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Atlas Minerals
Division of Atlas Corporation
P. O. Box 488
Moab, Utah

R. F. HOLLIS
VICE PRESIDENT - MILLING

April 22, 1963

Mr. F. R. Price
Acting Director
Division of Licensing and Regulation
United States Atomic Energy Commission
Washington 25, D. C.

Dear Mr. Price:

In accordance with the requirements of Section 20.405(a), 10 CFR 20, we are reporting the exposure of dryer-packager operators at the Moab Mill to concentrations of airborne radioactive materials in excess of the limits for natural uranium in a restricted area.

Concentration of Radioactive Material: Breathing zone air samples taken in the product drying and packaging area and determined on March 28, 1963, indicated the concentrations to which personnel were exposed averaged 7.54×10^{-11} uc/ml. On the basis of the provisions of our license and the insoluble limit for natural uranium of 6×10^{-11} uc/ml, the maximum permissible concentration of natural uranium in a restricted area at the Moab mill is 5.71×10^{-11} uc/ml. What found?

Extent: Since only individuals working regularly in the drying-packaging area of the Moab Mill are exposed to the levels indicated, the extent of exposure of persons to radioactive material in the concentrations above is limited to the four dryer-packager operators working on a regular shift rotation involving an average of 42 hours per week per man.

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Causes: We feel that the levels could have resulted from the following:

1. Some uranium concentrate dust leaked from faulty ducts and from small holes in the dust collection system.
2. Some leakage occurred around the collecting hoppers and over the barrels in which the dust was collected.
3. Possible carelessness in the techniques and procedures of operators could have resulted in unnecessary dust generation.

Corrective Steps: Since the determinations were made indicating increased uranium concentrate dust levels, the following improvements and corrections have been made in the drying-packaging area:

1. A separate exhaust fan was installed at the hood where uranium concentrate samples are prepared. This divorced the hood from the regular dust collecting system and eliminated a potential source of dust during shakedown of the main dust collector. The dust collection system was thoroughly inspected and repaired in three areas.
2. The connecting system between the uranium concentrate dust collecting hopper and the barrels in which the dust is collected has been completely redesigned and new equipment installed to eliminate leakage of the uranium concentrate dust in this area.
3. Dryer-Packager Operators are being instructed in better procedures to reduce the possibility of unnecessary dust generation.

As shown in the following table, concurrent with the improvements in the physical aspects of the dust collection system we have collected several eight hour breathing zone samples of Dryer-Packager operators:

Eight Hour Breathing Zone Samples - Dryer-Packager Operator
Moab Mill - April, 1963

<u>Sample No.</u>	<u>April Date</u>	<u>Airborne Radioactivity</u> <u>Natural Uranium N X 10⁻¹¹</u>
1	9	5.23
2	11	17.20
3	12	3.43
4	12	1.84
5	15	1.11
6	17	1.93
7	18	3.37

The most recent samples shown in the above table indicate a downward trend in the levels of airborne radioactivity with the current average exposure at an acceptable level. Consequently, operators in this area are not being exposed to concentrations of natural uranium above the maximum permissible concentration.

Our accelerated monitoring program of dryer-packager operators will continue and necessary physical improvements will be made as required until we are convinced that a permanent reduction to acceptable concentrations of airborne radioactivity has been achieved.

Sincerely,

R. F. Hollis
Vice President - Milling

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cc: Manager
Region IV, Division of Compliance
United States Atomic Energy Commission
P. O. Box 15266
Denver 15, Colorado

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