



**Western Copper  
Corporation**

**Project Proposal**

**Carmacks Copper Project  
Yukon Territory**

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**Appendix G2**

**EBA Engineering Consultants Ltd.,  
Preliminary Review of Existing Information  
Waste Rock Dump (April 2006)**

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April 19, 2006

EBA File: 1200133

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Attention: Mr. Dan Cornett

**Subject: Preliminary Review of Existing Information - Waste Rock Dump  
Carmacks Copper Project, near Williams Creek, YT**

EBA Engineering Consultants Ltd. (EBA) has completed a preliminary review of the available materials describing the geotechnical aspects of the previous design work on the waste rock dump at the subject site. Information in the "Proposed Carmacks Copper Mining Project: Yukon Environmental Assessment Act (EAA) Additional Information Requirements" for the Carmacks Copper Project as outlined in the December 16, 2005 letter from the Yukon Government (YTG) has also been reviewed.

This preliminary review has been completed to address whether it is possible to relocate/realign the waste rock dump away from the permafrost and potentially thaw unstable foundation soils at the dump's current location.

Preliminary review of available materials on the waste rock dump design included;

- Western Copper Holdings Limited, *Western Copper Holdings Limited, Carmacks Copper Project, Report on Waste Rock Storage Area – Evaluation & Detailed Design*, June 1997
- Knight Piesold Ltd., *Western Copper Holdings Limited, Carmacks Copper Project, Report on Detailed Design of Waste Rock Storage Area (Ref. No. 1785/2)*, May 1997
- Knight Piesold Ltd., *Western Copper Holdings Limited, Carmacks Copper Project, Report on 1996 Geotechnical and Hydrogeological site Investigations (Ref. No. 1784/1)*; June 1996
- Hallam Knight Piesold Ltd., *Western Copper Holdings Limited, Carmacks Copper Project, Report on Terrain Hazards Mapping*; October 1995
- Knight Piesold Ltd., *Western Copper Holdings Limited, Carmacks Copper Project, Report on Stability of Waste Rock Storage Facility (Ref. No. 1783/4)*; October 1995
- Knight Piesold Ltd., *Western Copper Holdings Limited, Carmacks Copper Project, Report on Detailed Design Criteria (Ref. No. 1783/2)*; October 1995
- Knight Piesold Ltd., *Western Copper Holdings Limited, Carmacks Copper Project, Report on Preliminary Design (Ref. No. 1783/1)*; May 1995
- Knight Piesold Ltd., *Western Copper Holdings Limited, Thermal Exploration Company, Williams Creek Project, Joint Venture; Report on 1992 Surficial Geotechnical Investigation (Ref. No. 1782/4)*; May 1993

- Knight Piesold Ltd., *Western Copper Holdings Limited, Thermal Exploration Company, Williams Creek Copper Oxide Project, Joint Venture; Report on Conceptual Layout of Mine (Ref. No. 1781/1);* January 1992.

## 1.0 REVIEW COMMENTS

Geotechnical investigations completed in 1992, 1995, and 1996 provide general geotechnical conditions within a 500 m to 1000 m radius of the open pit location. These investigations indicate the presence of permafrost throughout this area. With the exception of geotechnical boreholes drilled at the heap leach facility and water storage dam site, the type and condition of the permafrost encountered is limited to shallow testpit logs. The results of these investigations indicate that the permafrost conditions are fairly consistent throughout the investigated area, sometimes containing excess ground ice.

Additional potential waste rock dump sites could be located outside the previously investigated area further away from the open pit; however, preliminary review of the air photos indicates no significant surficial material changes. Therefore, permafrost should be anticipated at any new potential dump site close to the existing one.

## 2.0 CONCLUSIONS

Review of the existing data does not indicate that it is possible to relocate/realign the waste rock dump away from the permafrost and potentially thaw unstable foundation soils at the dump's current location within the previously investigated area. Given the placement of the other structures and the topography of the area around the open pit, it is concluded that the current location of the waste rock dump is the optimal location within this area.

Additional geotechnical investigations would be required to determine the subsurface conditions at any additional potential dump sites located outside the 1000 m radius of the previously investigated area.

Should it be decided that the current dump location be preferred to evaluating additional dump sites, EBA will complete a full review of the current design to address the EAA concerns. An additional geotechnical investigation of the current waste rock dump location will be required before final design to determine the extent and lithology of the permafrost and potentially thaw unstable foundation material within and around the perimeter of the site.

Should time allow, stripping the dump footprint to allow permafrost thaw prior to final design or operation should be considered.

We trust that you will find this report satisfactory for your purposes. If you have any questions, or require additional information, please contact the undersigned.

Yours truly,  
EBA Engineering Consultants Ltd.



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