

**COVER SHEET - FACSIMILE TRANSMISSION**

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NUMBER OF PAGES 2 PLUS COVER

DATE: 28 March 1995

**TO:** Ron Hilburn - HUM Scientific  
Susan Eyre - Dillon  
**cc:** Dave Anthony Royal Oak Mine

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**SUBJECT: HUM Report**

Attached are comments from Renewable Resources' and Royal Oak's review of the report.

This Report, and the Final Report, should have been reviewed by Dillon and be issued under Dillon's letterhead as the prime contractor.

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March 24, 1995

**REVIEW COMMENTS - AIR DISPERSION MODELLING REPORT**

The following are comments from Royal Oak and Renewable Resources.

- The Report should be coming from Dillon, the prime contractor. Correct the spelling of Royal Oak on the cover page.
- Dillon are the prime contractor. Where is their presence. Did they review this? Have they approved this?
- The top left hand corner refers to Royal Oak Mines Final Report. This is a joint report and should be referred to in that manner. Remove that from each page or reword. Possibly refer to the report being prepared for Royal Oak and Renewable Resources on the cover page.
- Typos on page 1: emmitted and biulding.
- Section 2.2, second paragraph: The lower value of 30 kg/day was used in the initial models runs. Explain why this was done.
- Section 2.4: The initial reference to mb should be millibars.
- There are three items running through the report that need clarification:
  - 1) Arsenic is not measured at City Hall. It is on the rooftop of a building near it in downtown Yellowknife. References to this should be changed.
  - 2) Total arsenic and  $As_2O_3$  are used interchangeably throughout the report. This not only results in confusion but also are the numbers stoichiometrically correct?
  - 3) The guldelines are not provincial, they are territorial. In section 4.2 they are not proposed, they are established.
- Section 3.1: Confusion in the first paragraph.

The first sentence of the second paragraph is confusing to us lay people and we wonder if it is correct. It requires rewriting for clarity.
- Section 3.4: This is where the confusion with arsenic starts.

Page 9: The Ontario standard is total arsenic. The next paragraph refers to "arsenic". The next paragraph on page 10 refers to total arsenic. Bring in consistency.

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Page 9 & 10: References are made to arsenic being measured at City Hall. It is at a nearby location.

The last sentence on page 9 refers to particulate deposition runs not available but being included in the final report. This will be removed as an oversight.

As per our March 28 discussion, a sensitivity analysis will be run for SO<sub>2</sub> at an emission rate of 35 tonnes per day.

Page 11: A map would be beneficial to indicate the areas exceeding the values in relation to area features such as Yellowknife.

- Section 5.0: The sensitivity analysis relates to Sulphur Dioxide only. Either comment that arsenic was not done or retitle Section 5 as Sulphur Dioxide Sensitivity Analysis.
- Section 5.1: The second paragraph inaccurately refers to 65 X 10 (wrong script) kg/hr (should be kg/day).
- Table 5.1: Equate the mass emission rate of g/s to kg/day. This can be done in a footnote that 752.3 g/s equals 65 X 10<sup>3</sup> kg/day.
- Section 5.4: Amend the stack height to meters to be consistent. Spell guideline properly.
- Section 6: Remove. While Task 9 of the RFP calls for assessment of air pollution control options, this should be separate from the report, possibly in the letter of conveyance.
- Section 7: Rename to "Conclusions".

This section omits a number of the conclusions. The conclusions should reflect the results of the modelling work not how to meet the air guidelines. Points that should be included are:

- As described on page 11, the areas using the base model, which are predicted to exceed the NWT guideline and Ontario arsenic guideline.
- A few sentences summarizing the findings of the SO<sub>2</sub> emission reduction and stack discharge parameter variations.

In the second paragraph, the mass emission rate of SO<sub>2</sub> can be regularly checked "through either the installation of in-stack continuous monitoring devices or by"...

Remove the last paragraph on page 21.