

120/22

MAGNETOMETER GEOPHYSICAL SURVEY
LIVINGSTONE CREEK

JACKIE DISCOVERY CLAIM P 26333
JACKIE CLAIMS P. 26334 - P 26341

NTS 105 E 8 64' 19' 00" N 134' 16' 00" W

PREPARED BY:

R.L. MCINTYRE, C.E.T.
YUKON ENGINEERING SERVICES

PREPARED FOR:

J. ZIEHE
WHITEHORSE, YUKON

SEPTEMBER 25, 1989

Summarized Jan 18/90.

**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 \$ 1800.00.

W. LeBarge

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

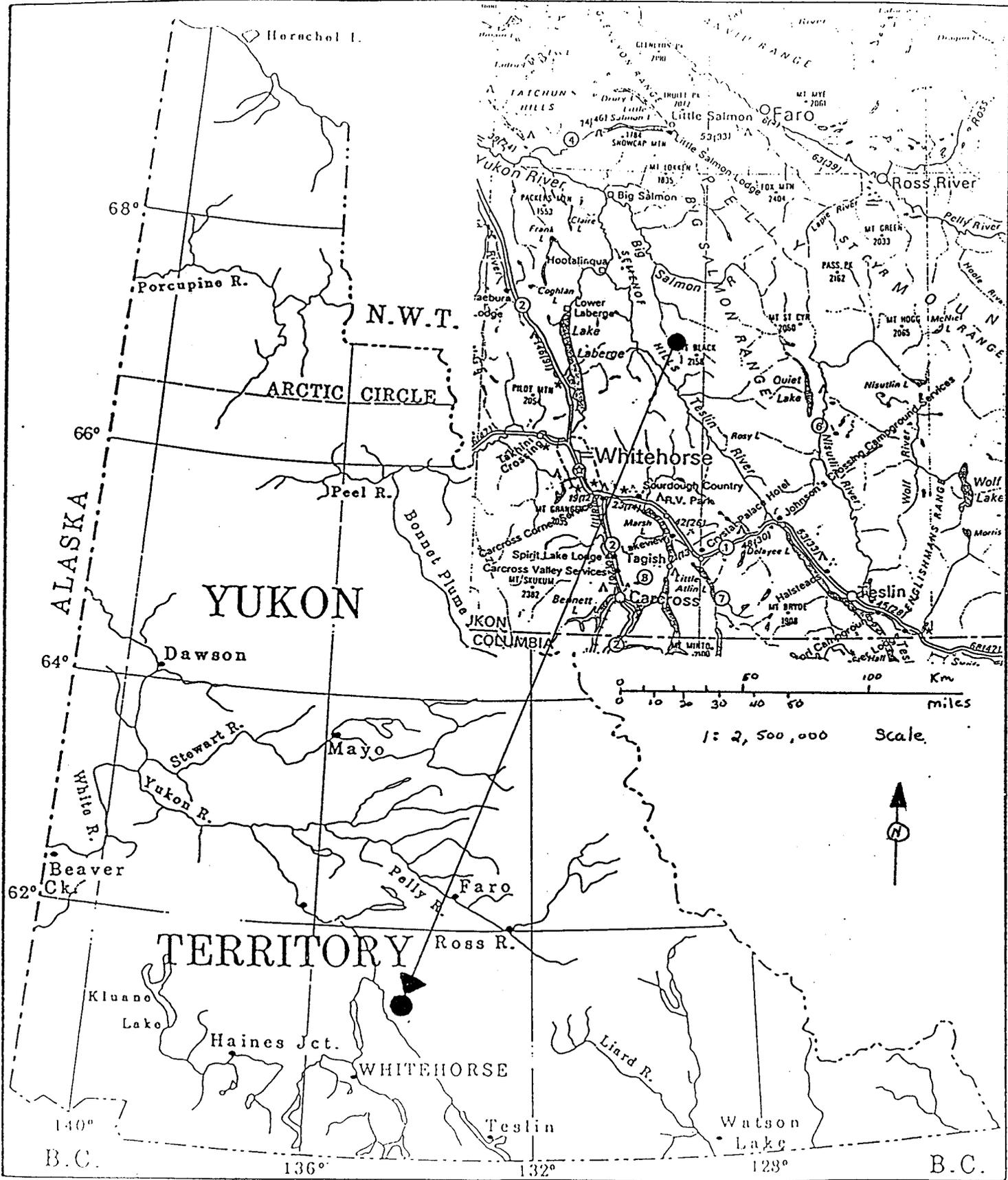


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LOCATION MAP

MAGNETOMETER GEOPHYSICAL SURVEY:**LIVINGSTONE CREEK, YUKON TERRITORY 105 E 8****1. Summary**

This report presents the methods, results and exploration implications of a total field magnetometer survey conducted on the south fork tributary to Livingstone Creek. The survey was conducted by R.L. McIntyre, C.E.T., of Yukon Engineering Services, with Mr. W. Harris of Whitehorse for grid assistance.

The survey was conducted to extend information obtained from the geophysical survey carried out by Yukon Engineering Services in 1988 (R.L. McIntyre, 1988 assessment report).

The 1989 survey did in fact locate areas of anomalous magnetic response at locations displaced from the present stream course. The exploration implications for these areas are discussed on p.4 of this report.

It is important to note that the magnetometer method, when used in placer exploration, gives broadly interpreted qualitative information for magnetic minerals located in the stream bed gravels. These may or may not bear a direct relationship to placer gold content. It is therefore recommended that the results of this survey be used to indicate locations for follow up physical (quantitative) testing.

Note that the reason for conducting magnetometer surveys for placer exploration is based on the assumptions that:

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

2. Property Location and Access

The 1989 geophysical grid is located on placer claims P26333, through P26336 (Jackie Discovery and Jackie Nos. 2-4), at the downstream end of the south fork of Livingstone Creek. The property is at 61° 19' North, 134° 15' West, on map sheet NTS 105 E 8. Access is by helicopter, or by winter road from Whitehorse. See location map (i). A dry weather gravel airstrip is located some four kilometers south of the property.

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. The Base Station correction method, the most accurate method, was used because of the high occurrence of solar influenced "magnetic storms" and generally unsettled field in the auroral zone this summer. Obviously, placer magnetic exploration requires removal of all "noise" and diurnal drift anomalies from the local data.

The base station was programmed to record total field readings at twenty second intervals, because the survey data is collected rapidly on this type of dense grid spacing (20 metres x 5 metres).

Each reading, and all associated data, is recorded in the memory of the roving mag and the base station unit and is dumped to computer in Yukon Engineering Service's Whitehorse office. The diurnal drift corrections are performed by EDA software resident in the base station unit during the dumping procedure. Y.E.S. uses the EMXS Surface Compiler software package to generate a digital terrain model of the total field over the grid (presented as planimetric contour map, (Appendix A), as well as cross section data for each grid line (Appendix B).

The data is interpreted and geophysical anomalies are discussed on page 4. of this report.

4. Geophysical Grid Parameters

The grid was established on the downstream portion of the Jackie claim group, using the claim cut-line as the grid baseline. The crosslines were cut out by hand to afford rapid data collection and accurate location control. The grid has the following dimensions. *

Baseline	: 300 meters; Station 0+000 is at Post #2, Jackie Discovery claim;
Stations (crosslines):	at twenty metre intervals;
Offsets (readings)	: at five metre intervals;
Line length (max. offset)	: 100 m North, 50 m South
Total grid	: 2.7 line kilometres
Total readings	: 490, not including base station readings

*Note: conventional mining exploration terminology dictates the use of "line" for increments along the baseline, and "station" for increments along the "lines". EMXS software employs standard engineering terminology, ie. "station" for increments along a horizontal alignment (baseline), and "offset" for increments right or left of each station. Engineering notation will be used throughout this report.

5. Regional Geophysics and Geology: Magnetic Implications

The left fork of Livingstone Creek is underlain by Carboniferous and Permian Age fine grained amphibolite and greenstones, all within the Anvil Allocthonous Assemblage (Templeman-Kluit, 1984). There are no major lithologic changes or structural discontinuities evident from this regional scale geologic mapping, bedrock was not observed on the grid area itself. Surficial deposits are expected to range from three to ten metres in thickness. This is based on field observations of outcrop some three hundred metres downstream of the grid, at the mouth fo the tributary, as well as outcrop exposed at the upstream extent of the claim group. There is no reliable documented evidence of depth to bedrock available to the writer. The 1:63,360 scale GSC aeromagnetic map shows very low magnetic relief (less than 10 gammas) in the immediate area, with a very shallow local gradient. This permits the fine distinction required for Quaternary deposit investigation.

6. Results and Recommendations

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

The survey was successful in locating magnetic anomalies that show a curvilinear alignment. That is, the trend of the magnetic highs exhibits features common to placer channel deposits of magnetite. (Appendix A) presents the data as contours of the values in gammas, on a 10 gamma interval. The highest values are on the order of 100 gammas above background. (Appendix B) presents the data as cross sections of each station, which can be examined for exact offset locations of the anomalies. The present day creek is plotted by hand (from field notes) on the contour map, which serves as a quick visual reference.

These results indicate that the high ground to the north of the creek (from roughly 50 N to 100 N) most likely represent placer bench material, with some concentrations of magnetite present. The following locations, given in a range of grid coordinates, should be tested for associated gold content:

- Station 0+020 E, at 70 N;
- Station 0+040 E, from 80 to 100 N;
- Station 0+080 E, from 50 to 60 N and 80 to 90 N
- Station 0+100 E, at 65 N

These represent the largest areal extent of associated mag highs; other spot highs are evident on the plan. Follow up physical testing carried out at one of these locations will give important insights into interpretation of the remaining anomalies.

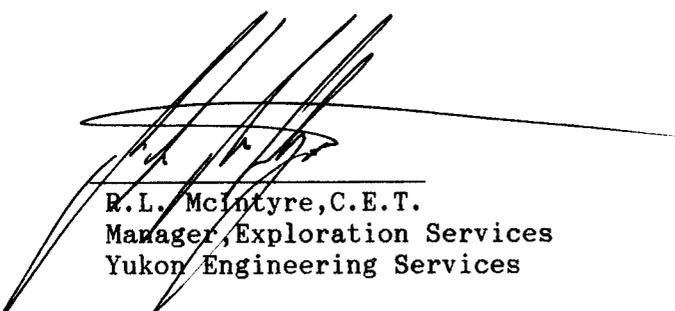
7. References

1. Geological Survey of Canada, 1967,: "Geophysics Paper 1371, Livingstone Creek: Aeromagnetic Series 1967"; 1:63,360 Scale map.
2. Templeman-Kluit, D.J., 1984 : "Geology of Laberge (105 E) and Carmacks (105 C)Map Sheets", Open File 1101.
3. McIntyre, R.L., 1988 : "Magnetometer Geophysical Survey on Livingstone Creek", unpublished assessment report.
4. Breiner, S., 1973 : "Applications Manual for Portable Magnetometers", GeoMetrics, Sunnyvale, California.
5. Hood, P.J., 1977 : "Geophysics and Geochemistry in the Search for Metallic Ores", GSC Economic Geology Report 31.

CERTIFICATE

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

1. I hold a Geological Technician Diploma from Sir Sandford Fleming College, Lindsay Ontario; and I have been practising 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 work done on the property was performed by me personally.
4. I have based conclusions and recommendations contained in this report on my knowledge of geophysics, my previous experience, and on the results of the 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 in any other of Mrs. Ziehe's holdings.

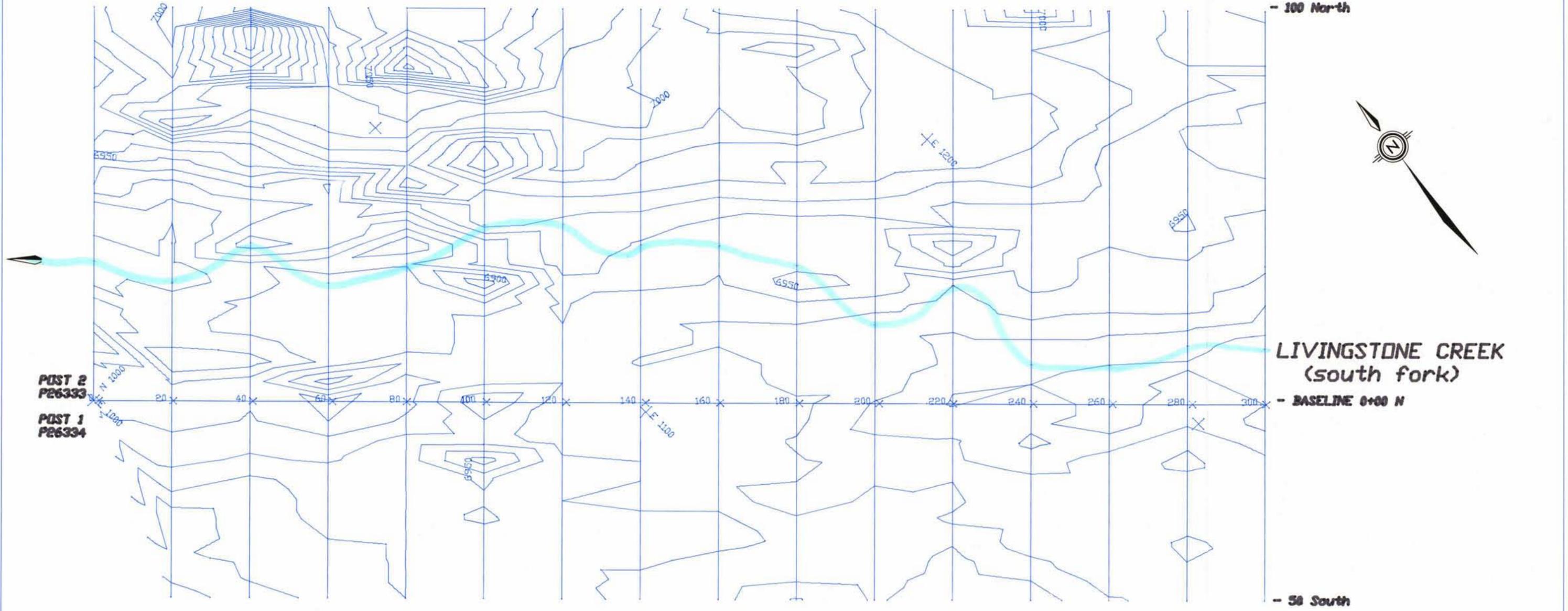


R.L. McIntyre, C.E.T.
Manager, Exploration Services
Yukon Engineering Services

Whitehorse, Yukon
September, 1989

APPENDICES

- 0+000 E - 0+020 E - 0+040 E - 0+060 E - 0+080 E - 0+100 E - 0+120 E - 0+140 E - 0+160 E - 0+180 E - 0+200 E - 0+220 E - 0+240 E - 0+260 E - 0+280 E - 0+300 E



POST 2
 P26333

 POST 1
 P26334

- 100 North

LIVINGSTONE CREEK
(south fork)

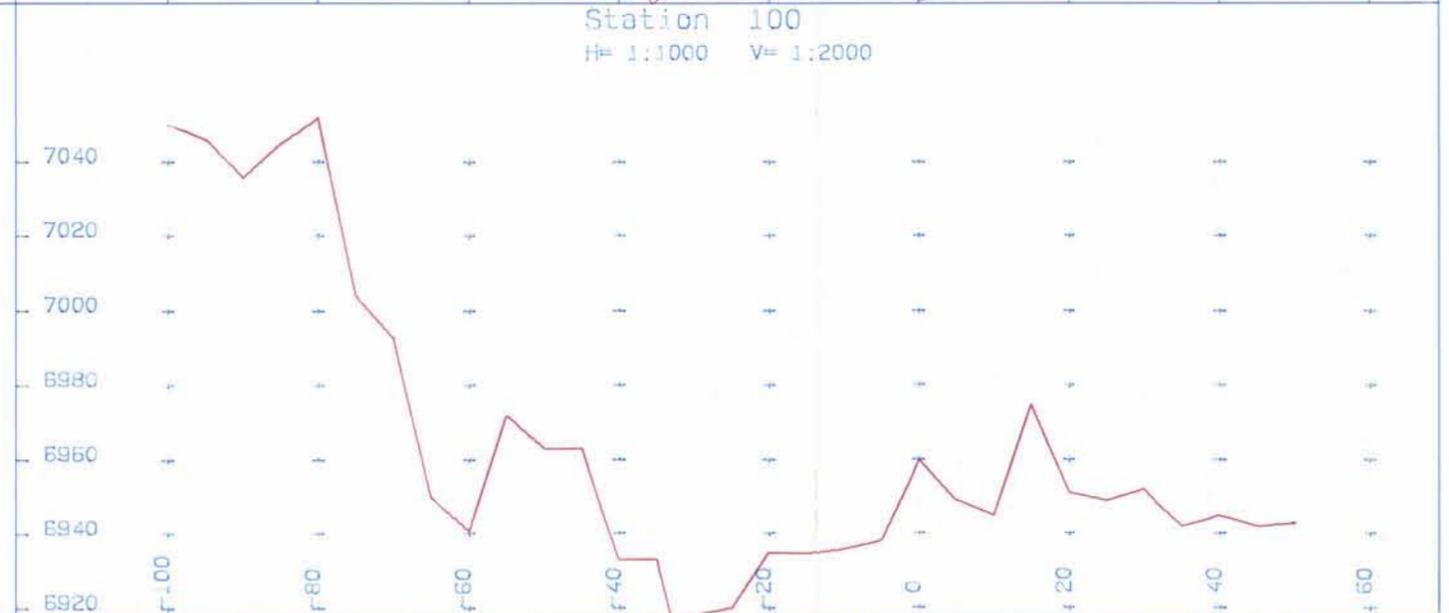
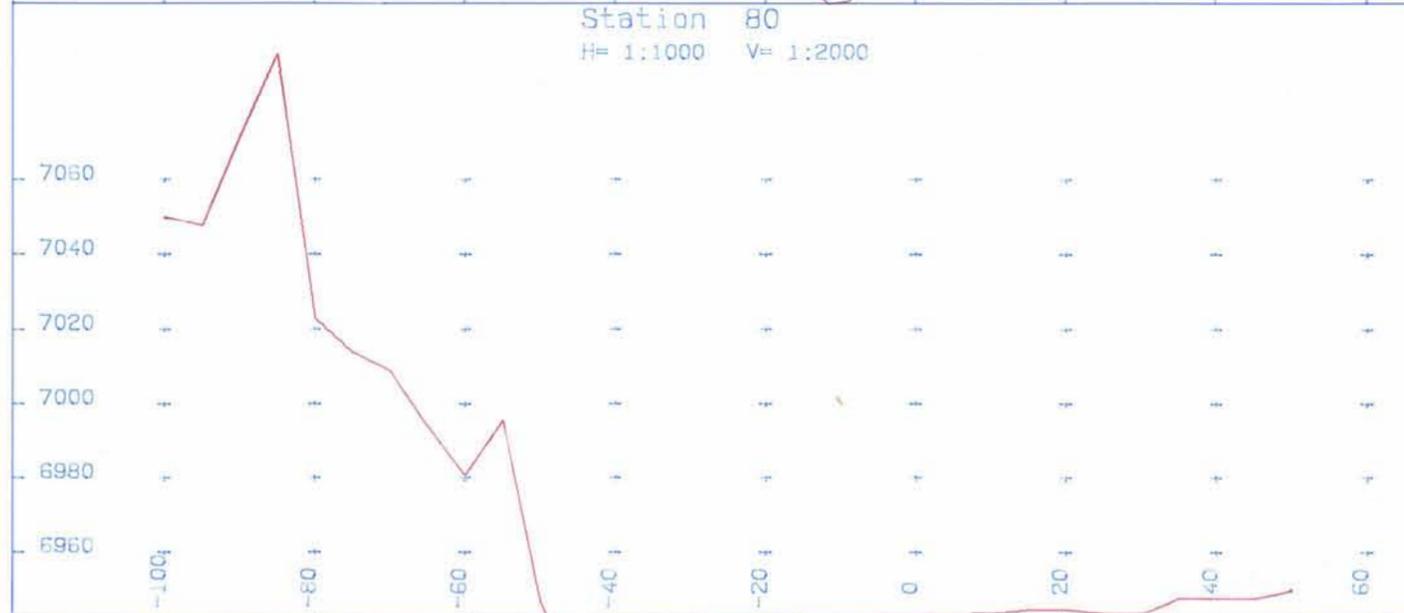
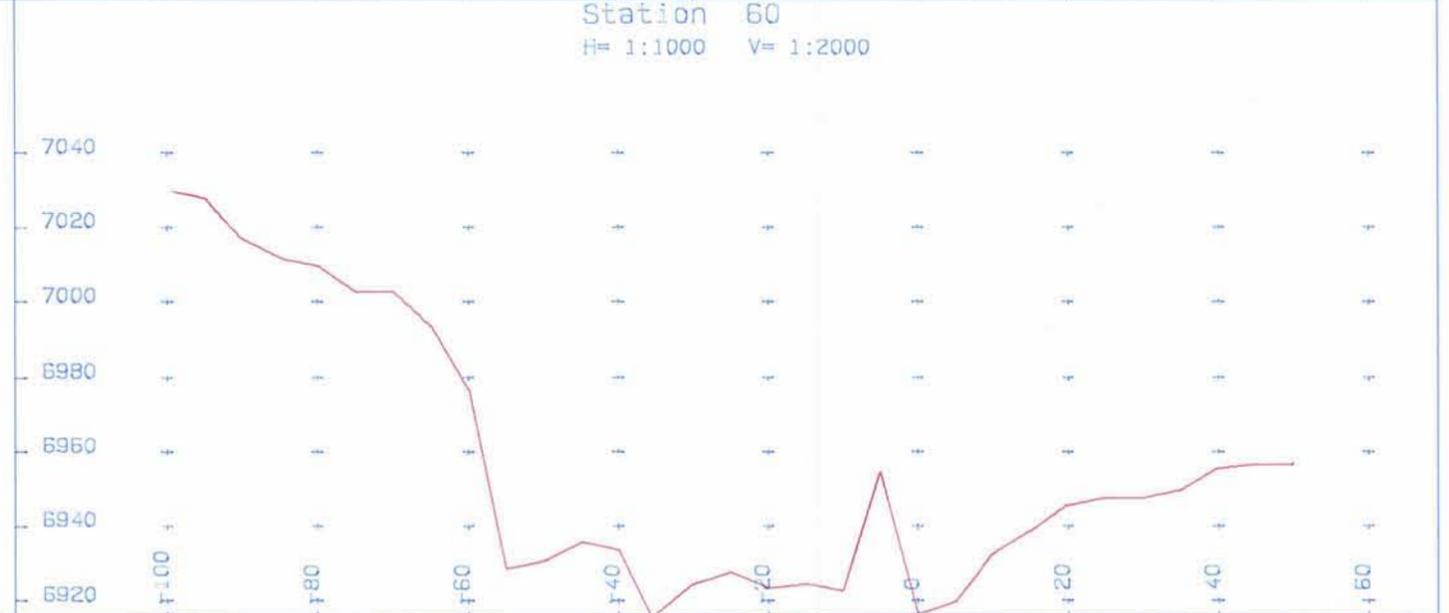
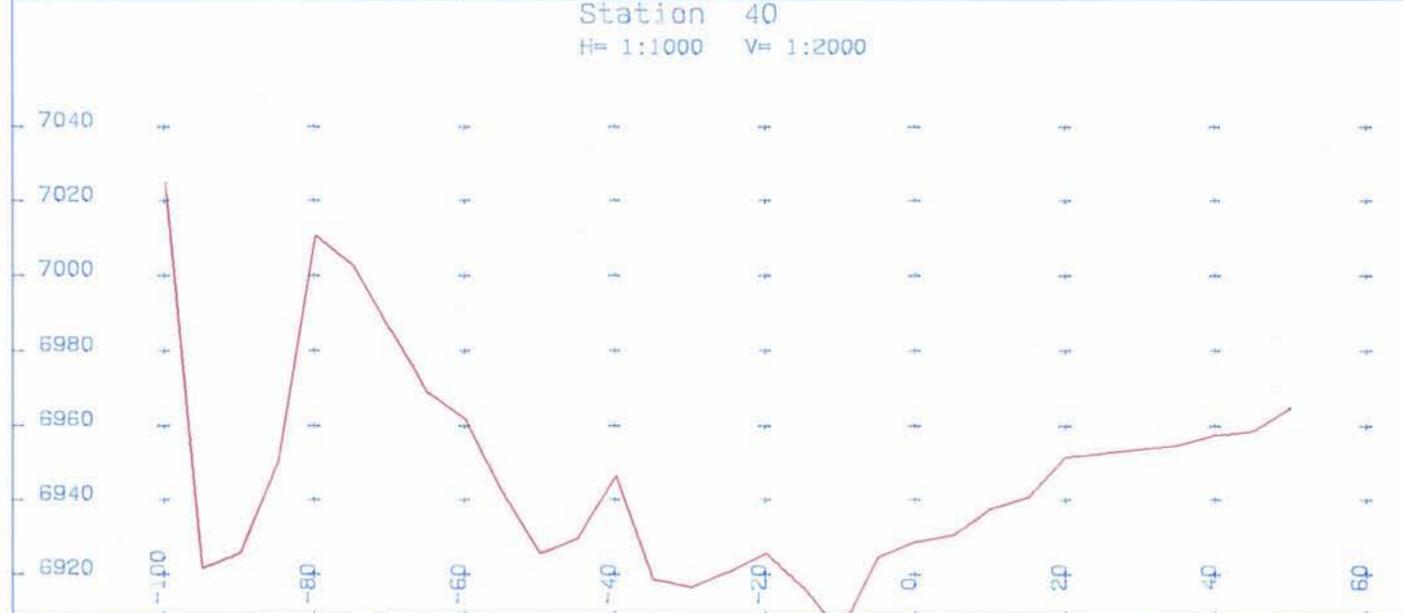
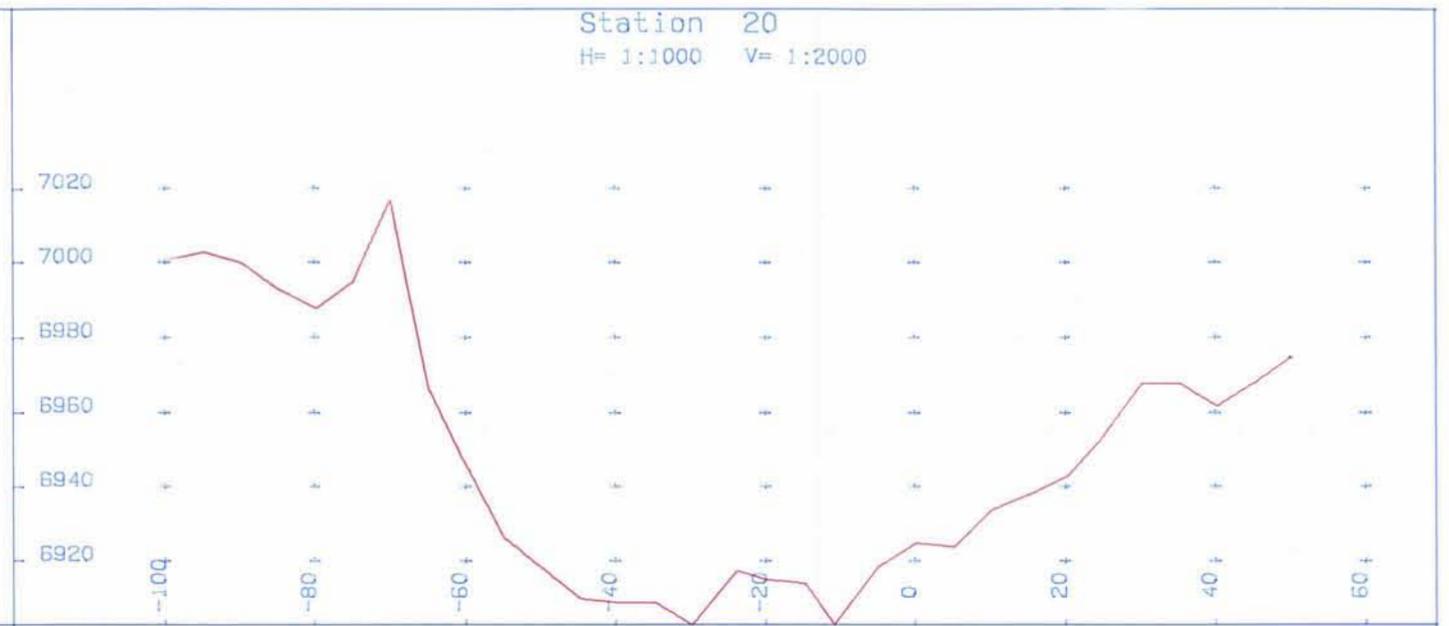
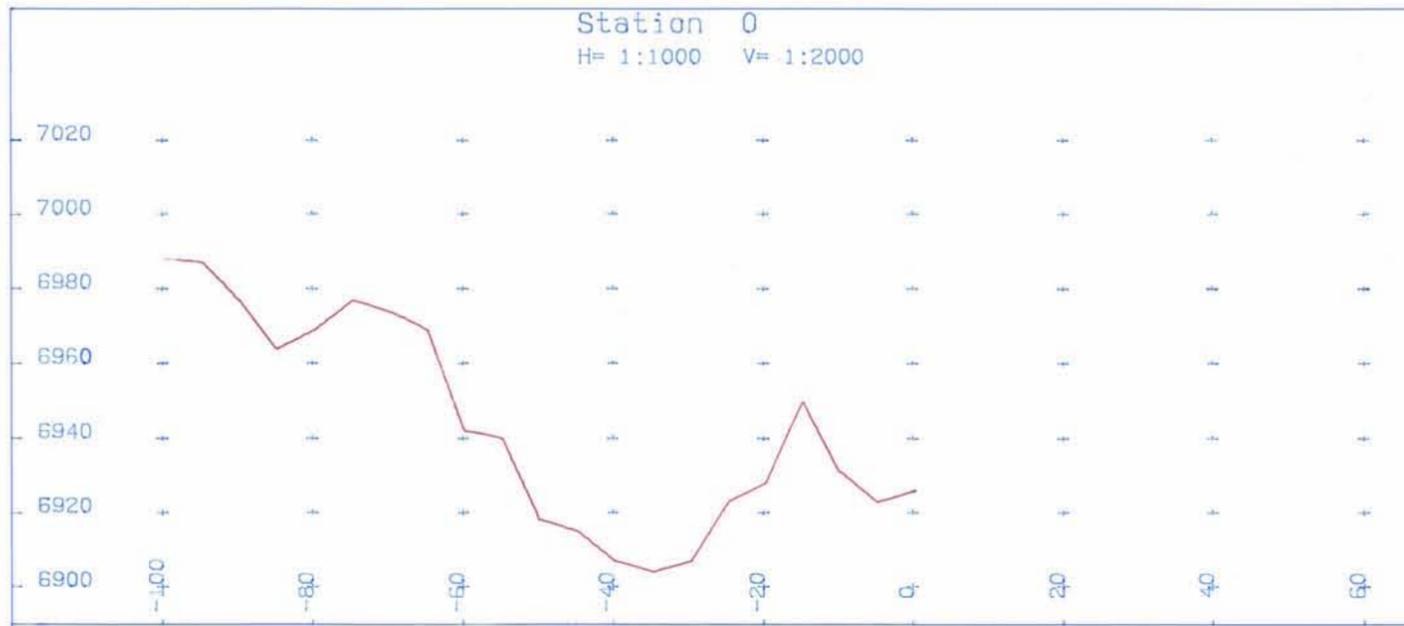
- BASELINE 0+00 N

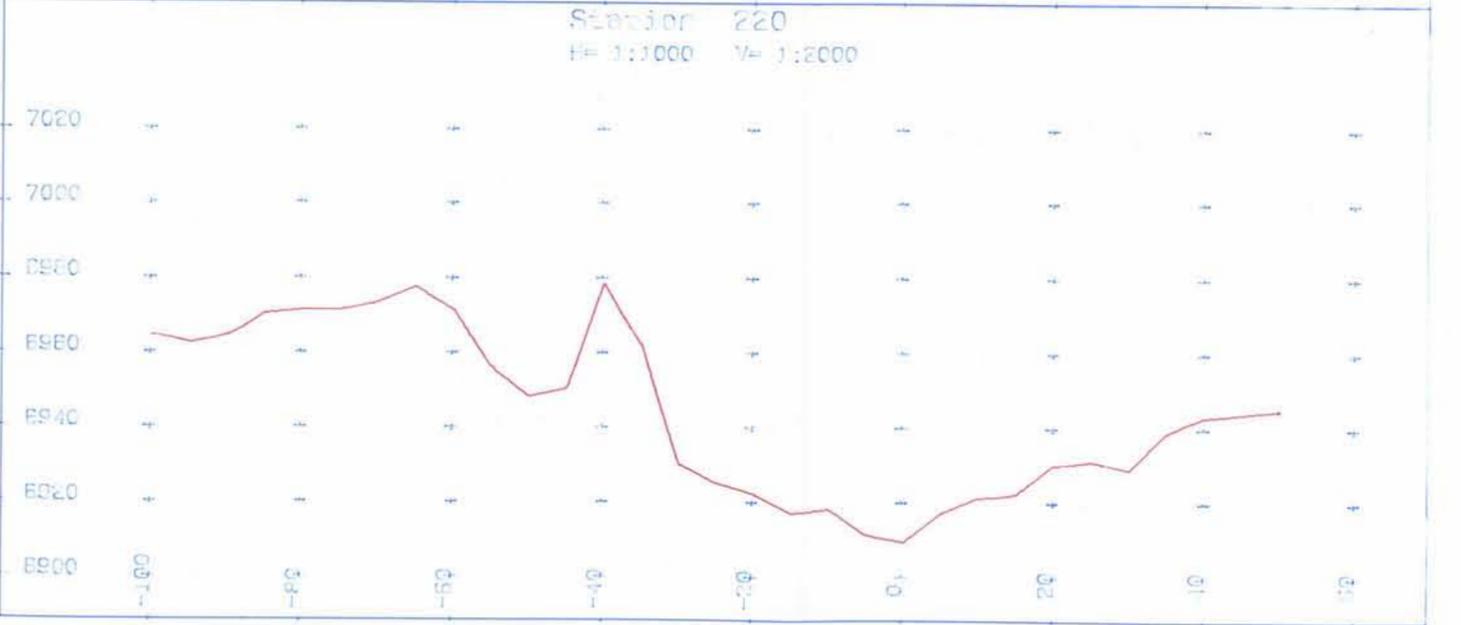
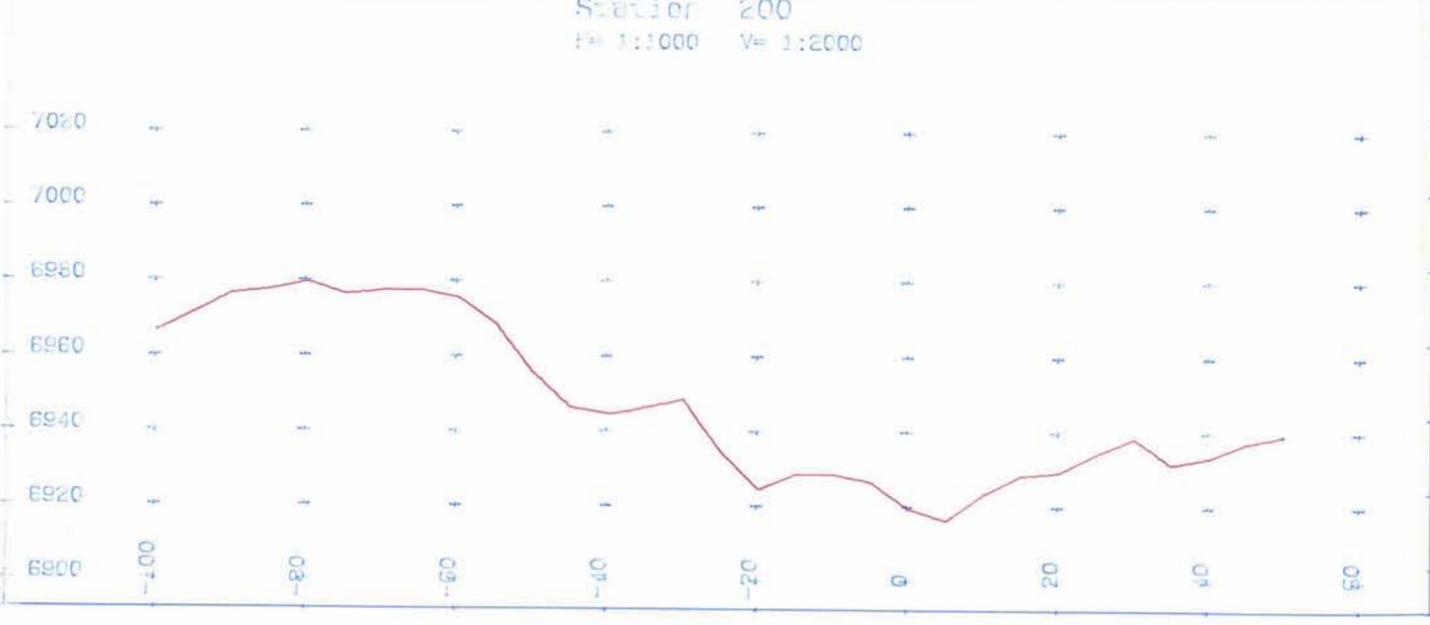
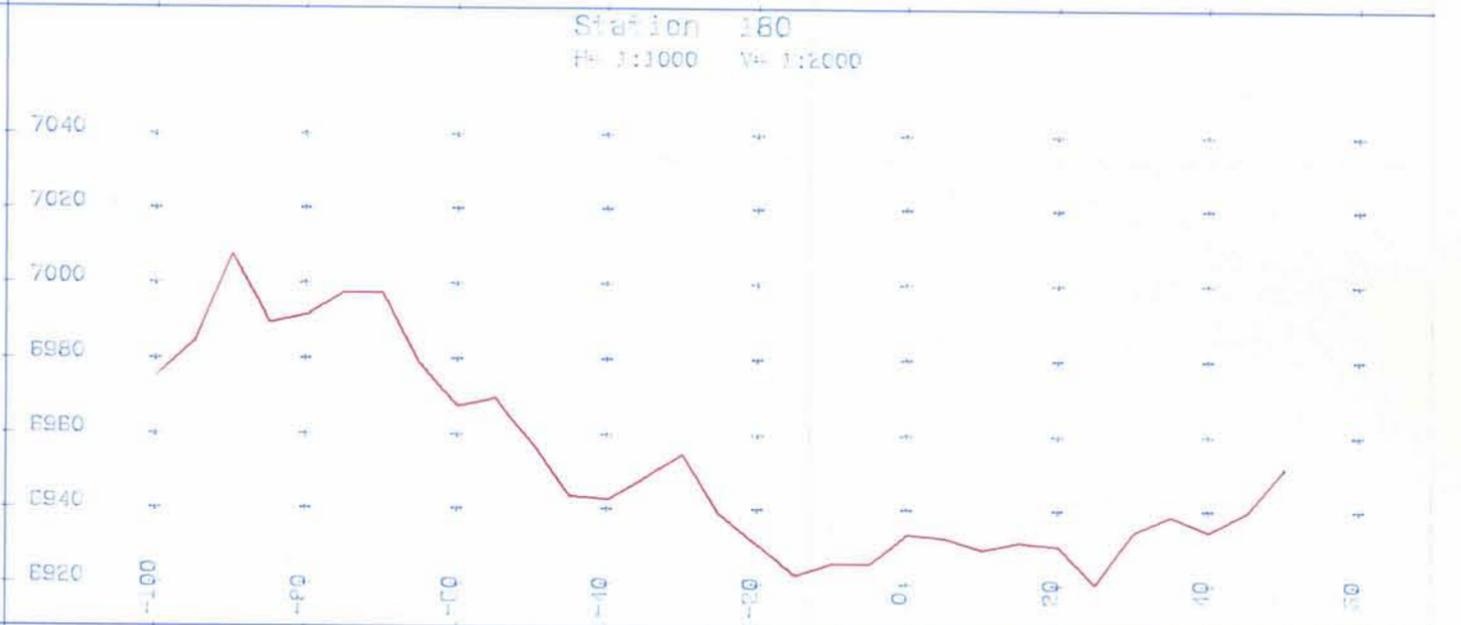
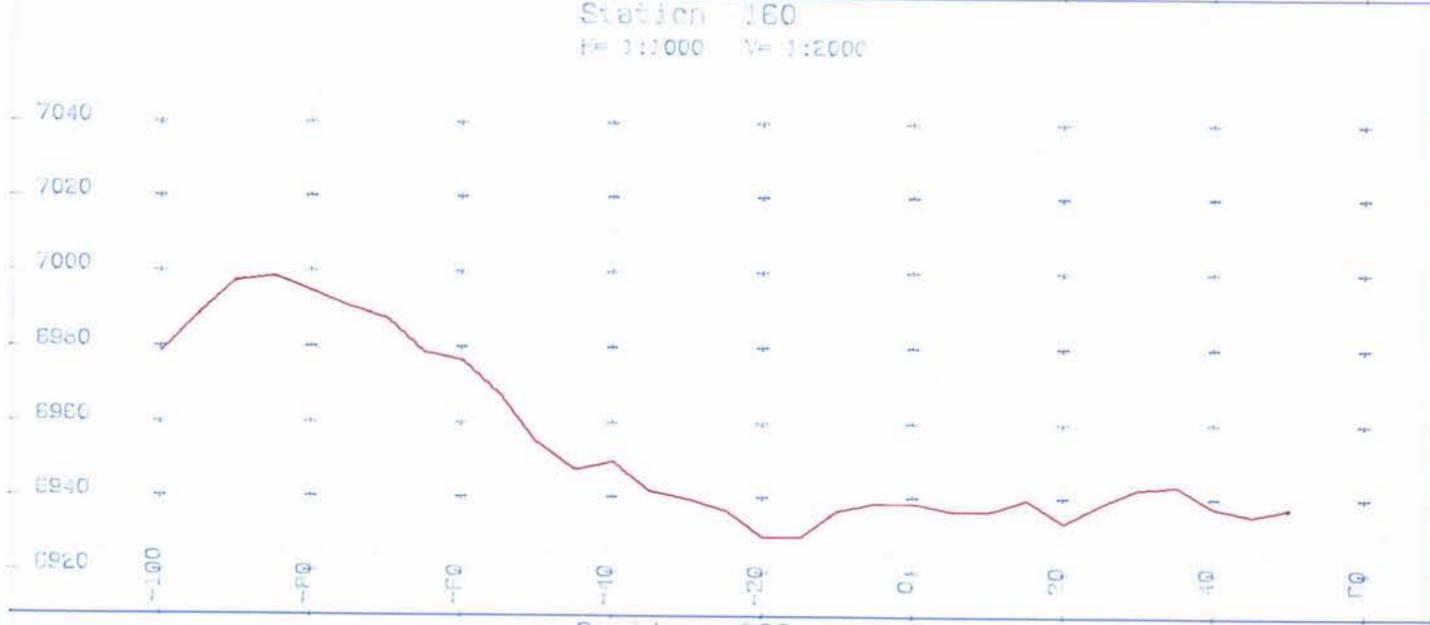
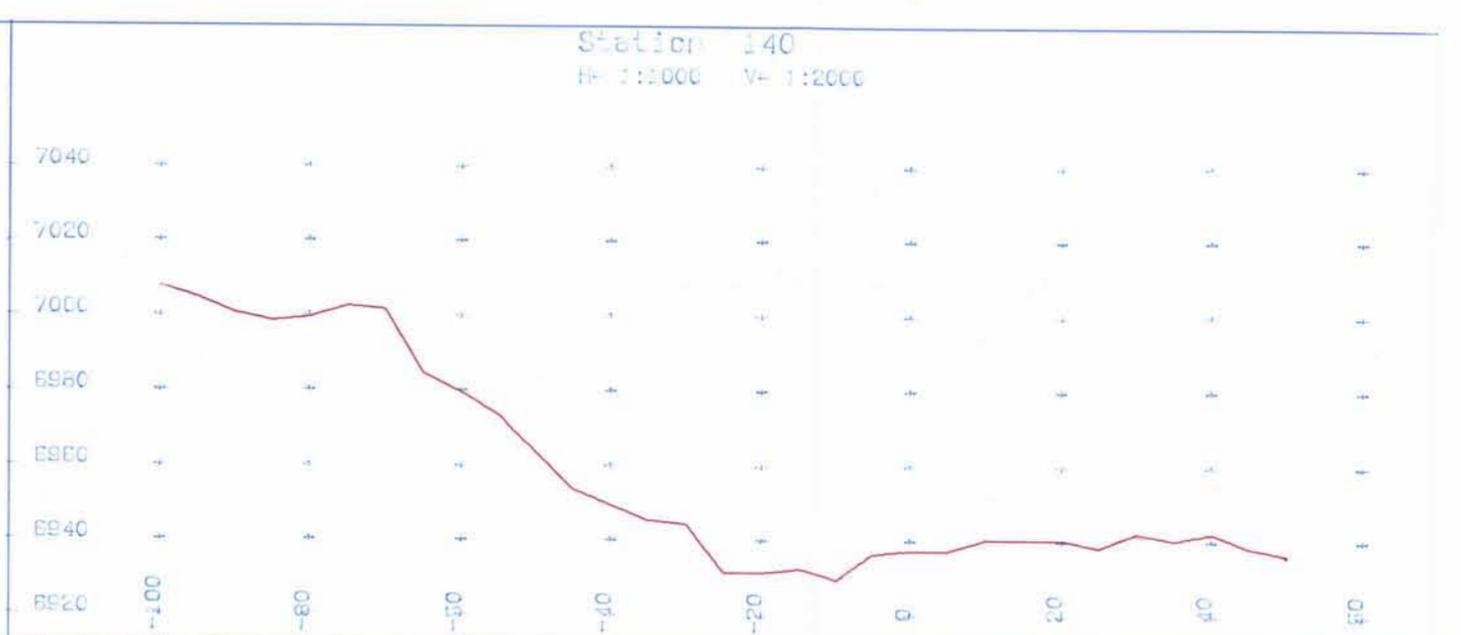
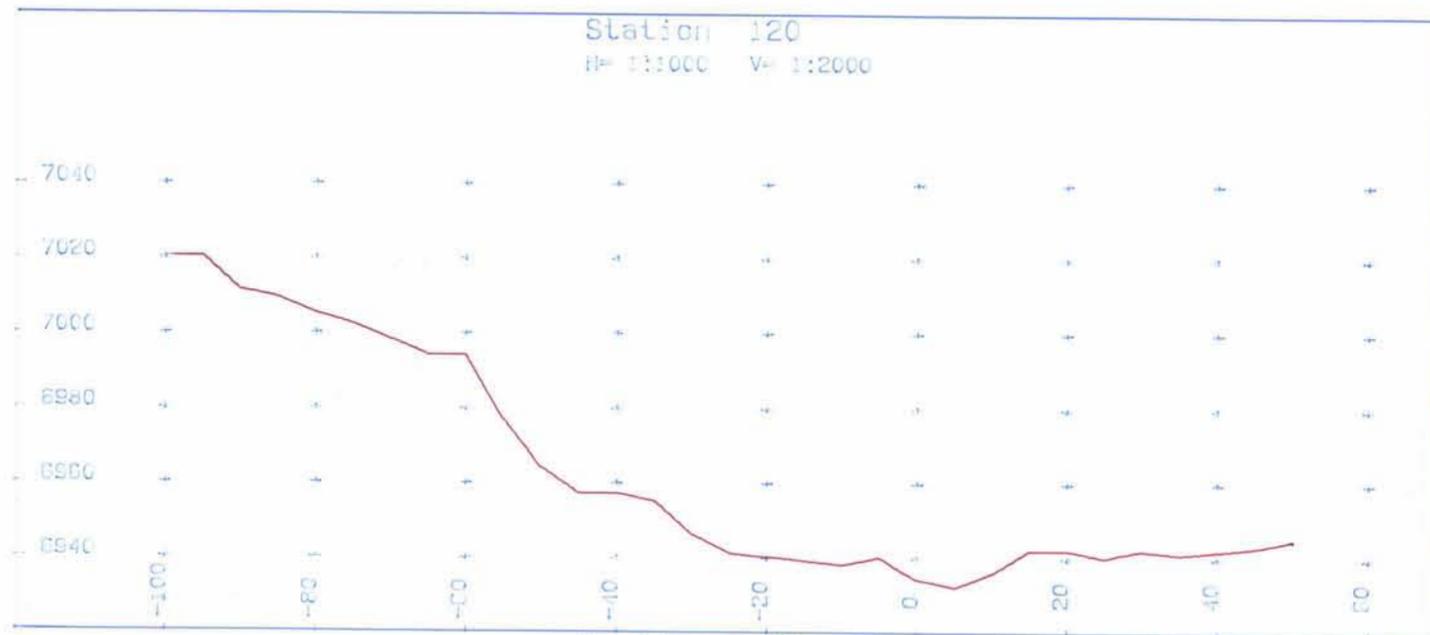
- 50 South

NOTES

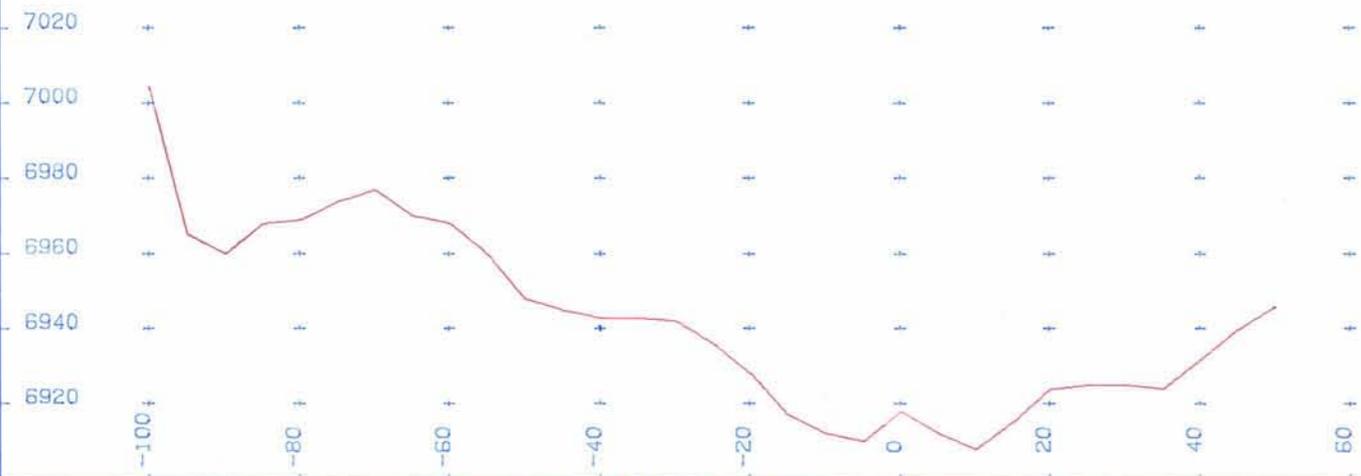
1. Contour interval: 10 GAMMAS TOTAL FIELD
2. Datum subtracted: 50,000 GAMMAS
3. Grid parameters: Line Spacing: 20 Metres; Readings @ 5 metre intervals

LIVINGSTONE CREEK		
SCALE: 1:1000	APPR. BY: R.L. MCINTYRE, C.E.T.	DRAWN BY: RLM
DATE: 89/09/21		REV: 1
TOTAL FIELD MAGNETOMETER SURVEY		
YUKON ENGINEERING SERVICES		DRAWING NO. 1

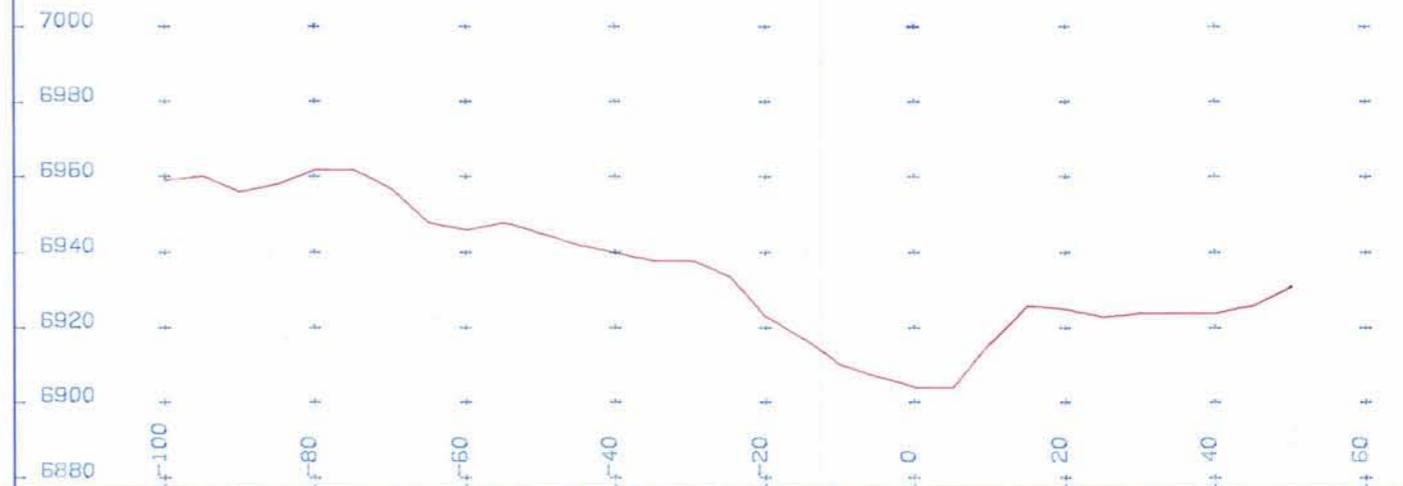




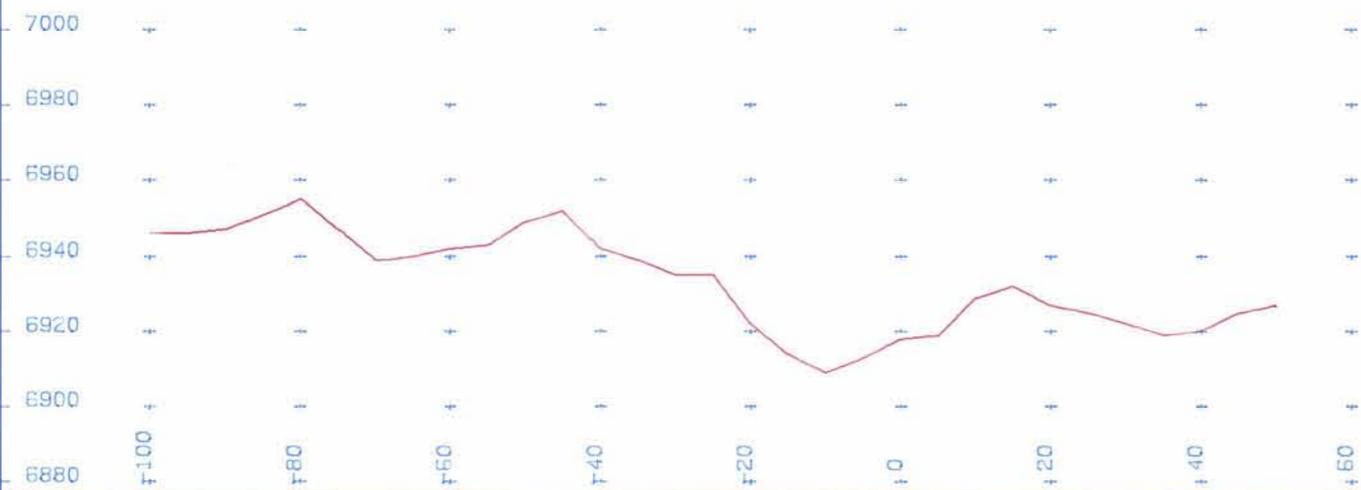
Station 240
H= 1:1000 V= 1:2000



Station 260
H= 1:1000 V= 1:2000



Station 280
H= 1:1000 V= 1:2000



Station 300
H= 1:1000 V= 1:2000

