



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION IV
URANIUM RECOVERY FIELD OFFICE
BOX 25325
DENVER, COLORADO 80225

MAR 28 1989

URFO:SRG
Docket File 40-8768
License No. SUA-1387
04008768780E

MEMORANDUM FOR: Docket File No. 40-8768

FROM: Scott R. Grace, Project Manager
Uranium Recovery Field Office
Region IV

SUBJECT: REVIEW OF RIO ALGOM MINING CORP.'S O-SAND R&D ISL SECOND
HALF 1988 (JULY THROUGH DECEMBER) ENVIRONMENTAL MONITORING
REPORT (PREVIOUSLY KERR-MCGEE)

BACKGROUND

Rio Algom Mining Corp. (Rio), previously Kerr McGee and Sequoyah Fuels Corporation, submitted the subject report on January 25, 1989, in accordance with License Condition No. 25 of Source Material License SUA-1387. This memorandum presents the URFO staff review of the submittal.

EXCURSION CONTROL

Leaching of the O-Sand continued through the reporting period with water production and injection of 34.96 and 33.51 million gallons, respectively. Overproduction totaled 1.48 million gallons. These values represent an average flow of 133 gpm from production and 5.6 gpm overrecovery, representing a 4.3 percent overproduction (5.6 gpm divided by 133 gpm).

No excursions occurred during the reporting period.

WELL FIELD WATER QUALITY AND WATER LEVELS

Water levels in the O-Sand and the underlying aquifer continue to experience an upward trend, primarily as a result of recovery of the ground water in the vicinity of the Bill Smith Mine.

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ENVIRONMENTAL RADIOLOGICAL SURVEYS

Radon

In conformance with License Condition No. 49, sampling at the downwind site boundary for radon was 1.5 and 1.6 pCi/l for the third and fourth quarters, respectively. These values represent 5 percent of the 30 pCi/l MPC for restricted areas and are consistent with the values for previous quarters. The overall site average is 1.1 pCi/l.

Gamma

In accordance with License Condition No. 49, direct gamma surveys were performed at a downwind location as well as adjacent to the solar evaporation ponds. For the third quarter, the reported values are 20 and 21 μ R/hr for downwind and the evaporation ponds, respectively. For the fourth quarter, the reported values are 21 and 26 μ R/hr, respectively.

Radium

Sediment samples downstream of the water treatment settling ponds were collected and analyzed for radium-226 in accordance with License Condition No. 20. Values for the second quarter were 5.2, 3.4 and 9.7 pCi/gram for the outfall, Ross Road and 1½ miles downstream, respectively. Values for the fourth quarter were 2.4, 2.4 and 7.5 pCi/gram, respectively. The third quarter sample for the downstream location initially showed a value of 9.7 pCi/gram. This location was resampled and reported to be 6.2 pCi/gram. Results of resampling the fourth quarter sample were not received in time for the licensee's submittal.

Waste Water Effluent from Plant (NPDES Permit WY-0022411)

License Condition No. 17 authorizes the discharge of water from bleed stream and restoration to be discharged under Rio's NPDES, after first being run through the ion exchange unit (to remove uranium) and being treated with barium chloride (to remove radium). The remaining process water is required to be discharged to the solar evaporation ponds. License Condition No. 26 requires sampling and analysis of these water streams.

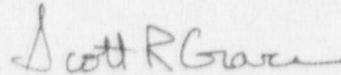
Discharges of radium from the settling ponds to the unrestricted area ranged from 0.7 to 1.7 pCi/l, with an average of 1.2 pCi/l for this reporting period. The average represents 4 percent of the MPC of 30 pCi/l. Bleed stream radium was 0.8 and 2.4 pCi/l for the third and fourth quarters, respectively. The bleed stream thorium was 2.8 and 2.1 pCi/l, respectively, representing less than 1 percent of the MPC of 2000 pCi/l. Uranium concentrations in the facility bleed were 5.8 and 1.3 mg/l, respectively, representing 13 and 3 percent of the 44.3 mg/l MPC.

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CONCLUSIONS

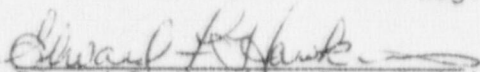
Rio has submitted their second 1988 semiannual report in accordance with License Condition No. 25 of Source Material License SUA-1387.

All results of monitoring were within applicable limits, and no further action is necessary at this time.



Scott R. Grace, Project Manager
Uranium Recovery Field Office
Region IV

Approved by:



Edward F. Hawkins, Branch Chief
Uranium Recovery Field Office
Region IV

Case Closed: 04008768780E

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CONCURRENCE:

EHawkins/URFO

EJA

SGrace/URFO

SRG

lmv

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