



Energy, Mines and  
Resources Canada

Énergie, Mines et  
Ressources Canada

# CANMET

Canada Centre for  
Mineral and Energy  
Technology

Centre canadien de la  
technologie des  
minéraux et de l'énergie

**Mining  
Research  
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minière**

**“Remarks At The Dedication Ceremony (On The  
Compact Underground Boring Machine (CUB))”  
Scarborough, Ontario, November 9, 1989**

**John E. Udd With  
Background Information by N.R. Billette**

MRL 89-112(OP)

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Canmet Information  
Centre  
D'information de Canmet

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555, rue Booth ST.  
Ottawa, Ontario K1A 0G1

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Presented at Howden Group Canada, Scarborough, Ontario,  
November 9, 1989.

Good afternoon ladies and gentlemen, it is a pleasure to have been invited to be here at the dedication ceremony for the Compact Boring Machine and to have been asked to say a few words on behalf of the Canada Centre for Mineral and Energy Technology, or CANMET as we are usually known. A part of our mission as a Government of Canada Technology Centre is to perform and participate in research in partnership with our clientele in order to enhance the competitiveness of the Canadian minerals industry. The CUB project has been a perfect example of industry, equipment manufacturers and government all working together in concert in order to achieve a common objective - the development of a tunnel boring machine which can be used in hardrock metal mines.

Boring machines have been in use for some time in the soft-rock part of the industry. Until the present, however, the technology has not been available to permit an economical application of the tunnel boring concept to hard rock mines. The potential advantages are very great and include; more rapid and safer access to underground deposits and workings; openings which are more stable because the rock has not been shattered by blasting; and greater efficiency through increased equipment mechanization.

Likewise, the potential benefits to Canada as a nation are equally great. There is now emerging the development of a mining equipment manufacturing capability in this country. Heretofore, a lot of the equipment used in our mines has been imported from abroad. By encouraging the development of newer and better machines in Canada, we create, not only a healthier and more competitive industry but also knowledge and jobs for Canadians.

For all of these reasons, the Government of Canada, through CANMET and the NRC-IRAP program have been delighted to have been involved with this project. The other partners, as you know, have included: Falconbridge Ltd, as the Project Manager; Borettec, as the designer; Brown Boveri Howden, as the manufacturer; Redpath, as an operator; and Placer Dome as a further mining industry partner. The total cost has been of the order of \$5 million.

In the next stage of the project the machine will be used to drive 3000 m tunnels at three mines; Falconbridge Fraser Mine, near Sudbury, and the Kidd Creek Mine, near Timmins and at the Kiena Mine, near Val D'Or. The entire hard rock industry will be keenly awaiting the news of the success. We wish you all the best of success and mention again how pleased we are to have been associated with this.

Bien á vous!

## CUB INFORMATION

### 1. CONTRACT PARTNERS

- (a) Falconbridge Ltd., project management
- (b) Borettec Inc., designer
- (c) Brown Boveri Howden, manufacturer
- (d) Placer Dome, partner
- (e) Redpath Inc, operator

### 2. PROJECT COST FOR BUILDING THE MACHINE & 3000 m DRIVES IN THREE MINES: SUDBURY (FRASER MINE), TIMMINS (KIDD CREEK), VAL D'OR (KIENA).

- (a) Total \$4,919K (estimate)
- (b) IRAP contribution \$982K
- (c) Partners contribution \$3,937K

### 3. GOVERNMENT CONTRIBUTION FOR

- (a) 1/3 materials (for CUB): \$378K
- (b) 1/2 Engineering: \$275K
- (c) 1/2 Contract labour: \$304K

### 4. REASONS FOR INVOLVEMENT

- (a) Risk to consortium lessened
- (b) Canadian technology development

- (c) Long term job creation (if successful)
- (d) Few competitors worldwide
- (e) 80% plus Canadian content
- (f) High exportation potential

## 5. IMPLICATION FOR MINING INDUSTRY

- (a) Faster access to mine zones with high prospecting potential
- (b) Opportunities to profitably access and mine presently uneconomic zones during mineral/metal high value cycle
- (c) Underground access to zones with mineral potential with difficult surface
- (d) Equipment availability for specific application (long exploration drives)
- (e) Direct access to information about formations & rock quality for better/safer mine design
- (f) Potential automation to reduce operating costs

## 6. IMPLICATION FOR CANADIANS

- (a) Healthier mining industry with better competing ability
- (b) Job creation for high skilled labour in

manufacturing

- (c) Better knowledge of Canadian shield geology and structures
- (d) Increased involvement in heavy machinery development and manufacturing



