| | | | |
|---|---|---|---|
| **MAP NO.:** | **ASSESSMENT REPORT** | X | **DOCUMENT NO:** 092863 |
| | **PROSPECTUS** | | **MINING DISTRICT:** WATSON LAKE |
| 105 C 1 | **CONFIDENTIAL** | X | **TYPE OF WORK:** Soil Sampling |
| | **OPEN FILE** | | Geophysics |

**REPORT FILED UNDER:** A. W. Hyde

**DATE PERFORMED:** August 31 - September 10, 1989 **DATE FILED:** Aug 16,1990

**LOCATION:** **LAT.:** 60°00'N **AREA:** Morley River

**LONG.:** 132°12'W **VALUE $:** 13 311

**CLAIM NAME & NO.:** HYDER 1-4
HYDER 9-36

**WORK DONE BY:** G. S. Davidson

**WORK DONE FOR:** A. W. Hyde

**DATE TO GOOD STANDING:**

| | |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |

**REMARKS:** Work was done to investigate coincident copper showings and aeromagnetic anomalies on the Morley River. Paleozoic metaseds are intruded by Cretaceous granites. The magnetometer survey outlined four strong anomalies. Copper mineralization occurs in quartz biotite gneiss. Rock analysis returned values from 1524 to 2111 ppm. Samples of magnetite skarn returned background values.

Indian and Northern Affairs Canada | Affaires indiennes et du Nord Canada

| M.R. file no. | |
|---|---|
| R.M.M.R. file no. | |
| Date forwarded | 14 Aug 90 |

# TRANSMITTAL FORM

From ▶ Mining Recorder at: Watson Lake

To ▶ Regional Manager, Mineral Rights at Whitehorse, Y.T.

For action are:

- ☐ NEW APPLICATION FOR PLACER LEASE TO PROSPECT — Name:
- ☐ RENEWAL APPLICATION PLACER LEASE TO PROSPECT — Name: — Lease no.:
- ☐ AFFIDAVIT OF EXPENDITURE ON PLACER LEASE — Name: — Lease no.:
- ☐ SECURITY DEPOSIT
- ☐ FINANCIAL ABILITY
- ☐ ASSIGNMENT OF PLACER LEASE NO. — From: — To:
- ☐ GROUPING APPLICATION UNDER SEC. 52(2) PLACER MINING ACT. — Owner:
- ☐ DIAMOND DRILL LOGS — Claims: — Claim sheet no.:
- ☒ QUARTZ ASSESSMENT REPORT — Claims: Hyder 1-49-36 YB16328 to YB16359 — Claim sheet no.: 105-C-01
  - Type of report: Exploration Report - VLF/mg
  - Submitted by: Yukon Engineering Services
  - Cls. work performed on: ~~Ex~~ Hyder 15,19,23,25,30,32
  - $ req. for ren. application: 12,800.00

AUG 16 1990 — YUKON TERRITORY — WHITEHORSE

Signature

Date returned

REPLY ACTION

approved Aug 31/90

13,311

Signature

802-6027-26 (6-86)

EXPLORATION REPORT
on the

HYDER 1-4, 9-36 CLAIMS
(YB16328-YB16359)
NTS 105 C-1
Lat.60 00'N, Long. 132 12'W
Watson Lake Mining District



CONFIDENTIAL

092863

For: Mr. A.W. Hyde
1201 Grove St.
Whitehorse, Yukon

By: G.S. Davidson, P. Geol.
17-4078 Fourth Ave.
Whitehorse, Yukon
Y1A 4K8

October, 1989

This report has been examined by the Geological Evaluation Unit under Section 53 (4) Yukon Quartz Mining Act and is allowed as representation work in the amount of $ 13,311.

for Regional Manager, Exploration and Geological Services for Commissioner of Yukon Territory.

TABLE OF CONTENTS

## INTRODUCTION

Mr. A.W. Hyde engaged the writer and R. MacIntyre of Yukon Engineering Services to stake and investigate coincidental copper showings and aeromagnetic anomalies on the Morley River in the southcentral Yukon. Initially, thirty-two claims were staked, centering on a sinuous canyon on the Morley River. After recording the claims in Watson Lake, an exploration program consisting of grid development, geophysical surveys, preliminary geochemistry and prospecting was performed.

## LOCATION AND ACCESS

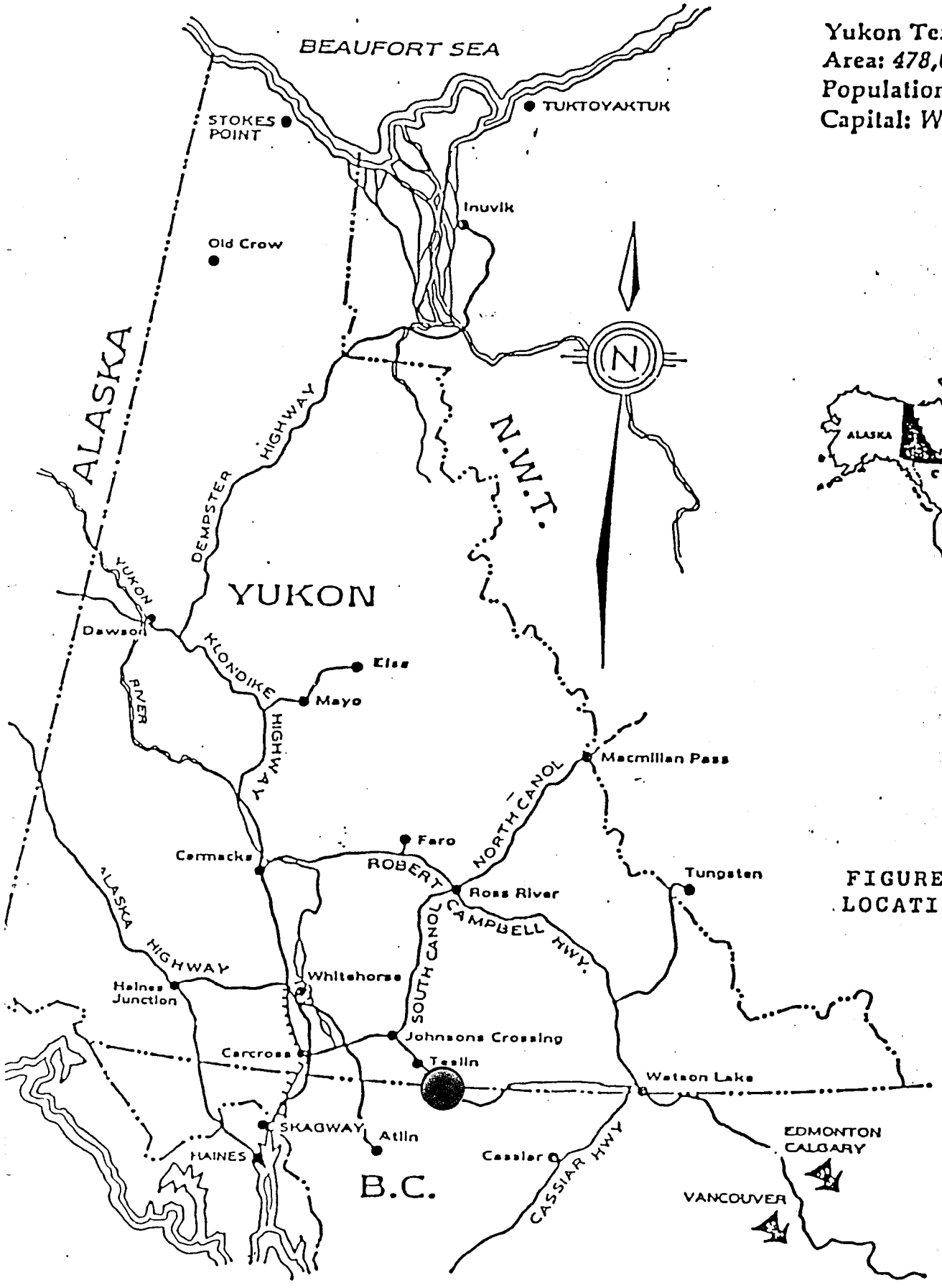
The claims are located near the Morley River Lodge between the B.C.-Yukon border and the Alaska Highway approximately 35 km southeast of the village of Teslin and 275 km from Whitehorse. Geographical coordinates are 60 00' north and 132 02' west on NTS Map Sheet 105 C-1. Figures 1 & 2 show the property location.

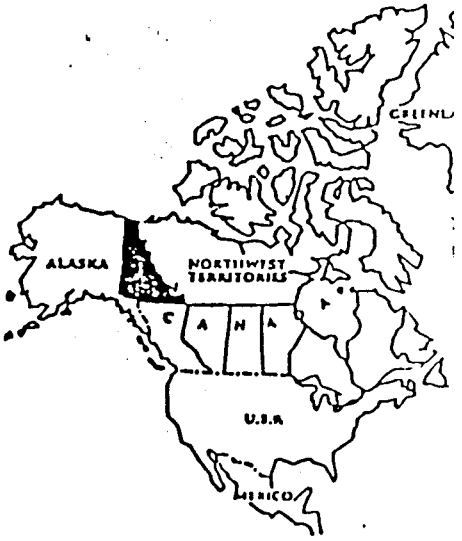
The Alaska Highway passes through the north edge of the Hyder claims providing excellent access to the property. An inflatable raft and fixed rope was used to access claims on the south side of the Morley River.

## PHYSIOGRAPHY, VEGETATION AND CLIMATE

The southeast corner of the Teslin map sheet is generally low lying with rounded hills reaching a maximum elevation of 1500 m. The area is dominated by Teslin Lake, at 100 km long and averaging 3 km in width it is one of the largest lakes in northwestern Canada.

The claims lie between Morley Lake and Teslin Lake on the Morley River. Thick glacial deposits and benches are cut by the Morley River forming a narrow steep sided valley. The Hyder claims cover moderately steep river valley walls and a 400 m long rock canyon. In the centre of the canyon the 10 m wide river passes through rock walls approximately 20 m high. Steep scarps of glacial till are actively eroding into the river, above and bellow the canyon.




**Yukon Territory**
**Area:** *478,034 sq. km.*
**Population:** *25,000*
**Capital:** *Whitehorse*

FIGURE 1
LOCATION MAP

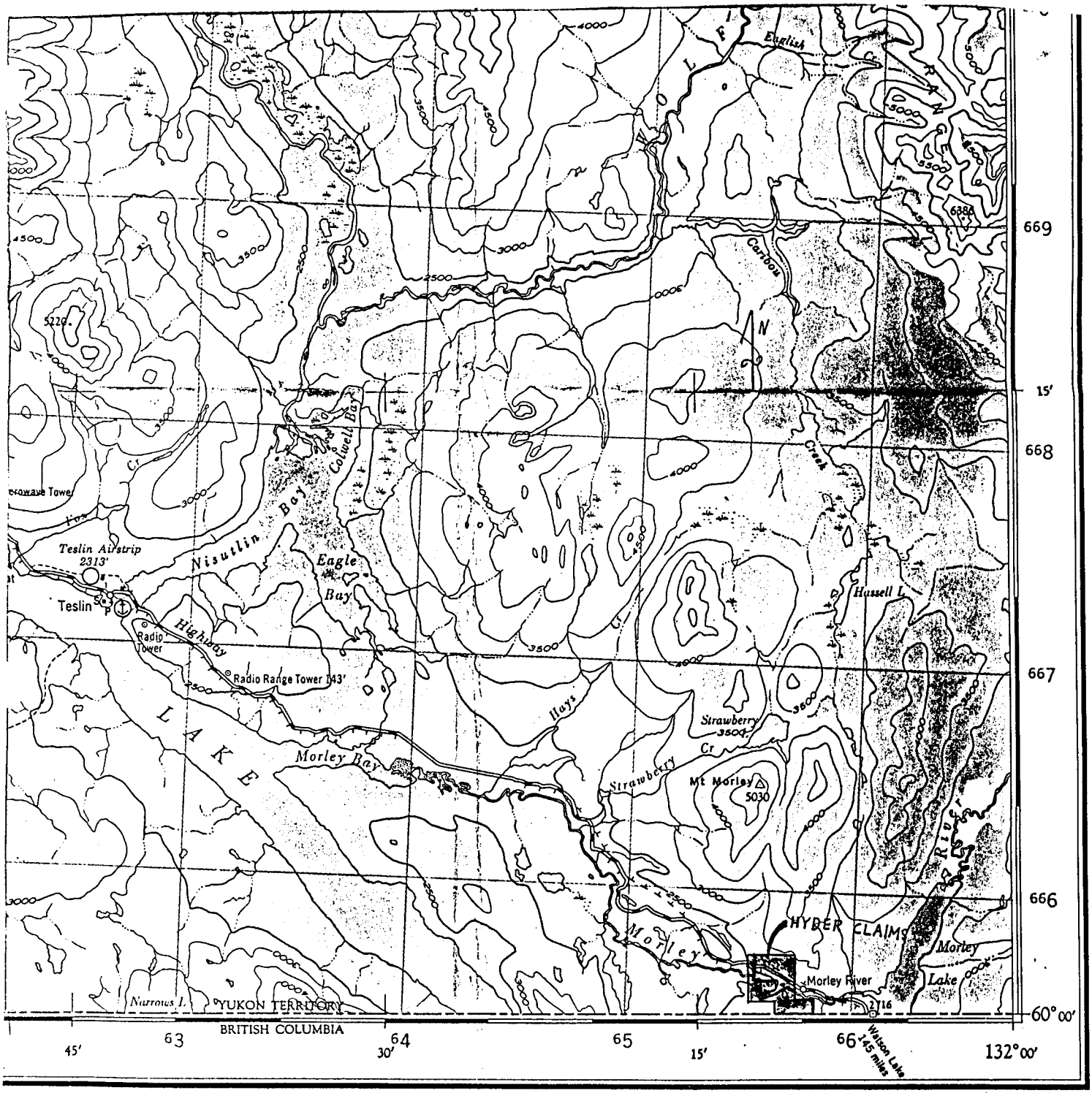



Figure 2 - REGIONAL MAP
NTS 105 C Scale 1:250,000

North of the Morley River, vegetation consists of spruce and pine forest with thick buckbrush. Glacial benches on the south side of the river are fairly open with spruce and pine trees.

Annual precipitation in the Teslin area averages 40 cm and summer temperatures average 15 C. At low elevations exploration is possible on a year round basis.

## PROPERTY DATA

The Hyder 1-4, 9-36 mineral claims are registered with the district mining recorder in Watson Lake, Yukon. The claims were staked by R. MacIntyre on behalf of Mr. A.W. Hyde of Whitehorse. Figure 3 shows the claim plan and claim data is listed in Table 1.

TABLE 1

CLAIM DATA

| Claim Name | Grant Numbers | Recording Date | Expiry Date |
|---|---|---|---|
| Hyder 1-4 | | August 30, 1989 | August 30,1990 |
| Hyder 9-36 | | August 30, 1989 | August 30,1990 |

## REGIONAL GEOLOGY

East of Teslin Lake, the area is underlain by the Yukon Cataclastic Complex, an assemblage of mainly Paleozoic metasediments intruded by granitic Coast Intrusions of Cretaceous age. The metasediments consist of quart-mica schist and gneiss, and quartzite. Figure 4 shows the regional geology.

## EXPLORATION HISTORY

This part of the Yukon has seen little mineral exploration of record. Old claim posts and claim lines indicate that the area of the Hyder claims has been previously staked. The target appears to have been several massive magnetite lenses and copper stained rocks which outcrop in the canyon walls. Partially discernable writing on the old posts record the Otter claims, first staked in the 1950's and again in the 1960's. The old claim line runs along the north rim of the canyon. No physical evidence of previous work was seen and no assessment data was found.

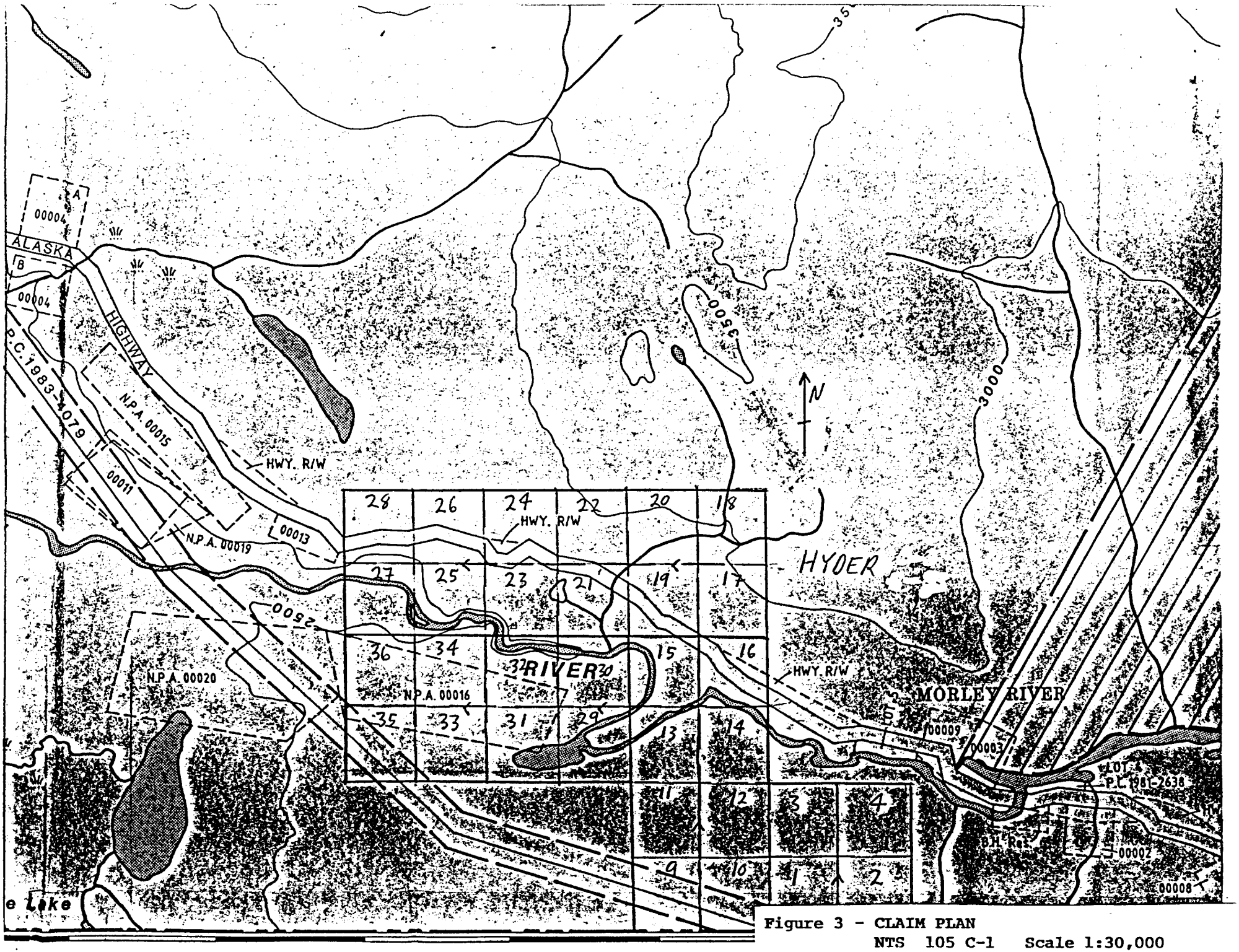



Figure 3 - CLAIM PLAN
NTS 105 C-1 Scale 1:30,000

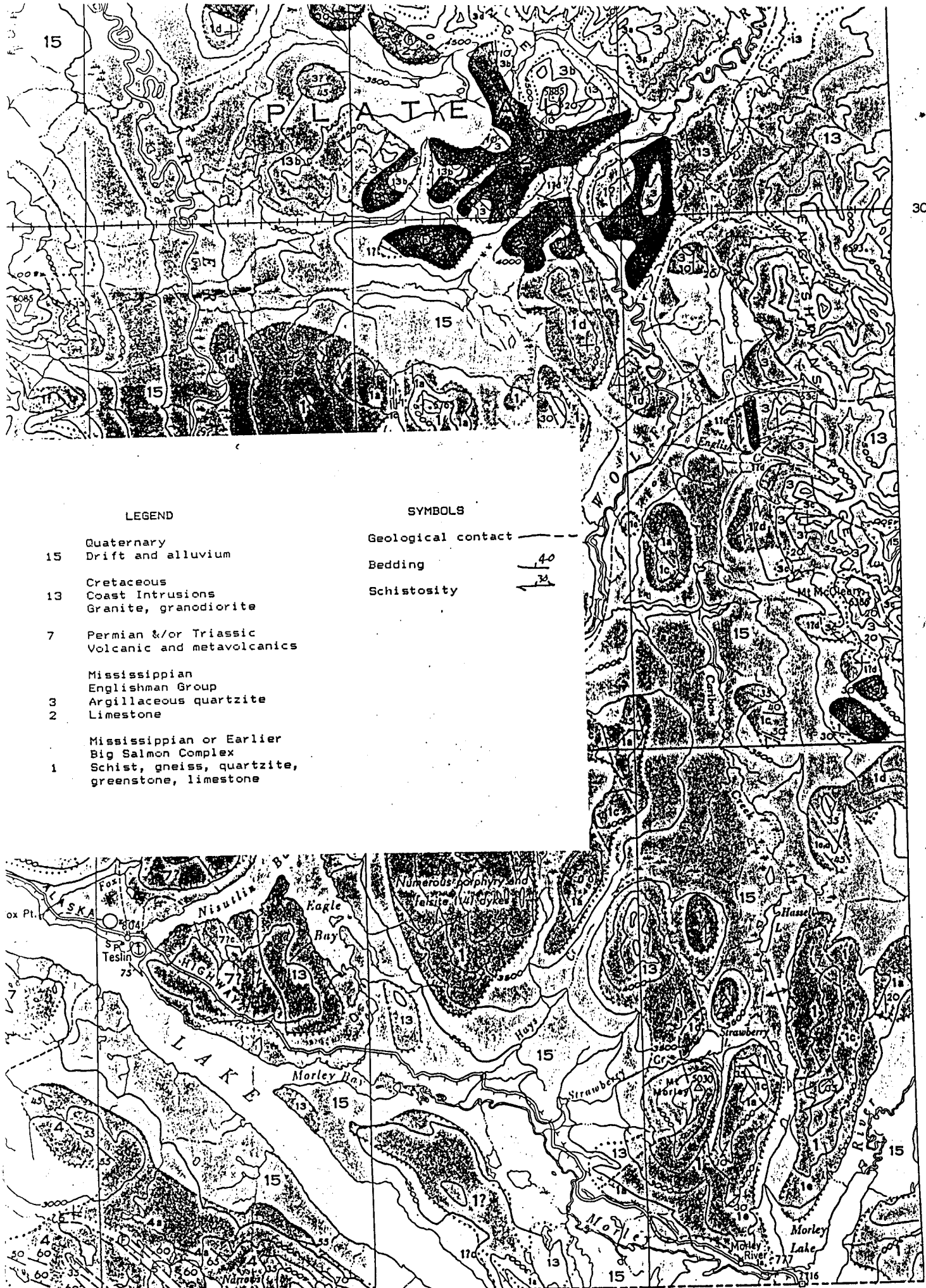



Figure 4 - GEOLOGY
NTS 105-C Scale 1:250,000

## RECENT EXPLORATION

Exploration was undertaken on the claims from August 31 to September 10, 1989. Initially the magnetite and copper showings had to be relocated as Mr. Hyde had not visited the area in twenty years. Preliminary prospecting targeted aeromagnetic anomalies along the Morley River (see Figure 5). The magnetite occurrences were located on the second day of traverses. A 1 km cut baseline orientated north-south was established 100 m east of the canyon and 150 m east of the main magnetite lense. A total of 9.3 km of crosslines were run from 100 m centres on the baseline. The crosslines were slashed out as buckbrush was fairly thick in the grid area.

An EDA Omni Plus combination VLF and Magnetometer was utilized on the grid. Readings were taken at 25 m stations. Initially magnetometer readings were taken along a tie baseline and corrected for daily magnetic deviation. Then, crosslines were walked in sequence, starting and returning to the baseline in a loop pattern. The EDA instrument automatically corrects the magnetometer readings during the data printout.

The VLF-EM survey was performed using frequencies transmitted from Annapolis, Maryland (21.4 KHz) and Cutler, Maine (24.0 Khz). The orientation of these signals was best suited for the survey area.

A contour magnetometer map of the Hyder grid is presented in Figure 7 and profiles of each line are presented in Appendix 1. The total magnetic field ranges from 58,000 gammas to over 61,000 gammas. Four highly magnetic areas with a north-south orientation were outlined by the survey. The strongest anomaly is located at grid L16+00N, 9+50E. The anomalies outline massive magnetite lenses occurring in quartz muscovite schist and quartzite. The anomalies are concentrated around the canyon where overburden is minimal. Southern and northern parts of the grid show little magnetic variation, possibly due to thick glacial deposits.

The VLF-EM survey delineated north-south anomalies coincident with the magnetic highs. The data was difficult to interpret because of the effects of rugged topography on the readings.

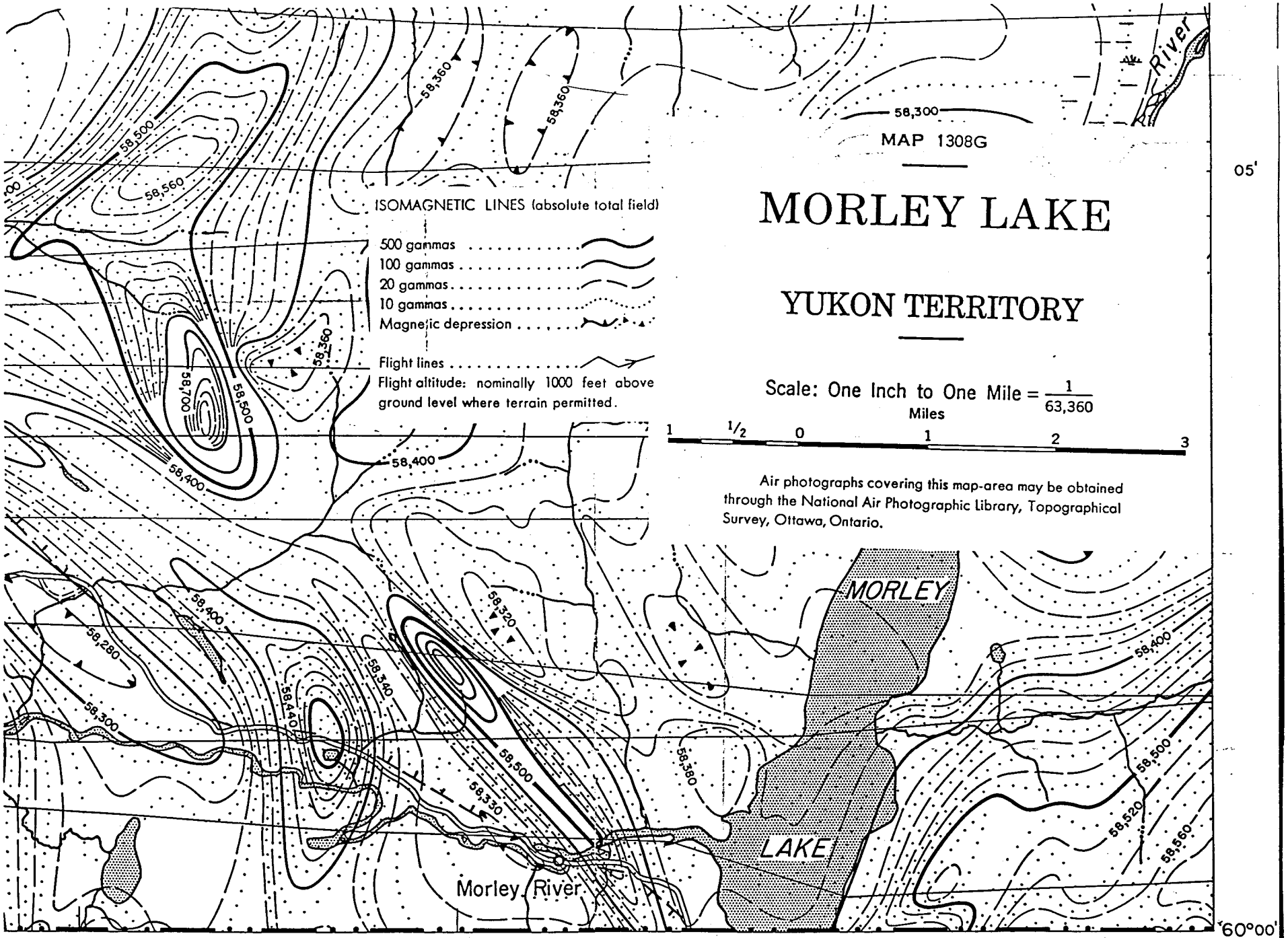
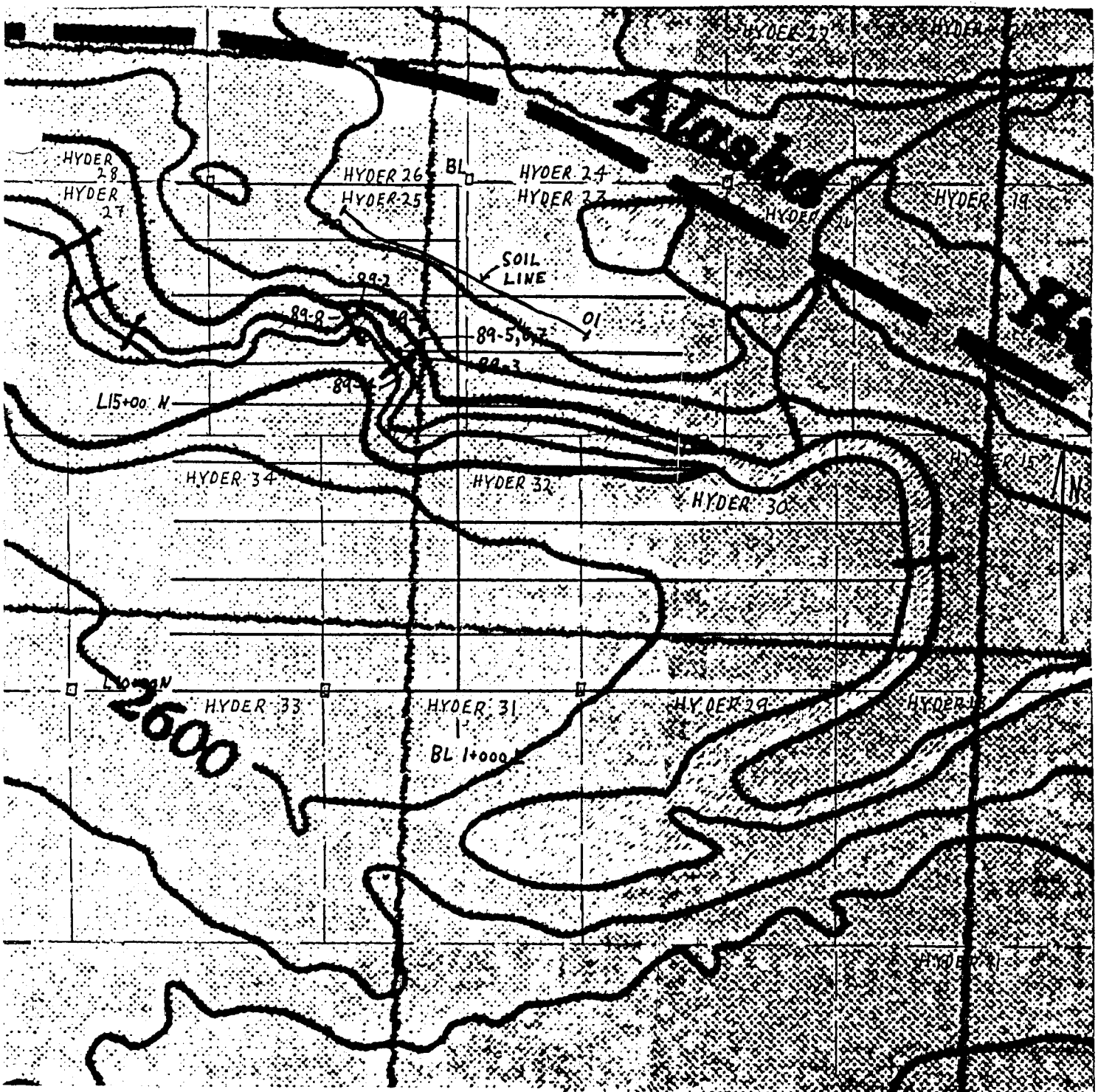



Figure 5 - AEROMAGNETIC MAP
NTS 105 C-1 Scale 1:50,000




| Sample | ppb Au | ppm Ag | ppm Cu | ppm Pb | ppm Zn |
|---|---|---|---|---|---|
| 8923-01 | 24 | <0.1 | 22 | 20 | 161 |
| 8923-02 | 13 | 0.6 | 13 | 12 | 76 |
| 8923-03 | 13 | 1.1 | 11 | 7 | 56 |
| 8923-04 | 13 | 0.2 | 8 | <1 | 78 |
| 8923-05 | 19 | 0.5 | 5 | 11 | 59 |
| 8923-06 | 18 | 1.1 | 7 | 13 | 41 |
| 8923-07 | 20 | 0.5 | 10 | 4 | 58 |
| 8923-08 | 18 | 1.2 | 9 | 1 | 101 |
| 8923-09 | 21 | 1.9 | 12 | 5 | 55 |
| 8923-10 | 23 | 0.7 | 10 | 4 | 77 |
| 8923-11 | 21 | 1.4 | 7 | 11 | 78 |
| 8923-12 | 28 | 0.6 | 8 | 15 | 93 |
| 8923-13 | 26 | 0.6 | 9 | 3 | 71 |
| 8923-14 | 23 | 1.8 | 7 | 10 | 42 |
| 8923-15 | 13 | 1.7 | 4 | 15 | 77 |
| 8923-16 | 13 | 0.5 | 9 | 22 | 40 |
| 8923-17 | 20 | 0.6 | 2 | 32 | 86 |
| 8923-18 | 25 | 0.1 | 6 | 14 | 44 |
| 8923-19 | 17 | 0.4 | 6 | <1 | 45 |
| 8923-20 | 19 | <0.1 | 5 | <1 | 52 |

**Figure 6 - PROPERTY MAP**
**Scale 1:10,000**

Eight rock and twenty soil samples were collected on the north side of the Morley River. Soil samples were collected at 25 m intervals, on a contour line starting at grid coordinates 1225E 1635N. The location of the contour line and the soil sample numbers are shown in Figure 6. All samples were analyzed for Au-Ag-Cu-Pb-Zn-W by Northern Analytical Laboratories Ltd. in Whitehorse. Certificates of analyses are presented in Appendix 2. The rock sample locations and grid map are also shown in Figure 6. Table 2 lists rock sample descriptions and values.

Pyrite and chalcopyrite bearing gneiss and skarn carried significant copper values (1151-2111ppm). The mineralization appears to occur in gneissic bands in the quartz muscovite schist and in magnetite skarn. One, 1-2 m wide gneissic zone, heavily stained by limonite outcrops over a 20 m length. Sample 89-2, a grab sample form this zone contained 20 % pyrite and produced a copper value of 1151ppm.

Samples 89-5&6 were collected from pyritic magnetite skarn on the margin of a massive magnetite lense. They returned copper values of 1524 & 2111ppm respectively. Samples of massive magnetite produced background values. In outcrop the magnetite lenses are up to 3 m wide, have a northwesterly strike and dip 60-80 deg. southeast. Tetrahedral crystals of magnetite up to 5 mm in length are disseminated through massive fine-grained magnetite with accessory quartz and pyrite.

Areas of heavy malachite and azurite staining in the canyon were not accessible for sampling in the summer. These outcrops are fairly extensive and warrant investigation. Access may be possible in winter along the river ice.

## CONCLUSIONS

Aeromagnetic anomalies on the Morley River are due to massive magnetite lenses in quartz muscovite schist.

The ground magnetometer survey has outlined four strong anomalies near the canyon. Elsewhere overburden is thick.

Copper mineralization occurs in quartz biotite gneiss and magnetite skarn. The potential for significant copper-skarn type mineralization in the Morley River area is fairly high. However the mineralization sampled to date is low grade and patchy.

The most promising showings were not sampled; malachite and azurite stained outcrop in the canyon were not accessible.

TABLE 2

ROCK SAMPLE DESCRIPTIONS AND VALUES

| Sample Number | Type | Description | Au PPB | Ag PPM | Cu PPM | Pb PPM | Zn PPM |
|---|---|---|---|---|---|---|---|
| 89-1 | grab | Massive fine-grained steel grey-blue magnetite, minor pyrite, quartz and limonite | 18 | 0.3 | 22 | <1 | 24 |
| 89-2 | grab | Quartz-feldspar-biotite gneiss, 10% pyrite, limonite | 25 | 0.5 | 1151 | 4 | 40 |
| 89-3 | grab | Massive fine-grained magnetite, some quartz minor pyrite | 19 | <0.1 | 7 | 1 | 2 |
| 89-4 | grab | Banded quartz-feldspar-biotite gneiss and calc-silicate skarn, 10% pyrite | 15 | <0.1 | 37 | 3 | 38 |
| 89-5 | grab | Fine-grained, siliceous magnetite skarn, 2% pyrite, minor chalcopyrite | 28 | 0.9 | 1524 | 9 | 8 |
| 89-6 | grab | Banded, fine-grained magnetite skarn, minor pyrite and chalcopyrite | 17 | 2.5 | 2111 | 9 | 40 |
| 89-7 | grab | Massive, fine-grained magnetite skarn, dissem. 5mm long magnetite crystals | <5 | 0.7 | 123 | 16 | 26 |
| 89-8 | grab | Fine-grained steel blue magnetite, limonite | <5 | 0.1 | 317 | 10 | 26 |

## RECOMMENDATIONS

More intensive prospecting, geological mapping and rock sampling are necessary along the canyon walls to properly evaluate potential copper mineralization. Detailed sampling of this area may be possible in winter.

# CERTIFICATE

I, GRAHAM DAVIDSON, of the City of Whitehorse, in the Yukon Territory, HEREBY CERTIFY:

1. That I am a consulting geologist and that I performed the work program described in this report.

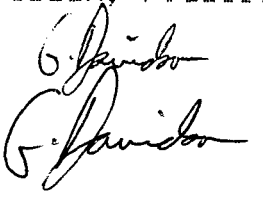
2. That I am a graduate of the University of Western Ontario (H. BSc., Geology, 1981).

3. That I am registered as a Professional Geologist by the Association of Professional Engineers, Geologists & Geophysicists of Alberta (No. 42038).

4. That I have been engaged in mineral exploration on a full time basis for nine years in the Yukon and Northwest Territories, and British Columbia.

SIGNED at Whitehorse, Yukon this 30th day of October, 1989.

G.S. DAVIDSON, P.Geol.



## COST STATEMENT

Morley River Exploration

A. Yukon Engineering Services Job £ 8923

For: Mr. A.W. Hyde
Hyder 1-4; 9-36 105 C
August 31 to September 17, 1989

| | | |
|---|---|---|
| 1. | Sub contract geologist - G. Davidson<br>14.5 days @ $300.00/day | $ 4,350.00 |
| 2. | Yukon Engineering Services - line cutting, magnetometer amd VLF geophysical survey, prospecting and soil/rock sampling | |
| | 2.1 Fees: 17 days @ $350.00/day | 5,950.00 |
| | 2.2 Disbursement (boat rental, food, etc.) | 1,786.00 |
| 3. | Northern Analytical Laboratory - assay costs | 587.00 |
| | Sub Total: | $12,673.00 |

B. Yukon Engineering Services Job £ 90-04
Hyder No. 30 105 C1

May 1, 1990

| | | |
|---|---|---|
| 1. | Prospecting and sampling<br>R. Slade & R. McIntyre 1 day | 638.90 |
| | Total | $13,311.00 |

REFERENCES

Mulligan, R. (1963), Geology of the Teslin Map Area, Geological Survey of Canada

APPENDIX 2-Certificates of Analyses

Northern Analytical Laboratories ltd.

August 31, 1989

Rob McIntyre
Yukon Engineering Services
204C Main St.
Whitehorse, Yukon

## ASSAY CERTIFICATE FOR SAMPLES PROVIDED

WORK ORDER # 29149A

| Sample | ppb Au | ppm Ag | ppm Cu | ppm Pb | ppm Zn |
|---|---|---|---|---|---|
| 89-1 | 18 | 0.3 | 22 | <1 | 24 |
| 89-2 | 25 | 0.5 | 1151 | 4 | 40 |
| 89-3 | 19 | <0.1 | 7 | 1 | 2 |
| 89-4 | 15 | <0.1 | 37 | 3 | 38 |
| 89-5 | 28 | 0.9 | 1524 | 9 | 8 |
| 89-6 | 17 | 2.5 | 2111 | 9 | 40 |
| 89-7 | <5 | 0.7 | 123 | 16 | 26 |
| 89-8 | <5 | 0.1 | 317 | 10 | 26 |

Applied Science Technologists and Technicians of British Columbia
6992
GERALD F. HAYES
A.Sc.T.

105 Copper Road, Whitehorse, YT, Y1A 2Z7 Ph: (403) 668-4968 Fax: (403) 668-4890

Northern Analytical Laboratories ltd.

August 31, 1989

Rob McIntyre
Yukon Engineering Services
204C Main St.
Whitehorse, Yukon

## ASSAY CERTIFICATE FOR SAMPLES PROVIDED

### WORK ORDER # 29149A

| Sample | ppb Au | ppm Ag | ppm Cu | ppm Pb | ppm Zn |
|---|---|---|---|---|---|
| 8923-01 | 24 | <0.1 | 22 | 20 | 161 |
| 8923-02 | 13 | 0.6 | 13 | 12 | 76 |
| 8923-03 | 13 | 1.1 | 11 | 7 | 56 |
| 8923-04 | 13 | 0.2 | 8 | <1 | 78 |
| 8923-05 | 19 | 0.5 | 5 | 11 | 59 |
| 8923-06 | 18 | 1.1 | 7 | 13 | 41 |
| 8923-07 | 20 | 0.5 | 10 | 4 | 58 |
| 8923-08 | 18 | 1.2 | 9 | 1 | 101 |
| 8923-09 | 21 | 1.9 | 12 | 5 | 55 |
| 8923-10 | 23 | 0.7 | 10 | 4 | 77 |
| 8923-11 | 21 | 1.4 | 7 | 11 | 78 |
| 8923-12 | 28 | 0.6 | 8 | 15 | 93 |
| 8923-13 | 26 | 0.6 | 9 | 3 | 71 |
| 8923-14 | 23 | 1.8 | 7 | 10 | 42 |
| 8923-15 | 13 | 1.7 | 4 | 15 | 77 |
| 8923-16 | 13 | 0.5 | 9 | 22 | 40 |
| 8923-17 | 20 | 0.6 | 2 | 32 | 86 |
| 8923-18 | 25 | 0.1 | 6 | 14 | 44 |
| 8923-19 | 17 | 0.4 | 6 | <1 | 45 |
| 8923-20 | 19 | <0.1 | 5 | <1 | 52 |

Applied Science Technologists and Technicians of British Columbia
6992
GERALD F. HAYES
A.Sc.T.

105 Copper Road, Whitehorse, YT, Y1A 2Z7 Ph: (403) 668-4968 Fax: (403) 668-4890

:NDISH ANALYTICAL LABORATORY LTD.
2225 S. Springer Ave., Burnaby,
British Columbia, Can. V5B 3N1
Ph:(604)299-2560 Fax:299-6252

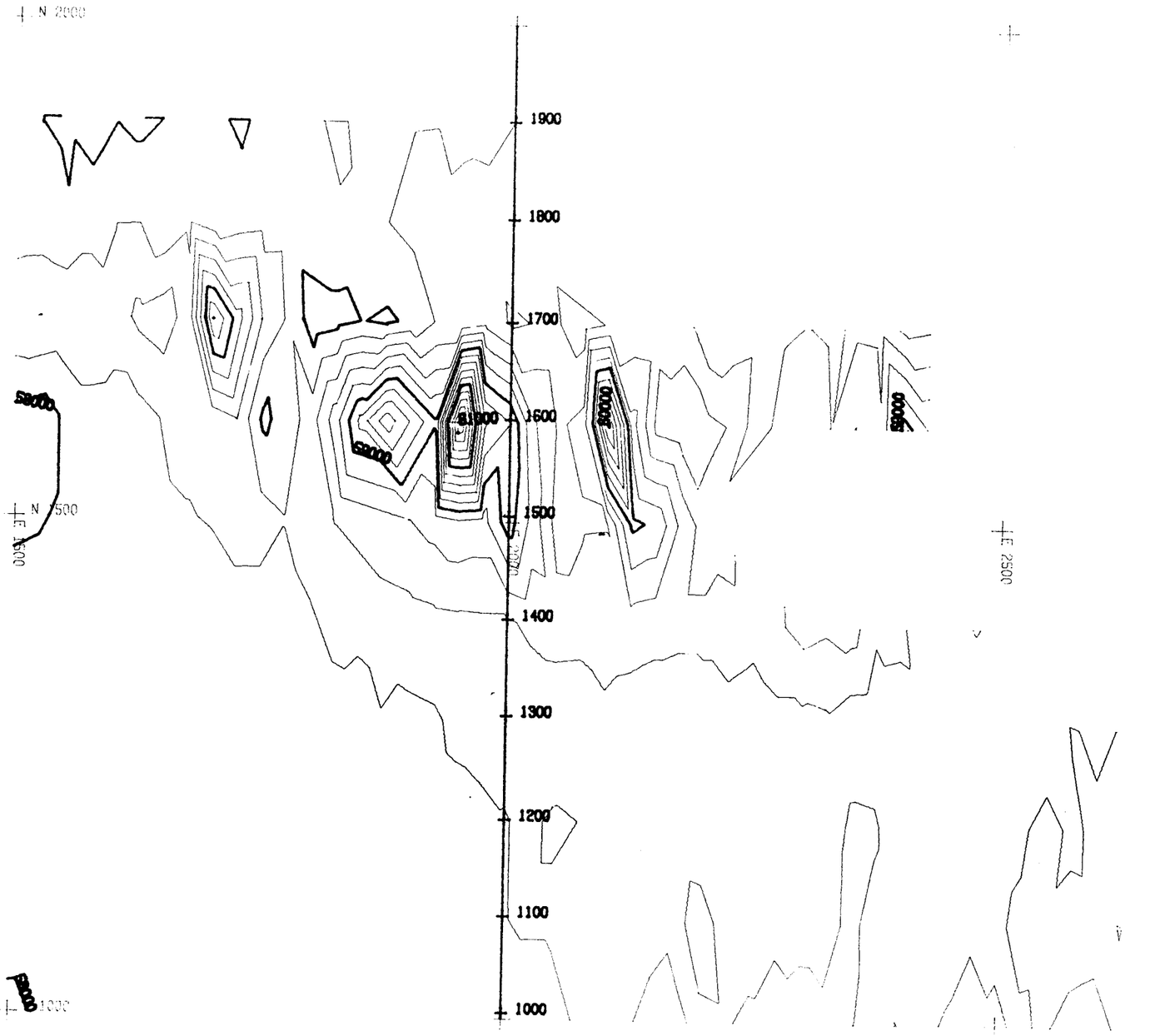
CERTIFICATE OF ANALYSIS

NORTHERN ANALYTICAL LAB LTD
105 COPPER ROAD
WHITEHORSE,YT
ECT : 29149
OF ANALYSIS : ICP

CERTIFICATE # : 890901B2
INVOICE # : SEP89
DATE ENTERED : 89\09\07
FILE NAME : ICP901B2
PAGE # : 1

| SAMPLE NAME | PPM W |
|---|---|
| 89-1 | 1 |
| 2 | 1 |
| 3 | 1 |
| 4 | 1 |
| 5 | 1 |
| 6 | 1 |
| 7 | 10 |
| 8 | 1 |
| 8923-1 | 1 |
| 2 | 5 |
| 3 | 10 |
| 4 | 1 |
| 5 | 1 |
| 6 | 1 |
| 7 | 1 |
| 8 | 1 |
| 9 | 1 |
| 10 | 2 |
| 11 | 5 |
| 12 | 5 |
| 13 | 1 |
| 14 | 5 |
| 15 | 1 |
| 16 | 1 |
| 17 | 10 |
| 18 | 2 |
| 19 | 15 |
| 20 | 1 |

CERTIFIED BY : Wang




# MORLEY RIVER PROJECT

| | | |
|---|---|---|
| SCALE: 1:1,000 | APPR. BY: | DRAWN BY: RLM |
| DATE: 89/08/25 | R.L. McINTYRE, C.E.T. | REV: |

## TOTAL FIELD MAGNETOMETER SURVEY

YUKON ENGINEERING SERVICES

DRAWING NO. 1