August 27, 2015

Mr. Billy M. Ray, Site Manager
Rio Algom Mining LLC
P.O. Box 218
Grants, NM 87020

SUBJECT: APPROVAL OF SUPPLEMENT TO THE SOIL DECOMMISSIONING PLAN FOR RIO ALGOM MINING LLC AMBROSIA LAKE FACILITY, LICENCE SUA-1473

Dear Mr. Ray:

On April 21, 2014, Rio Algom Mining LLC (Rio Algom or the licensee) submitted the document titiled "Report of Dose Modeling for Ponds 9 and 10 and the Mill Area at the Rio Algom LLC Ambrosia Lake Facility, Grants, New Mexico" (Report) (See Agency wide Documents Access and Management System (ADAMS) Accession Number ML15034A565) for NRC review. The Report is a supplement to the Soil Decommissioning Plan (Plan) prepared by Komex in December 2004 (See ADAMS ML050400566) and approved by the U.S. Nuclear Regulatory Commission (NRC) (See ADAMS ML061940224) for the Ambrosia Lake Facility.

The Plan addressed areas of possible deeper soil contamination that lacked adequate characterization data at the time the Plan was originally submitted for the mill area, mine water treatment pond, and the saturated area immediately north of the treatment pond resulting from mine water seepage. These areas were covered by the basic provisions and methods outlined in the Plan, but clean-up levels and compliance criteria could not be finalized until further characterization and dose modeling for Alternate Release Criteria (ARC) could be completed. The Report contains the required soil characterization data and dose modeling for these areas.

Rio Algom intends to adopt the soil clean-up criteria identified as ARC in the Plan for all areas within the proposed long-term surveillance and monitoring boundary. This will ensure the site is cleaned to a standard that is protective of human health and safety, satisfies the ALARA objectives, and results in doses well below the dose limits if the ARC procedures are followed.

Included in the Report are a series of RESRAD analyses used to assess the doses associated with Ponds 9 and 10 as well as the Mill Area. Since analyses in the Plan used a previous version of RESRAD, initial analyses were performed on the previously evaluated sites to confirm that the current version of RESRAD (Version 6.5) would yield the same projected doses. Once confidence in the use of the newer RESRAD code was established, the licensee calculated doses associated with Ponds 9, 10, and the Mill Area.

Based on the assumption that the radionuclide concentrations from all of the evaporation ponds on site are similar, the licensee used the radionuclide concentrations for Ponds 7 and 8 along with other site-specific parameter values to derive a conservative dose for Ponds 9 and 10 of 9.8 mrem/yr. Since no site-specific soil data is available for the Mill Area, the licensee used correlated gamma scan data on the assumption that conditions are similar to other areas of the site where soil samples were collected and analyzed as well as gamma scans performed. Corresponding radionuclide concentrations and other site-specific parameter values were then used to calculate a dose for the Mill Area using RESRAD. Results from these analyses were

compared to the radium benchmark dose of 18 mrem/yr that was previously established for the entire site. This process was also utilized in the Plan covering other areas of the site and accepted by the NRC.

NRC staff reviewed the RESRAD analyses and the process for correlating the gamma scan data to existing soil data and confirmed that the appropriate information was provided in the submittal and that the individual steps of the processes were performed correctly. The NRC staff concludes that the Report is appropriate and should be included in the approved Plan.

In accordance with 10 CFR 2.390 of the NRC's "Agency Rules of Practice and Procedure," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC's ADAMS. ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html.

If you have any questions, please contact Tom McLaughlin at 301-415-5869, or via email, to Thomas.McLaughlin@nrc.gov.

Sincerely,

/RA/

Michael A. Norato, Ph.D., Chief
Materials Decommissioning Branch
Division of Decommissioning, Uranium Recovery,
and Waste Programs
Office of Nuclear Material Safety
and Safeguards

Docket No. 40-8905
License No. SUA-1473

compared to the radium benchmark dose of 18 mrem/yr that was previously established for the entire site. This process was also utilized in the Plan covering other areas of the site and accepted by the NRC.

NRC staff reviewed the RESRAD analyses and the process for correlating the gamma scan data to existing soil data and confirmed that the appropriate information was provided in the submittal and that the individual steps of the processes were performed correctly. The NRC staff concludes that the Report is appropriate and should be included in the approved Plan.

In accordance with 10 CFR 2.390 of the NRC's "Agency Rules of Practice and Procedure," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC's ADAMS. ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html.

If you have any questions, please contact Tom McLaughlin at 301-415-5869, or via email, to Thomas.McLaughlin@nrc.gov.

Sincerely,

/RA/

Michael A. Norato, Ph.D., Chief
Materials Decommissioning Branch
Division of Decommissioning, Uranium Recovery,
and Waste Programs
Office of Nuclear Material Safety
and Safeguards

Docket No. 40-8905
License No. SUA-1473

DISTRIBUTION: JWhitten/RIV

ML15223A957

OFFICE	MDB/PM	MDB/LA	PAB	OGC	MDB/BC
NAME	TMcLaughlin	CHolston (SAchten for)	ASchwartzman	MSpencer	MNorato
DATE	8/27/15	8/11/15	8/12/15	8/27/15	8/27/15

OFFICIAL RECORD COPY