

I Geophysical  
II Nan 1 & 2, Heffley Lake, Kamloops  
Mining Div., Lat. 50° 50' N, Long.,  
120° 03' W.  
III J. M. Black, P.Eng. 92I/16E  
IV Western Canada Steel Limited Nan  
V May 22-24, Sept. 20,24,25, 1973

4624

# 4624

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Department of  
Mines and Petroleum Resources  
ANNUAL REPORT  
NO. 4624 MAP.....

## INTRODUCTION

These claims are north of Heffley Lake and are easily accessible by the highway up Heffley Valley, which crosses Nan 1. A reconnaissance traverse along the highway located a magnetic anomaly and many others have been found extending northward up the slope onto Nan 2.

## PROCEDURE

A base line was run and, from it at 200' intervals, lateral lines were run. Because of the very high and variable magnetic intensity, the lines were run by taking backsights and foresights and without using the compass. The distances were chained. Stations were established every 50' along the lateral lines.

An EM and a PMP-3 magnetometer survey were made of the areas of interest with readings at 50' intervals. In order to extend the area covered by the EM survey, readings were taken 50' beyond the end of some of the surveyed lines. This was also done during the mag. survey and, in addition, many short traverses were run between and away from the lateral lines. A compass was not used to run these side lines. A prominent object in the distance was sighted and the line towards it was traversed and the distance paced. The accuracy of the location of such side points is considered to be good. All the mag. readings were taken by J. M. Black, P.Eng.

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. All readings were taken by B. Woodsworth, P.Eng.

## TOPOGRAPHY & COVER

The ground in the south part of Nan 1 is flat. Towards the north the ground slopes up moderately steeply. Crossing the flat area in the south is a moraine or esker, part of which is shown on Figure 3.

Tree growth is fairly open except in the vicinity of the eastern two thirds of the base line where young growth is extremely thick.

## MAGNETIC RESULTS & INTERPRETATION

See Figure 2. The major feature is in the north where a broad magnetic high extends the length of the surveyed area. It varies greatly in width and in intensity and narrows and almost disappears between lines 1 and 2 west. In fact, it may be considered to be two anomalies weakly joined.

The highest reading (28,500 gammas), in an anomaly with moderate gradient, suggests it is caused by a magnetic mass whose upper surface is 30' to 40' below the surface.

South of this high zone and nearly parallel to it, is a zone about 300' wide comprising numerous, mostly small, intense positive and negative anomalies. The anomalies in this zone appear to be caused by bodies close to the surface whose lower poles also are relatively close to the surface.

The third major magnetic feature is a low in the southwest of the area. The greatest readings are near the base line. However, the low extends over a considerable area to the south of the base line. Since it is to the magnetic south of the most westerly part of the northern magnetic high, it may be caused by the lower pole of the body which causes this magnetic high.

#### EM RESULTS & INTERPRETATION

Numerous crossovers occur but the anomalies indicated by these are short and appear to be without much significance (see Figure 3) except in the north where they tend to parallel the isomagnetic lines.

The EM readings, filtered according to the procedure advocated by Fraser\* and contoured, yield results that are of more interest.

A zone extends along the norther limit of the area surveyed in the same location as the prominent magnetic high. The highest values nearly coincide with the magnetic highs. It can be inferred from this congruence that two bodies exist which are nearly continuous along their strike and that they have moderately high magnetic intensity and possibly contain sulphides.

Two other filtered EM anomalies occur in the eastern part of the intermediate magnetic zone. These anomalies are arranged within the zone en echelon. They include several of the high positive mag. anomalies and they do not include any of the negative anomalies. Thus, in a general way, they confirm the presence of a number of magnetic bodies with fair conductance.

The most easterly of these two anomalies extends westerly to Line 1E south, where a filtered value of 65 is found. However, this is directly below a power line which extends along the length of this anomaly and may cause most of it. However, on lines 2E and 3E are intermediate values between 0 and 65, which suggests that the eastern part of this anomaly is caused by conductance in the ground and not in the air, as at line 1E.

\* 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.  
September 28, 1973



Declaration re costs of work done on Nan Claims 1-2, May and September, 1973

Bruce Woodsworth, 1½ days @ \$50	\$ 75.00
J. M. Black, 1 3/4 days @ \$80	140.00
"    2 3/4 " @ \$80 (on report)	220.00
Travel, 2 days at \$10	20.00
Board, 3¼ man days @ \$10	32.50
Rental, EM 16	30.00
"    magnetometer	<u>25.00</u>
	\$542.50

*J. M. Black*  
 Sep 26/73



Declared before me at the *city*  
 of *Vancouver*, in the  
 Province of British Columbia, this *1st*  
 day of *October* 1973, A.D.

*J. M. Black*

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

Sub-mining Recorder

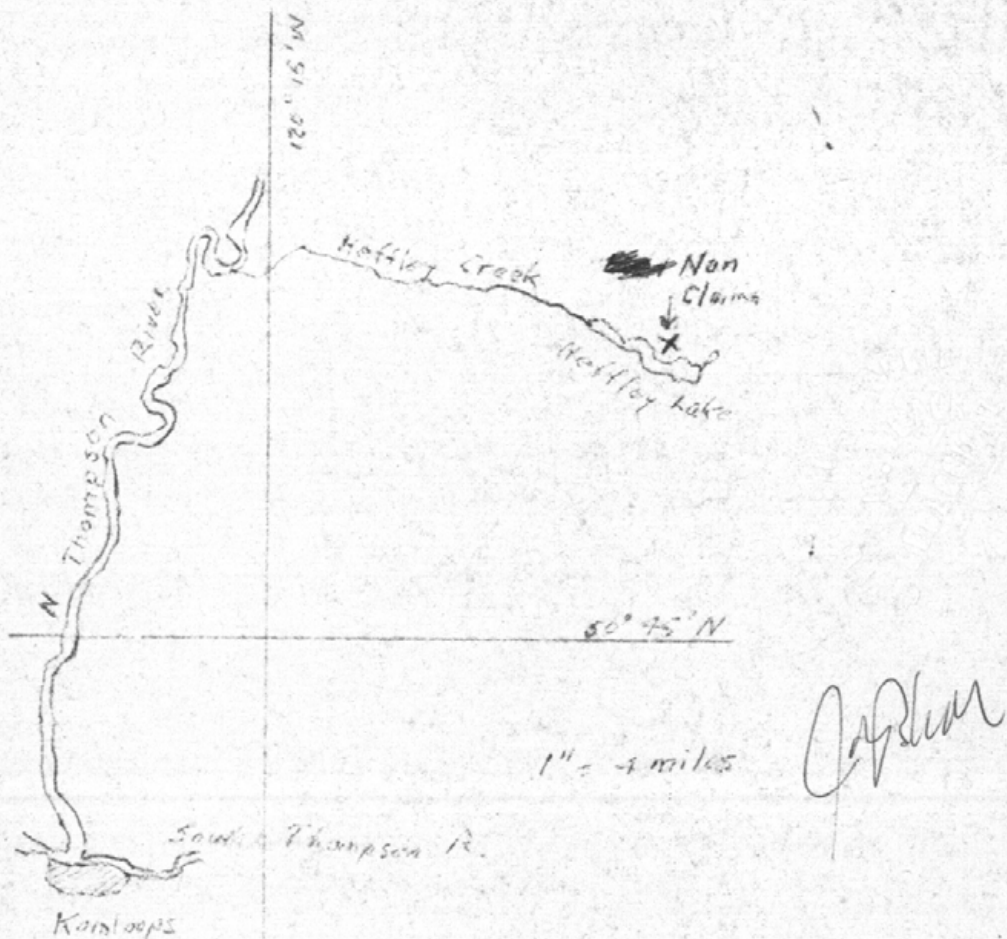


Figure 1 Index Map

To accompany geophysical report by J.M. Black PEng dated Sept 28, 1973 on ~~the~~ Non claims near Hoffley

Lake, Kaintloops Mining Division

Department of

Mines and Petroleum Resources

ASSESSMENT REPORT

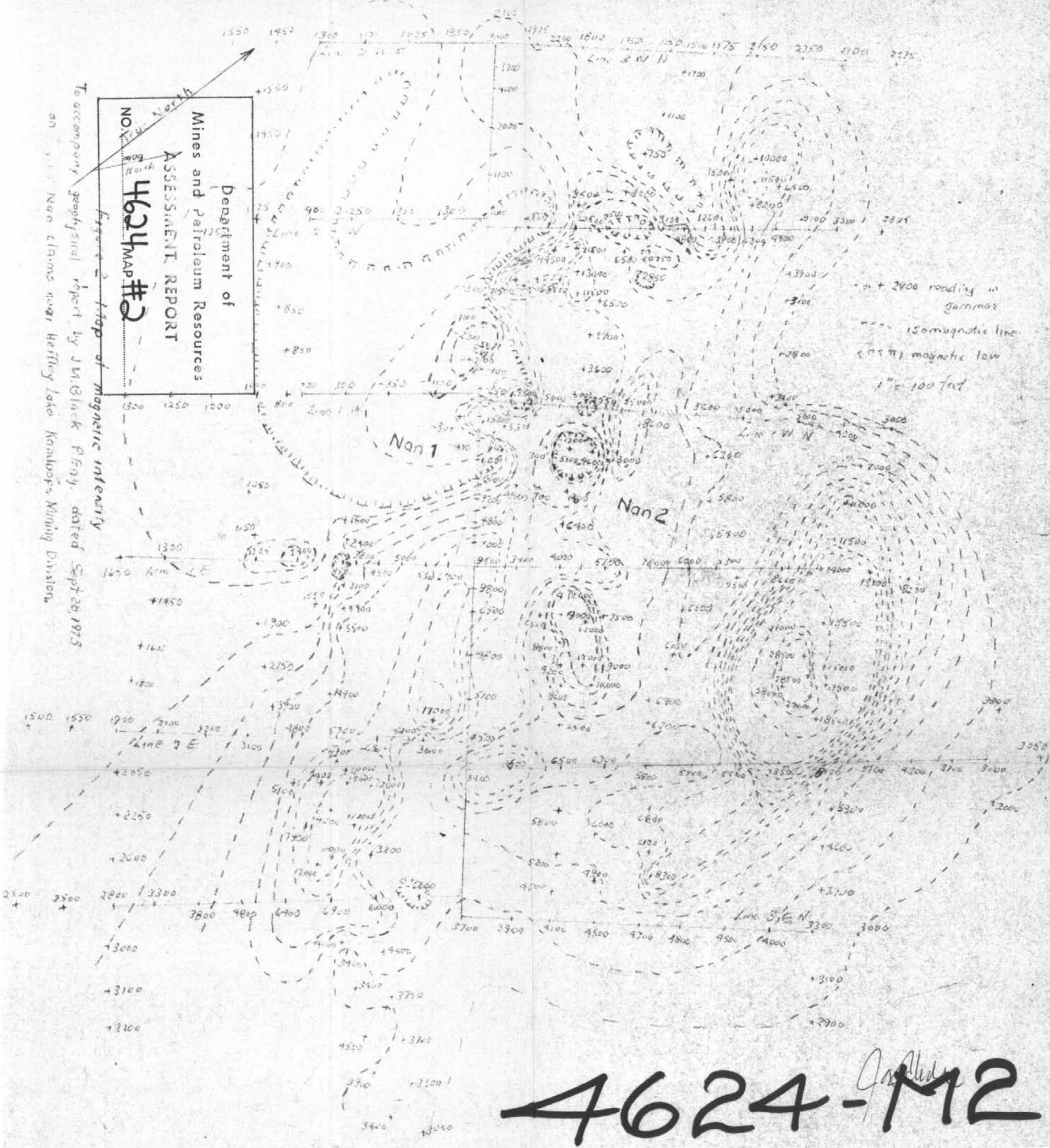
NO. 4624 MAP # 1



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NO. 4624 MAP #2

To accompany geophysical report by M. Black Flay, dated Sept 20, 1975  
on Nan claims near Heffley Lake Kamboj's Mining Division.

Figure 2 Map of magnetic intensity

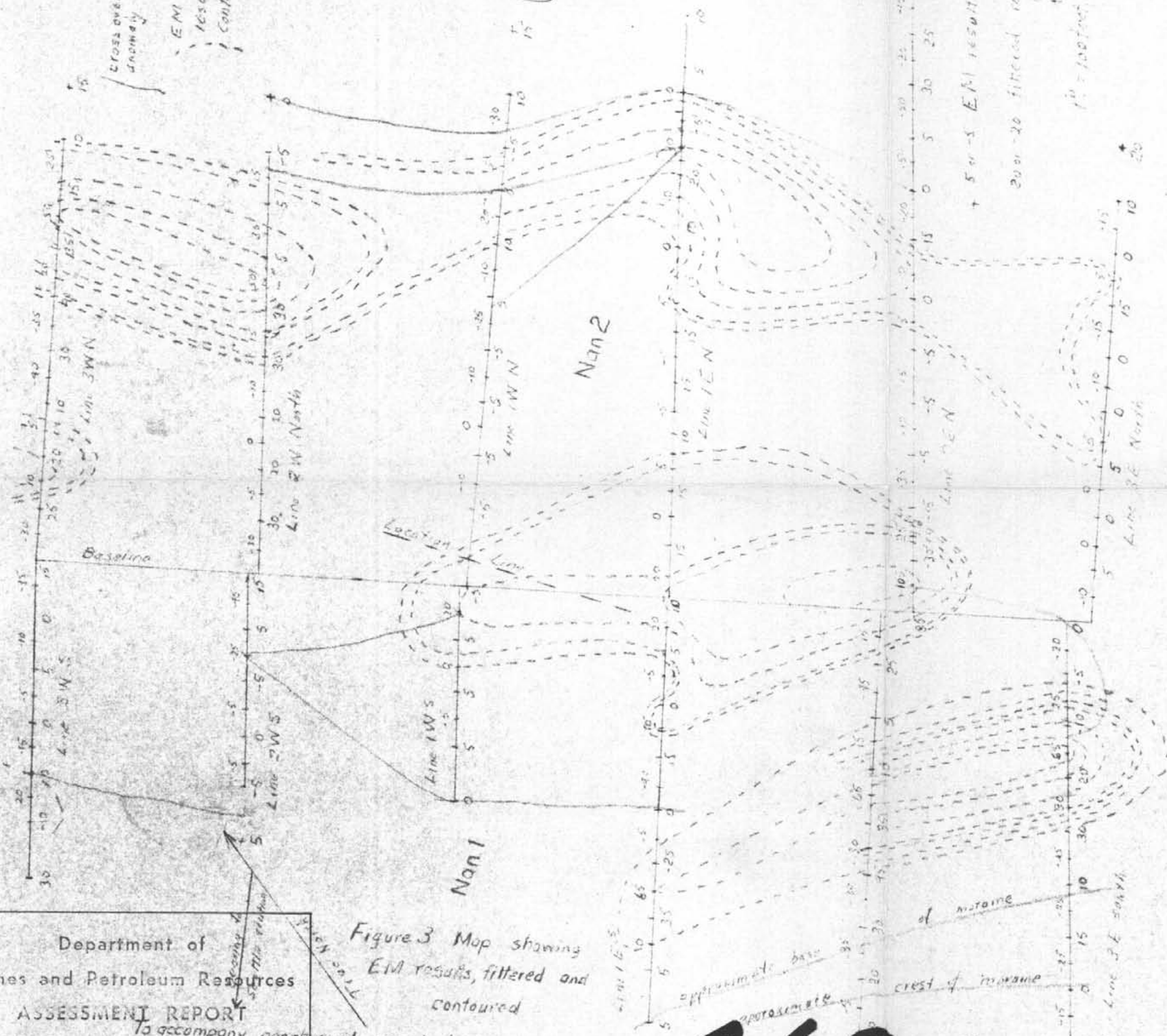


4624-M2  
Joe Alder

*Handwritten signature*

CROSS OVER  
drammby

EMI filtered  
results  
contour



+ 5 or 5 EMI results (east of  
transverse line)  
20 or 20 filtered results  
(west of  
transverse line)  
f<sub>0</sub> = 100 feet

Department of  
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ASSESSMENT REPORT  
To accompany geophysical report by J.M. Black P. Eng. dated Sept. 27, 1972  
NO. 4624 MAP #3 Nan claims near Heffley Lake

Figure 3 Map showing  
EMI results, filtered and  
contoured

**4624-M3**