

Our File: 50-0601-41

August 1, 1995

Royal Oak Mines
Giant Mine Site
P.O. Bag 3000
YELLOWKNIFE NT X1A 2M2

Attention: David Anthony

**Air Dispersion - Mechanical
Feasibility Study**

Dear Mr. Anthony:

Dillon is pleased to submit our proposal to provide engineering services related to the above project. From our discussion on July 26, 1995, we understand the scope of work to be as follows:

- Complete an assessment of the feasibility to make hardware changes to the mill process in order to effect the air dispersion of the stack emissions. In particular, four scenarios are to be evaluated:
 - Increase stack flow rate
 - Increase stack emission temperature
 - Increase stack velocity by reduction in stack diameter
 - Increase stack height.
- Identify alternate bag types to be used in the bag house to reduce arsenic emissions.
- Complete order of magnitude cost estimates for each scenario. Cost estimates will be completed for 3 levels of change for each scenario (e.g., 50°C, 100°C, and 150°C increase in temperature). The levels to coincide with the values shown in the previous report.

We understand that this work, to be completed for Royal Oak, will be used to complete further ambient air modelling. The modelling will not form part of this assignment.

To complete this assignment, we will require a walk through tour of the mill operations accompanied by the Mill Superintendent (or designate). We anticipate this to take place between August 16 and 18th, 1995.

The development of the systems to achieve the desired changes will be completed subsequently. We understand that Royal Oak requires the reporting for this project to be submitted 4 weeks after the project award date. We will endeavour to meet this schedule, and envision the end product to be a Letter Report.

Personnel

For this assignment, we have selected a team of professionals to meet the technical requirements of the project.

Mechanical

Don Allen, P.Eng.
Project Engineer

Mr. Allen is an Intermediate Mechanical Engineer in our Yellowknife office. He will be responsible to complete the mill inspection, develop the hardware requirements required to change the emission characteristics, and develop the cost analysis.

Craig Forsyth, P.Eng.
Mechanical Advisor

Mr. Forsyth has over 15 years' experience in process analysis and design, and is located in our Winnipeg office. He will review Don's work, and provide technical assistance throughout all aspects of the work.

Ambient Air Modelling

Ron Hillburn

Mr. Hillburn will be available to our team to discuss the expected impacts on the ambient air from the change in the process.

As requested, we will complete this assignment on a time and material basis. The following will be the hourly rates for the project staff:

Craig Forsyth, P.Eng.	\$85
Don Allen, P.Eng.	70
Ron Hillburn	80

Based on the defined scope of work, the estimated hours for each staff member are shown below:

	CF	DCA	RH	Support Staff
	\$ 85	\$ 70	\$ 80	
Investigation		8		
System Development	10	20	20	
Costing/Report	10	40		10
	\$1,700	\$ 4,760	\$ 160	\$ 650

...continued...

DILLON

Royal Oak Mines

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July 31, 1995

Disbursements are estimated to be in the order of \$800. The total project cost is estimated to be \$8,000.

One invoice will be submitted with the final report. The invoiced amount will be the number of hours billed by each staff member multiplied by their appropriate hourly rate.

We trust this meets your approval.

Yours truly,

M.M. DILLON LIMITED

A handwritten signature in cursive script, appearing to read "Wattis, for", written over the printed name of Gary Strong.

Gary Strong, P.Eng.,
Regional Manager

GS:cl

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