



exploration ltd. GEOLOGY • GEOPHYSICS
MINING ENGINEERING

85-1041
14646
12/86

Suite 614-850 WEST HASTINGS STREET, VANCOUVER, B.C.
TELEPHONE (604) 681-0191
V6C 1E1

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

14,646

GEOPHYSICAL REPORT

on a

GROUND MAGNETIC SURVEY

on

PLACER LEASES 63, 68, and 69

OYSTER RIVER AREA, BRITISH COLUMBIA

Nanaimo Mining Division - British Columbia

Latitude 49°52'30" N.

Longitude 125°17' W.

N.T.S. 92F/14W

OPERATOR: Moraine Resources Ltd.
17063 - 4th Avenue
White Rock, B.C.

FILMED

OWNER: Oyster River Placer Mining Ltd.

DATE OF FIELDWORK: August 14 and 15, 1985

by

R. F. Sheldrake, B.Sc.
and
Douglas R. MacQuarrie, B.Sc.

September 25, 1985

Vancouver, B.C.

TABLE OF CONTENTS

SUMMARY	1
INTRODUCTION	2
GEOLOGY	4
LOCATION AND ACCESS	5
PLACER LEASES	5
DISCUSSION OF RESULTS	6
CONCLUSIONS AND RECOMMENDATIONS	7
BIBLIOGRAPHY AND REFERENCES	
CERTIFICATES	

ILLUSTRATIONS

Figure 1	Placer Lease Map - Showing location of survey grids	After page 2
Plate 1	Grid I, Survey Grid with Magnetic Profiles (PML 68 & 69)	At Back
Plate 2	Grid II, Survey Grid with Magnetic Profiles (PML 63)	At Back

SUMMARY

The ground magnetic survey of Placer Mining Leases 63, 68 and 69 identified a number of magnetic "highs" which may be related to concentrations of magnetic "black sands" and associated placer gold deposits.

Recommendations have been made to test these areas and, subject to the results, acquire a more comprehensive data set.

INTRODUCTION

On August 14 and 15, 1985 ground magnetometer measurements were taken on traverses over Placer Mining Leases 63, 68 and 69 at the request of Messrs. Tom and Ray McQuillan, of Moraine Resources Ltd., Vancouver.

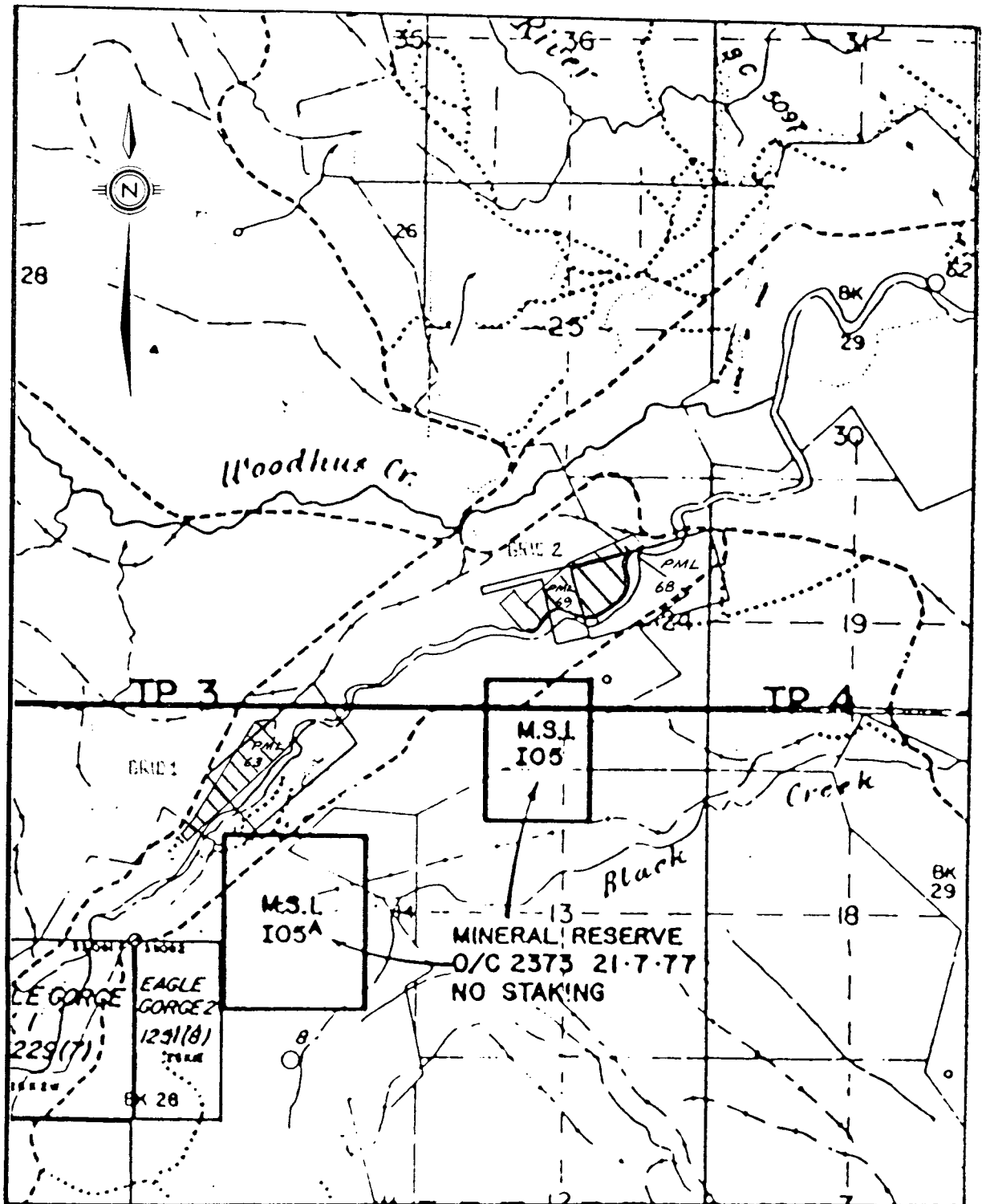
The purpose of the magnetic survey was to delineate areas of increased magnetic susceptibility which may be associated with concentrations of black sands (magnetite), since placer gold is associated with these black sands (personal communication with Mr. T. McQuillan).

The leases are located on the Oyster River which is about 12 kilometres south of Campbell River, British Columbia.

Two survey grids were measured for a total of 3.4 kilometres of traverse. Grid I consists of 11 lines (total 1.8 kilometres) and Grid II consists of 8 lines (total 1.6 kilometres).

The traverses were located using compass and hip-chain. Observations were made at 5 metre station intervals on lines located 100 metres apart. The terrain was modest and consisted of benches. The location of the traverses with respect to the leases is plotted on Figure 1.

Two Scintrex MP-2 magnetometers were used for the survey. They are of the total field nuclear precession type, with



PLACER MINING LEASE MAP- MORaine RESOURCES LTD.
 NANAIMO MINING DIVISION
 PART OF MAPSHEET - M92F/14W
 FIG 1

a sensitivity of 1 gamma. Readings were taken, and repeated in such a fashion as to allow for diurnal and base level magnetic corrections. It is estimated that the data are reliable to ± 5 gammas.

The magnetic data are presented at an horizontal scale of 1:1,000 along the survey traverses (see Plates 1 and 2).

GEOLOGY

Little is known about the geology of the leases. Muller and Carson⁽¹⁾, 1968, mapped the area as being underlain by the Comox Formation (unit 11) and its Benson Member (unit 11a). The Comox Formation is sandstone, conglomerate, shale, coal, and the Benson Member is mainly coarse conglomerate.

No detailed geology of the leases and surrounding area is available. However, Mr. Tom McQuillan⁽²⁾ reported that in test pitting carried out on the property considerable volumes of black sand and large boulders of magnetite were noted associated with placer gold in the workings. He also noted that although the surficial (fluvial) deposits are extensive, they probably do not exceed 20 metres in thickness.

(1) See Bibliography

(2) Personal communication

LOCATION AND ACCESS

The placer leases are easily accessible from the main Nanaimo-Campbell River Highway and are about 10 kilometres west of the Oyster Bay turn-off.

PLACER LEASES

The placer leases are owned by Oyster River Placer Mining Ltd. (3)

The present exploration work was commissioned by Messrs. Tom and Ray McQuillan of Moraine Resources Ltd. The lease status is as follows:

<u>Lease No.</u>	<u>Tag No.</u>	<u>Expiry Date</u>
PML 63	418553M	January 21, 1987
PML 68	418586M	January 21, 1986
PML 69	418581M	January 21, 1986

It is expected that the above dates will be extended by three years upon acceptance of this report.

(3) Personal communication from Mr. Tom McQuillan.

DISCUSSION OF RESULTS

Magnetometers measure the response of magnetic materials in the underlying ground and rocks to the earth's magnetic field. In the case of placer mining exploration (assuming that the underlying "basement" rocks are magnetically-relatively homogeneous) magnetic data can locate paleo-stream channels and in some cases concentrations of black sand that may indicate gold bearing alluvium.

In the case of the present data set, which was obtained using a wide line spacing, the geophysical data is interpreted to its outside limits. However, the data indicate several areas where localized magnetic highs could indicate concentrations of "black sands". These are as follows:

GRID I

Line 0, St. 0+30 NW
Line 3, St. 0+ 5 SE
Line 15, St. 0+95 NW
Line 15, St. 1+35 NW

GRID II

Line 2, St. 0+35 S
Line 3, St. 0+75 N
Line 6, St. 2+20 N

CONCLUSIONS AND RECOMMENDATIONS

It is recommended that each of the areas identified as magnetic "highs" be excavated with a backhoe and sampled for its black sand and gold content. If the magnetic "high" areas show a convincing relationship to the amounts of black sands (magnetite) in the alluvial material, then further magnetic measurements should be taken on intermediate lines. A traverse spacing of 20 metres and a station spacing of 5 metres would provide the best coverage. This additional data would allow the preparation of a contour map, which ultimately may distinguish favourable paleo-stream channels for placer gold deposition.

Respectfully submitted,

Ronald F. Sheldrake
B.Sc.



Douglas R. MacQuarrie
B.Sc.

BIBLIOGRAPHY AND REFERENCES

- Muller, J. E. and Carson, D. J. T. (1968). Geology and Mineral Deposits of Alberni Map-Area, British Columbia (92 F) published by the Geological Survey of Canada, Paper 68-50.
- Peterson, Donald W., Yeend, Warren E., Oliver, Howard W., and Mattick, Robert E. (1968). Tertiary Gold Bearing Channel Gravel in Northern Nevada County, California published by U.S.G.S., Geological Survey Circular 566.

CERTIFICATE

I, Douglas R. MacQuarrie, of the City of Surrey in the Province of British Columbia, do hereby certify that:

1. I am a Consulting Geophysicist of A & M Exploration Ltd., with offices at #614 - 850 West Hastings Street, Vancouver, British Columbia.
2. I am a graduate of the University of British Columbia with a degree in Geology and Geophysics (B.Sc., 1975).
3. I have been practising my profession since 1975 and have been active in the mining industry since 1971.
4. I am an active member of the Canadian Institute of Mining and Metallurgy and a member of the British Columbia Geophysical Society.
5. This report is based on fieldwork carried out by Stuart Travis and Al Geoghegan of A & M Exploration Ltd., on August 14 and 15, 1985 and on information listed in the References.
6. I hold no interest, nor do I expect to receive any, in Placer Mining Leases 63, 68 and 69 or in Moraine Resources Ltd. or Oyster River Placer Mining Ltd.
7. I consent to the use of this report in, or in connection with, a Prospectus, Engineering Reports or in a Statement of Material Facts.

September 25, 1985
Vancouver, B.C.



Douglas R. MacQuarrie
B.Sc.

CERTIFICATE

I, Ronald F. Sheldrake, of the City of Vancouver, Province of British Columbia, hereby certify as follows:

1. I am a professional geophysicist and President of Apex Airborne Surveys Ltd., a company incorporated under the laws of the Province of British Columbia.
2. The Vancouver office of Apex Airborne Surveys Ltd. is located at Suite 810 - 625 Howe Street, Vancouver, British Columbia
3. I received my degree in Geophysics (B.Sc.) from the University of British Columbia in May, 1974.
4. I have practised my profession since that date.
5. I have no interest, direct or indirect, other than payment for this report, in the properties or claims of Moraine Resources Ltd. or in Oyster River Placer Mining Ltd., or their associated companies nor do I expect to receive any.
6. I consent to the use of this report in, or in connection with, a Prospectus, Engineering Reports or in a Statement of Material Facts.

Ronald F. Sheldrake

September 25, 1985

Apex Airborne Surveys Ltd.

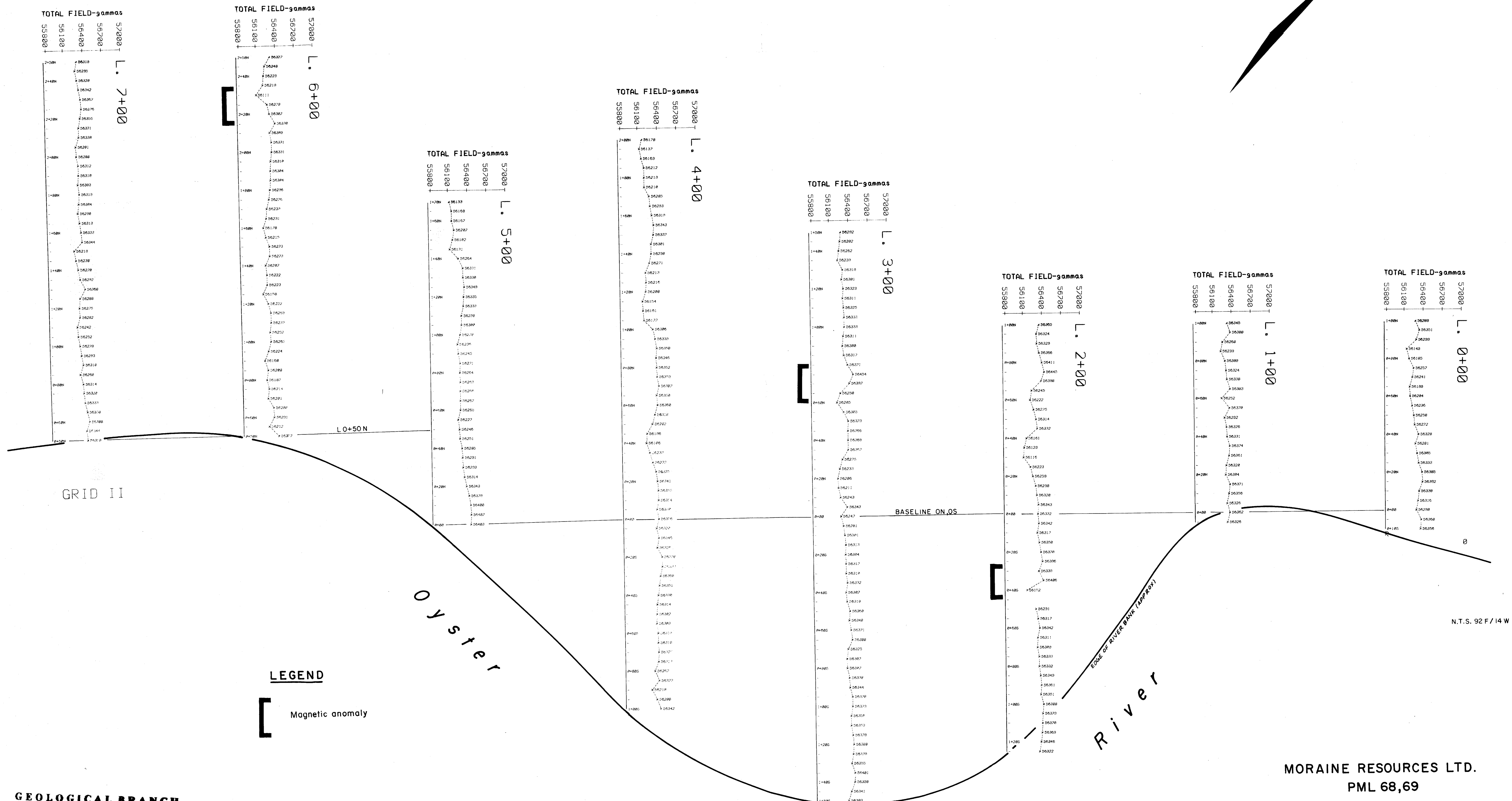
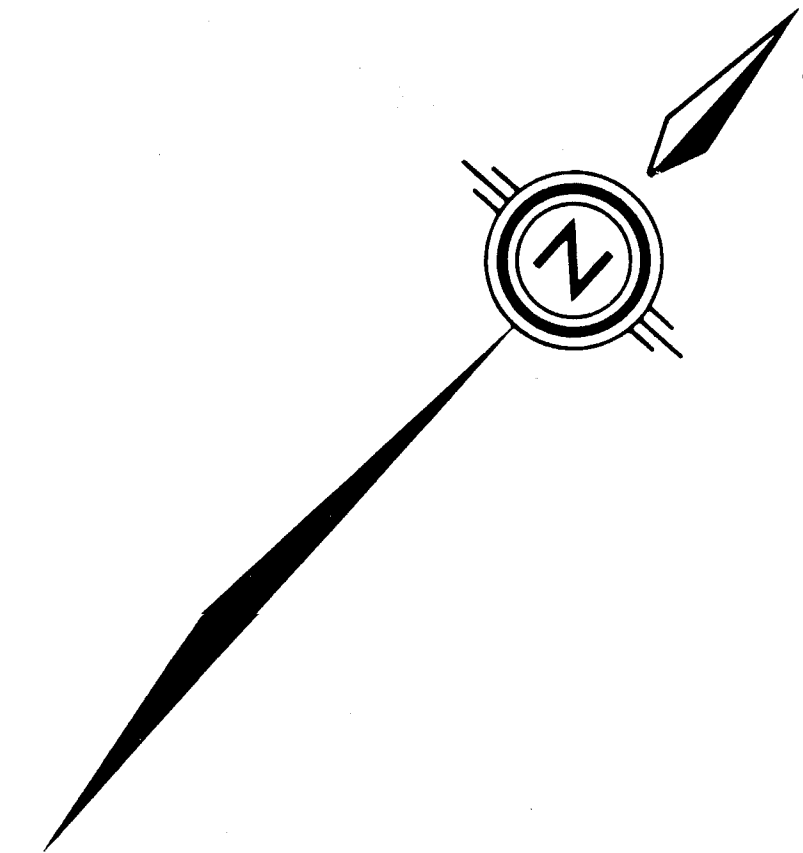
AFFIDAVIT OF EXPENSES

I, Douglas R. MacQuarrie, a geophysicist with A & M Exploration Ltd. of #614 - 850 West Hastings Street, Vancouver, B.C., V6C 1E1, do hereby certify that the following work was carried out during the period August 13-15, 1985 to the cost of the following:

1. A total of \$1500.00 was expended on geophysical work on Placer Mineral Leases 68 and 69.
2. and that a further \$750.00 was expended on geophysical work on Placer Mineral Lease 63.

A handwritten signature in black ink, appearing to read 'D. MacQuarrie', with a long, sweeping horizontal flourish extending to the right.

Douglas R. MacQuarrie,
Geophysicist



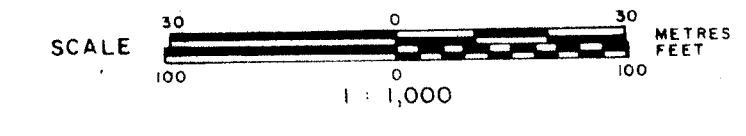
N.T.S. 92 F / 14 W

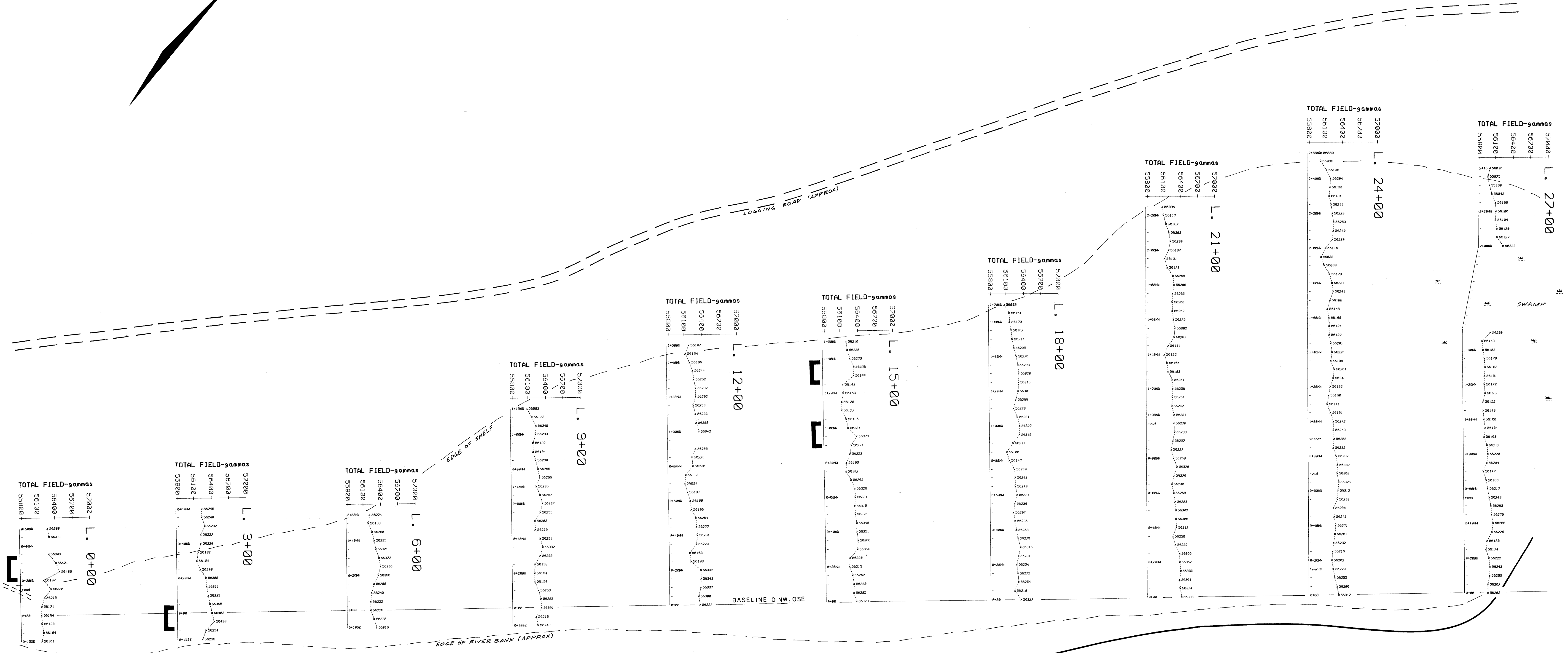
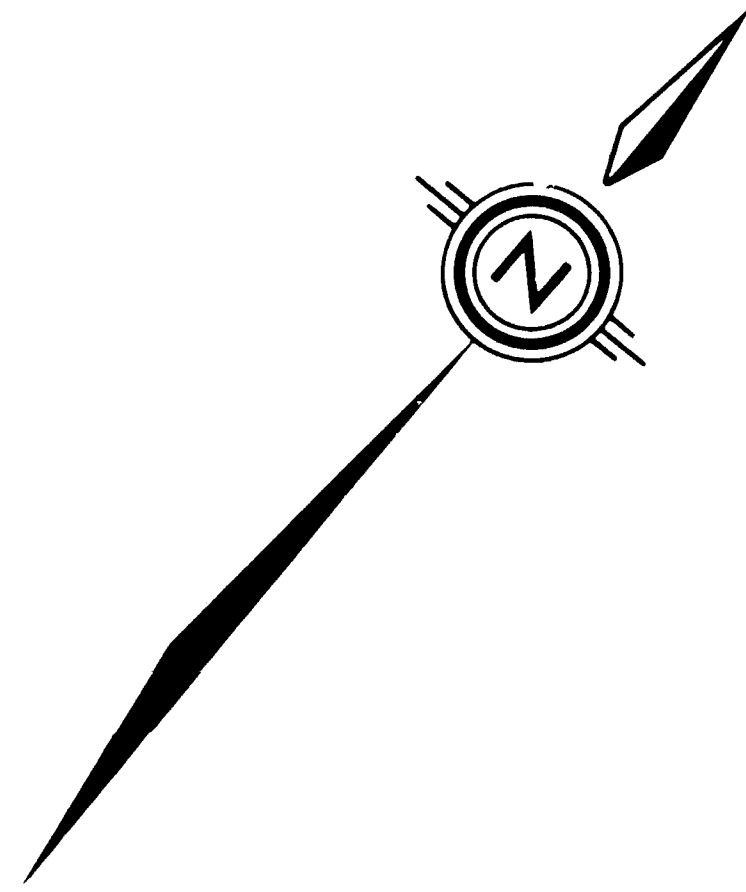
GEOLOGICAL BRANCH
ASSESSMENT REPORT

14,646

Survey instrument : Scintrex MP-2 Magnetometer
Survey date : August 15, 1985

MORAINÉ RESOURCES LTD.
PML 68,69
MAGNETOMETER PROFILES
GRID 2





LEGEND

[Magnetic anomaly

Oyster

River

N.T.S. 92 F/14 W

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

14,646

Survey instrument : Scintrex MP-2 Magnetometer
Survey date : August 14, 1985

**MORaine RESOURCES LTD.
PML 63
MAGNETOMETER PROFILES
GRID I**

