87-108-15803
3/88

NEWMONT EXPLORATION OF CANADA LIMITED

GEOPHYSICAL REPORT
on the
MUR CLAIM

SIMILKAMEEN MINING DIVISION
BRITISH COLUMBIA
N.T.S. 92H/10W

by
Dennis M. Bohme
March 9, 1987

LOCATION: 28 km northwest of Princeton, B.C.
Latitude 49°33', Longitude 120°55'

OWNER OF RECORD: Newmont Exploration of Canada Limited

WORK DONE BY: Newmont Exploration of Canada Limited

WORK DONE BETWEEN: July 13 - July 22, 1986

DATE SUBMITTED: March 18, 1987

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INTRODUCTION

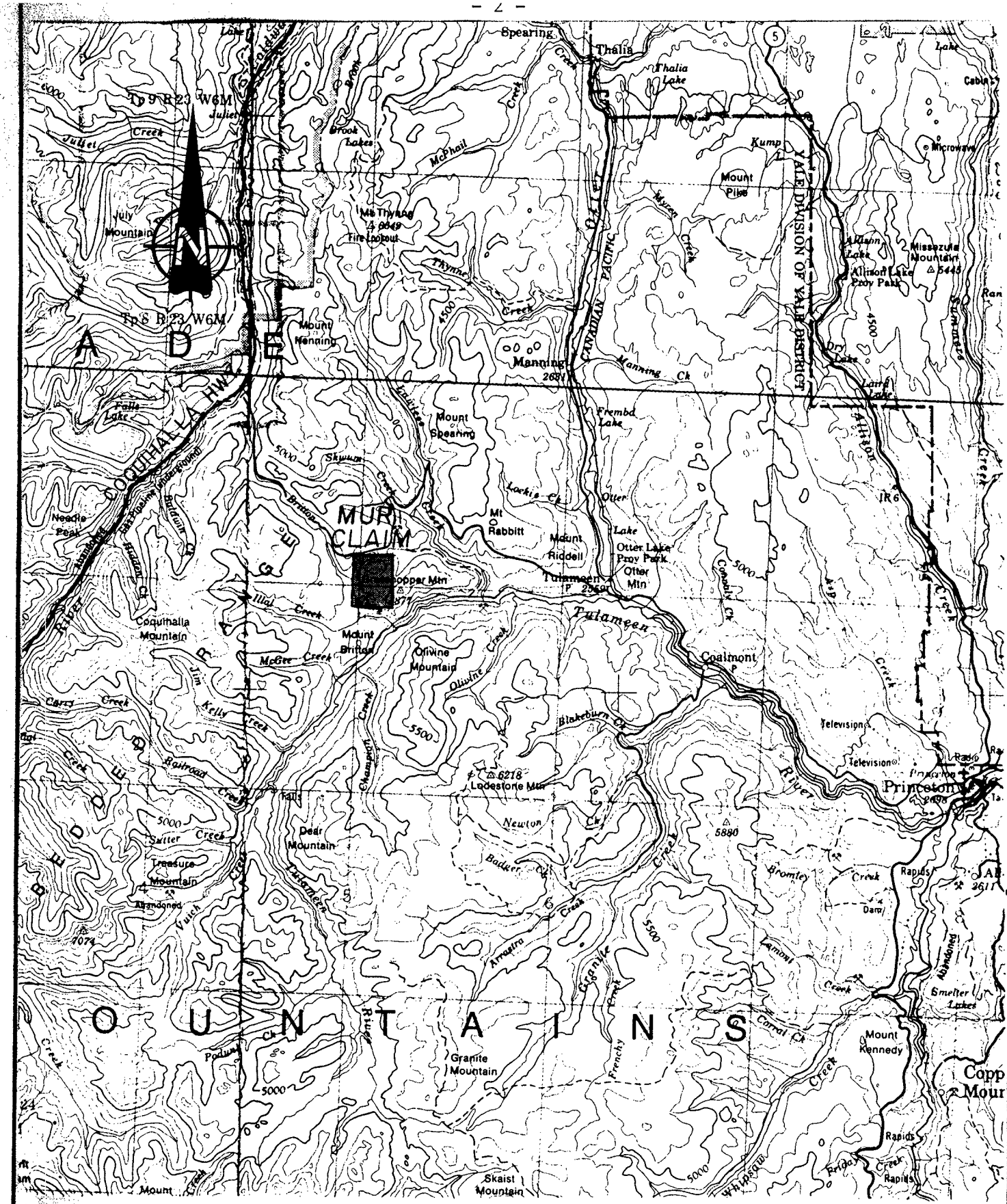
This report presents the results of the magnetic survey carried out over the southeastern portion of **MUR** claim. The property is wholly owned and operated by Newmont Exploration of Canada Limited.

The **MUR** claim adjoins the west side of Grasshopper 1 and 2 claims, a portion of which is held under option by Newmont. The magnetic survey covers the areas of both properties where the Tulameen Ultramafic - Gabbro Complex is known to occur. The geophysical survey was combined with a geological and geochemical program designed to explore both the **MUR** and **Grasshopper** claims for their platinum potential. A geological, geochemical, and geophysical assessment report on the adjoining Grasshopper 1 and 2 claims was prepared by D. Bohme on January 8, 1987.

Location, Access, Topography

The **MUR** claim is located in the Cascade Mountains of southwestern B.C., about 28 km northwest of Princeton, B.C. (see Figure 1). The claims are situated just south of Murphy Lakes and east of Britton Creek.

Access to the property is via a 24 km paved road from Princeton to Tulameen and then branching off onto the Lawless Creek forestry access logging road (see Figure 2). The central portion of the property is accessible by driving 30 km from Tulameen along the winding Lawless Creek road or by driving 12 km east from the Coquihalla Highway on the same road. The turnoff



SCALE

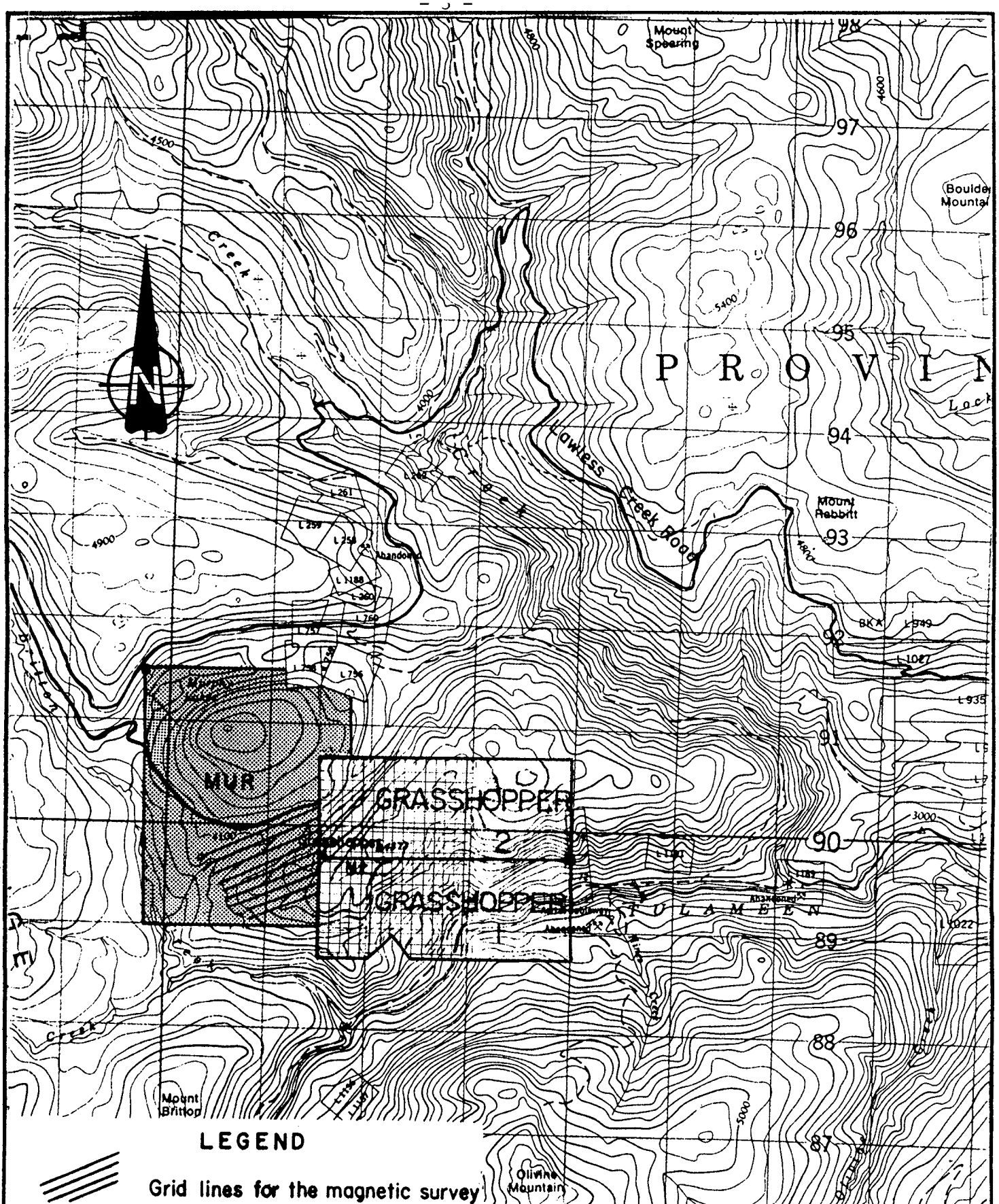
0 5 10 kilometres

NEWMONT EXPLORATION OF CANADA LTD.

LOCATION MAP

MUR CLAIM

SCALE 1:250000	LOCATION 92 H	DATE MAR. 12, 87
SURVEY BY D. B.	DRAWN BY J. T.	NO. Fig. 1



LEGEND

Grid lines for the magnetic survey

Owned by Newmont Exploration

Optioned from Monica Resources Ltd.

SCALE

500 0 1000 meters

NEWMONT EXPLORATION OF CANADA LTD.

CLAIM MAP
MUR CLAIM

SCALE 1:50000	LOCATION 92H/10W	DATE MAR. 12, 87
SURVEY BY D.B.	DRAWN BY D.B.	NO. Fig. 2

from the highway is just north of Coquihalla Lakes Park, about 55 km northeast of Hope, B.C. Both routes are good all-weather roads and a 4 WD vehicle is usually not necessary except during winter conditions.

The property covers the western end of Grasshopper Mountain plus the unnamed hill to the north of it. Elevations range from 3600 ft (1097m) in the Britton Creek valley to 4700 (1432m) at the summit of a broad hilltop just south of Murphy Lakes. Slow to fast-flowing creeks in the area are 0.5 to 2.0m wide and some marshy areas occur locally near Murphy Lakes.

The southern and eastern portions of the claim have 2 large patches of clear-cut logging done in 1980 but most of the area is quite heavily treed by fir, balsam, spruce, and lodgepole pine. Till cover is extensive in the lower terrain, and outcrops occur principally on hills and in the logged off areas.

Property Description

The **MUR** claim of 20 units was recorded in Similkameen Mining Division on April 11, 1986, record number 2556.

The legal corner post is located just below the Lawless Creek logging road, about 200 metres northwest of the westernmost Murphy Lake. The 3 crown-granted claims (L758, L759, L756) located in the far northeastern corner of the **MUR** claim are not owned by Newmont.

History and Work Summary

This ground was staked in 1980 as the Badger claim by Mrs. Florence Hedin of Merritt, B.C. to cover several copper showings exposed by her husband's logging contracting firm. A prospecting report by Don Faulkner and a drilling report by James F. Bristow were submitted for assessment in 1981 and 1982 respectively. Only 6.8 metres of a 125.9m AQ diamond drill program were assayed for Au, Ag, Cu, and Fe. Up to 1.5% Cu and 0.07 oz/ton Au were reported from surface sampling, but drill core assays were very low.

The Badger claim lapsed in 1985, and was restaked for Newmont Exploration of Canada Limited using the same legal corner post.

Between July 13 and July 22, 1986 the following field work was carried out by a 3-man crew led by D. Bohme: chain and compass grid surveying and a ground magnetic survey. A total of 9.2 km of grid lines oriented N70^{o}E were laid out to cover the Tulameen Ultramafic - Gabbro Complex which outcrops in the southeastern portion of the claim (see Figure 2). Grid lines were established at 100m spacings and lath pickets were placed at 25m intervals. The magnetic survey was carried out by P. Walker.

GEOLOGY

The geology of the area is described in G.S.C. Memoir 243 by H. M. A. Rice. The **MUR** claim is underlain by three principal rock types: the Nicola Group metavolcanics and

metasediments of Triassic Age, the Tulameen Ultramafic Complex of late Triassic Age (Findlay, 1969), and the Coast Intrusion Eagle Granodiorite of Jurassic to Cretaceous Age. The geophysical work was conducted over the Tulameen Ultramafic Complex only, and this unit is described in the following paragraphs.

The Tulameen Intrusion, measuring approximately 6 x 17 km, is a zoned ultramafic - gabbro complex, a small portion of which occupies the southeastern quarter of the **MUR** claim. The complex displays a crudely developed concentric zoning of several lithologies, which generally follows a pattern of dunite in the core, with successive shells of minor peridotite, olivine clinopyroxenite, hornblende and/or magnetite clinopyroxenite with felsic rocks on the margin (St. Louis, 1986). Some mixed gabbroic rocks and hornblende pyroxenite/hornblendite occur locally on the **MUR** claim. The contacts between the ultramafic units are poorly exposed on the property.

Chromite in the Tulameen Complex is Fe rich and generally occurs as disseminated grains in dunite and to a lesser extent within olivine clinopyroxenite, constituting less than 20 volume percent of both rock types (St. Louis, 1986). Platinum occurrences are associated with chromite. The chromite lenses and pods show no preferred attitudes and no systematic distribution within the dunite (Findlay, 1963). Magnetite is present in all rock units of the Tulameen Ultramafic - Gabbro Complex, although the pyroxenite lithologies peripheral to the dunite are known to contain the highest magnetite concentrations.

GEOPHYSICAL COVERAGE

Magnetic Survey

The purposes of the ground magnetic survey were to investigate the possibility of any distinct magnetic variations within the dunite mass or the peripheral lithologies for mapping purposes, and to determine if any correlations could be made with chromite or platinum-bearing chromite occurrences. The magnetic survey was conducted over the Tulameen Ultramafic Complex on both the adjoining Grasshopper 1 and 2 claims and the **MUR** claim. A combined total of 42 km of grid lines were surveyed on the two properties. On the **MUR** claim, the magnetic survey covered 9.2 km of grid line using a Geometric G-816 proton precessional magnetometer instrument.

Base station readings were initially established along Baseline 0 located on the adjacent Grasshopper 1 and 2 claims. Magnetic readings in gammas were taken at 12.5m intervals along grid lines spaced 100m apart (see Map 1 and 2). All readings were manually corrected for diurnal variation each day according to the established base station readings. The magnetic readings represent total field intensity.

With the aid of Newmont's IBM-AT microcomputer system and Calcomp 965 plotter, two geophysical maps were produced at 1:2500 scale. One map shows the grid locations of the raw field data and the other displays a contoured plot of the corresponding data at 200 gamma intervals. The computer plotted all the grid lines straight rather than askew as most of the lines actually are in the field. On both maps, grid south and grid west coordinates are plotted N- and E- respectively.

RESULTS AND INTERPRETATION

A high magnetic background is recognized for the Tulameen Complex. Readings were typically in the 55,000 to 58,000 gamma range within the dunite mass and in the 56,000 to 60,000 gamma range over the peripheral lithologies to the west. The magnetic survey did not extend far enough to the west to cover the contact between the Nicola Group metasediments and metavolcanics and the Tulameen Ultramafic Complex.

Several elongate magnetic lows recognized at stations L200N + 1000W, L600N + 1150W, and L900N + 1200W (a low of 52,400 gammas) are interpreted to outline the contact zone between the dunite and the hornblende and olivine clinopyroxenite marginal phases. In the dunite and olivine clinopyroxenite, magnetite is the product of serpentinization (St. Louis, 1986). Two prominent magnetic highs noted at L200N + 1375W and L500N + 1425W (a high of 60,800 gammas) outline strong magnetic anomalies likely within the hornblende clinopyroxenite phase. In the hornblende clinopyroxenite, magnetite typically constitutes 10 to 20% of the rock (Findlay, 1969). Based on the contoured magnetic data and the known geology of the area, the inferred contact between the dunite and the marginal clinopyroxenite lithologies can be drawn on the contoured plot (see Map 2).

A distinct magnetic feature trends west-northwest from L500N + 1400W to L600N + 1575W. A fault structure or a magnetite rich zone may be the cause, but further geological work may be required to confirm. There is no outcrop in the immediate area of L200N + 1375W to explain the magnetic high at that point.

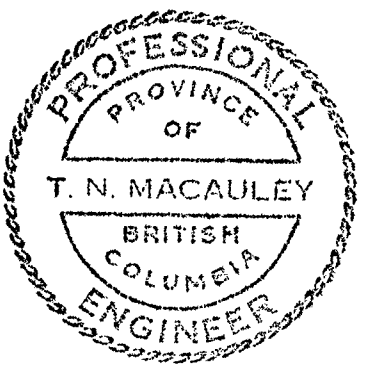
Except near the western contact margin, magnetic readings over the dunite core are relatively uniform. There appears to be no distinct magnetic signatures to suggest any structures or massive chromite and/or magnetite occurrences within the dunite.

CONCLUSIONS AND RECOMMENDATIONS

The **MUR** claim geophysical survey proved to be useful in mapping the poorly exposed geologic contact between the dunite and the peripheral clinopyroxenite and mixed gabbroic units. The higher magnetic patterns appear to correlate with varying concentrations of magnetite known to occur within the outer marginal lithologies of the complex, specifically the hornblende clinopyroxenite unit.

Overall, the magnetic survey was too limited to provide for an accurate assessment of the property. The west-northwest magnetic trend near L500N + 1400W should be investigated.

Dennis M. Bohme



Terrence N. Macauley

VANCOUVER, B.C.
MARCH 9, 1987

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STATEMENT OF COSTS

1.	PERSONNEL			
	Project Geologist	July 13, 14, 1986 March 2 - March 11, 1987 = 10 days @ $127.50	$1,275.00	
	Senior Assistant	July 13 - July 22, 1986 = 10 days @ $94.70	947.00	
	Field Assistant	July 13 - July 17, 1986 = 5 days @ $82.20	411.00	
		Subtotal		**$2,633.00**
2.	TRANSPORTATION			
	4 x 4 pick-up	10 vehicle days @ $75/day		**$ 750.00**
3.	MEALS AND GROCERIES			
	Groceries		$ 550.00	
	Meals		30.00	
		Subtotal		**$ 580.00**
4.	ACCOMMODATION			
	Cabin Rental	10 days x $15/day		**$ 150.00**
5.	FUEL			
	Gasoline for vehicle			**$ 90.00**
6.	FIELD COSTS			
	Communications		$ 15.00	
	Lumber, Hardware, etc.		64.00	
		Subtotal		**$ 79.00**

7.	INSTRUMENT COSTS		
	Proton Magnetometer 5 days @ $19.20/day		**$ 96.00**
8.	FIELD SUPPLIES		
	Flagging, spray-paint, etc.		**$ 85.00**
9.	REPORT PREPARATION		
	Computer and plotting time	$ 300.00	
	Typing, reproduction, etc.	200.00	
	Subtotal		**$ 500.00**
	TOTAL		**$4,963.00**

STATEMENT OF QUALIFICATIONS

I, Dennis Martin Bohme, of the city of Vancouver, in the Province of British Columbia, do hereby certify that:

1. I am a graduate of the British Columbia Institute of Technology with a Diploma in Mining Technology, 1980.

2. I am a graduate of the Montana College of Mineral Science and Technology, in Butte, Montana, with the degree of Bachelor of Science in Geological Engineering, 1985.

3. I have been employed in mining exploration as a technician and a geological engineer with Newmont Exploration of Canada Limited since 1980, except for 18 months when I was attending university.

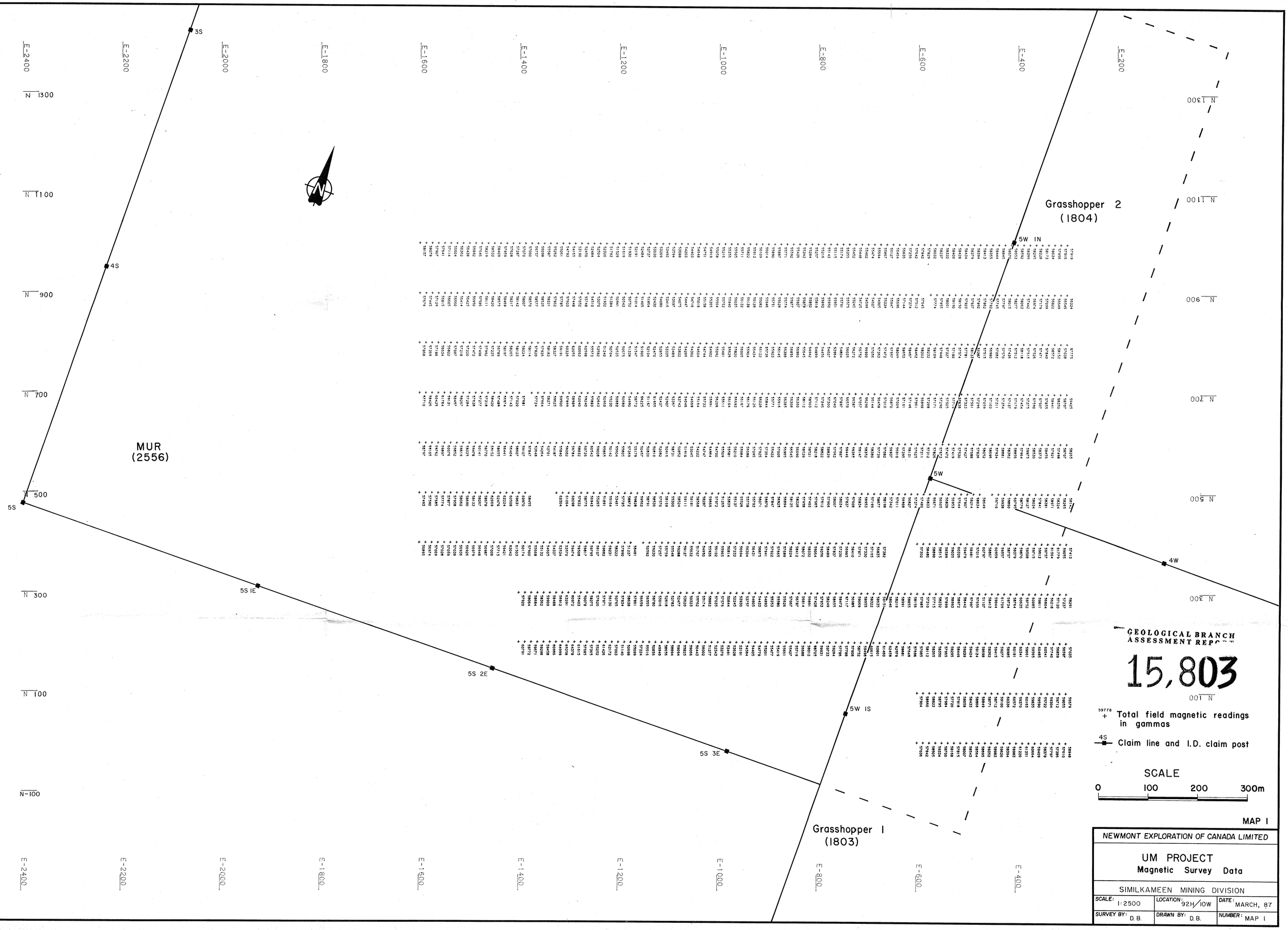
4. The magnetometer instrument readings and subsequent corrections for diurnal variations were done by senior assistant Philip Walker under my supervision.

Dennis M. Bohme

I, T. N. Macauley, do hereby certify that the work described in this report was carried out under my direction.

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
T. N. MACAULEY

Terrence N. Macauley, P. Eng.



GEOLOGICAL BRANCH
ASSESSMENT REPORT

15,803

59778 + Total field magnetic readings in gammas

4S ■— Claim line and I.D. claim post

SCALE
0 100 200 300m

MAP 1

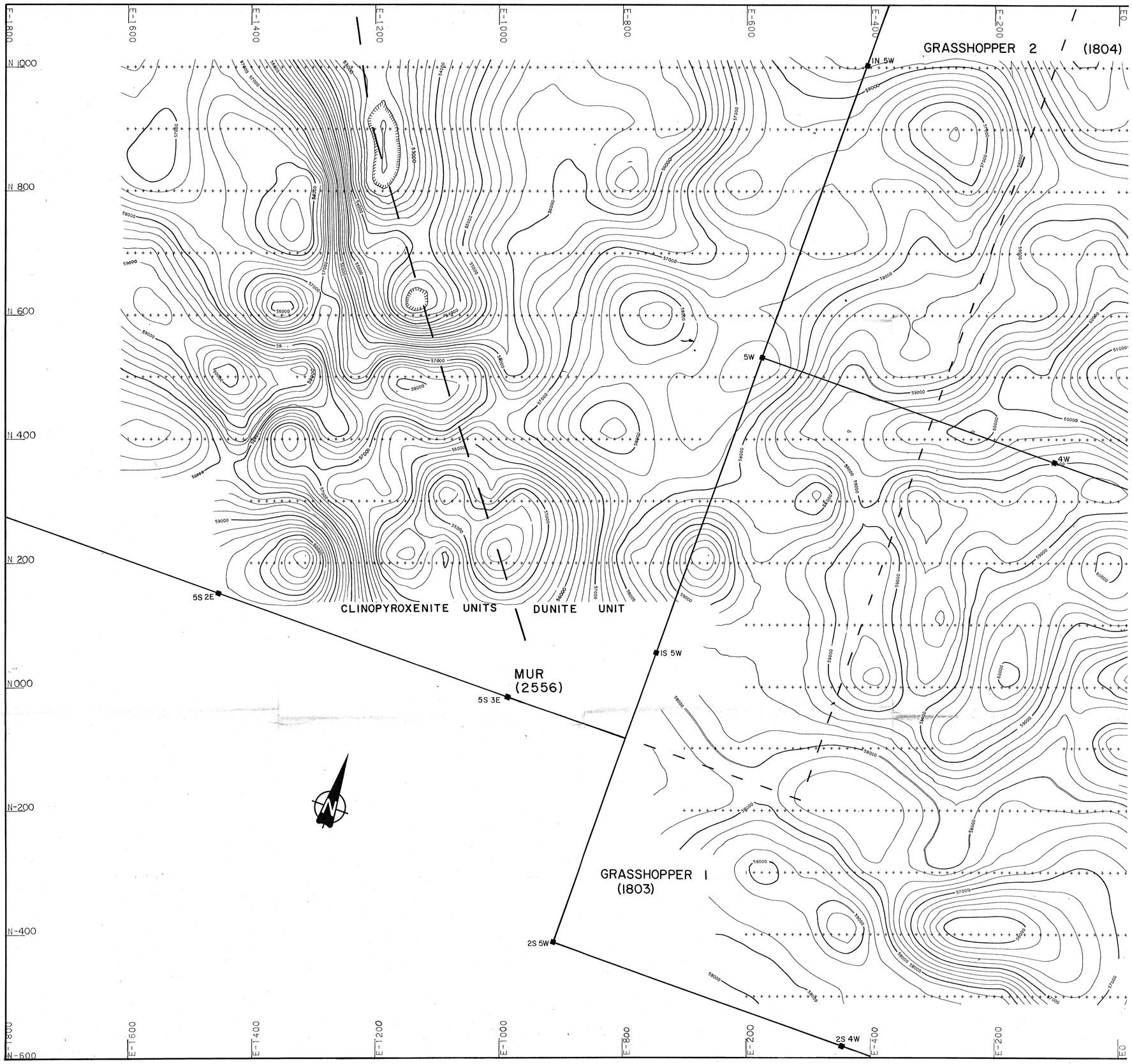
NEWMONT EXPLORATION OF CANADA LIMITED

UM PROJECT
Magnetic Survey Data

SIMILKAMEEN MINING DIVISION

SCALE: 1:2500	LOCATION: 92H/10W	DATE: MARCH, 87
SURVEY BY: D.B.	DRAWN BY: D.B.	NUMBER: MAP 1

VANCAL-1687



Geologic contact (inferred)

Total field magnetic readings

Contour interval 200 gammas

5S 3E — Claim line and I.D. claim post

MAP 2

SCALE
0 100 200 300m

GEOLOGICAL BRANCH
ASSESSMENT REPORT

15,803

NEWMONT EXPLORATION OF CANADA LIMITED

UM PROJECT

Magnetic Survey — Contour Plot

SIMILKAMEEN MINING DIVISION

SCALE:	LOCATION:	DATE:
1:2500	92H/10W	MARCH, 87
SURVEY BY: D.B.	DRAWN BY: D.B.	NUMBER: MAP 2