

# Rio Algom Mining Corp.

May 25, 1994

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Mr. Joe Holonich, Branch Chief  
Uranium Recovery Branch  
Division of Low-Level Waste Management  
and Decommissioning, NMSS (5 E2)  
U.S. Nuclear Regulatory Commission  
11555 Rockville Pike  
Rockville, Md. 20850

Re: Lisbon Facility  
License SUA-1119, Docket No. 40-8084  
Settlement Monitoring Program

Dear Mr. Holonich:

Please find enclosed Rio Algom's response to NRC's letter dated April 18, 1994, concerning the Lisbon facility's December 13, 1993, letter on its proposed "Settlement Monitoring Program". The response addresses the three issues identified within NRC's letter of April 18. The amendments to the settlement monitoring program have been identified with a vertical line in the right margin. If you have any questions or need further information in this regards, please call at (405) 842-1773.

Sincerely,  
*Bill Ferdinand*  
Bill Ferdinand, Manager  
Radiation Safety, Licensing &  
Regulatory Compliance

Attachments: as stated

xc: F. Fossey  
M. Freeman  
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RIO ALGOM MINING CORP.  
LISBON FACILITY  
AMENDED SETTLEMENT MONITORING PROGRAM  
(May 25, 1994)

Rio Algom proposes to modify the present Lisbon facility settlement monitoring program. The modifications to the program encompasses both the upper and lower tailings impoundments in addition to the upper and lower tailings evaporation cells.

Rio Algom proposes to first modify the settlement monuments. Presently the monuments are to be constructed of aluminum. Due to concerns by NRC staff regarding aluminum, Rio Algom proposes to replace the aluminum with steel. The settlement monuments will be constructed with a steel 18 inch square base with a minimum plate thickness of at least 1/4 inch. The riser or staff of the monument will be steel pipe with a minimum diameter of at least 1 1/2 inch. The height of the staff will be approximately 4 feet and welded to the base plate as shown in Figure 1. The staff will have a closed top and have a suitable wall thickness to withstand environmental insult.

As indicated in Figure 1, the diagram depicts the settlement monument placement on relatively flat surfaces. Settlement monuments associated with the upper and lower tailings evaporation cells will also be constructed in the same manner, but will be placed on the inside slopes of the cell embankments as shown in Figure 2.

The markers will be installed by excavating an area slightly larger than the base plate to a depth of no less than 12 inches below the surface. To the extent possible, the bottom of the excavated area shall be compacted and will be smooth and free of loose debris. The settlement monument will be installed within the excavated area such that the base plate sets firmly on the compacted soils. The area above the base plate will then be backfilled and compacted.

If difficulty is encountered in obtaining a flat smooth surface on which to install the base plate, a cement slurry will be prepared and poured in the bottom of the excavation and the

settlement marker plate shall be placed in the wet cement slurry so that the dried material will provide a solid base for the marker. The settlement monuments after installation will be allowed to set 2-4 weeks prior to the baseline elevation survey. Upon initiation of the monitoring, the monuments will be surveyed at a minimum of semi-annually.

The approximate location of the settlement monuments are shown in Figure 3. Rio Algom proposes to increase the number of monuments associated with the lower tailings area from five (5) to thirteen (13). Eight (8) of the monuments will be utilized to monitor the lower tailings evaporation cell with six (6) of these monuments to be located on the inside of the evaporation cell berms as shown in Figure 2. On the upper tailings area, Rio Algom proposes to increase the number of monuments from five (5) to thirteen (13). Seven (7) of the monuments will be utilized to monitor the upper tailings evaporation cell. Six (6) of these monuments for the upper tailings evaporation cell will be installed on the inside slopes of the cell embankment.

Although construction activities are complete in regards to placement of the radon attenuation cover at the facility, to help assure the steel staffs remain vertical during any future construction activities including the decommissioning of the mill facility and its disposal at the toe of the upper tailings impoundment as approved by NRC pursuant to license condition 52, the staffs will be flagged to accentuate their presence with construction activities and heavy equipment traffic limited to only those areas requiring the necessary work.

Rio Algom will implement the provisions of the settlement monitoring plan within 90 days upon NRC's final approval of the plan.