

I Geophysical  
II Eve 3,9,5&6 Heffley L., Kamloops  
Mining Div., Lat. 50°50' N.Long,  
120°03'W. 92I/16E  
III J. M. Black, P.Eng.  
IV Western Canada Steel Limited  
V May 25,26 Sept. 26,27,28 1973

4670

# 4670

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Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. **4670** MAP

## INTRODUCTION

These claims are north of Heffley Lake and are easily accessible by the highway in Heffley Valley which crosses Eve 3, 5 & 6 claims. (See Figure 1). A magnetic anomaly on these claims has been known for some years. It was further investigated to learn more about its shape and also something about the conductivity of the body that causes the anomaly.

## PROCEDURE

A baseline was run and from it at 200 foot intervals lines were run. The distances were chained including stations at 50 ft. intervals on the lateral lines.

An electromagnetic and a magnetic survey was run. For the EM survey a Ronka 16 was used. The broadcasting station selected is the one near Seattle and the direction to it is shown on Figure 3. The readings, taken at 50' intervals, were made by B. Woodsworth, P. Eng. In order to extend the area covered, some readings were taken 50' beyond the end of the surveyed lines.

For the magnetic survey a Sharpe PMF-3 was used. Some stations occupied are at points established by traversing away from the surveyed lines. The readings were taken by J.M. Black, P. Eng.

## TOPOGRAPHY & COVER

The ground slopes gently southwards. This slope is interrupted by a moraine that extends southwards in the north central part of the mapped area as shown in Figure 2.

Tree growth is fairly open over most of the area.

## MAGNETICS & INTERPRETATION

An earlier survey had determined the general outline of a major anomaly. In order to get a more precise outline of the central part of it, this survey was restricted to this central area. (See Figure 2). A moderately sharp anomaly was found south of the main anomaly. It extends as a spur southeastwards from a western extension of the main anomaly. Within this newly discovered anomaly, readings are higher than those at the main anomaly. However, they extend over a much smaller area. They probably are caused by an off-shoot from the main magnetic mass. This off-shoot probably comes moderately close to the surface.

The main anomaly as now mapped is ~~seen~~<sup>seen</sup> to be more complex than hitherto known.

## ELECTROMAGNETICS & INTERPRETATION

The EM results are shown on Figure 3. Numerous crossovers occur, mostly within the area of high magnetic readings. These probably indicate that the magnetic source includes zones with conductivity greater than that caused only by magnetite.


The EM results filtered, according to the procedure advocated by Fraser\*, and contoured yield interesting anomalies. One elongated one extends the length of the area mapped. It has its highest readings where it crosses the south flank of the main magnetic anomaly. It has 2 spurs, one of which extends southeastwards towards the newly discovered magnetic anomaly.

A second anomaly has its highest values near where it crosses the core of the main magnetic anomaly. Other anomalies that extend beyond the mapped area occur in the south and north.

The 2 elongated filtered anomalies suggest that the magnetic anomaly may be caused (1) by 2 magnetic bodies, possibly containing sulphides or other good conductors, separated by a zone that contains less conductors, or, (2) by 2 magnetic zones separated by a zone with little magnetism and conductance but at such a depth that magnetic high readings are obtained over it because of the spreading influence of the deep magnetic masses.

The minor magnetic anomaly, that occurs as an off-shoot of the main anomaly is between 2 filtered EM anomalies, which suggests that the magnetic source contains few sulphides or other conductors.

\* D.C. Fraser. Contouring of V.L.F. EM data. Geophysics, vol. 34, No. 6, December 1969, pp. 958-967.



J.M. Black, P. Eng.  
Sept. 28, 1973.

Declaration re costs of work done on Eve claims 3,9,5 & 6, May and September, 1973.

B. Woodsworth,	1½ days @ \$50	\$62.50
J.M. Black,	1 day @ \$80	80.00
" "	2¼ days @ \$80 (on Report)	180.00
Travel,	2 days @ \$10	20.00
Room & Board,	2¼ man days @ \$10	22.50
Rental,	EM 16	30.00
"	PMF -3	<u>25.00</u>
		<u>\$420.00</u>

Declared before me at the  
of \_\_\_\_\_, in the  
Province of British Columbia **VANCOUVER, B. C.**  
day of \_\_\_\_\_, A.D.

OCT 5 1973

*[Handwritten Signature]*  
Sub. Mining Recorder

A Commissioner for taking Affidavits within British Columbia or  
A Notary Public in and for the Province of British Columbia.

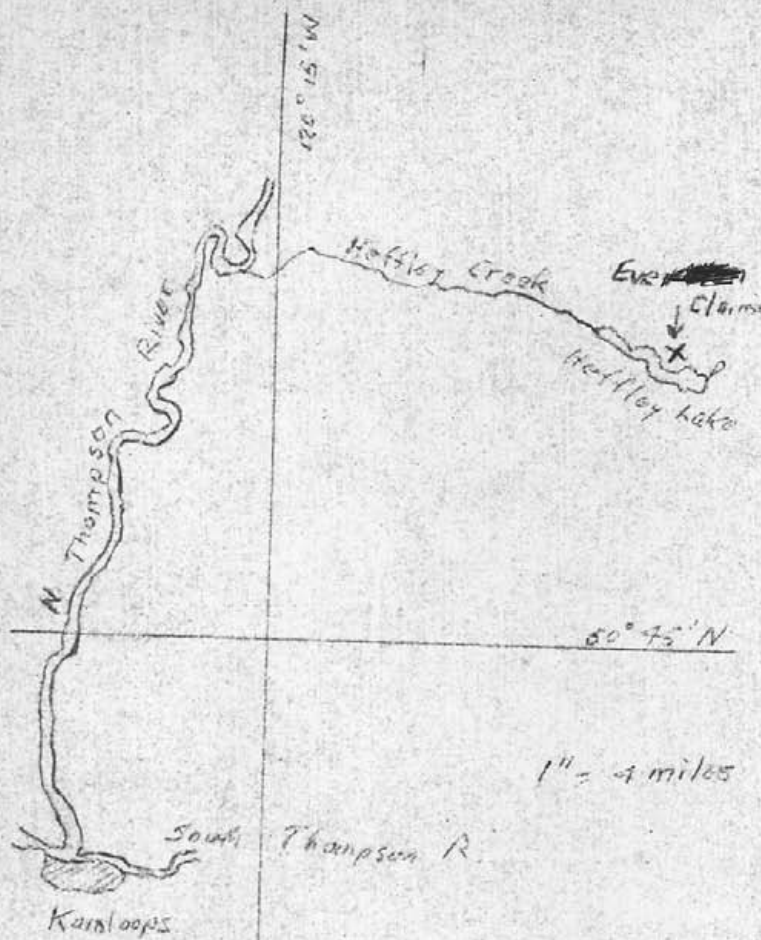


Figure 1 Index Map

To accompany geophysical report by J.M. Black P.Eng  
 dated Sept. 28 1973 on Eve ~~claims~~ claims near Haffley  
 Lake, Kamloops Mining Division

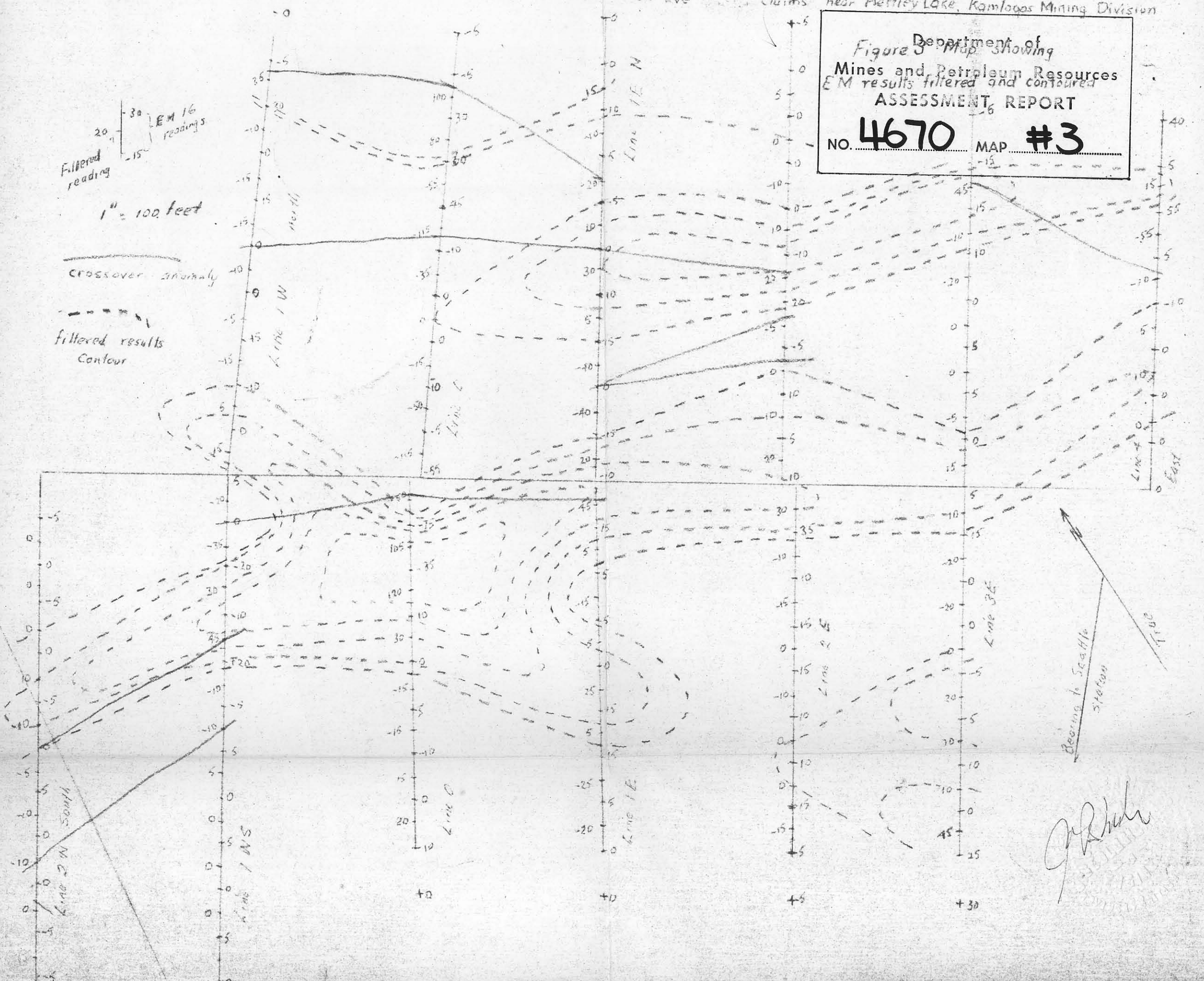
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*J.M. Black*



To accompany geophysical report by J.M. Black P. Eng. dated Sept. 28, 1973  
 on Eureka claims near Haffley Lake, Kamloops Mining Division

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 EM results filtered and contoured  
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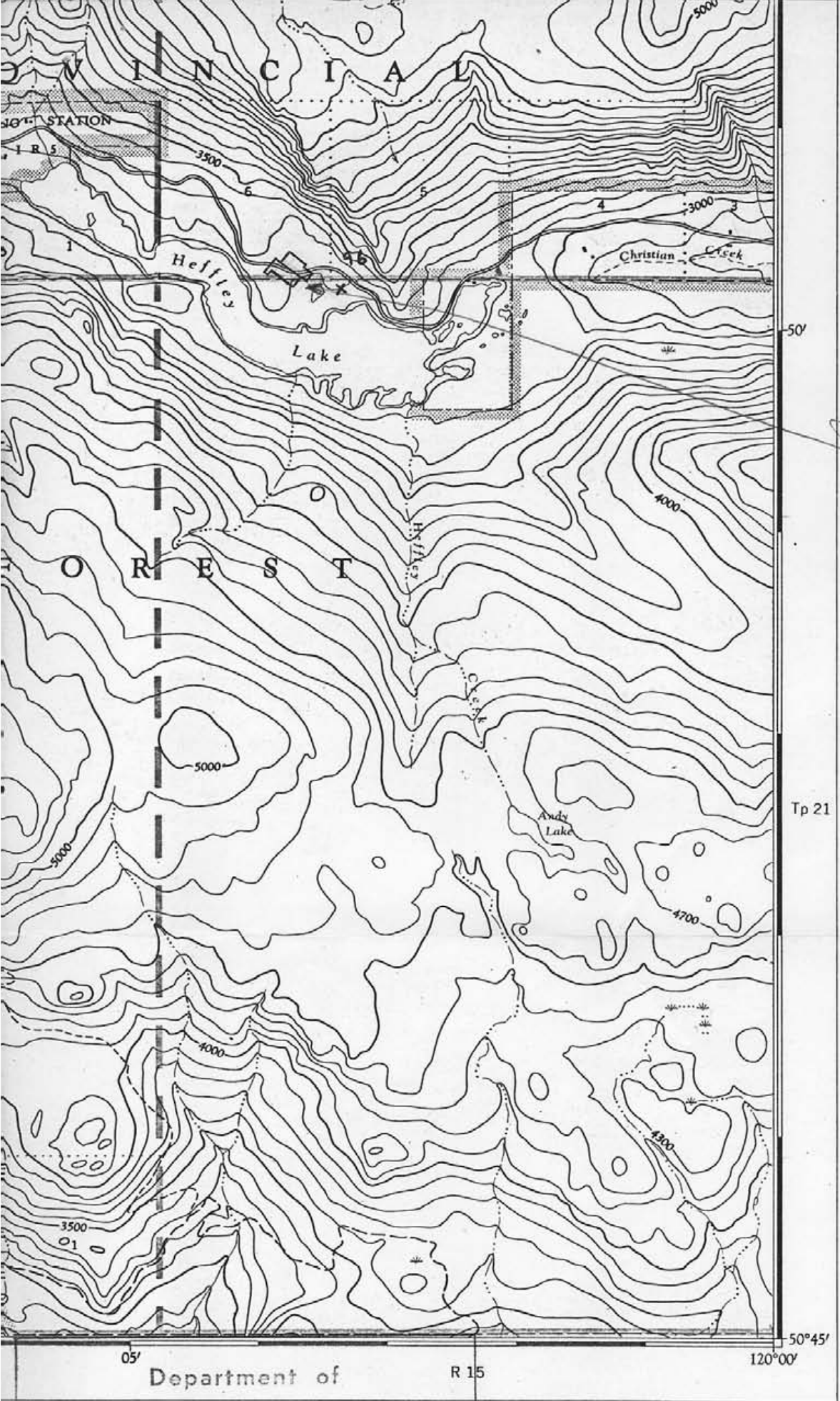


Figure 1 Index Map  
 To accompany geophysical  
 report by J.M. Black P.Eng  
 dated Sept 28, 1973, on Ene  
 claims near Heffley Lake  
 Kamloops Mining Division  
 outline of grid showing baseline

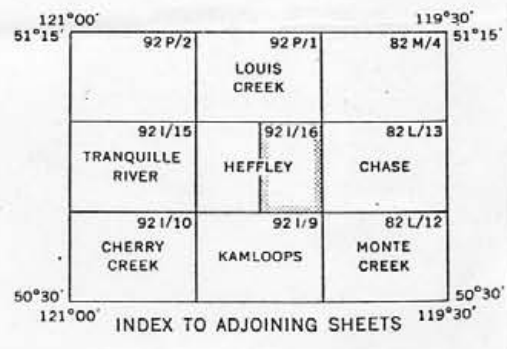
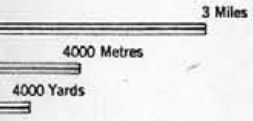
*J.M. Black*

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MAGNETIC DECLINATION 23°28' EAST  
 AT CENTRE OF MAP 1957  
 Annual magnetic change 3'30" westerly

REFERENCE

- Mine or Open cut..... ✕
- Building: Barn..... -
- Church..... ⚓
- Built up area..... [shaded area]
- Telephone line..... [dashed line]
- Streams:
- intermittent or dry..... [dotted line]
- indefinite..... [dashed line]
- Lake intermittent; indefinite..... [hatched area]
- Inundated land, seasonal..... [wavy lines]
- Marsh or Swamp..... [stippled area]
- Foreshore flats..... [dotted area]
- Wharf or Pier; Breakwater..... [solid line]
- Rocky reef..... [wavy lines]
- Small island, rock bare or awash..... [solid circle]
- Contours:
- elevation..... [solid line]
- depression..... [dashed line]
- approximate..... [dotted line]
- Cliff..... [vertical lines]
- Lighthouse..... ✨
- School; Post Office..... #P
- Cemetery..... [circle with cross]
- Sand..... [stippled area]
- 2500..... [contour line]



HEFFLEY  
 92 I/16 EAST HALF