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URFO:GRK
Docket No. 40-6659
04006659350E

MEMORANDUM FOR: Docket File No. 40-6659

FROM: Gary R. Konwinski, Project Manager
Licensing Branch 2
Uranium Recovery Field Office, RIV

SUBJECT: REVIEW OF FIRST AND SECOND QUARTERS 1985
ENVIRONMENTAL MONITORING DATA FOR THE PETROTOMICS
MILL

By letter dated August 29, 1985, Petrotomics Mill submitted an environmental monitoring report for the first half of 1985 in compliance with 10 CFR 40.65 and License Condition No. 20 of Source Material License SUA-551. This memorandum presents the URFO staff review of this data with respect to past data and applicable standards.

I. Environmental Monitoring Data

Stack Sampling

Petrotomics has performed quarterly sampling of the yellowcake dryer stack, the packaging room stack and the cooler exhaust stack. Samples were analyzed for U-nat, Th-230, Ra-226, Pb-210, Rn-222, and flow rate. Sampling and analyses were in accordance with SUA-551, and all data was provided.

My review of the data indicates that values for the cooler exhaust, yellowcake dryer, and packaging stacks were at or below 10% of MPC for restricted areas with the exception of U-nat levels which consistently exceeded MPC and Th-230 which occasionally exceeded MPC. A historical review of Petrotomics Mill data indicates that these values have exceeded

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MPC in the past, as can be expected in these areas, and are typical of this operation.

Air Particulate Sampling

Samples were collected on a quarterly frequency at six locations and analyzed for U-nat, Th-230, Ra-226, and Pb-210. Sampling and analyses were in accordance with SUA-551, and all required data was provided.

My review of the data indicates that all results for the first and second quarters 1985 were below 10% of the MPC for unrestricted areas as they were for the preceding two quarters, with the exception of a single Th-230 reading which was 11% of MPC.

Radon Sampling

Continuous radon monitoring was performed at the six air monitoring locations using TLD chips which are exchanged and read quarterly. Sampling and analysis were in accordance with SUA-551.

My review of the data indicates that radon values for the first and second quarters of 1985 did not exceed the MPC for unrestricted areas with a peak reading of 86% of MPC. All other data for the sampling locations averaged about 42%. Both the peak values and the average values are typical of radon values previously recorded in this area of Wyoming.

Ground Water Sampling

Quarterly ground water samples were collected from five tailings area monitor wells, the mine shop well, the townsite well, the seepage collection well, and five additional wells installed as part of the ground water study at the Petrotonics site. All samples were analyzed for U-nat, Th-230, Ra-226, Pb-210, Po-210, and from eight to thirty chemical parameters. Sampling and analyses were in accordance with SUA-551. Data was provided for all wells with the following exceptions: (1) Wells RTH2 and RTH3 were not sampled because they were dry, (2) the collection well and Well 1-AC were frozen over during the first quarter of 1985, and (3) the five additional wells noted above were sampled for U-nat and Ra-226 plus several chemical parameters.

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My review of the data indicates that radionuclide values were similar to those reported in the previous two quarters and that values were below 10% of the unrestricted area MPC with the following exceptions: The elevated levels of U-nat in Wells 3-SC, 4-SC and 41-SC, noted in the previous environmental review, have sustained themselves. Because these wells have only recently been added to the monitoring system, they will be watched in future submittals as well as discussed in detail in the current WDEQ/NRC joint review of the Petrotomics ground monitoring water proposal.

My review of the chemical data indicates that values for all wells were consistent with past data. Those wells which showed elevated levels of U-nat also had elevated levels of chemical data, notably the highly mobile ions. This situation was expected because these wells sample known seepage zones, which for the most part, are being controlled by the seepage collection system.

Surface Water Sampling

Petrotomics has performed quarterly sampling of the mill feed pond, Little Medicine Bow River, and Sand Draw. Analyses were performed for dissolved and suspended U-nat, Th-230, Ra-226, Pb-210, and Po-210. Sampling and analyses were in accordance with SUA-551. All data was submitted for the first and second quarters of 1985 with the following first quarter exceptions: Sand Draw was dry and the Little Medicine Bow River was frozen solid.

My review of the data indicates that all values were less than 10% of their respective unrestricted area MPC, except for Ra-226 levels in the mill feed pond. The Ra-226 level in the mill feed pond was approximately 17% of MPC for first quarter of 1985 and 18% of MPC for the second quarter of 1985. These values represent typical water chemistry for the mill feed pond.

Vegetation Sampling

Samples were collected from five locations during the second quarter of 1985 and analyzed for Ra-226 and Pb-210. Sampling and analyses were in accordance with SUA-551 and all data were reported. My review of the data indicate that current results were consistent with previous data.

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Soil and Sediment Sampling

No soil or sediment samples were collected during this quarter.

Direct Radiation Measurement

Direct radiation measurements were made at six locations using TLD chips, in accordance with SUA-551. My review of the data indicates that the values were consistent with other previous measurements and typical of other mills in the area.

II. Conclusion

My review of the data submitted by Petrotonics for the first and second quarters 1985 indicates that the environmental monitoring has been performed in accordance with Condition No. 20 of Source Material License SUA-551. No trends in any of the environmental monitoring areas were identified and no licensing action is warranted at this time.

/s/

Gary R. Konwinski, Project Manager
Licensing Branch 2
Uranium Recovery Field Office, RIV

/s/

Approval by:

Harry J. Pettengill, Chief
Licensing Branch 2
Uranium Recovery Field Office, RIV

Case Closed: 04006659350E

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