



**Royal Oak
Mines**

MEMORANDUM

To: Graham Eacott
From: Larry Connell
Date: July 21, 1997
Subject: Canadian Press Article on Arsenic in Yellowknife

The amount of arsenic trioxide stored underground at the Giant mine is in the order of 250,000 tons not the 3,800 tons quoted in the Canadian Press Article. This material is not stored in barrels or drums U/G. It is not hauled or stored in horizontal drifts as indicated. The material is stored in bulk in storage vaults specifically designed for the storage of this material. The vaults are equipped with hydrostatic bulkheads to isolate them from the surrounding mine workings and any groundwater. The area around the vaults is kept dry by lowering the groundwater table by pumping. Any groundwater pumped from the mine is treated through a treatment plant to remove soluble arsenic before being released to the environment. The material is pneumatically transported to the vaults with all excess conveying air being returned for filtration to the surface

To put things in perspective the amount of arsenic trioxide released from industrial sources into the air annually in Canada is 132,000 metric tons so the amount stored U/G is equivalent to 1.7 years of the amount of arsenic trioxide released from industrial sources into the air in Canada. Why is Canada not dead using the logic attributed in the article. The source of the 132,000 tonnes per year figure is Environment Canada's National Pollutant Release Inventory report.

The
Edmonton **Journal**
A Southam Newspaper

10006 • 131 Street
Edmonton, Alberta T5J 0S1
Telephone (403) 429-5100

Newsroom
Fax Transmission
Fax Number (403) 429-5500

Date: July 18/97

Attention: Stephen Eacott's Secretary

Company Name: Royal Oak

Fax Number: _____

From: Roy Wood Telephone: 403-498-5668

Number of Pages (Including Cover Page): 3

Comments: Re: our conversation

Mailing Address
Box 2421
Edmonton, Alberta T5J 2S6

Canada

Arsenic fears raised at Yellowknife hearings

BOB WEBER
The Canadian Press

Yellowknife

Long used to small amounts of arsenic in the air they breathe, Yellowknife residents are increasingly concerned about an underground mountain of it beneath their feet.

About 3,800 tonnes of highly toxic arsenic trioxide is stored in unused tunnels in the Giant gold mine just outside this northern city.

Yellowknife residents told federal environmental and health officials this week they feared the highly soluble chemical could leach into local creeks and Great Slave Lake, ultimately poisoning humans.

"We have enough arsenic

**"We have enough
arsenic stored
underground to kill the
entire planet ..."**

— Ron Kent

stored underground to kill the entire planet and that is the issue that needs to be discussed here," Ron Kent told the panel.

The hearing was convened to discuss ways to cut the 30 kilograms a day of arsenic that puffs out Giant's smokestack.

But even panel members admitted airborne arsenic isn't a major health risk in Yellowknife. Instead, speaker after speaker from the floor

brought up the huge underground stockpile.

"We want to keep a focus on the arsenic trioxide stored underground because that is a large potential risk," said Elaine Berthelet of the Canadian Public Health Association.

Health Canada says arsenic can cause cancer.

Arsenic dust is one of the byproducts of extracting gold from gold ore. At Giant mine it is put in barrels and hauled to mined-out horizontal shafts, or stopes, which are sealed with a concrete plug, said Ed Collins, chief environmental engineer with Environment Canada.

Giant is the only operating mine in Canada with such a stockpile. The storage is safe as

long as the tunnels remain stable and the mine keeps pumping out and treating water that leaches down its shafts, Collins said.

If the mine flooded, arsenic would inevitably find its way into Great Slave Lake, he said.

The original plan counted on permafrost to seal the stopes from groundwater. But Collins said no studies were done to find out if there was permafrost in the area.

Royal Oak Mines, Giant mine's owner, is currently conducting these studies as a requirement for the renewal of one of its operating permits.

Giant's water licence expires in 1998. Hearings on its renewal are expected in the fall.



Mc

127