

To Z. Kowal

Date June 9, 1977

From J. Wojakowski, Falconbridge, Sudbury

Ref.

Subject My Visit to Giant Yellowknife Mines Limited on June 6 - 9, 1977

The main purpose of my visit was to:

1. Determine if the Giant's ventilation laboratory and survey equipment is adequate for dust surveys
2. Explain the Falconbridge Nickel Mines, Sudbury Operations air survey procedures.
3. Explain the personal gravimetric samplings procedure.

In addition to this I was asked for opinions regarding some dust problems underground and on surface.

1. The lab room is not ready yet but if built as planned will be adequate. The lab equipment is as required, I suggest that a second konimeter is purchased. In addition a finger operated digital counter should be bought to assist in counting.

The ventilation engineer, Joseph Stachulak is familiar with Konimeter sampling, slide processing and counting techniques. The slide was prepared by him for sampling and samples were taken on June 7 in the "A" Shaft area (3-69 Decline with scooptram, and A3-69 West Stope). The slide was processed and dust counts will be included in his report.

2. The F.N.M. Sudbury operations dust survey procedures were explained. One set of ventilation survey forms was given to the Chief Engineer, Mr. Z. Kowal and another one for Mr. Stachulak. I recommend that the forms be used as they provide a good record of air conditions and proved to be adequate for all governmental and internal statistics. One copy of instruction how to use the forms (by M.J. Howes) was left with Mr. Kowal.
3. The gravimetric sampling procedures in Sudbury Operations were outlined to Mr. Stachulak and Mr. K. Morton, the Mill Superintendent. The Giant's Mill has the Bendix instrument which uses the 37 mm dia. filters which cannot be used for the X-ray diffraction analysis. I recommended that they use the Bendix pump but acquire the Simpeds or the Campeds sampling head and use the 25 mm silver membrane filters. These filters may be used for the X-ray diffraction analysis. To make their own chemical analysis of dust over 2 g. of dust sample is required. For that purpose the "Staplex" high volume gravimetric sampler should be used with the attachment for the 8" x 10" filters. Two copies of the Gravimetric Sampling Policy & Procedures by MAPAO and the F.N.M. survey forms were left with Mr. Kowal.
4. High dust levels are experienced in the crusher station on surface. A quick inspection indicated two areas of the problem:

- A. Poor dust filtration due to punctured dust collecting bags of the SLY dust collector (the filtered air is recirculated back to the crusher station). The bags should be replaced with new ones as soon as possible. (sk)
- B. Ineffective dust pick-up in working areas, which is a complex problem (too complex to be recognized in detail during a short visit) and which will require several months and large expense to implement improvements.

Two suggestions are here presented which may bring relief to the crusher operators. The first is to equip the men with special hard hats manufactured by the Racal Co. in the United States (at a cost of + \$300 each). The Racal hat has built in small filters and a fan and provides the worker with almost 100% clean air. The hat is only a few ounces heavier than an ordinary hat. Second, an enclosure with an independent clean air supply could be installed for the operator in the crusher's control area, thus isolating the operator from dusty atmosphere. Such installations are being used with great success in the Sudbury mines (rock breaker and loading pocket areas). The men should be required to wear dust masks while being outside the enclosure.

Improvements to the ventilation system could be arranged in three areas of the crusher station and could be arranged separately or simultaneously.

- A. Isolate the jaw crusher and it's conveyors from the rest of the station by erecting enclosures and brattices.
 - B. Isolate the conveyor galley from the station by erecting a brattice. sk
 - C. Design a system of hoods on top of each cone crusher and its feed conveyor. The hoods in addition to the present dust pick-ups should alleviate the dust problem considerably.
 - D. Provide fresh air supply to areas where the operator spends most of his time (clean up areas, controls, etc), in the form of an air shower.
5. The Supercrest area from 12080 Decline to 750 Level was inspected on June 7th in the afternoon. The problem of poor visibility in this area is attributed to condensation of water vapour in the slowly ascending air from the 1100 Level. It was noticed however that some noon time blasting in the 'B' Shaft area may aggravate this problem by decreasing the visibility even further due to contamination of all this area with blasting fumes.

WJ:jc

J. Wojakowski
J. Wojakowski
Falconbridge Nickel Mines Limited.
Sudbury, Ontario.