

**MEMORANDUM**

TO: Phil MacIntyre  
Mill Superintendent

FROM: Erik Madsen  
Environmental Superintendent

DATE: October 16, 1995

RE: **REQUEST FOR ARSENIC INFORMATION - ENVIRONMENT CANADA**

From our meeting of October 13, 1995, Environment Canada has requested that we provide them with some information, which I assume they will forward on to the committee that is conducting the "Regulatory Impact Analysis".

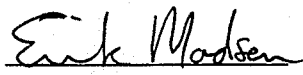
They have requested that we provide them with this information within 30 days or sooner if possible. It should be noted that a considerable amount of this requested information has already been submitted to Government in various other forms (ie. licence renewals).

However, in order to put this information package together, I will need some assistance from your department with a few of their requests. These are the areas that deal mainly with the operations of the roaster, any costs you can dig up regarding installation of equipment, and description of any emergency systems in place.

In reviewing the attached list, it appears that the areas in which I will require your assistance with are numbers 2, 3, 6, as well as the attached table. I will put together the remainder of the information/maps.

It would be appreciated if you could forward the information/data to me by November 8, 1995, so that I can compile the information into one package to submit to them.

Thank you for your assistance Phil, call me at 136 if you have any questions.

  
Erik Madsen

c.c. J. Stard

# INFORMATION REQUEST FOR ARSENIC

Include as to  
Boysen's cleaning

1. A general description of Royal Oak Giant Mine including the milling, roasting and smelter operations, a legal description of property owned and operated by Royal Oak Giant Mine in Yellowknife, NWT, and a surface map indicating property boundaries.

→ 2. A detailed description of the entire air emission control system including operating temperatures, pressures and actual volumetric flow rates expressed in degrees Celsius, millimetres of mercury and cubic meters per hour, expressed at normal conditions (0°C, 1atm)

→ 3. Actual installed capital cost of all emission control equipment described in (2), year of installation, and actual operating costs (including labour and maintenance) of all emission control equipment presently installed to control air emissions.

4. Description of any emission monitoring programs presently in place.

to find out if there is any

Phil, whatever you  
people do here? Or is  
sampling done once  
a year

5. Description of any environmental monitoring or investigative studies presently funded and operated by Giant Mine in order to determine the fate or accumulation of arsenic or arsenic compounds in the receiving environment in the geographic vicinity of Royal Oak Giant Mine in Yellowknife, NWT. (Dillon report)

1) Stack sampling  
(once/year)  
2) Joint study - Giant  
modeling

→ 6. Description of any emergency systems or programs in place in order to detect operational disturbances or failures in the process or air emission control systems or equipment presently in place at Royal Oak Giant Mine.

→ 1) Contingency plan (old one had something)  
2) mill must have a plan

5.) a) Giant + Giant joint  
dispersion model

6.) Emergency system or program  
in place  
1) alarms  
2) flow tanks

1) - Description site + milling, roasting + smelter  
- Legal description of property owned in Yellowknife.  
- Surface map → boundaries → 5-92-1

3) Equipment  
- Vent control  
- big spills

2.) What Phil gave me

3.) - all costs were attributed to milling costs as a  
whole ∴ very difficult to breakdown actual costs  
of each change

4.) - Emission monitoring programs presently (1/year). However, anyone  
is looking at  
SO<sub>2</sub> continuous.  
Presently, there is no continuous  
as mine

• Copies of map  
S-92-1

•

7. A material balance for arsenic including the quantity and concentration of arsenic or arsenic compounds released from Giant Mine roaster stack. Please complete the following Table.

TABLE - Arsenic Material Balance:

ROASTER INPUT

Feed Rate (Tonnes/hr)	
Arsenic Concentration (%)	

ROASTER OUTPUT PRODUCT

Product (Tonnes/hr)	
Arsenic Concentration (%)	

ROASTER FLUE GAS

Flow Rate (Nm <sup>3</sup> /hr)	
Arsenic Concentration of Dust (%)	
Arsenic Concentration (mg/Nm <sup>3</sup> )	

MATERIAL COLLECTED

Quantity (kg/day)	
Arsenic Concentration (%)	

MATERIAL STORED

Quantity (Kg/Day)	
Arsenic Concentration (%)	

MATERIAL RELEASED FROM STACK

Quantity (Kg/Day)	
Arsenic Concentration of Dust (%)	
Arsenic Concentration (mg/Nm <sup>3</sup> )	