120015

GUDER CREEK

MAGNETOMETER SURVEY

Whitehorse Mining District, Yukon Territory
Placer Claim #11826 & Placer Lease #5603
Map N.T.S. 115-I-6

by

Gary C. Lee P.Eng.

1982

TABLE OF CONTENTS

INTRODUCTION

General

In Sept. 1982, myself and Ron Granger conducted a magnetometer survey on Guder Creek. The purpose of the survey was to locate magnetic anomalies which might be related to above background concentrations of magnetically susceptible minerals synonymous with placer gold depositin possibly in old buried channels.

The particular area of this survey was chosen for two reasons. Firstly, the magnetometer survey conducted by G.R. Lee in 1981, being a relatively 'wide-spaced' survey, generaly indicated an anomalous situation. Thus it was necessary to follow up with a relatively 'close spaced' survey in order to accurately locate and define the anomalies. Secondly, it is in the general area of Fred Guder's old ground sluice cut.

Also, in Dec. 1982 I conducted a magnetometer survey on Seymour Creek in an area where known commercial deposits of placer gold had been discovered in a trenching program a few months previously. The pupose of this was to assist in supporting the viability of magnetometer surveys as a significant tool in placer prospecting.

Placer Rights

The survey was conducted on Placer Claim #P11826 granted to myself on Sept. 26, 1980 and Placer Lease #5603 granted to Diane Granger on Oct. 15, 1980.

Location

Placer Claim #P11826 and Placer Lease #5603(1 mile) adjoin on Guder Creek approximately one kilometer upstream from its confluence with Seymour(Kitchener) Creek with the lease being upstream and the claim being downstream.

Guder Creek is approximately west of Carmacks, Yukon and is one kilometer N.E. of Mile 45 on the Freegold Road. A Cat trail takes off from the top of Freegold Mountain and ends on top of the ridge immediately to the Northeast of the property.

ECONOMIC GEOLOGY AND TOPOGRAPHY

The geology map(340A) contained in G.S.C. Memoir 189 and compiled by H.S. Bostock(1956) show the rock types in the Guder Creek valley to be granite, granodiorite, and allied rock types. In the map compiled by Tempelman-Kluit(1974), both granodicrite and Schist Gneiss(banded hornblende gneiss, garnetiferous amphibolite with chlorite quartz schist, minor

graphitic schist.) has been noted in the Guder Creek valley. The most significant comments are made in G.S.C. Memoir 214 "Geology and Mineral Deposits of Freegold Mountain, Carmacks District, Yukon by Johnston(1963)". It is stated that magnetite deposits associated with gold occurrences are at the northwest end(area of Guder Creek source) and on the east side of Freegold Mountain. It is also stated that "A number of Quartz veins containing sulphides and gold have been discovered on claims situated around the heads of Liberty, Cabin, and Guder creeks." The geology is correct for producing placer gold associated with placer magnetite.

The general direction of drainage of Guder Creek is to the Northwest. The left limit(looking downstream) consists of steeply dipping valley walls with stunted spruce. The right limit consists of a gently dipping bench from 20 to 40 meters wide ajacent to the creek and thence, steeply dipping valley walls with considerably denser stands of spruce and poplar. The bench is confined mainly to the placer lease. The bottom 500 meters of creek exits in a steeply dipping "V" shaped valley.

CORRELATION OF MAG. SURVEY WITH TRENCHING

Test pitting and sampling was conducted on Seymour creek approximately one kilometer upstream from the mouth of Bow Creek on placer claim p23029 granted to Harry Fromme. A backhoe was used to excavate to bedrock. The location of the pits is shown on the general Location Plan(page5) and the magnetic profiles(page6). Commercial quantities of gold closely or directly associated with course grained magnetite balls up to five cm. in diameter were encounted in all but one* pit. The total depth to bedrock was less than or about two meters. Bedrock consisted of a fractured pink felspar porphyry which seems to have a low magnetic susceptibility. The best concentrations of placer gold and magnetite occurred within one half a meter from bedrock.

Two mag. lines(L930&L980) were established crossing at right angles to the valley so as to intersect the tested area in the best possible manner while at the same time avoiding disturbed ground(spill piles etc.) as much as possible. The magnetic profiles are shown on page6 along with the approx. test pit location. The profiles show an erradic up and down anomalous pattern ranging between 250 and 350 gammas in the area where commercial quantities of gold were encountered. Equally as important the pit located upstream of L980 between 0+40S and 0+50S encountered no significent gold or placer magnetite which correlates with a rather quiet even mag. in

*-only a couple of pits had the extemely large magnetite nuggets.
-in all cases finer grained magnetite was associate with placer gold.

the 250 gamma range. It is interesting to note that there are anomalies immediately to the south of the baseline and at the north end,half way btween the toe of the hill and the Freegold road, which have not as yet been tested. Anyway, it is reasonable to assume the magnetometer is picking up the gold associated placer magnetite, hence making it a useful exploration tool in shallow ground with a similiar geological and depositional environment.

FIELD PROCEDURE

A baseline was established from 9+00 meters to 15+00 meters with 10+00 being the claim and lease(#1 post) boundary on Guder Creek. It was run in at 25 meter spacings, marked with felt pens on flagging and written on blazed spruce trees at reasonable intervals, so as to give some permanency to the grid. The lines were run in at between 15 and 75 meter spacing with stations being marked at 10 meter spacing. Line 10+00$_m$ is equivalent to 50+00 feet on the 1981 grid.

A Sharpe's M.F.-1 fluxgate magnetometer was used and readings were taken to the nearest 10 gammas occassionally, 5 gammas. The instrument reads the vertical component of the earth's magnetic field.

Readings were taken at 5 meter intervals, with a few sections at 2½ meter intervals. Visual estimates were made of topographical changes along the lines and the significant changes are noted on the accompanying profile sheets(pages 7 to 9).

Magnetometer readings were taken along the base line in short loops and corrected for diurnal. Similarily each set of two lines was surveyed in a loop checking into the base line readings for each loop and subsequently corrected.

INTERPRETATION AND CONCLUSIONS

As mentioned earlier, the correlation of the mag. with trenching on Seymour Creek is very encouraging. Although Guder rather than Seymour Creek is the main subject of this report, the Seymour case history is simply included in order to demonstrate the viability of the mag. in placer exploration. The geological referances mentioned thus far in regard to Guder Creek are encouraging, in that, if an old placer channel does exist; it should occur with above background concentrations of placer magnetite. Guder Creek profiles are enclosed as pages 7 to 9. Almost all the lines are anomalous with the anomaly peaks occurring on both sides of the present creek and seemingly independant from the present drainage. These should be tested. The high readings encountered on L10+50 to 11+75 and on the extreme right limit part way up the hill should be checked to be sure they are not a bedrock or side drainage anomaly. The high Mag. on L12+35 on the extreme left limit and part way up the hill is suspected of being caused by bedrock or a side drainage.

RECOMMENDATIONS

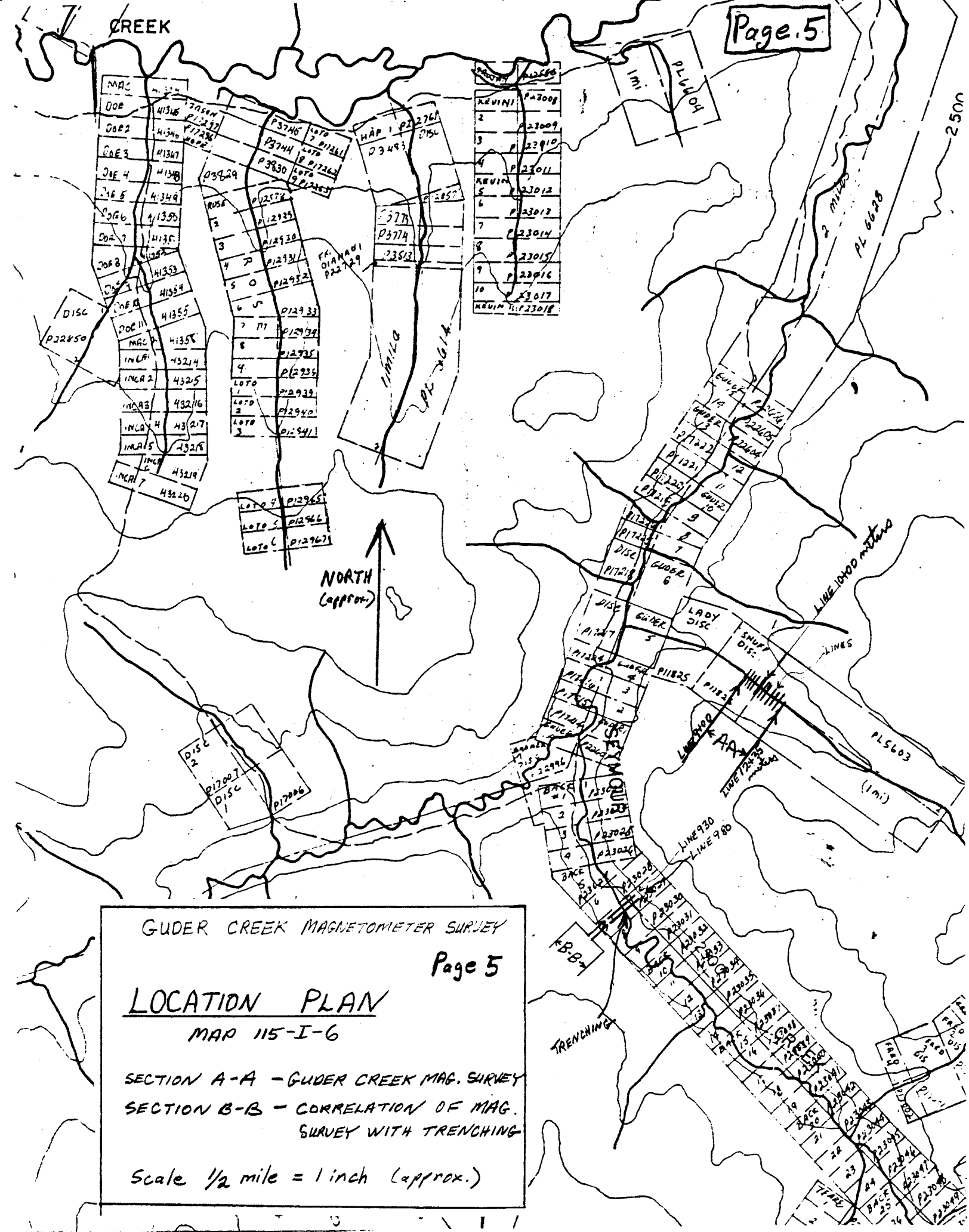
The anomaly on the flats and near the present drainage should be tested at some of the following locations:

L9+00	0+20S	
L9+25	0+25S	
L9+50	0+27S	
L9+75	0+26S	
L10+00	0+03S	and 0+14S
L10+50	0+07S	
L10+75	0+11S	
L11+00	0+15S	
L11+75	0+25S	
L12+20	0+14S	

The anomaly on L11+00 at 0+30N should also be checked.

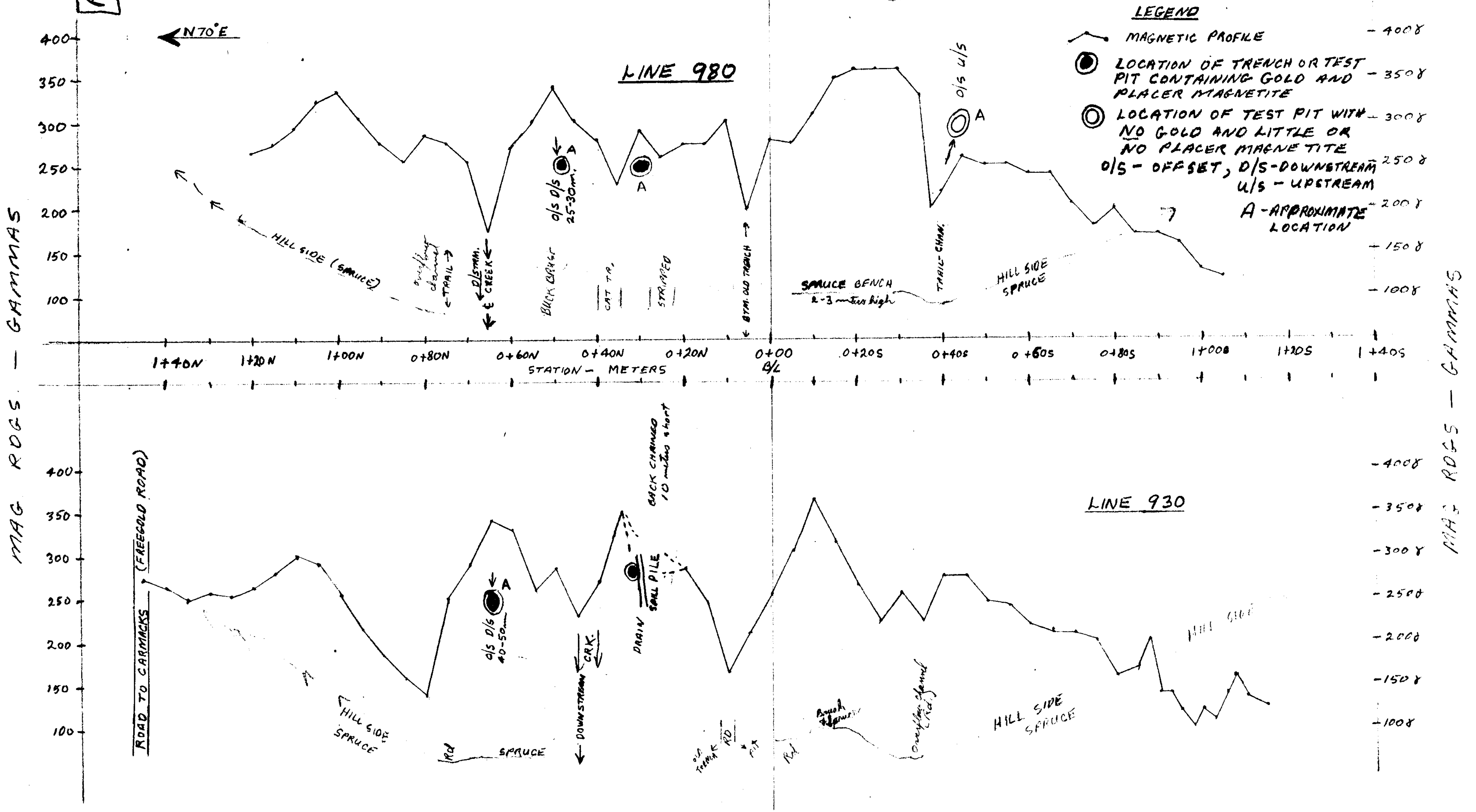
Respectfully submitted:

Gary C. Lee, P.Eng.


CREEK
Page 5
NORTH (approx.)
1 MILE
LINE 10400 metres
LINE 12439 metres
LINE 930
LINE 980
TRENCHING
GUDER CREEK MAGNETOMETER SURVEY
Page 5
LOCATION PLAN
MAP 115-I-6
SECTION A-A - GUDER CREEK MAG. SURVEY
SECTION B-B - CORRELATION OF MAG. SURVEY WITH TRENCHING
Scale 1/2 mile = 1 inch (approx.)

CORRELATION OF MAG. SURVEY WITH TRENCHING
SEYMOUR CREEK - MAP 115I6 P. CLAIM P23029
MAGNETIC PROFILES

SCALE: HORIZ - 1cm. = 10 meters / VERTICAL 1cm. = 50γ



PLACER LEASE # 5603, PLACER CLAIM P11826

GUDER CREEK MAGNETOMETER PROFILES

SEPT. 1982

SCALE: VERT. 1 CM. = 50 GAMMAS
HORIZ 1 CM. = 10 METERS

P.L. 5603
C.P
P11826

MAG. RDGS. - GAMMAS

DOWNSTREAM

LINE 10+00 meters

bench

steep slope

CRK

0+40N 0+20N 0+00 0+20S 0+40S

CLAIM POST

750 700 650 600 550 500

LINE 9+75 m

CRK.

0+40N 0+20N 0+00 0+20S 0+40S 0+60S

700 650 600

LINE 9+50 meters

bench

CRK.

steep slope

0+40N 0+20N 0+00 0+20S 0+40S 0+60S

750 700 650 600 550

LINE 9+25 m.

steep slope

CRK.

0+40N 0+20N 0+00 0+20S 0+40S 0+60S

750 700 650 600 550

LINE 9+00 m.

CRK.

0+40N 0+20N 0+00 0+20S 0+40S 0+60S

750 700 650 600 550 500

STATION - METERS

PLACER LEASE #5603 PLACER CLAIM P118267

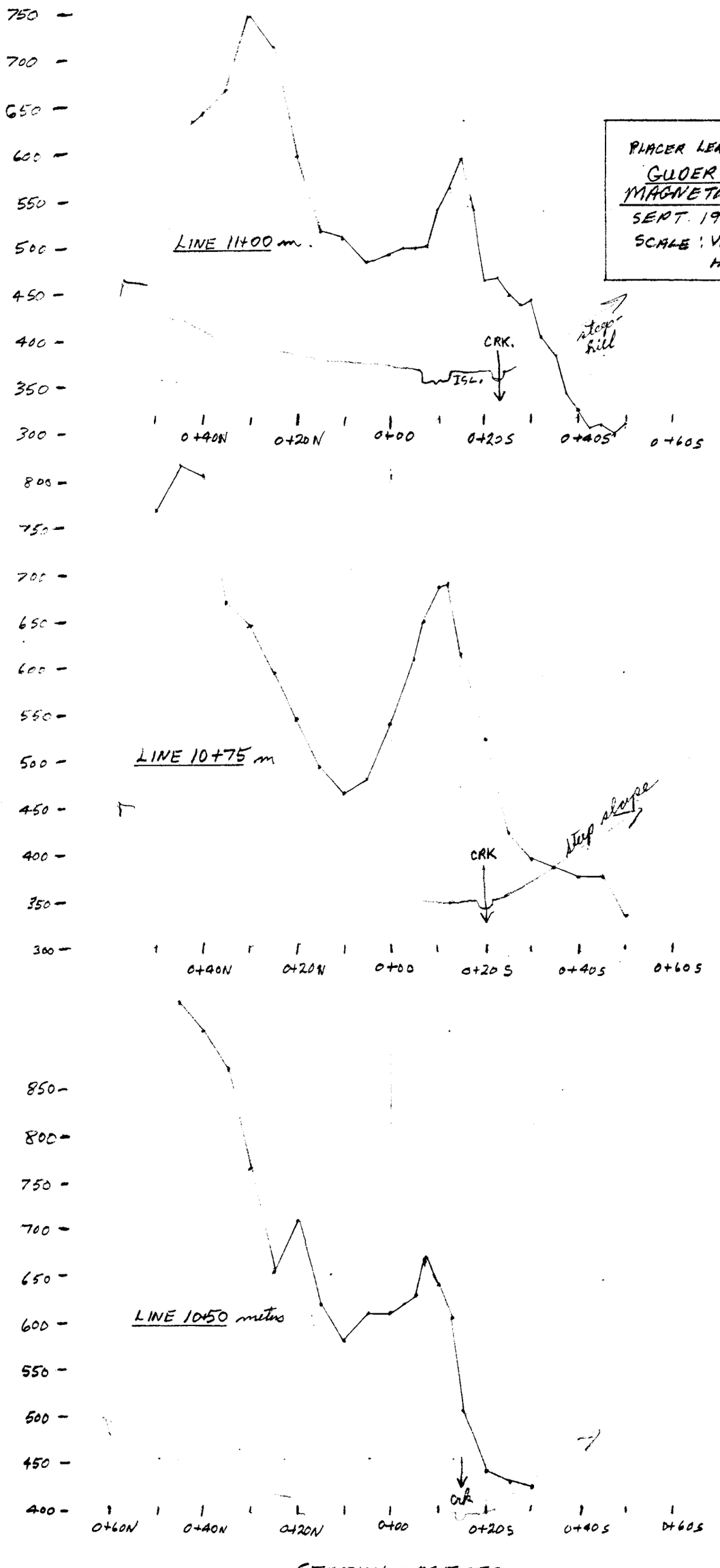
GUOER CREEK

MAGNETOMETER PROFILES

SEPT. 1982

SCALE : VERT. 1 CM. = 50 GAMMAS

HORIZ. 1 CM. = 10 METERS

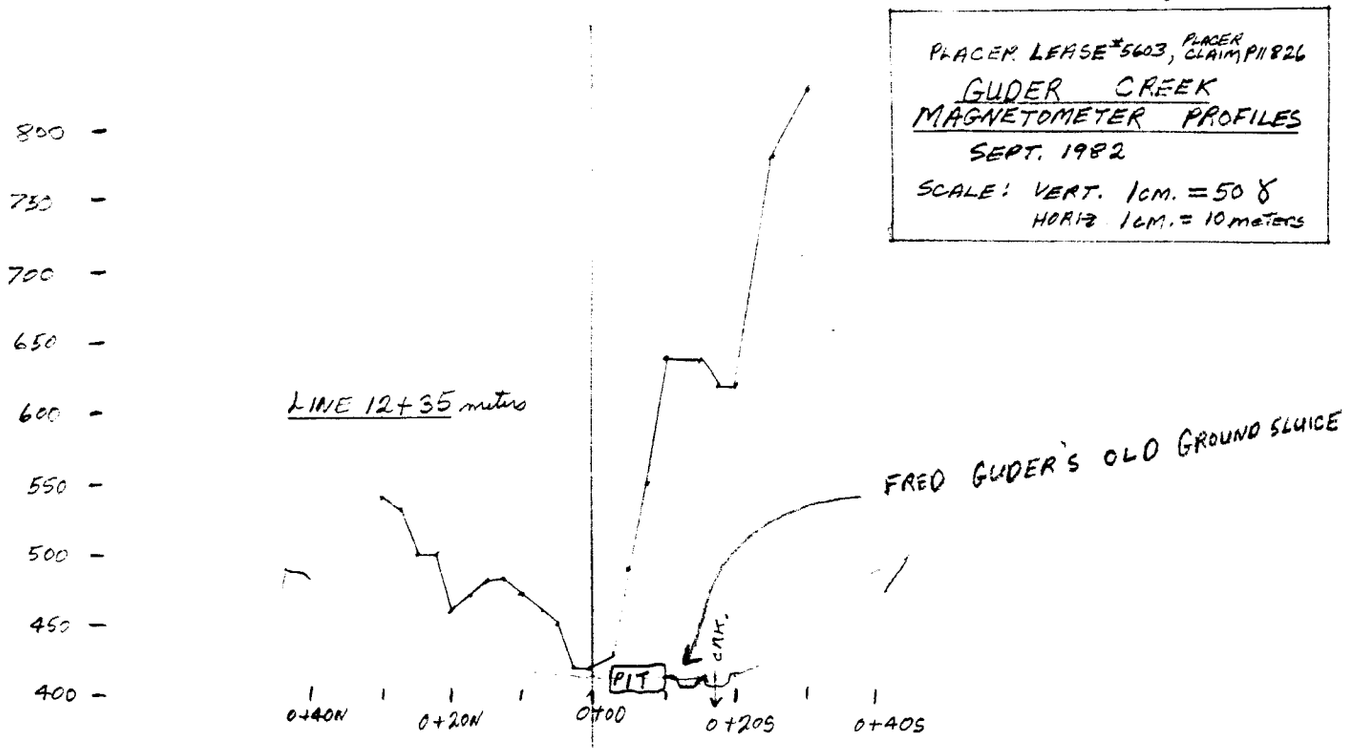


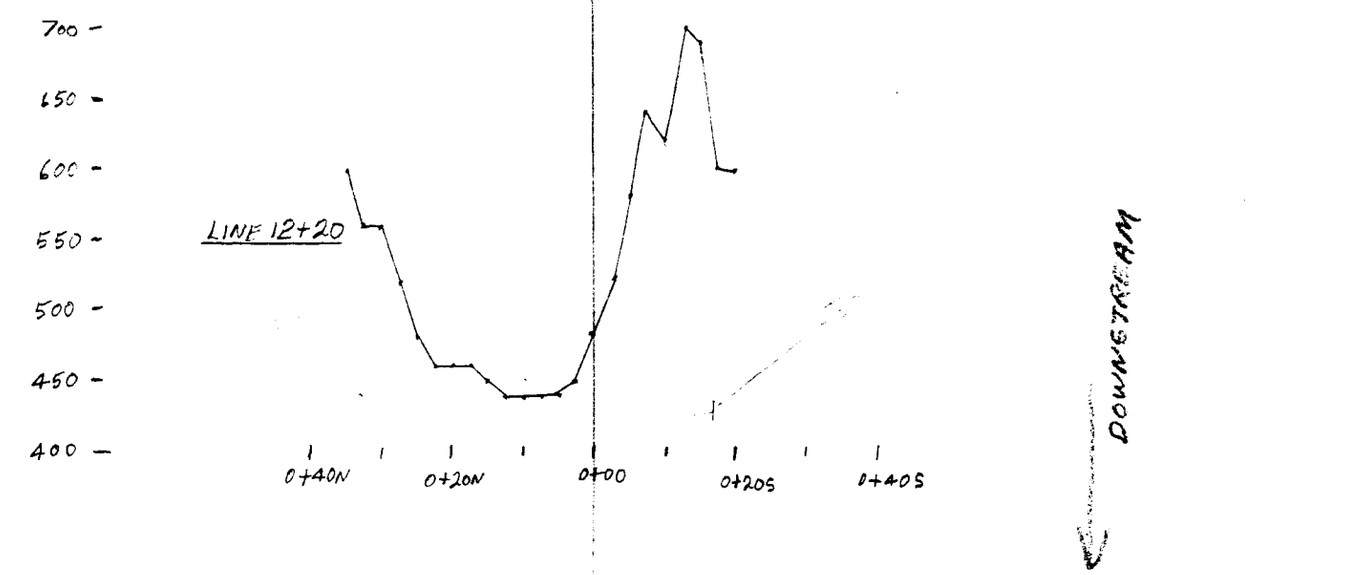
PLACER LEASE #5603, PLACER CLAIM P11826

GUDER CREEK MAGNETOMETER PROFILES

SEPT. 1982

SCALE: VERT. 1cm. = 50 γ
HORIZ 1cm. = 10 meters





MAG. PROF. — GUDER CREEK