

MEMORANDUM

To: John Stard
Mine Manager - Giant

From: Erik Madsen
Superintendent Environmental Services

Date: March 4, 1996

RE: CONTINUOUS EMISSION MONITORING SYSTEM - SULPHUR DIOXIDE

At a meeting held last week with the Deputy Minister of Renewable Resources and the Deputy Minister of Energy Mine and Petroleum it was discussed that a "draft" Regulation for Sulphur Dioxide Emissions were just around the corner. Expect this draft to be released this spring or summer for consultation.

There has already been discussion that the Regulation would require a continuous monitoring system. Presently, we do not have a continuous monitoring system instead we contract out stack sampling. Over the last few years sampling for sulphur dioxide and arsenic from the stack have only been done once a year. The last set of sampling cost approximately \$8000.00 and took two days.

Sampling once a year does not provide a very good statistical representation of what emission levels are exiting the stack, especially since we operate 365 days a year. With Regulations coming into effect, a continuous monitoring system should be purchased and installed this year to obtain better accurate numbers of what the emission rates are.

It should be noted that this system only measure Sulphur Dioxide and does not measure arsenic. There is currently no proven continuous monitoring system for arsenic. Therefore, sampling for arsenic will still have to be done manually.

Two different suppliers have been contacted that supply such systems, they are 1) Rosemount Instruments and 2) AEM Systems. Both of these suppliers were basically in the same ball park range for purchasing, installation, and training.

The cost of this project will be approximately \$84,000.00 broken down as follows:

Purchase of Hardware from Supplier	\$50,000.00
Software Package for System	\$10,000.00
Commissioning Assistance and Training	\$20,000.00
Contingency (5%)	\$4,000.00
Total	\$84,000.00



Erik Madsen
Superintendent Environmental Services