CO.09-4

40-6875

For Div of Compliance

1041 Grant Place
Boulder, Colorado
8 February 1964

United States Atomic Energy Commission
Washington 25, D. C.

Attention:

Mr. Donald A. Nussbaumer, Chief
Source and Special Nuclear Materials Branch
Division of Licensing and Regulation

File: DLR:DLH
40-6875

Dear Mr. Nussbaumer:

I am enclosing the results of a survey for air borne natural Uranium as requested in your letter of 2 January 1964, persuant to license #SUA-724.

This survey was conducted January 27, 1964, by Mr. Wayne R. Hansen, who has charge of the radiation surveys made at the University of Colorado in connection with the Cyclotron, Isotopes, etc.. The University's instruments were used in the surveys.

Since I am now running the wet section of the Mill on Gold ore, I am using only one employee, and since the dry section which is treating the Uranium bearing material is practically automatic after filling the ore bins, the employees' exposure to the dry section is about fifteen hours per week.

Sincerely yours,

Earl G. Sweeney

Mr. Earl G. Sweeney

EGS:gs
Enclosures.

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FEB 12 1964

Memo

To: Sar. Sweeney
1061 Grant Street
Boulder, Colorado

From: Wayne R. Hansen
Health Physicist

Subject;
Air samples taken January 24, 1964 at ore separating plant operated in Sugarloaf Road, Boulder, Colorado. Ores handled contain varying amounts of natural uranium.

Air Sample No. 1
Taken beside operating magnetic separator which separates ores containing natural uranium.

Long half-life alpha activity in sample-- 4.95×10^{-11} uc/ml of air.

Air Sample No. 2
Taken beside electrostatic separator which is located at the opposite end of the Butler building containing the magnetic separator.

Long half-life alpha activity in sample-- 4.35×10^{-11} uc/ml of air.

Air Sample No. 3
Taken in office which is located in the adjoining building.

Long half-life alpha activity in sample-- 2.25×10^{-11} uc/ml of air.

The Maximum Permissible Concentration (MPC) of natural uranium in air for a 40 hour work week and occupational exposure is 6×10^{-11} uc/ml. The MPC for a 168 hour work week is . $\times 10^{-11}$ uc/ ml for occupational exposure.

The concentrations of long lived alpha activity in each sample may be assumed to be natural uranium. The concentrations are below the MPC for a 40 hour work week. However, the areas sampled are not occupied for a total work day.

A factor which may have made the air concentrations greater than expected was a strong wind on the front of the building. Air Sample No. 1 was taken close to the uranium ore output of the magnetic separator. (About four feet away.) Air currents may have caused this sample to have a larger concentration of uranium than is actually present.

Wayne R Hansen

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For Div of Compliance

1290 Linden Avenue
Boulder, Colorado
January 27, 1964

Earl Sweeney
1061 Grant Street
Boulder, Colorado

Dear Mr. Sweeney:

Please find enclosed the results of the air samples taken at your mill on January 25, 1964. The values are below the Maximum Permissible Concentration (MPC) of air borne natural uranium for a 40 hour work week. The MPC listed in Title 10, Code of Federal Regulations, Part 20, is 5×10^{-11} uc/ml of air. The air samples indicate the air borne natural uranium present in the lower level of the Butler building are slightly greater than 4×10^{-11} uc/ml of air, which would be the MPC for a 72 hour work week. However, since the area is occupied only part of a work day, the exposure of anyone working at the mill will be below this value when averaged for the week.

The value of air borne long half-life alpha activity found in the office suggests the strong winds prevalent that morning may have caused air currents that stirred up more dust than is usually present in the buildings.

If I can be of further assistance by supplying you with more detailed information regarding the results of these measurements, please do not hesitate to call me.

Yours very truly,

Wayne R. Hansen

Wayne R. Hansen

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FEB 12 1964