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**WELCOME NORTH MINES LTD. (N.P.L.)**  
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GEOLOGICAL REPORT

EAB PROPERTY

Latitude 65°06'N

Longitude 132°26'W

MACKENZIE MINING DISTRICT

NORTHWEST TERRITORIES

N.T.S. 106F/1

G.F. McArthur  
M.L. McArthur

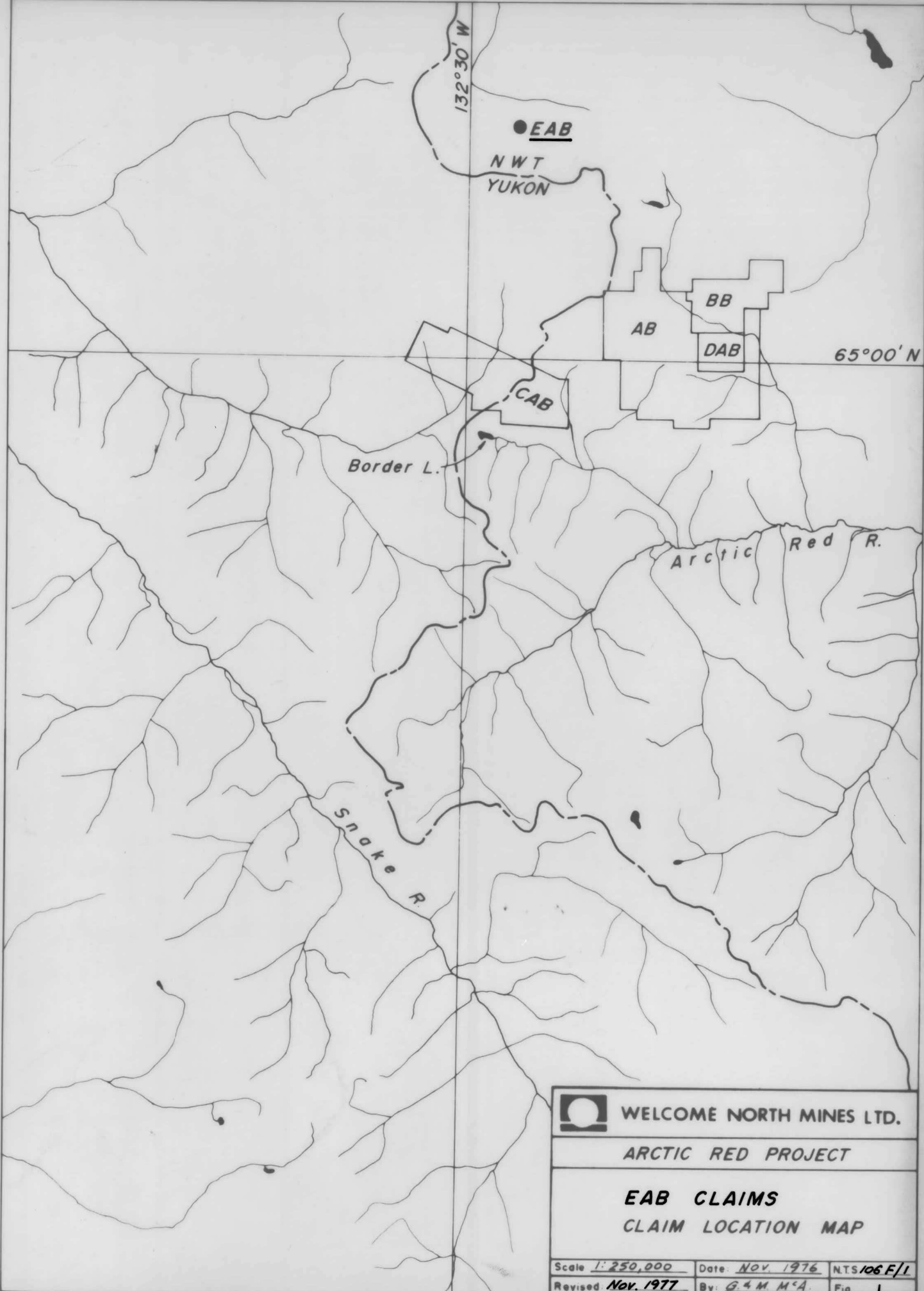
November 1977


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	<b>WELCOME NORTH MINES LTD.</b>	
<b>ARCTIC RED PROJECT</b>		
<b>EAB CLAIMS</b>		
<b>CLAIM LOCATION MAP</b>		
Scale <i>1:250,000</i>	Date <i>Nov. 1976</i>	NTS/06 F/1
Revised <i>Nov. 1977</i>	By <i>G. M. M. C. A.</i>	Fig. <i>1</i>

## INTRODUCTION

The EAB claims were staked in 1974 on behalf of the Arctic Red Joint Venture to cover mineralized dolostones of the Hadrynian Keele Formation. The claims were allowed to lapse in September, 1977.

## LOCATION AND ACCESS

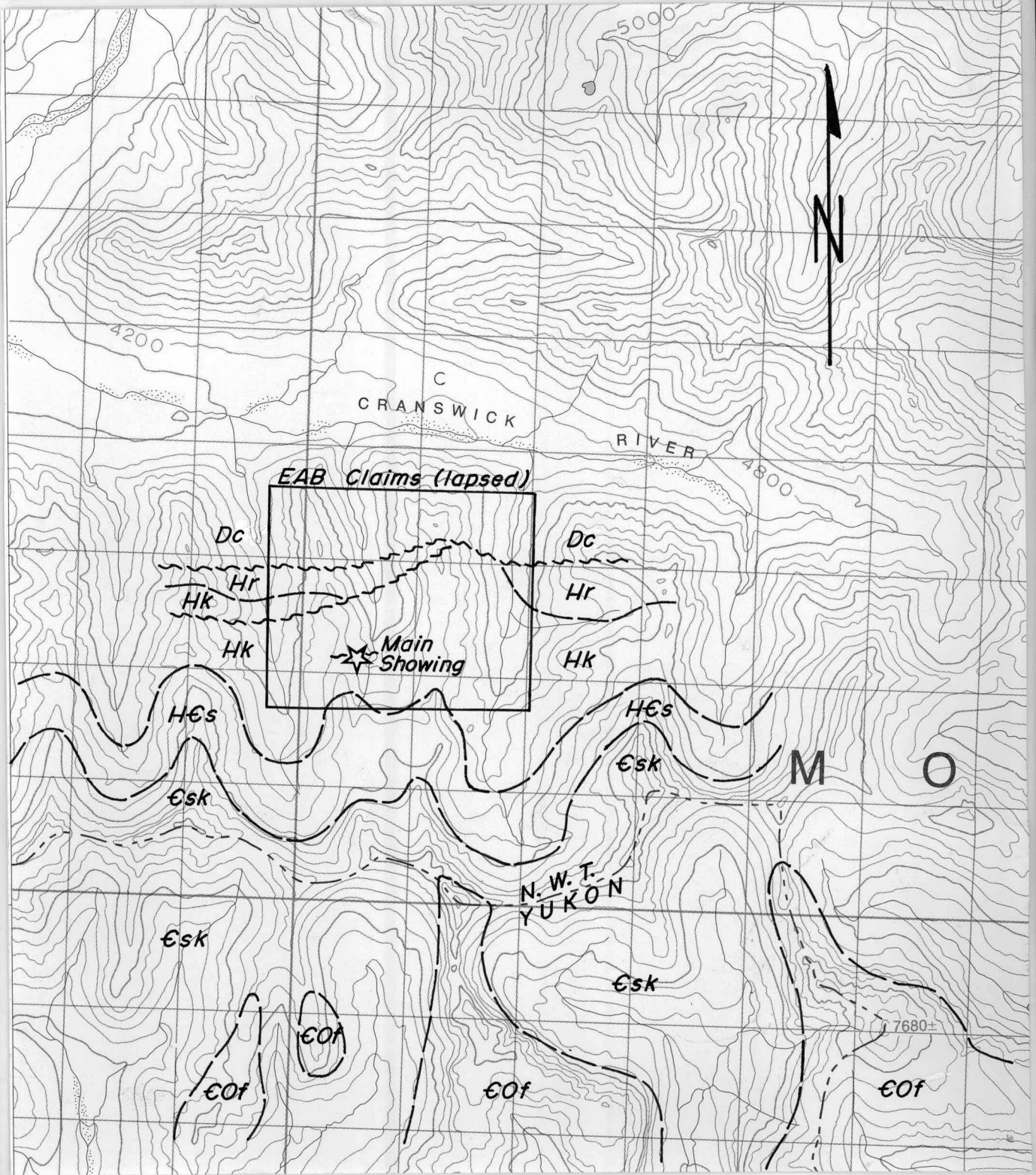
The EAB property is located in the Mackenzie Mining District of the Northwest Territories, at latitude 65°06'N and longitude 132°26'W (Fig. 1). Access to the property can best be gained by helicopter from Mayo, 148 air miles to the southwest, or Norman Wells, 162 air miles to the east. There is a helicopter landing site within a few hundred feet of the showing area.

At an elevation of 5400 feet ASL, the mineralization is well above the regional tree line of 4000 feet ASL.

## GEOLOGY


The EAB mineral occurrence is hosted by dolostones of the Hadrynian Keele Formation. The Keele Formation is overlain by recessive shales and siltstones of the Sheepbed Formation which are in turn overlain by sandstones, quartzites, sandy dolomites and dolomites of the Sekwi and Backbone Formations. This entire sequence is faulted against siltstones of the Rapitan Formation to the north which are in thrust contact with Devonian carbonates (Fig. 2).

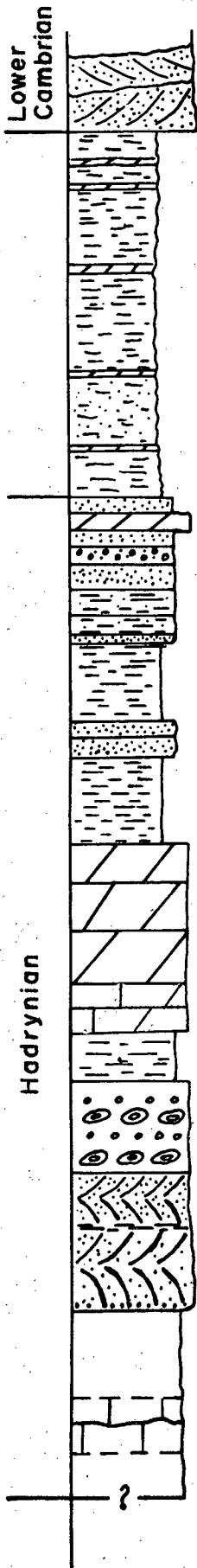
The Keele Formation is a sequence of interbedded shallow-water clastic and carbonate rocks (Fig. 3). The lower portion contains cross-bedded sandstone with interbeds of red and green siltstone which were laid down in a deltaic and fluvial flood plain environment (Fig. 4). This unit is overlain by oolitic and oncolitic dolostones which host sphalerite and galena mineralization. Overlying these shallow water carbonates is a



**LEGEND**

- |                              |                  |                              |              |
|------------------------------|------------------|------------------------------|--------------|
| <input type="checkbox"/> Dc  | DEVONIAN         | <input type="checkbox"/> HCs | SHEEPBED FM. |
| <input type="checkbox"/> Eof | FRANKLIN MT. FM. | <input type="checkbox"/> Hk  | KEELE FM.    |
| <input type="checkbox"/> Esk | SEKWI FM.        | <input type="checkbox"/> Hr  | RAPITAN FM.  |
| <input type="checkbox"/> Eb  | BACKBONE FM.     |                              |              |

 WELCOME NORTH MINES LTD.		
ARCTIC RED PROJECT		
<b>EAB CLAIMS REGIONAL GEOLOGY</b>		
Scale: 1:50,000	Date: NOV. 1977	N.T.S. 106F/1
Revised: _____	By: G. & M. MCA.	Fig. 2



BACKBONE FM.: cross-bedded quartzite with minor dolostone and siltstone interbeds; basal rusty quartzite

SHEEPBED FM.: dark grey to black shale; dolostone and limestone interbeds average 1" but can be up to 10", commonly ripple marked; siltstone common at base

KEELE FM.: red and green sandstone, calcareous siltstone. Cream-weathering, silty microcrystalline dolostone. Grit unit with upper quartzite underlain by conglomerate with chert and dolostone cobbles up to 2', orange dolomite cement; lower maroon siltstone, quartzite, sandstone; basal part pyritic. Bright orange-yellow weathering dolostone and shale; pyrite and manganese common; central more resistant sandstone with muscovite, pyrite

Dark grey fine to medium crystalline dolostone, commonly vuggy with local "zebra" texture

Zn-Pb  
Thin bedded black dolostone or limestone; cryptalgal laminations

Green siltstone

Zn-Pb  
Orange-weathering dolostone, oolites, oncolites

Cross-bedded sandstone, conglomerate and quartzite; mudstone interbeds; basal red and green sandstones

Cover

Limestone

Cover  
RAPITAN FM.



WELCOME NORTH MINES LTD.

ARCTIC RED PROJECT

EAB CLAIMS

SCHEMATIC STRATIGRAPHIC SECTION

Scale: 1" = 250' Date: NOV. 1977 NTS 106F/1  
Revised: By: M.G. McA Fig. 3

vuggy dolostone with local "zebra" texture which also hosts mineralization. The upper part of the Keele Formation is predominantly clastic rocks: sandstone, siltstone and conglomerate with minor dolostone.

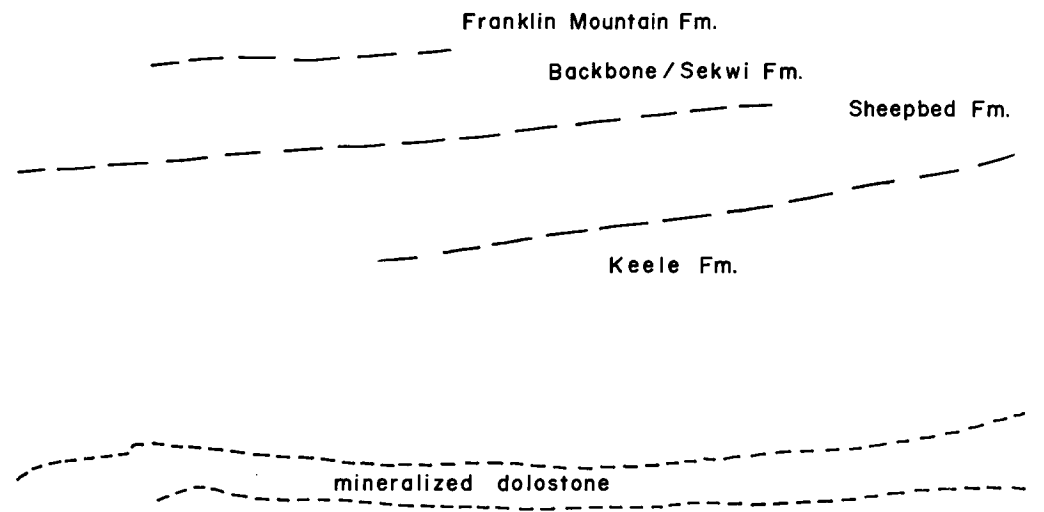
#### MINERALIZATION

The stratigraphic horizons which host mineralization at the EAB outcrop at the headwall of a canyon formed by a northerly flowing tributary of the Cranswick River (Fig. 2). In the upper 30' horizon sphalerite, galena and pyrite are found with quartz, calcite, sparry dolomite and barite as fracture, vein and vug fillings. Zebra texture associated with mineralization is developed in the resistant dolostone member and is reminiscent of similar textures in the carbonate facies of the Hadrynian Grit Unit (MOM/TOM Claims, 106B/4 and ODD Claims, 105-0/13) This indicates that there may be a stratigraphic correlation between the two carbonates.

Disseminated mineralization is also found in a lower, oolitic dolostone. A small fault is mapped in the west canyon wall which apparently controls the distribution of sulphides (Fig. 2). Pyrite is much more abundant near the fault.

#### CONCLUSIONS

Mineralization on the EAB Property is predominantly structurally controlled and does not appear to be of economic interest. The claims have therefore been allowed to lapse.



View of EAB showing looking southwest