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Docket No. 40-8084
SUA-1119, Amendment No. 6
04008084510E

MEMORANDUM FOR: Docket File No. 40-8084

FROM: Gary R. Konwinski, Project Manager
Licensing Branch 2
Uranium Recovery Field Office, RIV

SUBJECT: AMENDMENT NO. 6 TO SOURCE MATERIAL LICENSE SUA-1119
FOR RIO ALGOM MINING CORP.

In compliance with License Condition No. 52, Subsection B of Source Material License SUA-1119, Rio Algom Mining Corp. submitted under cover letter dated June 6, 1985, water level data for selected wells and a map showing potentiometric contours. Water level data was submitted from 33 wells located around the tailings management system. Of the 33 wells one well was dry, one well showed no change in static water level, five wells had incomplete data and therefore could not be used in the evaluation, 10 wells showed a rise in water level and 16 wells showed a drop in water level.

The water level data as shown in Table 1 was submitted in accordance with License Condition No. 52B of SUA-1119. Similarly, the potentiometric contour map, as submitted by Rio Algom, accurately depicted this data. However, because of the ground water divide which exists at the site and the location of the seepage recovery system, the water level data from the above wells is of little value in assessing the overall site potentiometric surface. A more useful set of water level data points could be derived from existing wells near the area of seepage recovery. Such data as compiled in Table 2 are more meaningful for assessing changes in the ground water system. These wells are located in the area of the successful pumping well - OWUT-9. As indicated by data from these wells and as shown in Figure 1, a cone of depression has been created in the vicinity of the pumping well. Figure 1 also shows locations of wells

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TABLE 1 - GROUND WATER LEVELS IN THE AREA OF THE
TAILINGS MANAGEMENT SYSTEM

MONITOR WELL NO.	1984				1985		CUMULATIVE WATER LEVEL CHANGE 1/84-4/85
	JAN	APR	JUL	OCT	JAN	APR	
MW1	6515.2	6515.7	6515.5	6515.5	6515.0	6515.2	0.0
MW2	6515.9	6515.8	6515.7	6515.8	6515.1	6515.3	-0.6
MW4	6588.5	6588.8	6588.5	6588.4	6588.3	6588.2	-0.3
MW5	6573.8	6576.2	6576.8	6577.1	6578.0	6578.8	+5.0
MW6A	6514.5	6514.8	6514.9	--	--	--	--
MW7	6567.5	6567.4	6567.6	6567.6	6567.3	6567.4	-0.1
MW8	6568.3	6568.2	6568.3	6563.6	6569.0	6569.1	+0.8
MW9	6566.9	6568.0	6568.4	6568.9	6569.4	6569.8	+2.9
MW10	6567.3	6569.2	6569.5	6570.2	6570.9	6571.3	+4.0
MW11	6514.4	6514.6	6514.7	6514.6	6513.8	6514.1	-0.3
MW12	6514.3	6515.3	6515.1	--	--	--	--
H10	6702.4	6701.2	6699.0	6698.3	6707.8	6711.3	+8.9
H38	6627.6	6627.5	6627.0	6627.2	6627.0	6626.6	-1.0
H48	6589.7	6589.6	6587.3	6589.5	6589.3	6589.4	-0.3
H49	6562.5	6562.5	6561.2	6561.6	6561.7	6561.7	-0.8
H55	6553.0	6553.0	6585.5	6585.0	6584.6	6584.3	+31.3
H56	6588.0	6586.9	6587.9	6587.6	6587.5	6587.0	-1.0
H71	6535.0	6526.5	6510.1	6505.7	6508.2	6509.4	-25.6
H72	6563.9	6564.0	6564.9	6563.7	6563.3	6563.5	-0.4
H73	6513.2	6511.6	6513.9	6513.9	6513.1	6504.1	-9.1
H77	6581.4	6581.6	6581.6	6581.8	6581.5	6580.8	-0.6
H78	6578.6	6579.4	6580.1	6581.4	6580.7	6581.2	+2.6
D3	6541.1	6542.1	6542.0	--	--	--	--
D10	6514.0	6515.4	6518.9	6518.8	6515.0	6515.2	+0.2
DM80-1	6555.3	6553.2	6552.8	6552.9	6552.7	6547.5	-7.8
DM80-2	DRY	DRY	DRY	DRY	DRY	DRY	--
DM80-3	6492.2	6492.5	6493.4	--	--	--	--
DM80-4	6495.4	6495.8	6492.6	--	--	--	--
RW1	6553.0	6581.0	6579.7	6580.5	6580.0	6580.0	+27.0
RW2	6580.8	6580.8	6581.6	6581.2	6581.0	6581.0	+0.2
GW17	6588.2	--	--	--	6585.2	6584.9	-3.3
GW19	6590.3	--	--	--	6587.3	6588.4	-1.9
GW20	6587.2	--	--	--	6583.4	6584.7	-2.5

Source: Rio Algom Mining Corp., June 6, 1985 submittal

TABLE 2 - GROUND WATER LEVELS IN THE VICINITY OF
WELL OWUT-9

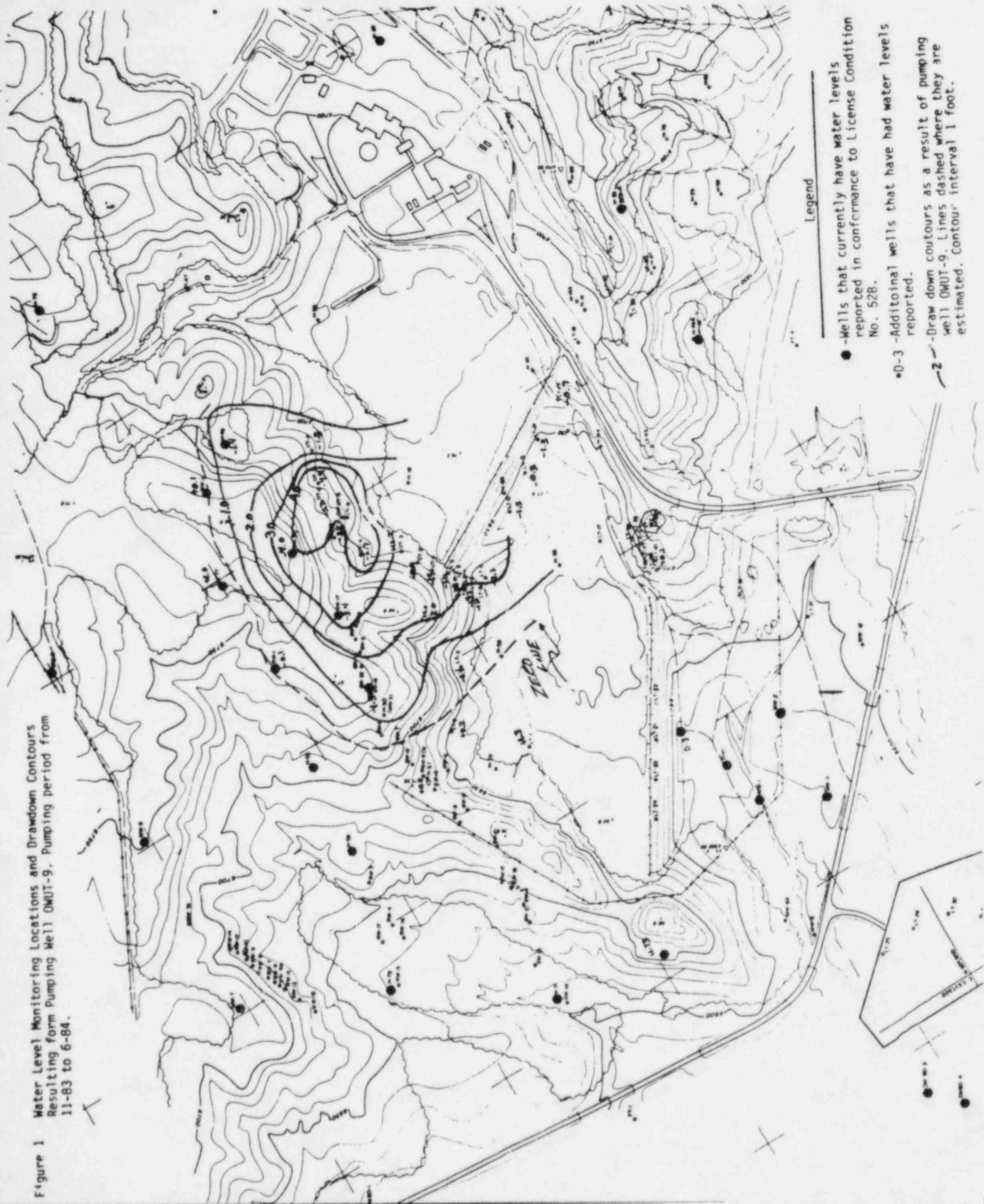
Well No.	Nov 1983	Feb 1984		June 1984	
	Depth (ft)	Depth (ft)	Change (a) (ft)	Depth (ft)	Change (a) (ft)
GW-17	146.01	147.80	-1.79	149.40	-3.39
GW-19	154.40	154.81	-0.41	155.70	-1.30
GW-20	187.12	189.80	-2.68	191.15	-4.03
H-48	146.67	148.34	-1.67	148.09	-1.42
H-55	117.65	(b)	(b)	119.96	-2.31
H-56	86.10	(b)	(b)	90.48	-4.38
H-77	192.01	(b)	(b)	191.09	+0.92
LT-1	37.23	37.11	+0.12	35.92	+1.31
LT-2	47.21	47.42	-0.21	47.00	+0.21
LT-3	47.93	47.88	+0.05	48.30	-0.37
LT-4	98.35	99.00	-0.65	100.35	-2.00
LT-5	70.07	70.86	-0.79	71.67	-1.60
LT-6	62.94	68.35	-0.41	60.70	+2.24
LT-7	55.24	55.77	-0.53	56.66	-1.42
LT-8	45.10	46.10	-1.00	46.26	-1.16
LT-9	41.49	42.37	-0.88	42.59	-1.10
LT-10	66.69	66.65	+0.04	66.65	+0.04
LT-11	31.08	31.54	-0.46	31.29	-0.21
LT-12	27.15	28.11	-0.96	28.65	-1.50
LT-13	31.68	31.60	+0.08	31.95	-0.27
LT-14	41.01	41.86	-0.86	42.29	-1.28
LT-15	63.07	63.09	-0.02	63.79	-0.72
RW-1	164.81	(b)	(b)	164.95	-0.14
RW-2	199.79	199.50	+0.29	199.70	+0.09
UT-1	91.12	92.70	-1.58	92.91	-1.79
UT-2	93.62	98.84	-5.22	95.98	-2.36
UT-3	76.10	65.33	+10.77	63.90	+12.20
UT-4	104.35	109.87	-5.52	111.05	-6.70
UT-5	115.43	122.88	-7.45	124.20	-8.77
UT-6	128.60	133.81	-5.21	134.30	-5.70
UT-7	121.67	125.95	-4.28	126.56	-4.89
UT-8	102.07	104.52	-2.45	103.35	-1.28

(a) Change since the November reading. November data represent the approximate end of the long-term pumping test.

(b) Pumping as part of the old recovery system. No static measurement possible. Shut down June 5, 1984.

Source: Results of Additional Ground Water Investigations Conducted at the Lisbon Uranium Mill, July 1984.

Figure 1 Water Level Monitoring Locations and Drawdown Contours Resulting from Pumping Well OMUT-9. Pumping period from 11-83 to 6-84.



which routinely have their water level reported to the NRC. Because sufficient water level data beyond June 1984 is not available, the current extent of the cone of depression is unknown. Assessing the cone of depression by recording water levels in adjacent wells yields valuable information for understanding the ground water system at this site and should continue to be reported.

Based upon the above discussion and the lack of current water level data for the wells in the area of the Well OWUT-9, the staff concludes that Rio Algom Mining Corp. should continue to measure water levels in the wells listed in Table 2. The staff further concludes that water levels from Wells H-18, UT-9, H-26, GW-21, GW-8, H-47, GW-23 and H-57 would add valuable data to determining the extent of the cone of depression developed by Well OWUT-9.

Therefore, pursuant to Title 10, Code of Federal Regulations, Part 40, Source Material License SUA-1119 is hereby amended by revising Licensing Condition No. 52 to read as follows:

52. The licensee shall conduct an environmental monitoring program as specified in Section 5.5.6.1 and Table 5.5-5 of the renewal application with the following modifications:
- A. Radon monitoring shall be conducted continuously using passive monitoring devices which are exchanged and read at least quarterly.
 - B. The licensee shall implement a ground water monitoring and seepage control program as specified in the submittal dated September 21, 1984. In addition, the licensee shall collect and report water level data from the following:
MW Wells: 1, 2, 4, 5, 6A, 7, 8, 9, 10, 11 and 12;
H Wells: 38, 48, 49, 55, 56, 57, 71, 72, 73, 77 and 78;
LT Wells: 1 through 15; GW Wells: 17, 19 and 20;
RW Wells 1 and 2; UT Wells 1 through 8; D Wells 3 and 10;
and DM Wells 80-1, 80-2, 80-3 and 80-4.
 - C. The licensee shall implement a surface water monitoring program as specified in the submittal dated September 21, 1984. In addition, sediment samples shall be collected at the surface water sampling sites.

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- D. The lower limits of detection (LLD) to be utilized for sample analysis shall be as specified in the submittals dated September 29 and December 16, 1984, with the exception that the LLD for analysis of Pb-210 in water shall be 2.0 E-9 uCi/ml .
- E. Continuous air samplers shall be calibrated and the calibration documented at least quarterly.

/s/ -
Gary R. Konwinski, Project Manager
Licensing Branch 2
Uranium Recovery Field Office, RIV

/s/ -
Approved by:

Harry J. Pettengill, Chief
Licensing Branch 2
Uranium Recovery Field Office, RIV

Case Closed: 04008084510E

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