear Regulatory Commission (NRC) on December 4-8, 1989, with respect to the activities authorized by NRC Radioactive Material License SUA-1471. During the inspection two of Homestake's activities were found by the NRC inspector to be in apparent violation of regulatory requirements. Subsequently, Homestake was informed of the inspection findings in a December 21, 1989, letter from the NRC which was received on December 27, 1989. The letter requires a response concerning the apparent violations in writing pursuant to Section 2.201, Part 2, Title 10, Code of Federal Regulations.

Homestake is hereby submitting this response pursuant to the NRC requirements for the purpose of responding to both items addressed in the Notice of Violation. Included in each of Homestake's responses are: 1) the reason for the violation, 2) corrective action, and 3) the date when full compliance is achieved. The violations and Homestake response, identified as they are referenced in NRC's Notice of Violation, are listed below:

NRC'S COMMENT:

10 CFR 20.103(b)(1) states that the licensee shall use process or other engineering controls, to the extent practicable, to limit concentrations of radioactive materials in air to levels below those which delimit an airborne radioactivity area as defined in 10 CFR 20.203(d)(1)(ii).

Contrary to this requirement, adequate controls have not been implemented in the ore crusher building as evidenced by the fact that airborne concentrations have routinely exceeded 25 percent of MPC for the period from May 1989 to the time of the inspection. (40-8903/8901-02).

DESIGNATED ORIGINAL

Certified By Mary C. Hood



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Homestake's Response:

Homestake representatives have determined airborne radioactive particulate concentrations average values in the Ore Crusher-Sample Splitting Building for the weeks following the NRC inspection. The average values for the three sample locations situated in this building are listed below:

<u>Sample Location</u>	<u>Date</u>	<u>Alpha Conc. Micro Ci/ml x 10⁻¹¹</u>
Crusher Operation Station	11/21/89 01/16/90	0.20
Number 1 Sample Splitter	11/21/89 01/16/90	0.26
Crusher Second Floor	11/21/89 01/16/90	0.24 =====
	Overall Average	0.24

NOTE: Attached please find the individual weekly radioactive airborne particulate concentrations from which the above averages were calculated. The samples were collected under Homestake's routine license compliance monitoring program.

Homestake believes that air quality in the Ore Crusher-Sample Splitter Building is improving as a result of process and engineering controls utilized within the building which is demonstrated by the values listed in the table above. Process and engineering controls also had been utilized before the inspection by Homestake in the ore crushing and sampling area to reduce the levels of airborne radioactive dust; however, the results of these actions did not reduce airborne dust to acceptable levels. A number of corrective actions have been taken during December and January which have generally reduced the levels of radioactive airborne dust in the building. These actions were concerned mainly with increasing the ventilation of outside air into the working area. Listed below are the corrective actions which have resulted in improved air quality in the ore processing area.

1. Insured that ventilation fans are operated two hours prior to the beginning of the shift.
2. Added a ventilation portal on the second floor of the crusher building.
3. Insured that the two access doors serving the Crusher Operator Station remain open during operations.

The radioactive airborne particulate concentrations observed since the inspection, referenced in the table above, indicate that these corrective actions have improved the air quality.

The overall average for the entire building for the period of November 21 through January 16, 1990, was 0.24×10^{-10} micro Ci/ml. In the ore crushing portion of the building which is occupied for a higher percentage of time than the sample splitting portion, the observed average dust level was 0.22×10^{-10} micro Ci/ml. Both of these values are below the 0.25 action level referenced in the violation (40-8903/8901-02).

Homestake believes that improvements in the air quality of the Ore Crusher-Sample Splitting Building could be attained in the future by continuing to correct problems, however, Homestake's ore crushing circuit is anticipated to be put on standby status during the week of January 28 through February 3, 1990, and not actively operated due to economic reasons.

NRC'S COMMENT:

10 CFR 20.203(d)(2) states that each airborne radioactivity area shall be conspicuously posted with a sign or signs bearing the radiation caution symbol and the words:

Caution

Airborne Radioactivity Area

Contrary to this requirement, the ore crusher building and the yellowcake barrelling enclosure have not been posted as specified even though airborne concentrations have routinely exceeded 25 percent of MPC 40-8902/8901-01.

Homestake's Response:

The yellowcake barrelling room at the Homestake mill had been posted as an area requiring the use of respiratory protection equipment since NRC began inspecting the facility in 1986. No violation had been issued during the three previous inspections conducted by the NRC which lead Homestake representatives to believe that the area had been adequately posted.

The proper signs were ordered shortly after the December 4-8 inspection which bear the radiation caution symbol and the words:

Caution

Airborne Radioactivity Area

This type of sign was installed on the yellowcake barrelling room door on January 9, 1990.

Ramon Hall, Director NRC
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The Ore Crusher-Sample Splitter Building has not been posted in this manner because process and other engineering controls have been utilized both before and after the inspection was conducted, to the extent practicable, to limit concentrations of radioactive materials in the building to levels below those which delimit an airborne radioactivity area as defined in 10 CFR 20.203(d)(ii). This corrective action work is reported herein as part of Homestake's response to Violation 40-8903-8901-02. Homestake is aware that posting requirements need to be initiated if concentrations routinely exceed 25 percent of MPC, however the corrective actions conducted since the NRC inspection have reduced the levels of radioactive airborne particulate to acceptable levels in the ore crushing and sampling areas.

Homestake hopes that these responses fully address the NRC's concerns with respect to the Company's activities authorized by the NRC Radioactive Materials License SUA-1471.

If you or your staff have any questions or comments concerning this response letter, please don't hesitate to contact me.

Very truly yours,

HOMESTAKE MINING COMPANY



Richard F. Farrell
Radiation Protection
Administrator

RFF/bgl

xc: F.R. Craft
D.B. Crouch

Crusher-Sample Splitter Airborne Alpha Concentrations

<u>Sample Location</u>	<u>Sample Date</u>	<u>Sample Duration (Hours)</u>	<u>Alpha Concentrations (Micro Ci/ml x 10⁻¹⁰)</u>
Crusher Operation Sta Number 1 Sample Splitter	11/21/89	6.60	0.22
Crusher Second Floor	11/21/89	6.55	0.25
Crusher Operation Sta Number 1 Sample Splitter	11/21/89	6.55	0.29
Crusher Second Floor	11/28/89	5.22	0.13
Crusher Operation Sta Number 1 Sample Splitter	11/28/89	5.25	0.25
Crusher Second Floor	11/28/89	5.28	0.20
Crusher Operation Sta Number 1 Sample Splitter	12/05/89	6.33	0.21
Crusher Second Floor	12/05/89	6.52	0.27
Crusher Operation Sta Number 1 Sample Splitter	12/05/89	6.50	0.19
Crusher Second Floor	12/13/89	6.83	0.14
Crusher Operation Sta Number 1 Sample Splitter	12/13/89	6.80	0.36
Crusher Second Floor	12/13/89	6.80	0.37
Crusher Operation Sta Number 1 Sample Splitter	12/21/89	6.50	0.36
Crusher Second Floor	12/21/89	6.53	0.42
Crusher Operation Sta Number 1 Sample Splitter	12/21/89	6.53	0.27
Crusher Second Floor	12/28/89	6.57	0.28
Crusher Operation Sta Number 1 Sample Splitter	12/28/89	6.50	0.25
Crusher Second Floor	12/28/89	6.52	0.22
Crusher Operation Sta Number 1 Sample Splitter	01/03/90	5.25	0.20
Crusher Second Floor	01/03/90	5.33	0.15
Crusher Operation Sta Number 1 Sample Splitter	01/03/90	5.43	0.24
Crusher Second Floor	01/09/90	7.23	0.25
Crusher Operation Sta Number 1 Sample Splitter	01/09/90	7.22	0.20
Crusher Second Floor	01/09/90	7.32	0.21
Crusher Operation Sta Number 1 Sample Splitter	01/16/90	7.00	0.19
Crusher Second Floor	01/16/90	7.03	0.20
Crusher Operation Sta Number 1 Sample Splitter	01/16/90	7.12	0.16
Crusher Second Floor	01/16/90	7.12	0.16