



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION IV
URANIUM RECOVERY FIELD OFFICE
BOX 26326
DENVER, COLORADO 80226

FEB 13 1991

URFO:CDMC
Docket No. 40-6659
SUA-551, Amendment No. 33
04006659830E

MEMORANDUM FOR: Docket File No. 40-6659
FROM: Cynthia D. Miller-Corbett, Project Manager
SUBJECT: PETROTOMICS COMPANY, SHIRLEY BASIN: AMENDMENT TO SOURCE
MATERIAL LICENSE SUA-551 FOR MODIFICATION TO SITE
CORRECTIVE ACTION PLAN (CAP)

The NRC has received the results of the drilling program with cover letter dated January 15, 1991, from Petrotomics Company (Petrotomics). This drilling program was conducted to determine the optimum location for the licensee to construct collection wells to be added to those already used in the site CAP, and Petrotomics is now requesting that wells 62SC, 63SC, and 64SC be included as part of the site CAP in order to enhance tailings seepage collection.

Migration of hazardous constituents is generally to the north of the tailings disposal area in the downgradient direction. Water quality data indicates that this zone includes ground water having low pH and high hazardous constituent values as a result of millsite activity. The proposed collection wells lie in this zone north of the tailings in an east-west trending band and seem well placed. A discussion of other potential collection well sites which were found unsuitable is in the October 3, 1990, Memorandum to File.

A review of the analyses for well test data submitted by the licensee indicates that the methods for evaluating hydrologic parameters are not clear or that some of the calculated hydrologic parameters are not the same as the parameter values calculated in-house. These items were resolved by a telephone conversation between myself and the consultant to the licensee, George Hoffman, on February 7, 1991. Based on the proposed well locations and the apparent yield of the wells, the NRC recommends authorization to amend License Condition No. 47 to include wells 62SC, 63SC, and 64SC as described in the January 15, 1991, licensee submittal in the Shirley Basin mill corrective action plan.

PM:URFO:1vCmc
CMiller-Corbett
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DD:URFO
EHawkins
02/11/91

D:URFO:RIV
REHall
02/11/91

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Therefore, pursuant to Title 10, Code of Federal Regulations, Part 40, it is recommended that Source Material License SUA-551 be amended by revising License Condition No. 47 to read as follows:

47. The licensee shall implement a compliance monitoring program containing the following:
- A. Sample wells 7-DC, 1-SC, 3-SC, 4-SC, 5-SC, 39-SC, 40-SC, 41-SC, 42-SC, 43-SC, 44-SC, 45-SC, 49-SC, 50-SC, 51-SC, 52-SC, 53-SC, 54-SC, 55-SC, 56-SC, 57-SC, and the mine shop well on a quarterly frequency for chloride, nitrate, sulfate, pH, TDS and water level, and on a semiannual frequency for arsenic, barium, cadmium, chromium, lead, nickel, radium-226, radium-228, combined radium-226 and 228, selenium, thorium-230 and uranium.
 - B. Comply with the following ground-water protection standards at point of compliance well Nos. 5-SC and 42-SC, with background being recognized as the average of well Nos. 39-SC and 41-SC:

arsenic = 0.05 mg/l, barium = 1.0 mg/l, cadmium = 0.014 mg/l, chromium = 0.05 mg/l, lead = 0.05 mg/l, nickel = 0.22 mg/l, radium-226 = 1.8 pCi/l, radium-228 = 1.7 pCi/l, combined radium-226 and 228 = 5.0 pCi/l, selenium = 0.01 mg/l, thorium = 3.94 pCi/l and uranium = 0.16 mg/l.
 - C. Implement a corrective action program as described in the July 6, 1988, July 26, 1989, October 30, 1989, and January 15, 1991, submittals, due to exceedance of ground-water protection standards with the objective of returning the concentrations of cadmium, chromium, lead, nickel, radium-226, radium-228, combined radium-226 and 228, thorium-230 and uranium to the concentration limits specified in Subsection (B).
 - D. Submit, by January 15 of each year, a review of the corrective action program and its effect on the aquifer. In addition, submit in the form of a license modification, the results of any corrective action program modifications along with or prior to the next January 15 submittal.

All other conditions of this license shall remain the same. The effect of this amendment is to incorporate a revised corrective action program into your license. This license is being reissued to incorporate the revisions specified above.

Cynthia D. Miller-Corbett
Cynthia D. Miller-Corbett
Project Manager

Case Closed: 04006659830E

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bcc:
LFMB
PDR/DCS
URFO r/f
ABBeach, RIV
LLUR Branch, LLWM
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6659/830E/CDMC/91/01/29/M