

RIO ALGOM CORPORATION

40-8084

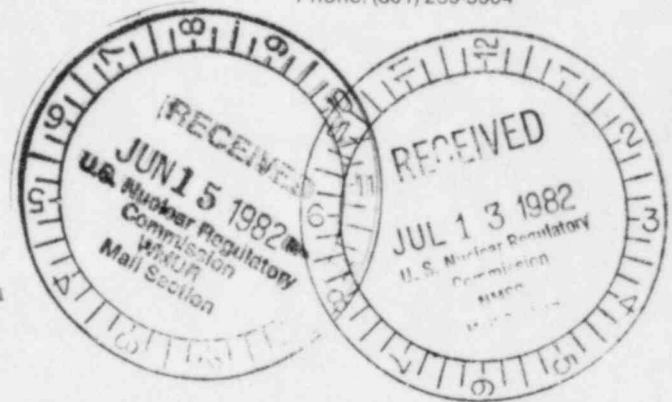
Lisbon Mine

LaSal Route
MOAB, UTAH 84532

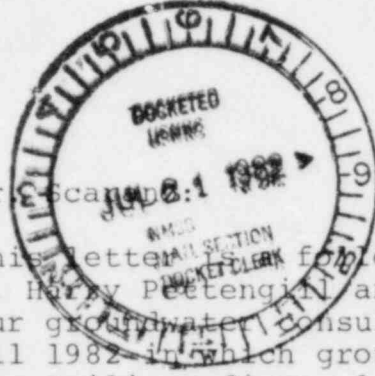
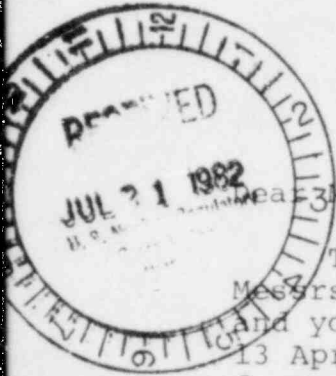
Phone: (801) 259-5904

June 3, 1982

Mr. Ross A. Scarano, Chief
Uranium Recovery Licensing Branch
Division of Waste Management
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555



Re: Source Materials License
No. SUA-1119
Docket No. 40-8084



Dear Mr. Scarano: This letter is a follow-up to our meeting here with Messrs. Harry Peetengin and Ted Johnson of your staff and your groundwater consultant, Dr. Roy E. Williams on 13 April 1982 in which groundwater contaminant migration from our tailings disposal sites was examined. Pertinent documents reviewed at this meeting were our letter to the licensing branch of 13 March 1981 together with the report entitled, "Report on Ground Water Investigations, Lisbon Mine, Near La Sal, Utah, for Rio Algom Corporation" and our letter to Region IV dated 23 March 1982 (attachment A).

The meeting was fruitful in that general agreement was reached on the necessary course of action to be followed in order to mitigate our contaminant migration problem. Subsequent to this meeting, we have thoroughly examined the sequence of work required with our well-drilling contractor and present the following plan of action for your approval:

- (a) Drill a new monitor well at a location 1,000 ft. east of existing monitor well MW7 on the northern property boundary. This shall be designated MW8 and will immediately be analyzed for pertinent radiochemical and chemical substances. If values are high, an additional well 1,000 ft. east of it will be drilled, and so on (designated MW9, . . .), in order to better define the pollution plume in this northerly direction.
- (b) Pumping tests shall then be performed on existing monitor wells DM80-1 and MW7 and on the new well(s) MW8 (MW9, . . .).



*Amendment
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- (c) Pumping tests shall be performed on existing wells H56, H55 and H77 to ascertain requirements for converting them to recovery wells.
- (d) Additional recovery wells RW1, RW2 shall be drilled at locations 500 ft. west and 500 ft. east, respectively of H77 in alignment with H56 as shown in attachment B. Initial pumping tests shall also be conducted on these wells and their liquid contents analyzed at the earliest opportunity.
- (e) Existing wells MW3 and H54 shall be abandoned as monitor wells and therefore we request a license amendment. We believe that local ground fractures in this area are responsible for the relatively fast contaminant migration in this direction and thus would like to attempt to seal them by forming an impervious barrier. A high yield bentonite will be used which will have a "lost circulation material" intermixed.
- (f) An observation well (designated GW1) will be drilled midway between MW3 and H54 to determine the effect, if any, of the sealing material. If no material is present, GW1 will also be injected with the same material. In this manner, it should be possible to determine the effectiveness of the method in providing an impervious barrier and whether it would be economically feasible to proceed further, or to be content with sustaining the pump-back system.

If successful, we shall investigate the possibility of extending the process in the direction of H57 and also in the region of H48.

- (g) Two new monitor wells (designated MW11 and MW12) will be drilled at equal spacings between existing wells MW6 and DM80-2 and located within the extended restricted area fence line south of the lower tailings embankment. As with other new wells, samples will immediately be taken for analysis.

We shall verify that each of the abovementioned recovery and monitor wells are back-sealed into the Brushy Basin Shale formation (aquiclude) and open to the Dakota-Burro Canyon Sandstone aquifer. It is realized that the abovementioned plan will not be "all conclusive", but merely the first stage of an ongoing program to contain contaminants which originate from the tailings ponds. It is expected that this first stage should be completed during August, 1982.

In order to assess the effectiveness of this program, it will be necessary to take samples for analysis from a greater number of wells, say monthly for the first three months and quarterly thereafter. However, we fail to see the necessity of analyzing for so many different constituents. We therefore request that you approve the following sampling program for this first stage of contaminant control:

- (i) With the exception of MW3 and H54, all wells which are presently being sampled in accordance with our Operational Environmental Monitoring Program shall continue to be sampled and analysed for the same constituents, namely: MW1, MW2, MW4, H71, H48, H56, DM80-1 and MW5 for dissolved U-Nat, Ra-226, Th-230, Po-210, Pb-210, CaCO₃, B, Ca, Cl, Mg, Mn, NO₃, Se, Na, SO₄ and T.D.S. on a quarterly basis. We should like to take this opportunity to respectfully request permission to eliminate the need for analysing for as many of these constituents as possible, especially if you do not consider them necessary to ensure a safe program.
- (ii) New monitor wells MW8 (MW9, . . .), MW11 and MW12 shall be sampled monthly for the first three months and quarterly thereafter for U-Nat, Ra-226, Cl, Na, SO₄, T.D.S. and pH.
- (iii) In addition to H56, recovery wells H55, RW1, H77 and RW2 shall be sampled as in (ii) above.
- (iv) It is necessary to check water quality in more of the existing wells to better determine the effect of our program. We therefore recommend that H72, H73, H57 (if it is not "grouted"), MW7, MW6 and H49 be sampled on a quarterly frequency for the same constituents as (ii) above. Additionally, it would be prudent to check H10, H38, H78 and possibly DM80-3 and DM80-4 annually for the same constituents. DM80-2 is omitted because it has always been dry. In this respect we shall continue to check well water levels regularly.
- (v) Prior to reusing the lower tailings impoundment for fresh tailings storage, we shall sample D3 and D12 wells in order to determine "background" levels and thereafter on a quarterly frequency.

In view of the impending re-utilization of the lower tailings impoundment, and consequent rise in groundwater pollutant levels, we have considered the possibility of having

Mr. Ross A. Scarano, Chief

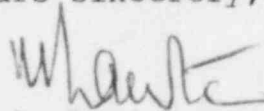
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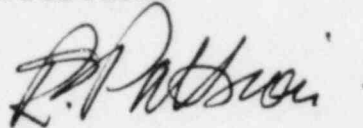
to pump-back wells on the south side of this impoundment, especially if unrestricted area M.P.C. levels are approached in wells on our southern boundary (MW6, MW11, MW12). If pump-back is necessary, we could be presented with a major solution balance problem in the tailings impoundments, since Dames & Moore's field investigations indicated no drop in water level in MW1 or the observation wells when MW1 was pumped at the rate of 45 gpm for 2.75 hours. This, together with the fact that U-Nat concentrations in MW1 and MW2 have never exceeded an "of the order of" one percent M.P.C. for unrestricted areas, indicates that dilution must be occurring from some source other than the tailings impoundments. We intend to further investigate this matter and any help or advice from the Commission would be appreciated.

The foregoing was discussed with Messrs. Roger Woolsey and Pete Garcia of your staff and our Bob Pattison in a telephone conversation on 27 May and with Messrs. Pettengill and Woolsey on 4 June 1982. If you have any questions regarding this matter, please feel free to call.

Yours sincerely,



M. D. Lawton
President



R. S. Pattison
General Plant Superintendent

MDL:RSP:jem

cc: R. Woolsey/P. Garcia
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