

GIANT YELLOWKNIFE MINES LIMITED
YELLOWKNIFE, N.W.T.

Confidential

MEMORANDUM

To: WAC cc File #
From: W. R. S. Met
Subject: Soluble Arsenic Survey

Date: June 30/67
Ref: _____

SOLUBLE ARSENIC IN WATER SUPPLY.

A study has been made of Baker Creek and the Yellowknife river with respect to arsenic content.

The Engineering Dept measured the flow and sampled the water at the following points, on 15 June 1967.

	FLOW cu. ft/sec	ARSENIC p.p.m.
1. Baker Creek 1600 ft upstream of Bow Lake.	36.35	0.123
2. Outflow from Tailings dam to Baker Creek	0.665	16.84
3. Concentrate Wash Thickener overflow	0.465	0.450
4. Mine drainage water	0.555	6.43
5. Baker Creek at "A" Boiler house	37.80	0.765
6. Bow Lake overflow to Yellowknife river	1.100	78.08
7. Bow Lake to Yellowknife river, leak in dam.	0.035	74.02
8. Yellowknife river at highway bridge.	3800.00	.011
9. Mill waste & Tailings pond, averaged 1 Jan - 31 May 1967.	1.90	51.56

The Flow balance at Bow Lake is as follows: —

Flow into Bow Lake, #7 = 1.90 cu. ft per sec.

Flow out of Bow Lake, #2 = 0.665 " " "

#8 = 1.000 " " "

#8a = 0.035 " " "

Total = 1.700 " " "

Difference = 0.200 " " "

cont'd

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The Arsenic Balance ^{for Bow Lake} is as follows: —

Soluble Arsenic to Bow Lake, #7 = 563 lbs As per day.

<u>Arsenic out of Bow Lake</u>	#2	=	60.28	✓	✓	✓	✓
	#8	=	467.28	✓	✓	✓	✓
	#8a	=	13.91	✓	✓	✓	✓
	Total		<u>541.47</u>	✓	✓	✓	✓
	Difference		21.53	✓	✓	✓	✓

The flow balance for Baker Creek is as follows: —

<u>In to Baker Creek</u>	#1	=	36.350	cu. ft per sec
	#2	=	0.665	✓
	#3	=	0.465	✓
	#4	=	<u>0.555</u>	✓
	Total		<u>38.035</u>	✓

<u>Out of Baker Creek</u>	#6	=	<u>37.800</u>	✓
Difference			<u>0.235</u>	✓

The Arsenic Balance for Baker Creek is as follows: —

<u>In to Baker Creek</u>	#1	=	24.105	lbs As per day
	#2	=	60.276	✓
	#3	=	1.128	✓
	#4	=	<u>19.240</u>	✓
	Total	=	<u>104.749</u>	✓

<u>Out of Baker Creek</u>	#6	=	<u>155.295</u>	✓
Difference	=	<u>50.546</u>	✓	✓

cont'd

