

Rio Algom Mining Corp

RETURN ORIGINAL TO PDR, HQ.

40-8768

October 23, 1990

Certified Mail
Return Receipt Requested P 568 963 617

Mr. Ramon Hall, Director
Uranium Recovery Field Office
U. S. Nuclear Regulatory Commission
Box 25325
Denver, Colorado 80225



Re: Smith Ranch Byproduct Shipment To Ambrosia Lake Tailings Impoundment

Dear Mr. Hall:

Quivira has completed its investigation of the October 13, 1990 incident involving the release of a small amount of liquids from its LSA exclusive use transport. This transport as you will recall was carrying in-situ leaching (ISL) byproduct material (barium sulfate sludge) from the Smith Ranch project to the Ambrosia Lake tailings impoundment for final disposal.

Based on information received from the Albuquerque fire department, who responded to the potential radioactive leak and from contamination surveys made on the exclusive use vehicle itself, it has been determined that the 2-3 gallons of liquid which drained from the transportation trailer, was not from the byproduct material. It is believed that water which leaked from the exclusive use trailer was:

1. Interstitial water contained between the HDPE plastic insert barrel liner and the drum.
2. Melting ice and snow that was on the barrels at the time of loading and;

These conclusions are based on the radioactive surveys performed on the scene by the fire department and surveys performed when unloading the barrels at the Ambrosia Lake tailings impoundment.

Both surveys indicate negligible resulting radioactive contamination. The fire department indicated no radiation contamination on the trailer or the ground surface upon which the liquid pooled. This was confirmed by Quivira Mining Company's subsequent contamination surveys. The highest smear sample reading was 926 dpm/100 cm². This is 42% of the Department of Transportation (DOT) removable contamination limits of 2,200 dpm/100 cm² (49 CFR 173.443). The average of all smear samples was 148 dpm/100 cm² or approximately 7% of DOT contamination limit.

Handwritten initials/signature

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Attached in Appendix A are Quivira's sample results.

The inspection of the barrels during unloading indicated that two, 55 gallon drums, barrels #7 and #14, had evidence that water had leaked from a rust seam in the drums. However, smear samples results on the trailer floor where these drums were located and the barrel surfaces were negligible. The smear result on the floor and average barrel readings were 432 and 36 dpm/100 cm² respectively. Available solutions from both barrels were collected, dried, and counted. The resultant readings on the liquid from the two barrels were 0 and 1 dpm/100 cm².

Rio Algom is instituting several measures to prevent such occurrences from happening in the future. These measures are listed below.

1. The HDPE liners or drums that contain these liners will not be used in the shipping of barium sulfate material;
2. Snow and ice will be removed from the barrel lids prior to loading the material into the exclusive use trailers;
3. A pliable, polyethylene drum liner will be used to ensure that liquid within the sludge does not leak into the barrel;
4. All barrels will be inspected to ensure each is suitable for carrying the barium sulfate sludge. Barrels with potential corrosion problems will not be used in the transportation of the byproduct material.

Rio Algom believes these actions will alleviate future occurrences of liquid leaks, both radioactive or non-radioactive. If you have any questions or need further information please call me at (405) 842-1773.

Sincerely,

Bill Ferdinand

Bill Ferdinand, Manager
Radiation Safety, Licensing
and Regulatory Compliance

xc: H. Whitacre\A. Gebeau\G. Trujillo
R. Luke\M. Freeman
L. May\D. Alberts\K. Holman
file

APPENDIX A

Removable Alpha - Smear Sample Results
Scintillation Alpha Counter

| <u>Sample #</u> | <u>Location</u> | <u>dpm/100 cm²</u> <u>Results</u> |
|-----------------|-----------------------------------|---|
| 1 | Trailer Floor by Drum #7 | 432 |
| 2 | Material From Drum #7 | 0 |
| 3 | Drum #7 Surface | 21 |
| 4 | Trailer Floor - Middle of Trailer | 64 |
| 5 | Drum #14 Surface | 50 |
| 6 | Material From Drum #14 | 1 |
| 7 | Trailer Floor - Front of Trailer | 37 |
| | <u>Average</u> | <u>86</u> |

Removable Alpha - Smear Sample Results
Pulse Rate Meter

| <u>Sample #</u> | <u>Location</u> | <u>dpm/100 cm²</u> <u>Results</u> |
|-----------------|-----------------------------------|---|
| 1 | Trailer Floor - by Drum #7 | 926 |
| 2 | Trailer Floor - lower right | < 100 |
| 3 | Trailer Floor - lower left | < 100 |
| 4 | Trailer Floor - middle of trailer | < 100 |
| 5 | Trailer Floor - upper right | < 100 |
| 6 | Trailer Floor - upper left | < 100 |
| 7 | Trailer Floor - upper middle | < 100 |
| 8 | Trailer Floor - upper right | < 100 |
| | <u>Average</u> | <u>< 203</u> |
| | <u>Overall Average</u> | <u>< 148</u> |