

UNITED STATES GOVERNMENT

Memorandum

TO : Files
THRU: Donald A. Mussbaumer, Chief
Source and Special Nuclear Materials Branch, DML
FROM : Don F. Harmon *DFH*
Source and Special Nuclear Materials Branch
Division of Materials Licensing
SUBJECT: EFFLUENT AUTHORIZATION, ATLAS CORPORATION, 40-3453

DATE: APR 30 1965

DML:DFH

By letter dated March 29, 1965, the subject licensee provided us with effluent survey results as required by Item 6 of the licensee's effluent authorization dated April 7, 1964. Listed below is a summary of the survey results for 1964.

<u>Average Colorado River Concentrations for 1964</u>	<u>Radium-226 $\times 10^{-8}$ uc/ml</u>	<u>Thorium-230 $\times 10^{-6}$ uc/ml</u>	<u>Uranium $\times 10^{-5}$ uc/ml</u>
1 mile above mill	0.050	0.011	0.0006
$\frac{1}{4}$ mile below mill	0.087	0.011	0.0009
$\frac{1}{2}$ mile below mill	0.083	0.013	0.0034
1 mile below mill	0.050	0.019	0.0009
5 miles below mill	0.057	0.019	0.0016
10 miles below mill	0.049	0.015	0.0011

Part 20 limit Ra-226 - 3×10^{-8} uc/ml
Part 20 limit Th-230 - 2×10^{-6} uc/ml
Part 20 limit Uranium - 2×10^{-5} uc/ml

Average 1964 effluent concentration for the sum of radium-226, thorium-230 and uranium -

$$\frac{1.32}{3} + \frac{.025}{2} + \frac{.14}{2} = .052 \text{ which is } 52\% \text{ of the Part 20 limit for unrestricted areas.}$$

Average 1964 Colorado River flow rate - 2,123, 422 gpm
Average 1964 effluent flow rate - 894 gpm
Average 1964 dilution factor - 2370

The above data show that the licensee has not only met the limits specified in his April 7, 1964 authorization but has been in compliance with 10 CFR 20 for the past year. Compliance has been achieved through the treatment of the effluent with BaCl_2 which has effectively reduced the average Ra-226

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concentration by a factor of approximately 4. In addition the data show that there is very little, if any, effect on the unrestricted area environment from a radiological safety standpoint.

Notwithstanding the foregoing, the licensee has requested renewal of his authorization. The reason for the request is that the licensee plans to add a copper recovery circuit to his process and plans to mill ore from suppliers heretofore unavailable to the Moab mill. Therefore, renewal of the interim authorization is requested until the licensee has had an opportunity to evaluate the effects of the proposed circuit and milling modifications.

In view of the foregoing, it is ^{appropriate} ~~recommended~~ that the authorization be renewed for a one year period.

APR 30 1965

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