MAGNETOMETER GEOPHYSICAL SURVEY

FIFTYMILE CREEK PROJECT

PLACER LEASE PL 7565 (5 mile)

N.T.S. 115 J 15: 63 51' N 140 42' W

Prepared By :
R.L. McIntyre, C.E.T.
YUKON ENGINEERING SERVICES

120117

Prepared For :

L. Mollot / E. Setrakov

JULY 8 1989

Yukon Engineering Services

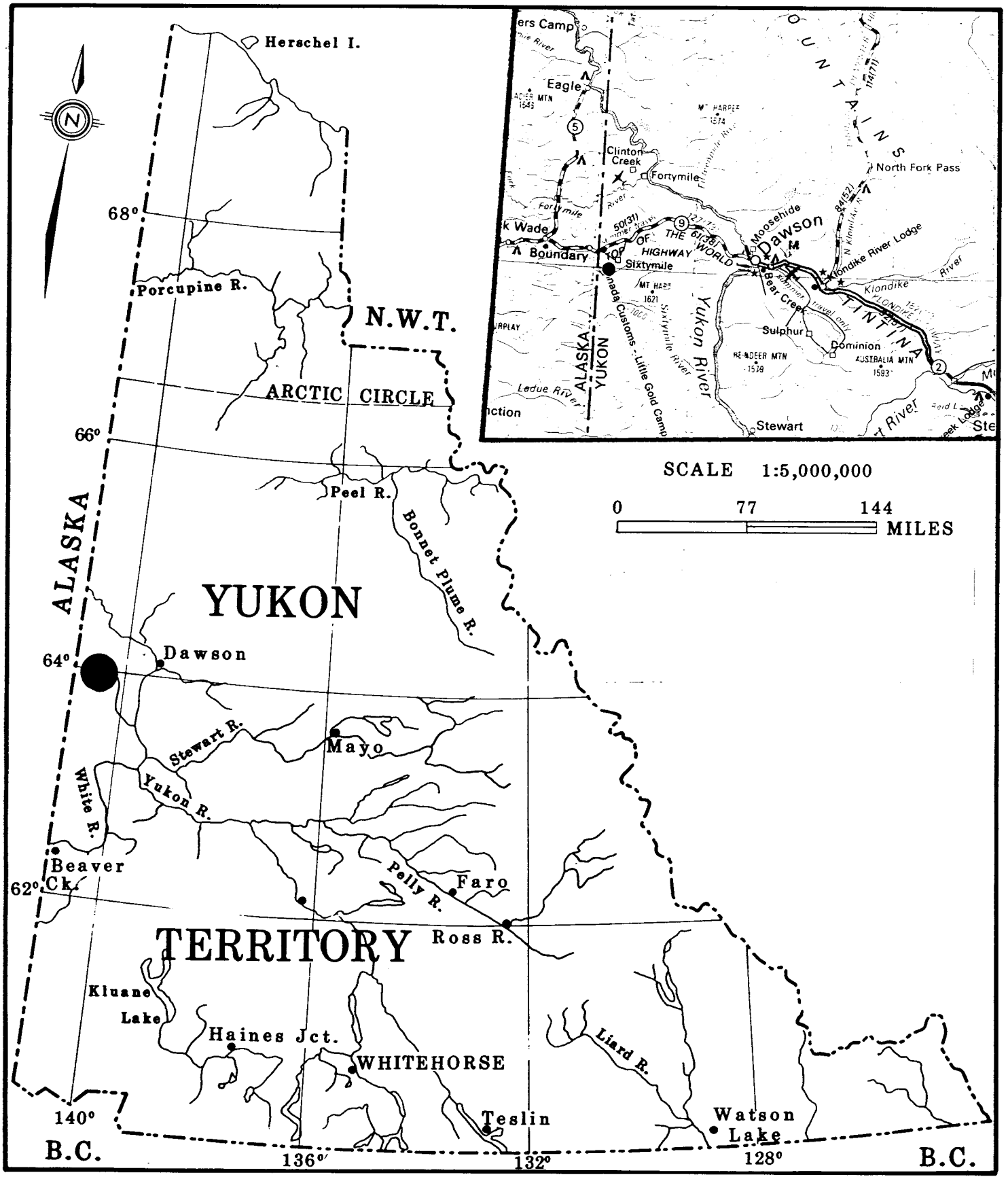
This report has been examined by the Geological Evaluation Unit under Section 41 Yukon Placer Mining Act and is recommended as allowable representation work in the amount of $ 5428.33.

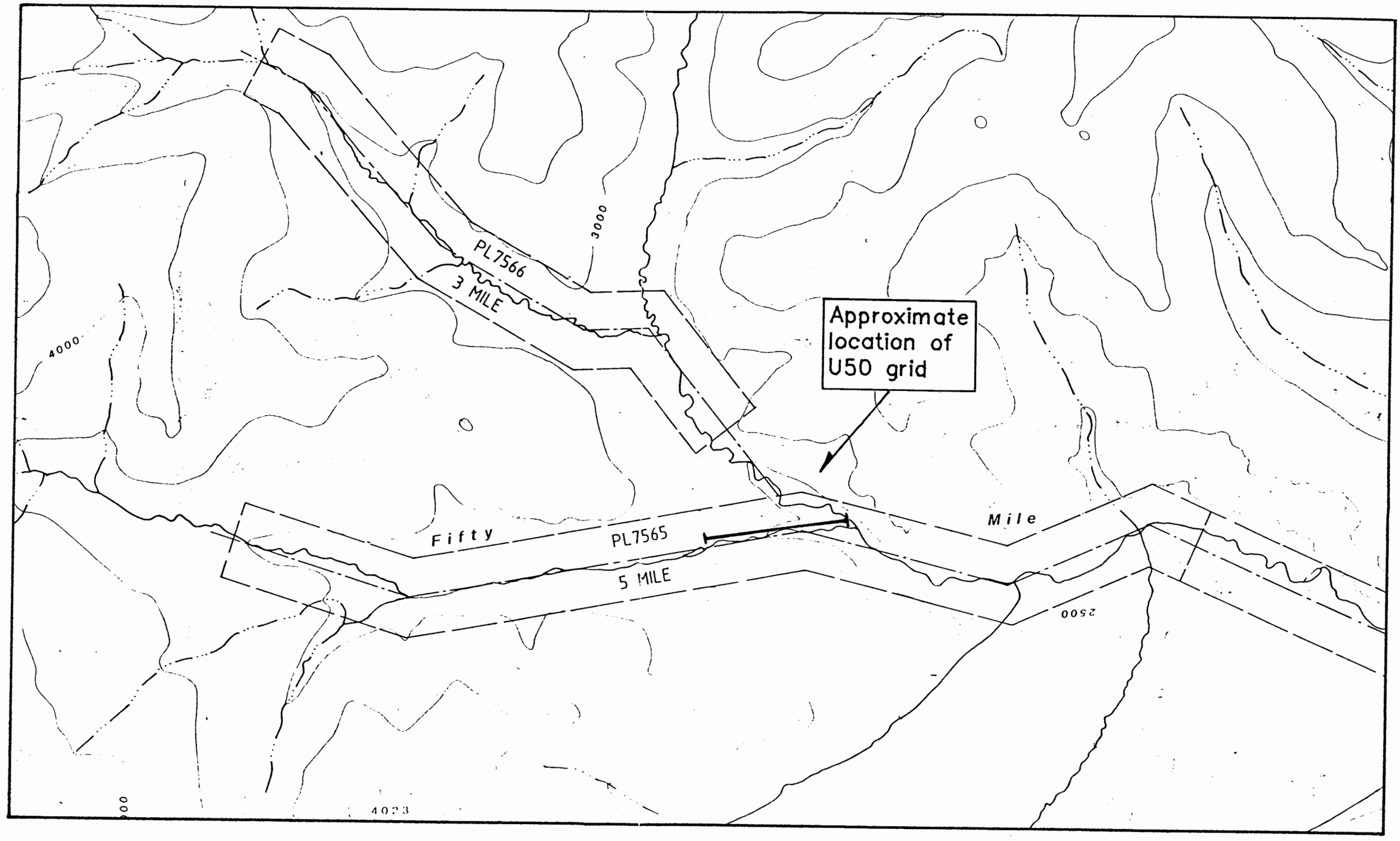
for Chief Geologist, Exploration and Geological Services Division, Northern Affairs Program for Commissioner of Yukon Territory.

TABLE OF CONTENTS

APPENDICES

Figure 1. Location Map





SCALE 1:30,000

1000 0 1000 2000

METRES METRES

MAGNETOMETER GEOPHYSICAL SURVEY:

50 MILE CREEK, YUKON TERRITORY 115 J 15

1. SUMMARY:

This report presents the methods, results, and exploration implications of a total field magnetometer ground geophysical survey conducted on the upper right limit headwaters of 50 Mile Creek, Sixtymile area, Yukon Territory. The survey was conducted by R.L. McIntyre, C.E.T., and D. Holcombe, Geophysicist, of Yukon Engineering Services.

The survey was performed to extend information obtained from a previous gradiometer survey (M. Mollot, 1988), in order to determine first order priorities for follow up physical testing.

Magnetic anomalies, that can be interpreted as local concentrations of unconsolidated magnetite in the stream gravels, were detected on this grid. Exploration implications are discussed on page 4 of this report.

It is important to note that the magnetometer method gives broadly interpreted qualitative information for magnetic minerals located in the stream bed gravels, that may or may not bear a direct relationship to placer gold content. It is therefore recommended that the results of this, and previous surveys, be used to indicate locations for quantitative testing.

The entire premise of the program is based on the assumptions that;

1. **- regionally and locally, (within the area influenced by this creek drainage) the host rocks for gold mineralization, and/or the associated rock types, also bear magnetic mineralization;**
2. **- the stream sedimentation processes that controlled alluvial gold deposition also controlled deposition of other heavy minerals to roughly the same degree;**
3. **- old stream channels, presently buried by alluvium, exist in the valley at varying displacements from the present stream channel.**

The above assumptions have been made for this creek.

2. Property Location and Access

The U50 Grid is located on Placer Lease PL7565 (5 mile), situated on the upper right limit headwater tributary of 50 Mile Creek, approximately fifty miles west-southwest of Dawson City, Yukon. The property is at 63 51'N, 140 42'W, on NTS map sheet 115-N-15, and is ten miles east of the Alaska Border. Access is by helicopter aircraft from Dawson City.

3. Equipment and Survey Procedures

The survey was conducted using an EDA Instruments (now Scintrex) OMNI IV proton precession magnetometer, operated in the Total Field mode, with an EDA OMNI IV Base Station Magnetometer for correction of the diurnal drift. Due to the expected high occurance of solar influenced "magnetic storms" in the summer of 1989, operation in the Tie Line mode was not considered an option. The Base Station was programmed to take total field readings at twenty second intervals to ensure accurate corrections for the rapidly collected field survey data. The severity of the magnetic storm event that occured on 89.06.29 (200 gammas total fluctuation, with maximum 20 second drift of 49.6 gammas) prevented any field data collection that day. The instrument is sensitive to 0.1 nano-Teslas (1 nT=1 gamma), necessitating diurnal drift and micropulsation correction to survey data to discern true anomalies.

The grid parameters and direction of travel are programmed into the OMNI IV by the operator and are automatically updated at each position increment. The position information, sensor decay rate and sensitivity, total magnetic field and statistical error are displayed to the operator, who then stores the information in the 48k memory of the magnetometer. This system enables the operator to assess measurement quality, and take repeat readings if necessary.

The daily survey information is manipulated in the following procedures:

a) - field mag unit connected to base station; data transferred and corrected;
b) - base station unit connected to laptop computer; corrected field data, as well as base station readings, dumped to gwbasic software;
c) - both data files transferred to EMXS software for review and preliminary data manipulation.

The final review, interpretation and presentation of results is performed in the Whitehorse office of Yukon Engineering Services. This involves the computer generation of a three dimensional digital terrain model, and extraction of cross sections of each grid line. The corrected total field magnetic values are presented in this report as both cross sections and planimetric contour maps.

The data is interpreted and geophysical anomalies are discussed later in this report.

4. Geophysical Grid Parameters

The grid was established at the forks of the the two main headwater branches of upper Fiftymile Creek. The baseline was cut out and carried 500 metres upstream from the forks.

Baseline	: 500 metres
Crosslines (stationing)	: at twenty metre intervals
Offsets	: at five metre intervals
Line length (max. offset)	: 70m N, 20m S

5. Regional Geophysics and Geology : Magnetic Implications

The 1:63,360 scale aeromagnetic map (GSC Map 4268G) in the immediate area of the grid shows low magnetic relief, with a slight northwest-southeast grain. The high magnetic relief of the Cretaceous syenite unit approximately six kilometres to the north would not affect this grid, therefore allowing the ability to discern the magnetic response from the Quaternary deposits.

The U50 Grid area is entirely underlain by the Paleozoic age Pelly Gneiss unit, a foliated to gneissic granodiorite; the sparse outcrop exposure indicates a generally shallow (<20)dipping, W-N-W strike of the unit in this area. This headwaters tributary to Fiftymile Creek has relatively thin surficial deposits; bedrock exposures at the creek level were noted during the survey, and magnetic response checked for correlation.

6. Results and Recommendations

As previously discussed in this report, the results are indicative of magnetic mineralization, rather than gold.

The geophysical data for most of this grid area indicate a fairly weak magnetic relief, with some anomalies in the range of 20 gammas appearing at varying displacements to the creek. The downstream, wider portion of the creek does present two anomalous locations that should be tested. The creek in this area is fairly restricted in its meandering, exhibiting typical youthfull stream characteristics. Testing at the locations of the anomalies at Station 60 W, 60 N and Station 80 W, 30 N will satisfy questions about which fork carries the best placer gold. One other fairly good anomaly occurs at Station 460 W, 15 - 20 N, which should be tested pending satisfactory results from the downstream investigations.

7. References

1. Geological Survey of Canada, Geophysics Paper 4268 Crag Mountain (115 N 15) Aeromagnetic Series 1966; 1:50,000 Scale map.

2. Breiner, S. , 1973 "Applications manual for Portable Magnetometers", GeoMetrics, Sunnyvale California.

3. Hood, P.J., 1977 "Geophysics and Geochemistry in the Search for Metallic Ores", G.S.C. Economic Geology Report 31.

4. Mollot, M. 1988, Fiftymile Creek Gradiometer Survey, unpublished report submitted to D.I.A.N.D for assessment credit.

CERTIFICATE

I, Robert L. McIntyre, C.E.T., of Whitehorse, Yukon Territory, do hereby certify that;

1. I hold a Geological Technician Diploma from Sir Sandford Fleming College, Lindsay, Ontario, and I have been practising continuously since graduation in 1979;

2. I am a Certified Engineering Technician (Geology) for Alberta and Yukon, by the Alberta Society of Engineering Technologists.

3. The geophysical field work, and report preparation was performed by me personally, with the assisstance of Mr. D. J. Holcombe, B.Eng. .

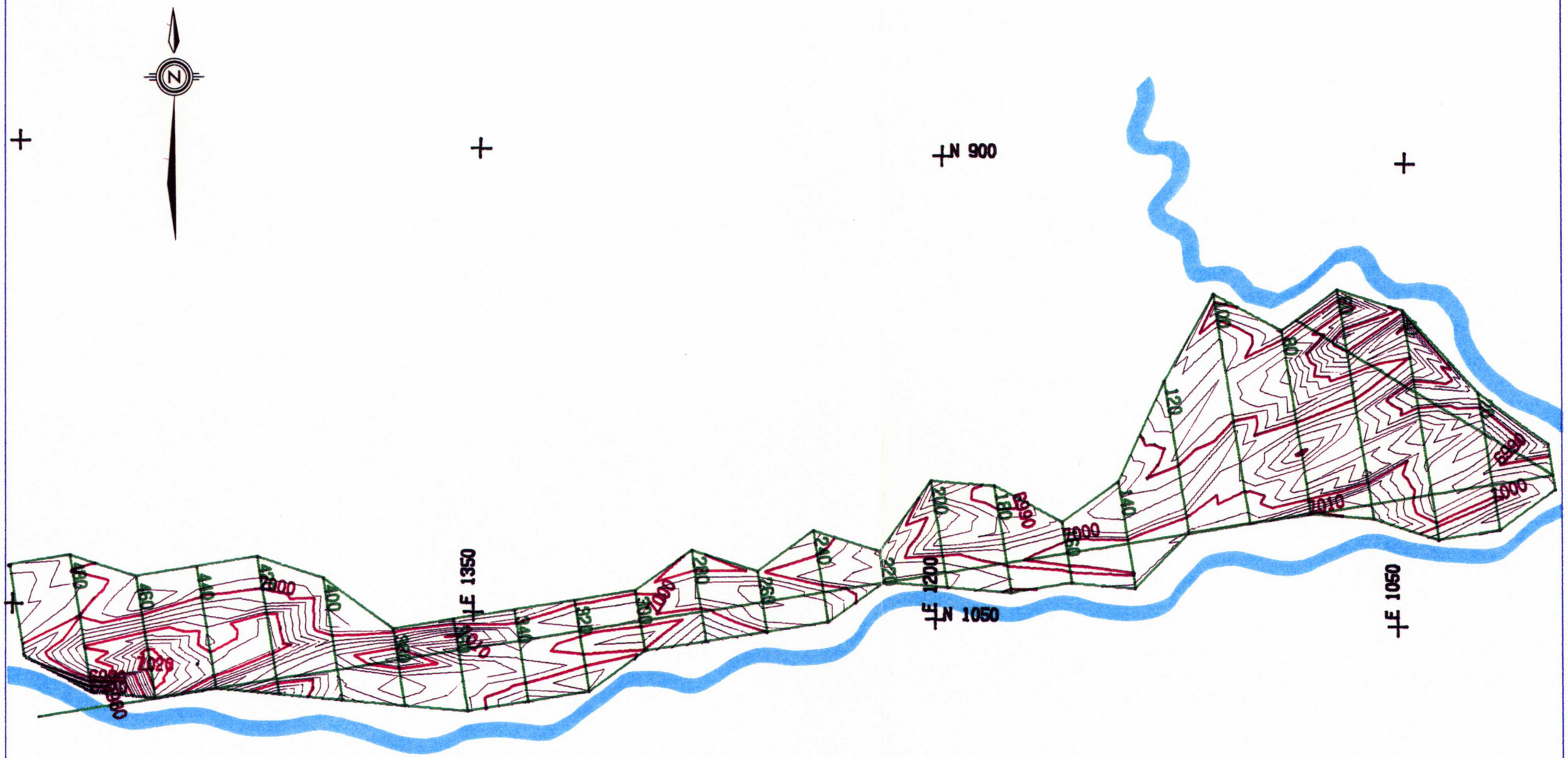
4. I have based conclusions and recommendations contained in this report on my knowledge of geophysics, my previous experience, and on the results of field work conducted on the property.

5. I hold no interest, directly or indirectly, in this property other than professional fees, nor do I expect any interest in the property, or any other of Mr. Mollots' holdings.

R. L. McIntyre, C.E.T.
Manager, Exploration Division

Whitehorse, Yukon Territory
July, 1989

APPENDICES



UPPER 50 MILE CREEK

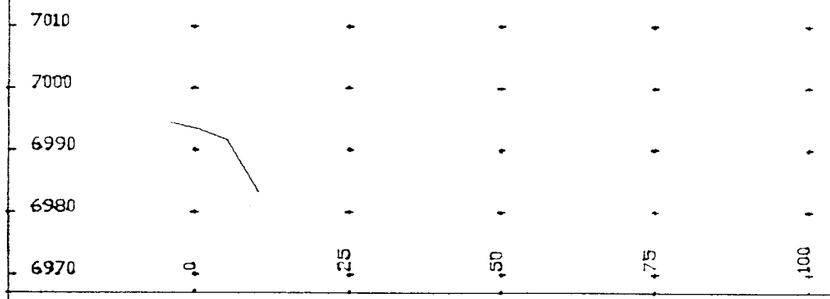
TOTAL FIELD MAGNETOMETER

2 GAMMA CONTOURS

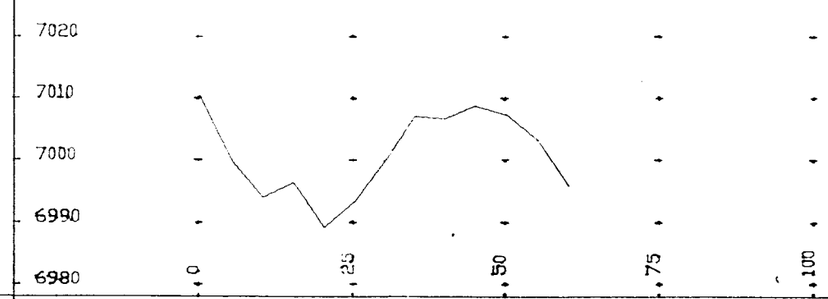
DATE	SCALE	
09-09-1988	1:1000	

YUKON ENGINEERING SERVICES

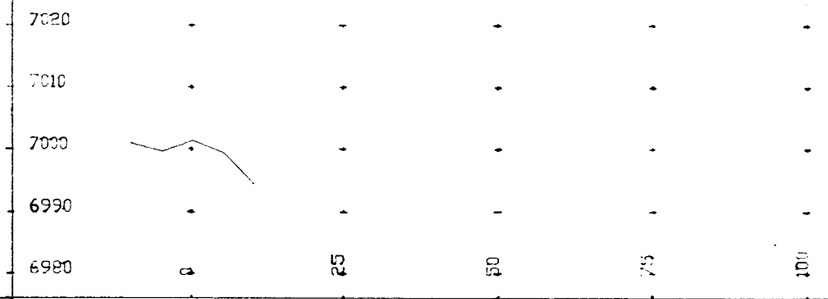
Station 0
H= 1:1000 V= 1:1000



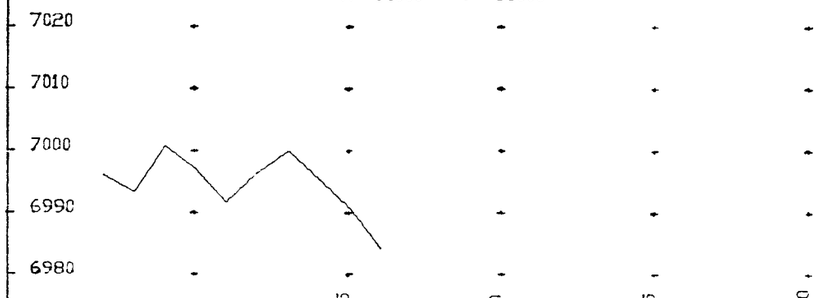
Station 80
H= 1:1000 V= 1:1000



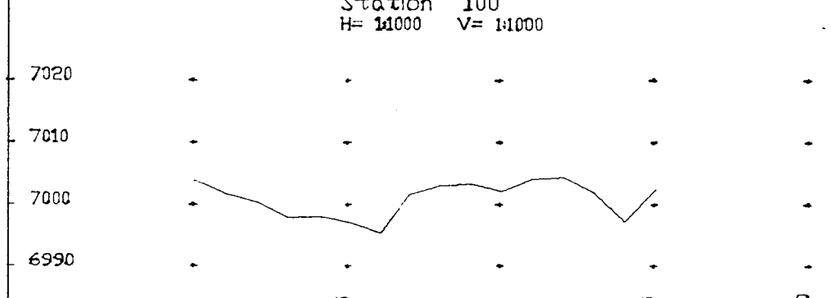
Station 160
H= 1:1000 V= 1:1000



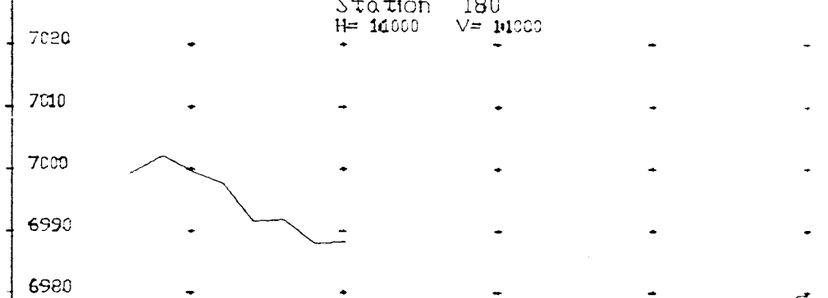
Station 20
H= 1:1000 V= 1:1000



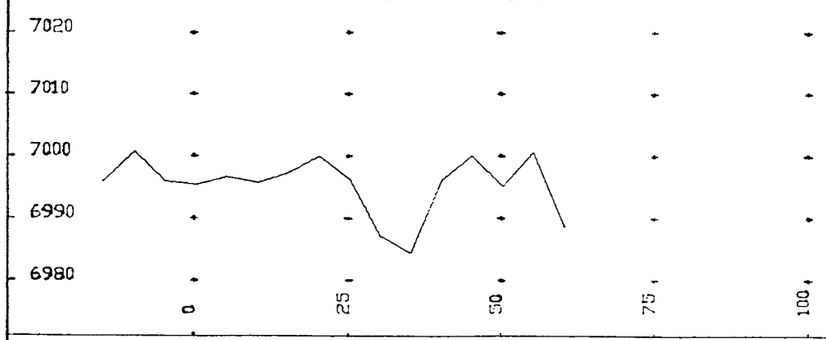
Station 100
H= 1:1000 V= 1:1000



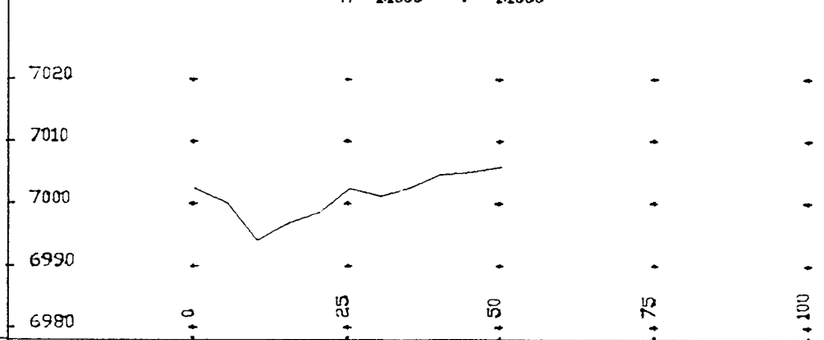
Station 180
H= 1:1000 V= 1:1000



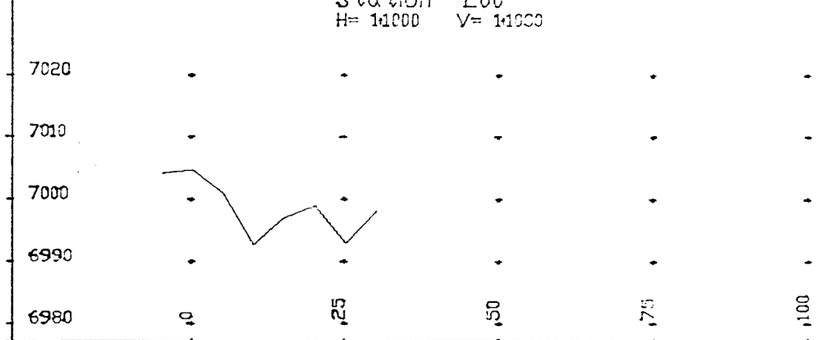
Station 40
H= 1:1000 V= 1:1000



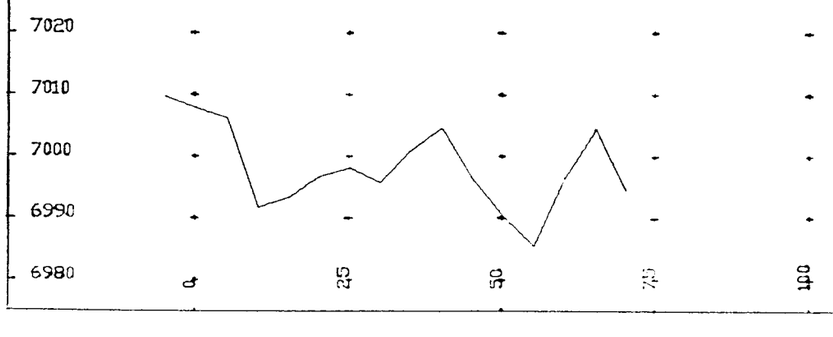
Station 120
H= 1:1000 V= 1:1000



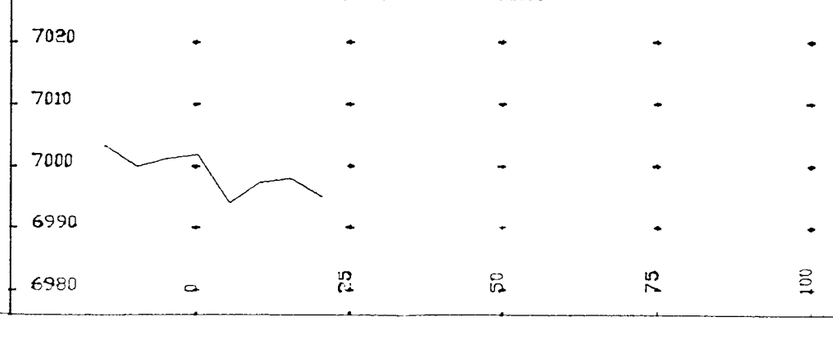
Station 200
H= 1:1000 V= 1:1000



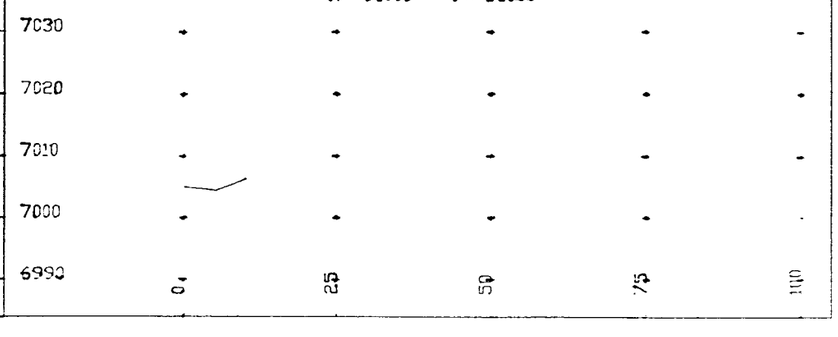
Station 60
H= 1:1000 V= 1:1000



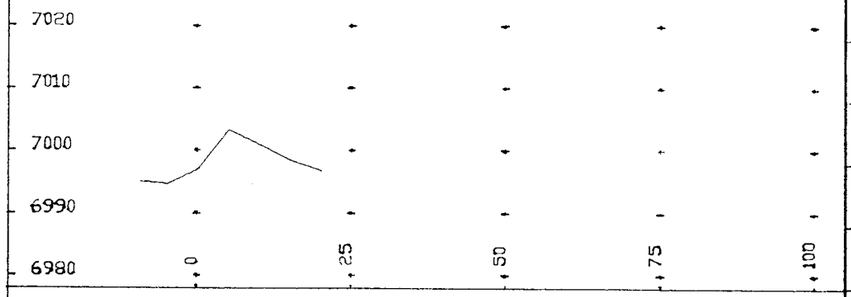
Station 140
H= 1:1000 V= 1:1000



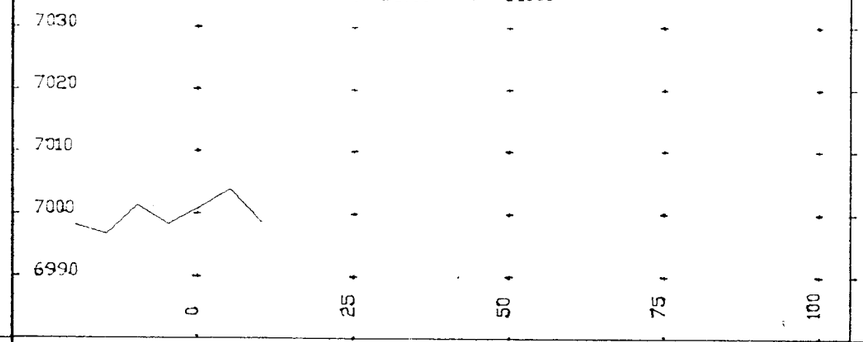
Station 220
H= 1:1000 V= 1:1000



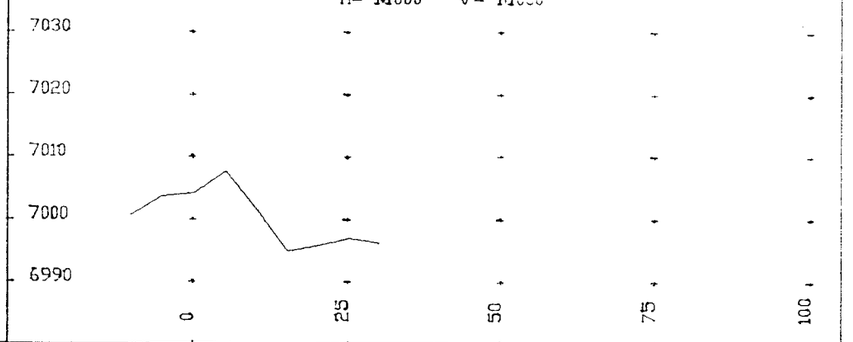
Station 240
H= 1:1000 V= 1:1000



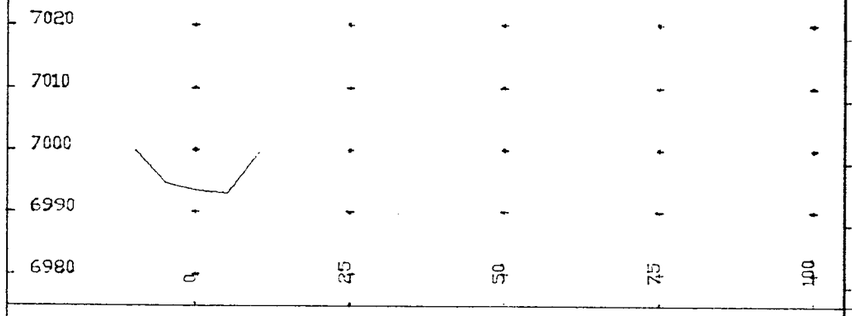
Station 320
H= 1:1000 V= 1:1000



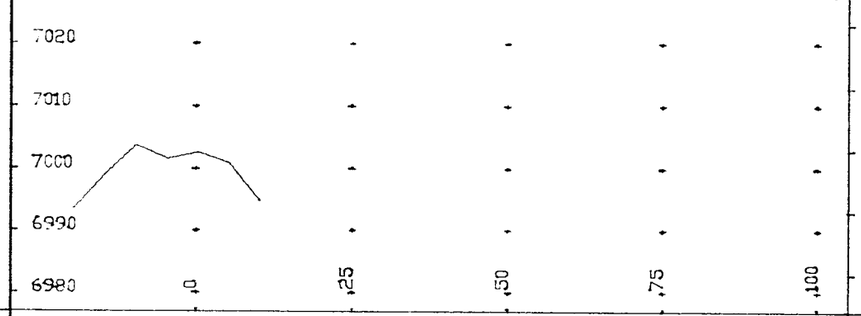
Station 400
H= 1:1000 V= 1:1000



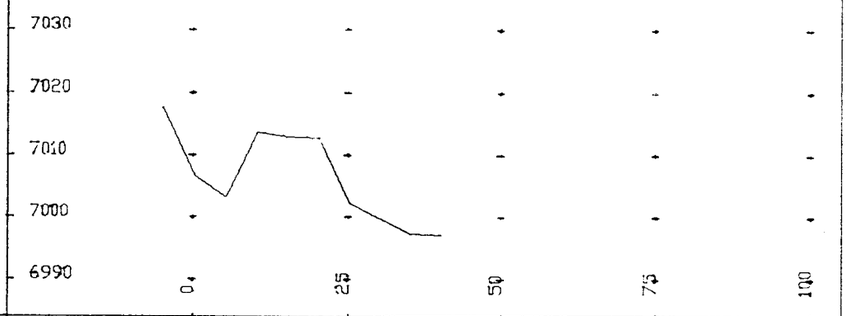
Station 260
H= 1:1000 V= 1:1000



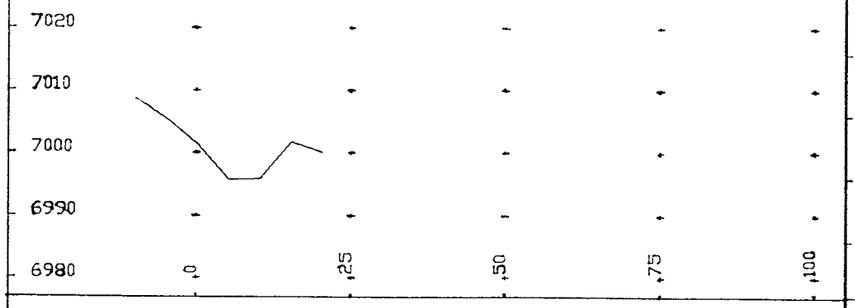
Station 340
H= 1:1000 V= 1:1000



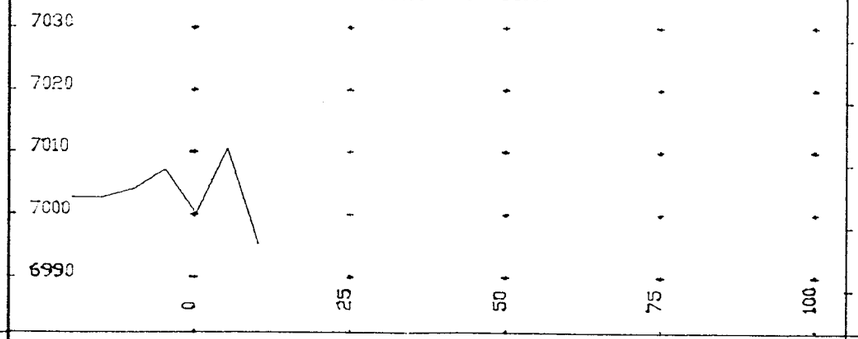
Station 420
H= 1:1000 V= 1:1000



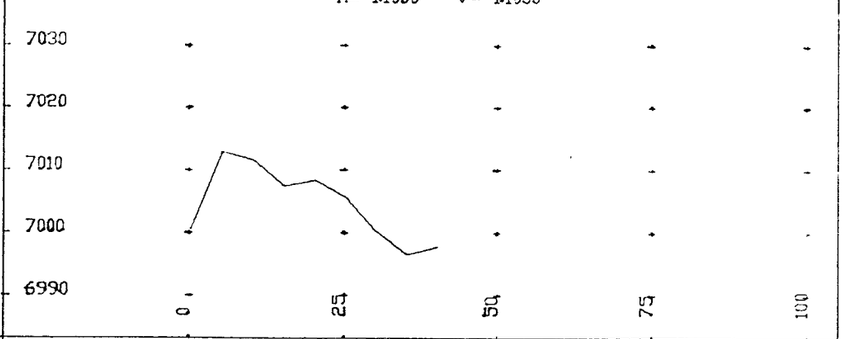
Station 280
H= 1:1000 V= 1:1000



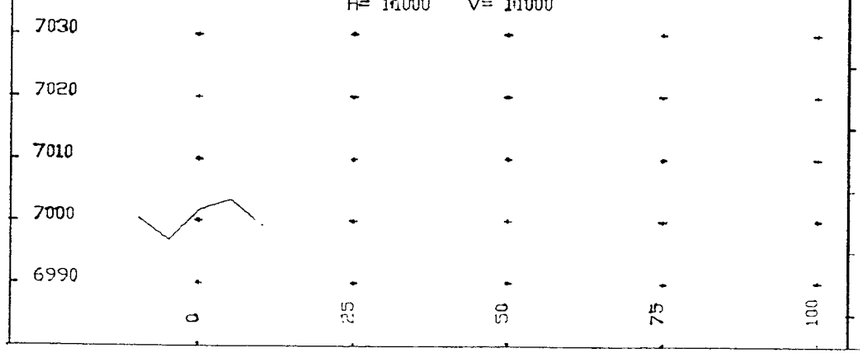
Station 360
H= 1:1000 V= 1:1000



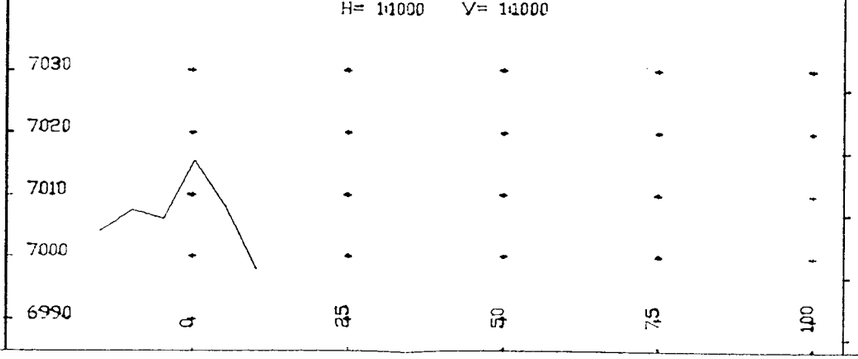
Station 440
H= 1:1000 V= 1:1000



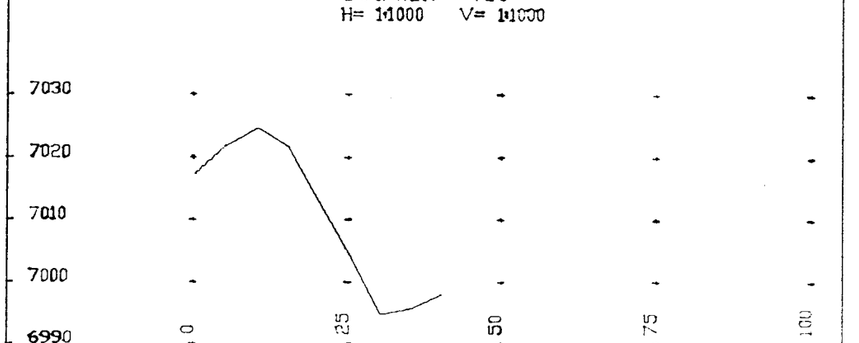
Station 300
H= 1:1000 V= 1:1000

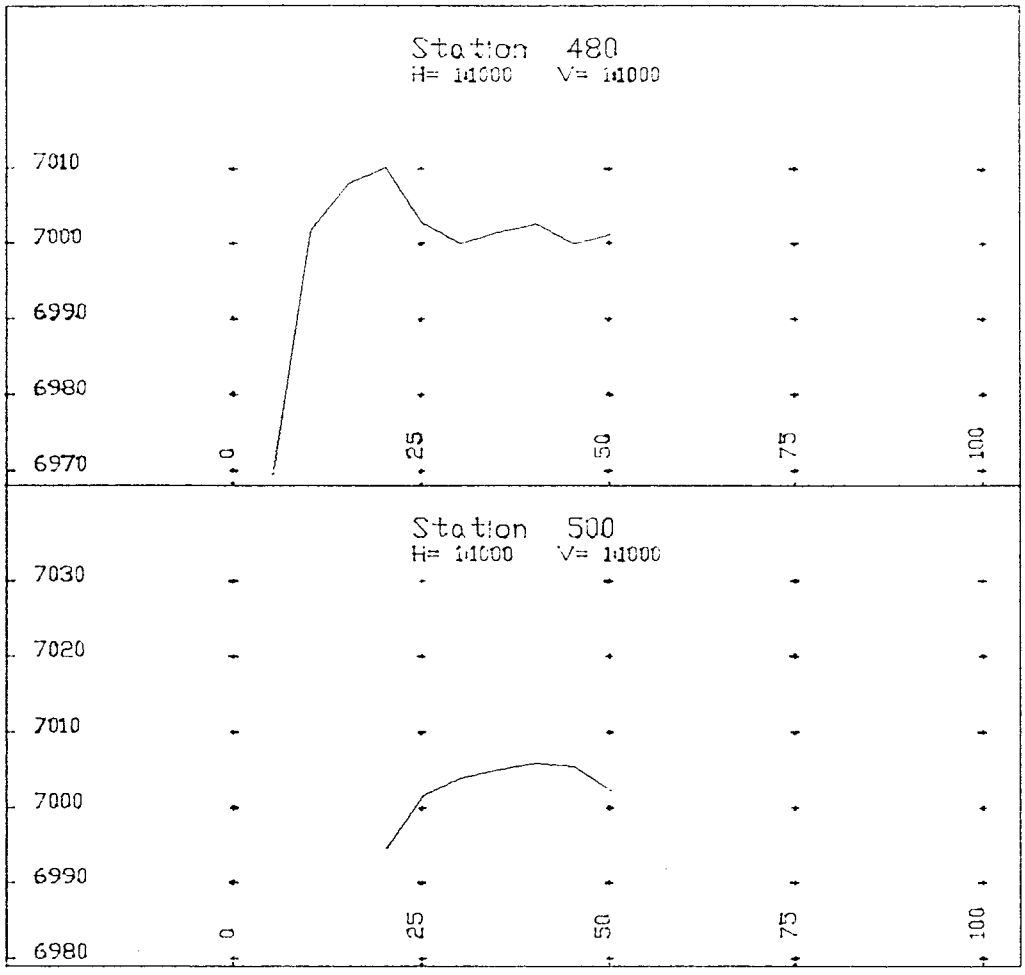


Station 380
H= 1:1000 V= 1:1000



Station 460
H= 1:1000 V= 1:1000




Station 480
H= 1:1000 V= 1:1000
7010
7000
6990
6980
6970
0
25
50
75
100
Station 500
H= 1:1000 V= 1:1000
7030
7020
7010
7000
6990
6980
0
25
50
75
100