



DISCUSSION OF TILLICUM MOUNTAIN
SELF-POTENTIAL TEST SURVEYS TO DATE
(82F/13)

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INTRODUCTION

The first self-potential (SP) survey was made at Tillicum Mountain on August 22, 1980 with the discoverers Arnold and Elaine Gustafson. At that time a strong SP anomaly was noted at the 'Money Pit' – the source of the first high-grade gold samples. Over the next three years further surveys were undertaken in an attempt to either identify extensions of the 'Money Pit' or to find new 'ore' zones (Fig. 3). Results of the first survey were published in *Geological Fieldwork, 1981* (Kwong and Addie, 1982). In this case the 'short wire' or 'relative potential' method using a 200-metre wire with stations every 5 metres was used. Finally in 1983 the long-wire method (200 metres) was used (Burr, 1982). Because of the experimental nature of our surveys none of the lines have been closed; therefore the amount of error is not known.

1983 SELF-POTENTIAL RESULTS

This year the survey was run along a road which cuts across the geological boundaries (Fig. 3). Three SP anomalies were encountered; in all cases argillite is present.

OBSERVATIONS AND RECOMMENDATIONS

Both the 'Money Pit' and the 'Jennie Zone' have argillite contacts. Whether these are on the same argillite layer remains to be proven; folding of the sedimentary rocks is suspected. Solution of the structural problems could be greatly assisted by further SP work to trace argillite layers. Some of this argillite carries significant mineralization as indicated by the following assays from grab samples at the 522-millivolt SP anomaly on the road east of the 'Money Pit' (Fig. 3):

SAMPLE NO.	Au ppm	Ag ppm	Cu ppm	Pb ppm	Zn per cent	As per cent	WIDTH metres
27869M	3.4	10	192	800	0.44	0.3	5 (FW)
27870M	0.3	10	162	56	0.35	0.15	3 (HW)

NOTE: A check assay using the 'reject' from sample 27869M ran 6.5 ppm gold, confirming the gold content. Because of the erratic gold assays free gold is suspected.

CONCLUSIONS

- (1) The SP survey method has been successful in identifying three anomalies in argillite.
- (2) Both the 'Money Pit' and the 'Jennie Zone' mineralization have footwall argillites; it is not known whether they are the same argillite.
- (3) Argillite samples at the 522-millivolt SP anomaly has a significant gold content which should be verified by detailed sampling.

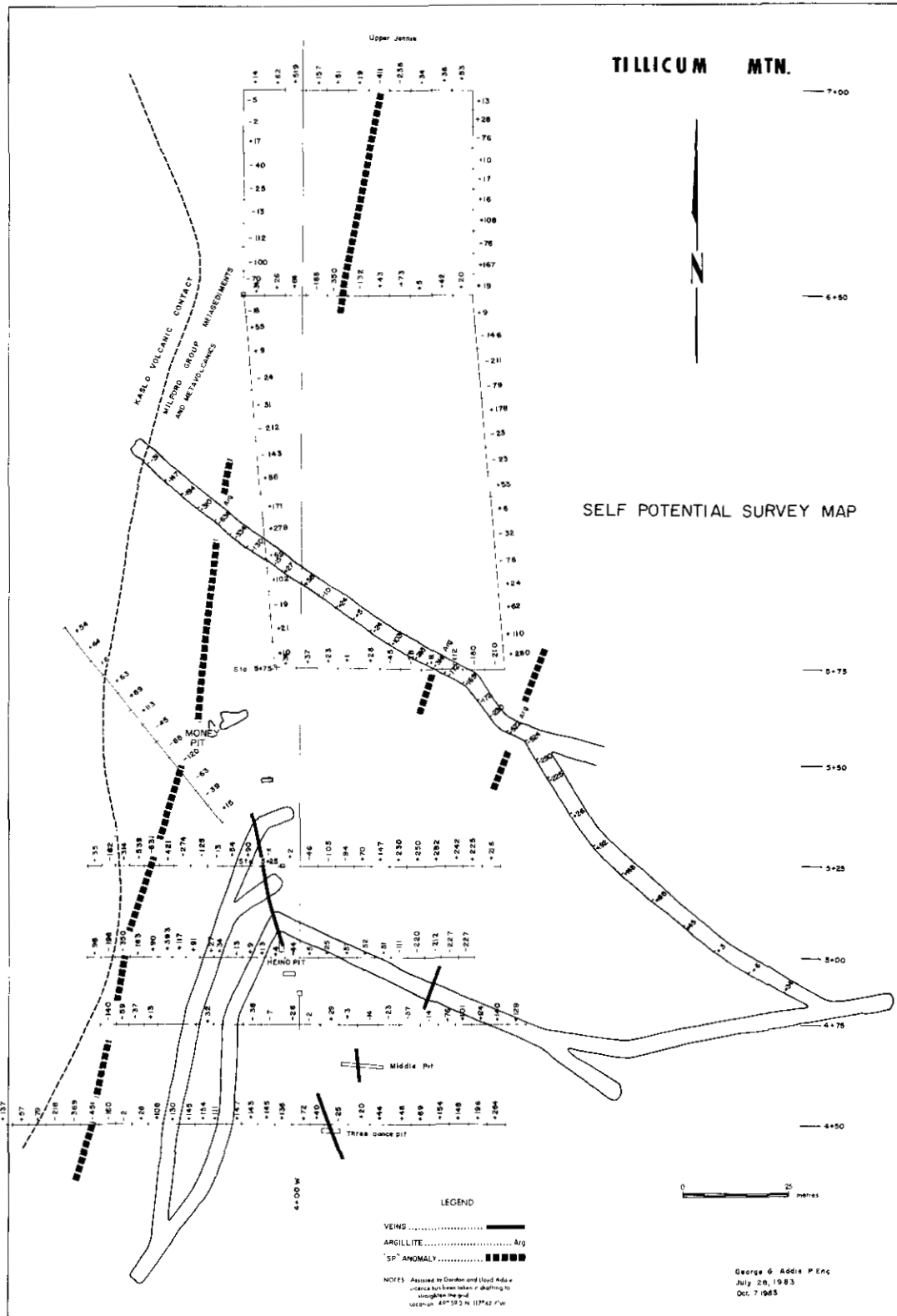


Figure 3. Tillicum Mountain self-potential survey map (82F/13).

REFERENCES

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