

GEOLOGICAL AND GEOCHEMICAL REPORT
AWESOME CLAIM

by
C. F. Staargaard

94E/2E
Longitude 126°44'W; Latitude 57°07'N

Omineca M.D.

Owner: Inca Resources Limited
Operator: Kidd Creek Mines Ltd.

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

11,174

December, 1982

Vancouver, B.C.

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INTRODUCTION

Location, Access, Physiography

The AWESOME claim is located approximately 25 kilometres southeast of the Sturdee airstrip in the Toodoggone area, some 270 kilometres northeast of Smithers, B.C. Coordinates are Latitude 57°07'N and Longitude 126°44'W. Access is by air from Smithers to the Sturdee airstrip, and by helicopter from there to the claim area. The NTS location is 94E/2E.

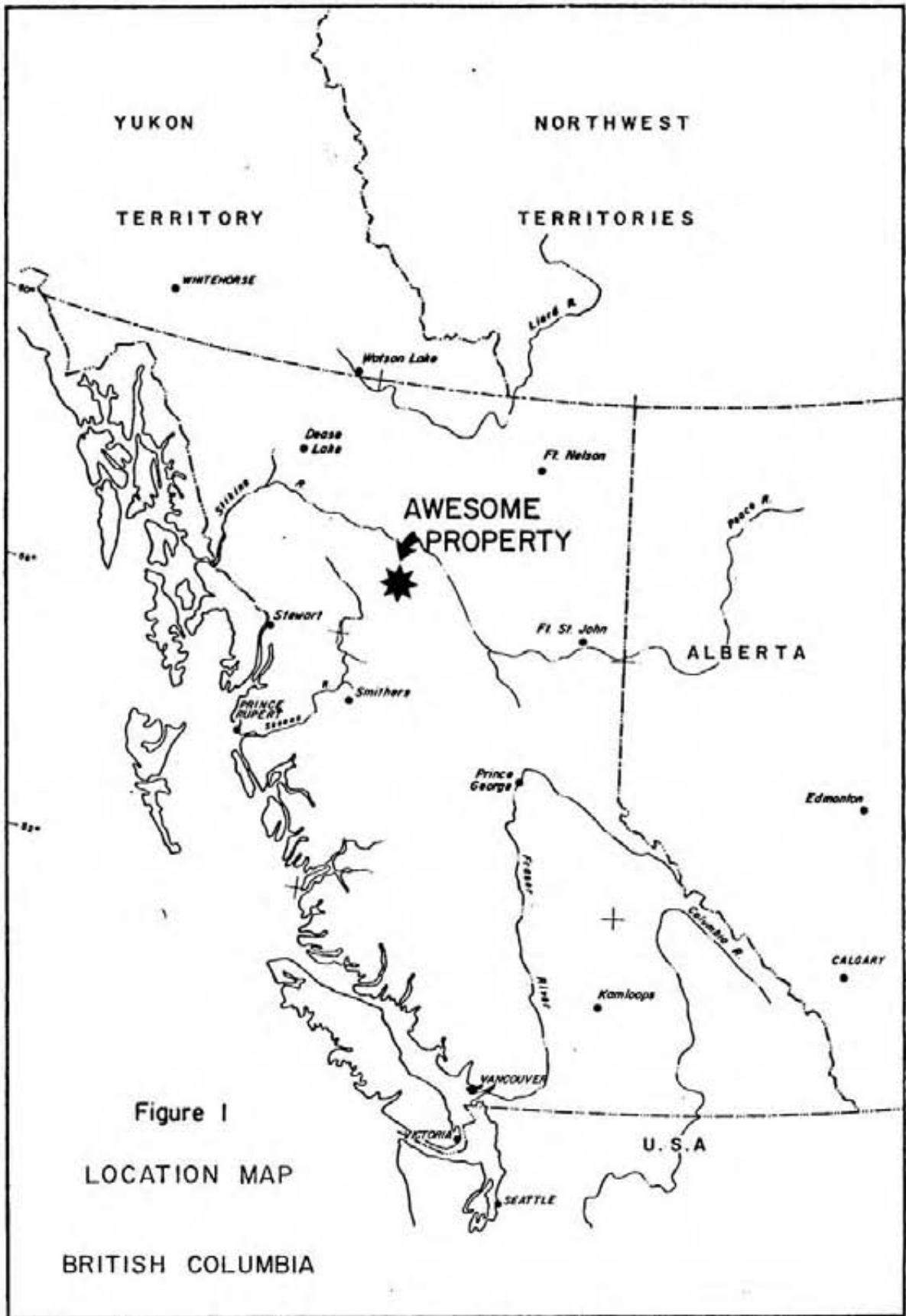
Topography is mountainous with elevations on the property ranging from 1375 to 1850 metres ASL. Dense spruce and pine forest occurs in valleys and on lower slopes while alpine grasses and occasional scrub trees dominate at elevations above about 1525 metres. Winters in the area are long with snowpack generally lasting until June and regular snowfall beginning in September.

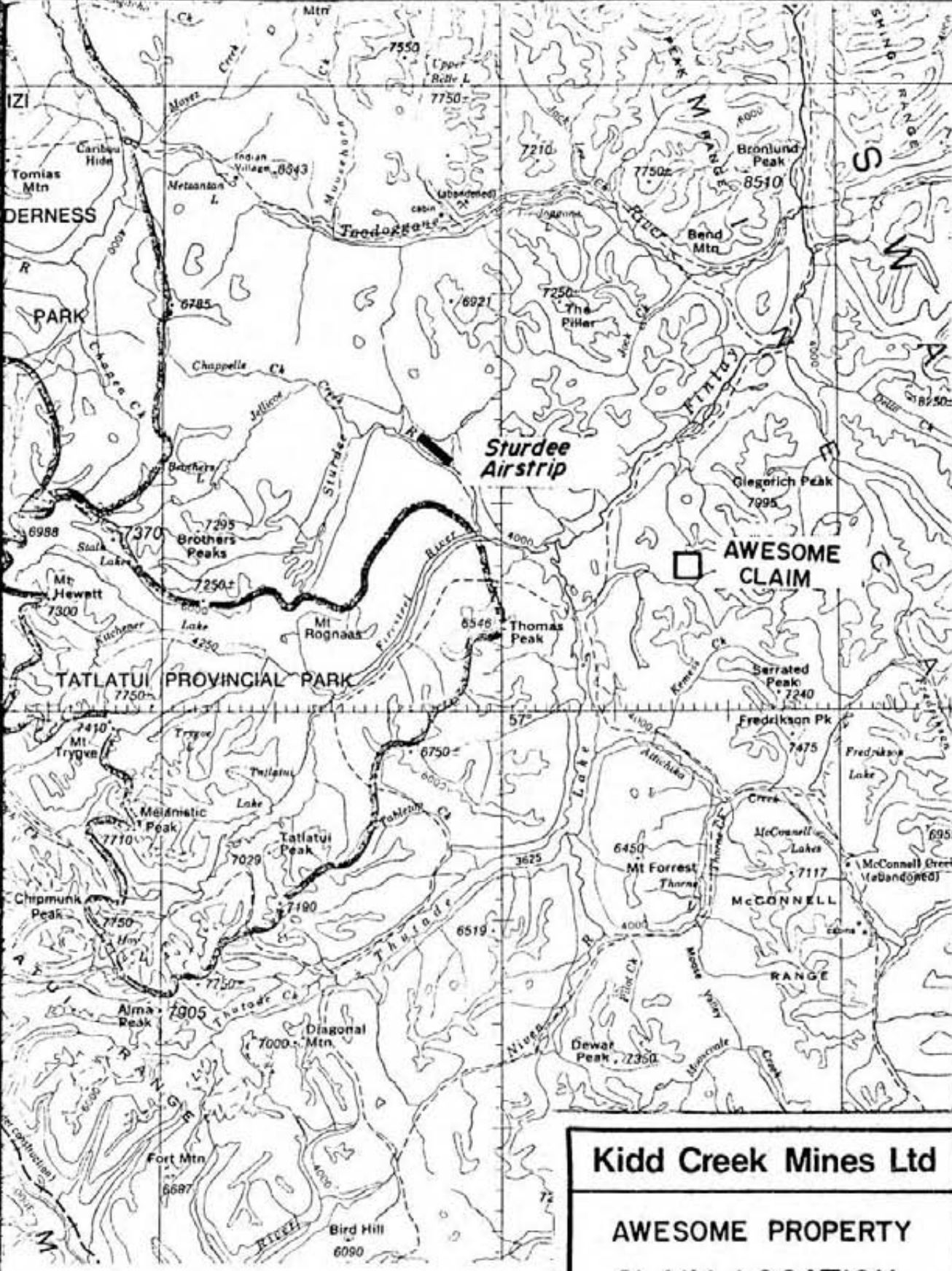
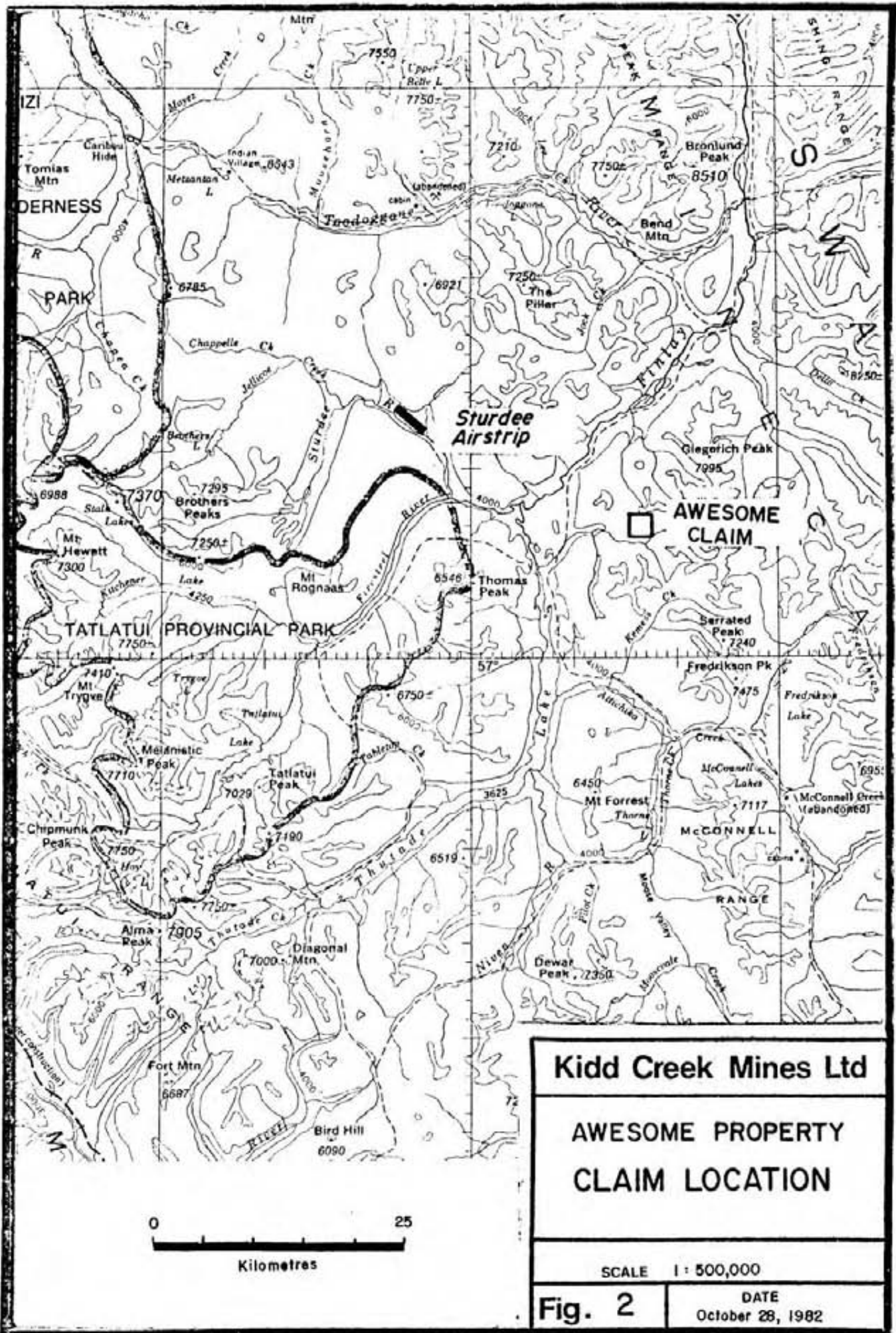
Property History and Definition

The AWESOME claim consists of 16 units (4 x 4) and was staked on the basis of anomalous quartz float discovered during a regional exploration program. No previous work is known to have taken place here.

Summary of Work

Five kilometres of grid were established to aid in mapping and sampling. A total of 242 rock samples were collected from float and from two trenches of 35 and 50 metres respectively. Approximately 0.5 square kilometres in the area of the grid were geologically mapped and prospected.





GEOLOGY

Regional Setting

The Toodoggone area is located near the eastern margin of the Intermontane Belt. The oldest rocks in the region are limestones and rhyolitic tuffs of the Permian Asitka Group. These are overlain by andesitic flows and related fragmental and sedimentary rocks of the Upper Triassic Takla Group.

These are in turn overlain by Lower to Middle Jurassic Toodoggone volcanic rocks which occur in a belt some 90 kilometres in length and 15 kilometres in width. These rocks are comprised of a complexly intercalated pile of predominantly andesitic volcanics and associated fragmentals and sedimentary rocks. They are host to epithermal gold and silver mineralization.

Extensive, repeated block-faulting in Jurassic time, possibly related to caldera development, has served to localize mineralization by providing the necessary channelways for ascending hydrothermal solutions. The most well-known deposits are the Baker Mine, operated by Dupont, and the Lawyers Creek prospect, owned by SEREM.

Possibly coeval with Toodoggone volcanic rocks are granodiorites to quartz monzonites of the Jurassic to Cretaceous Omineca Intrusions. Conglomerates and sandstones of the Upper Cretaceous to Tertiary Sustut group form a large basinal assemblage to the west.

PROPERTY GEOLOGY

Vuggy quartz-veined andesitic lapilli tuff and hematitic quartz float were found over an area of about 800 metres in length and some 50-100 metres in width. Trenching has revealed that the source of this material is a variably silicified zone, between 20 and 40 metres in width, within andesitic lapilli tuffs of the Jurassic Toodoggone volcanics.

Several types of silicification comprise this zone, including:

- a) hematitic quartz breccia
 - several of these zones, up to 2 metres in width, are seen in the trenches.
 - several (at least three) stages of silicification and brecciation are indicated by crosscutting relationships, rebrecciation textures and the banded character of the quartz, which may be chaledonic.
 - calcite may or may not be present as late stage open-space fillings and occasionally as completely carbonatized tuff fragments.
- b) large quartz veins
 - a 1.5 metre wide grey to maroon hematitic quartz-calcite vein occurs in trench no. 1.
 - the quartz is occasionally vuggy and contains rare specks of malachite.
- c) pervasive silicification
 - a number of pervasively silicified zones up to 4 metres wide are found in both trenches.
 - often hematitic, they include some vuggy quartz and calcite veinlets.

- d) quartz veining
- veining is variable in intensity, ranging from rare to over 20% by volume.
 - veins range in width up to about 2 cm and are often banded, hematitic, and vuggy, displaying coxcomb texture.
 - veins may contain late stage calcite and may also be clear and colourless.
 - occasional brecciation is seen.
 - veining intensity decreases gradually to the north and abruptly to the south.

The dominant alteration on the property is a zone of propylitization of indeterminate width which envelopes the silicified zone. Narrow zones of argillically altered lapilli tuff occur within the more intensely silicified portions of the system. One narrow interval, exposed in trench no. 1, contains some sulphate as fracture-fillings.

The only sulphide mineral noted was a trace of partially to completely oxidized pyrite.

Several minor faults transect the silicified zone and in places appear to have controlled the extent of alteration. The silicified zone appears to terminate against a postulated northerly trending fault to the east and a major northwesterly trending fault to the west.

GEOCHEMISTRY

A grid, consisting of a one kilometre baseline with 400 metre crosslines at 100 metre intervals, was established over the area containing altered and silicified float to serve as a base for mapping and rock

sampling. As outcrop is scarce, mainly float was sampled. Each 2-3 kilogram sample was then analysed for Cu, Pb, Zn and Ag by atomic absorption spectrophotometry following a nitric-perchloric acid digestion and for Au by atomic absorption following an aqua regia digestion and solvent extraction.

One hundred and six samples of silicified and/or quartz-veined float were collected; fourteen of these contain over 100 ppb Au and twenty-nine contain more than 4 ppm Ag. The highest values are 4300 ppb Au (0.126 oz/ton) and 404 ppm Ag (11.88 oz/ton).

Two trenches of about 35 to 50 metres respectively, were opened across what was presumed to be the source of the highly anomalous float material. Following geological mapping, 0.5 m x 1 m panel samples were taken at 0.5 metre intervals in each trench. Samples were analysed for Au, Ag, Cu, Pb, And Zn using the same method as for float samples. A total of 146 samples were collected.

The higher values are listed below (distances are measured from the south end of the trench):

a) trench one

<u>interval</u>	<u>ppb Au</u>	<u>ppb Ag</u> [?]	<u>rock-type</u>
30.5-31.0 m	90	15.6	- propylitized, weakly quartz- veined andesitic lapilli tuff
33.5-34.0 m	375	43.5	1.5 grey to
34.0-34.5 m	730	58.5	maroon hematitic
34.5-35.0 m	370	42.5	quartz-vein.

a) trench two

<u>interval</u>	<u>ppb Au</u>	<u>ppb Ag</u> [?]	<u>rock-type</u>
13.5-14.0 m	370	6.2	- propylitized,
14.0-14.5 m	400	4.6	strongly quartz- veined andesitic lapilli tuff
22.5-23.0 m	100	9.0	-faulted,
23.0-23.5 m	125	13.6	intensely quartz-
23.5-24.0 m	75	7.7	(hematitic) veined
24.5-25.0 m	95	6.8	andesitic lapilli tuff with minor calcite veinlets.

Copper, lead, and zinc values are at low levels with higher lead values generally corresponding with higher silver values.

CONCLUSIONS AND RECOMMENDATIONS

Although the Awesome prospect exhibits many characteristics of epithermal gold-silver mineralization such as that of the Lawyers deposit and similar deposits in the southwestern United States, gold and silver values are too low to warrant further work.

P.R. Staargaard
for

C. G. Staargaard

P.R. Staargaard

APPENDIX A

Statement of Qualifications

Statement of Qualifications

C. F. Staargaard - Geologist

I hold a B.Sc. degree in the Geological Sciences from the Pennsylvania State University and an M.Sc. degree in Geochemistry from Queen's University, Kingston, Ontario, granted in 1981. I have been continuously employed in exploration geology in British Columbia since June, 1979.

APPENDIX B

Statement of Expenditures

STATEMENT OF EXPENDITURES

Wages Personnel (period July 22-Aug 21, 1982)

D. Piroshco	6 days @ \$ 80/day	\$ 480	
P. Maheaux	6 days @ \$ 65/day	390	
V. Falmaigne	4 days @ \$ 67/day	268	
A. Losch	2 days @ \$ 57/day	114	
R. vanden Brink	7 days @ \$ 65/day	455	
J. Black	4 days @ \$ 45/day	180	
P. Leriche	3 days @ \$ 90/day	270	
P. Mouldey	2 days @ \$ 65/day	130	
F. Collier	4 days @ \$ 70/day	280	
M. Cook	4 days @ \$ 60/day	240	
K. Norris	5 days @ \$ 50/day	250	
L. Louie	4 days @ \$ 60/day	240	
R. Lemery	4 days @ \$ 60/day	240	
C. Nichols	3 days @ \$ 55/day	165	
J. Leigh	2 days @ \$ 50/day	100	
S. Lammle	5 days @ \$ 65/day	130	
S. Bending	5 days @ \$ 70/day	350	
G. Murray	6 days @ \$ 65/day	390	
B. Bower	4 days @ \$ 55/day	220	
C. Staargaard	4 days @ \$100/day	400	
M. Cloutier	6 days @ \$300/day	1,800	
		<u>7,092</u>	\$ 7,092.00

Transportation

500D Helicopter (Airlift Corp. charter)
35.1 hrs @ \$500/hr (incl. \$100/hr. fuel, oil) 17,550.00

Accomodation, Food

68 man-days @ \$80/day 5,440.00

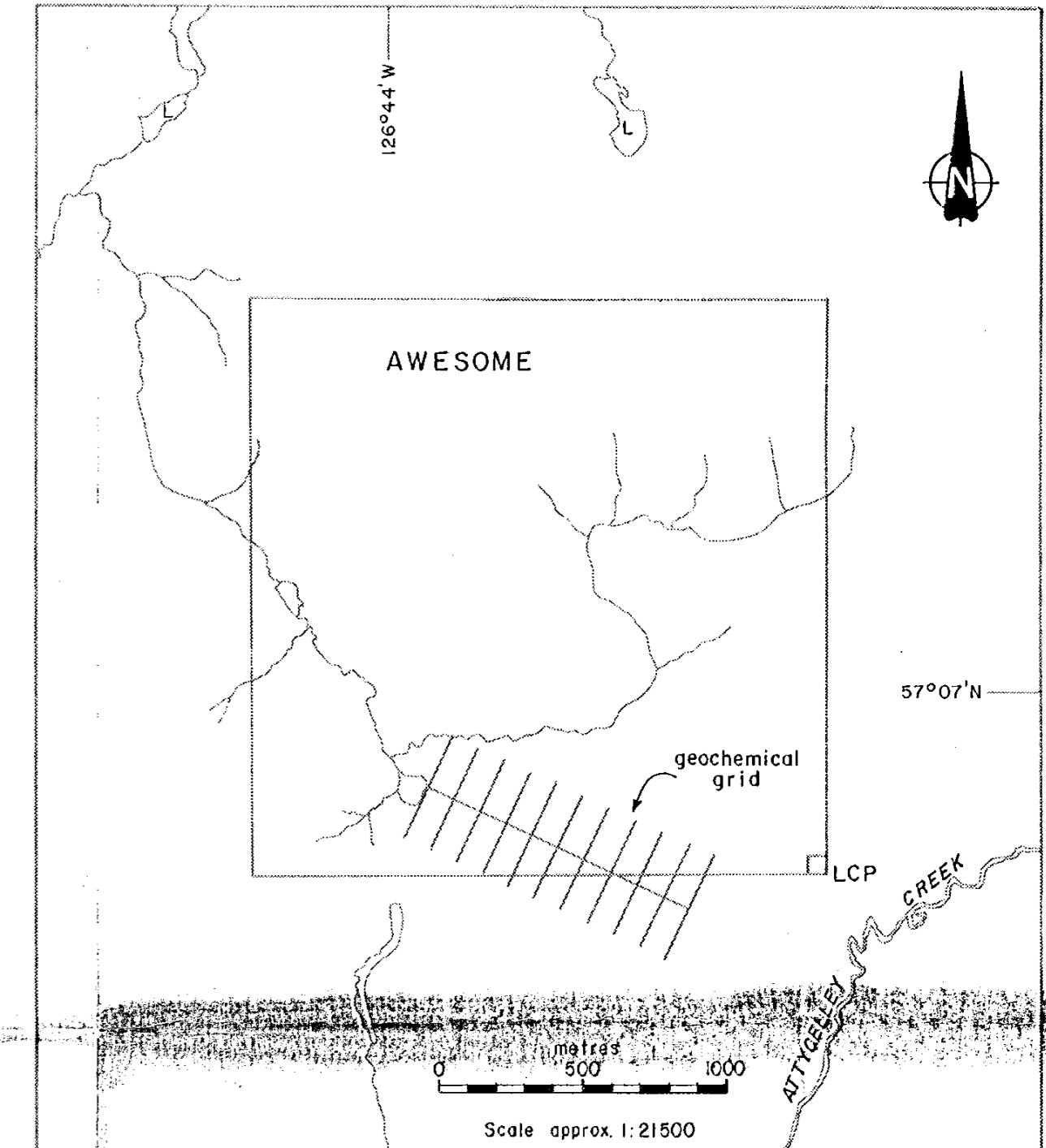
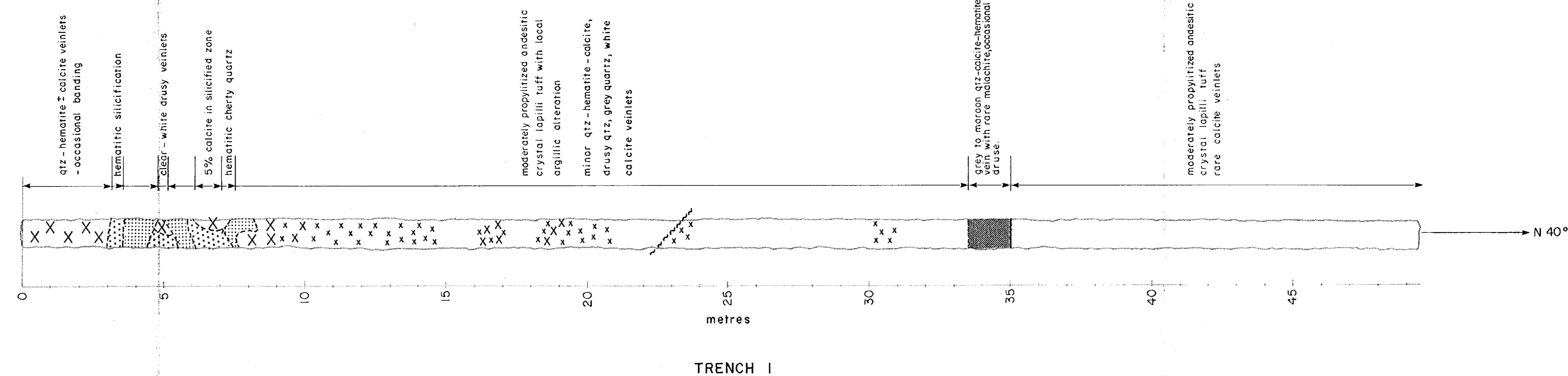
Analysis

252 rock samples for Cu, Pb, Zn, Ag, Au @ \$15/sample
(incl. shipping) 3,780.00

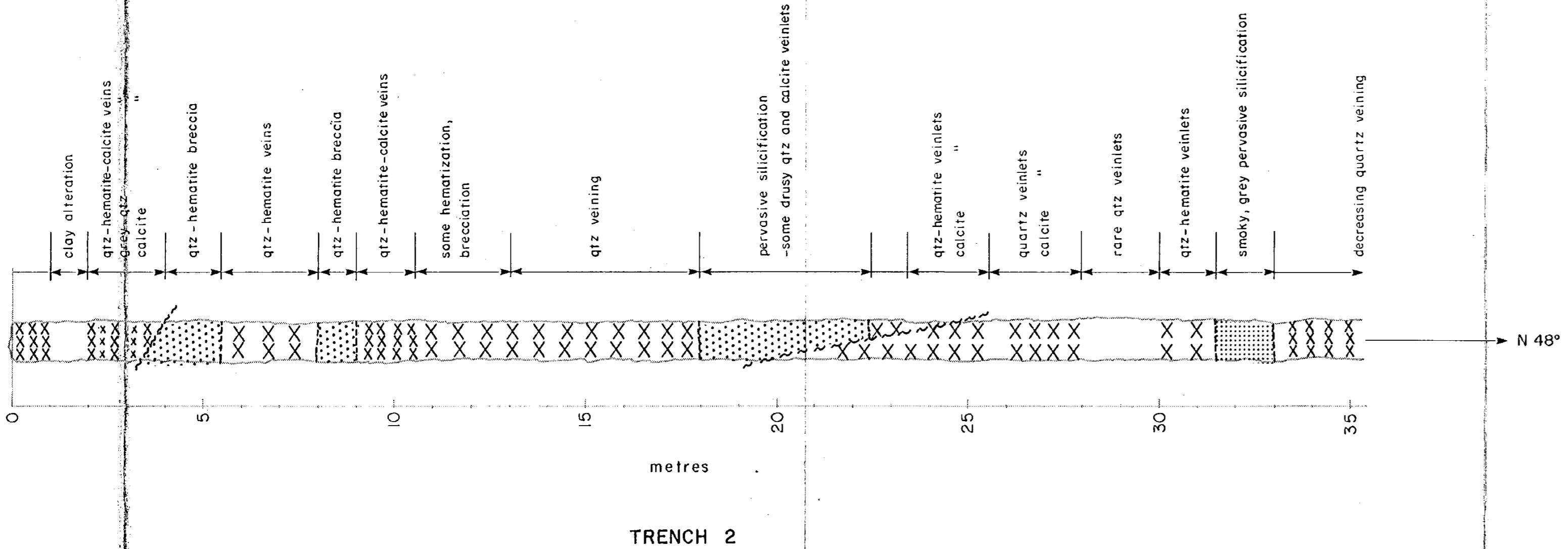
Report Preparation

C.F. Staargaard	5 days @ \$100/day	500.00
Drafting	35 hrs @ \$12/hr	384.00
Secretarial work		<u>300.00</u>

TOTAL EXPENDITURE \$ 35,046.00



- LEGEND**
- 1 andesitic lapilli tuff
 - 2 mafic dyke
 - 3 quartz-hematite ± calcite breccia
 - inferred fault
 - quartz, silicified andesite float
 - silicified, brecciated, quartz veined zone
- CS49 CS2982049



- TRENCH LEGEND**
- moderate to intense silicification, veining
 - weak silicification, veining
 - quartz vein
 - strong veining intensity ≥ 10%
 - moderate veining intensity 1-10%
 - weak veining intensity ≤ 1%
 - fault

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Kidd Creek Mines Ltd.

AWESOME PROPERTY

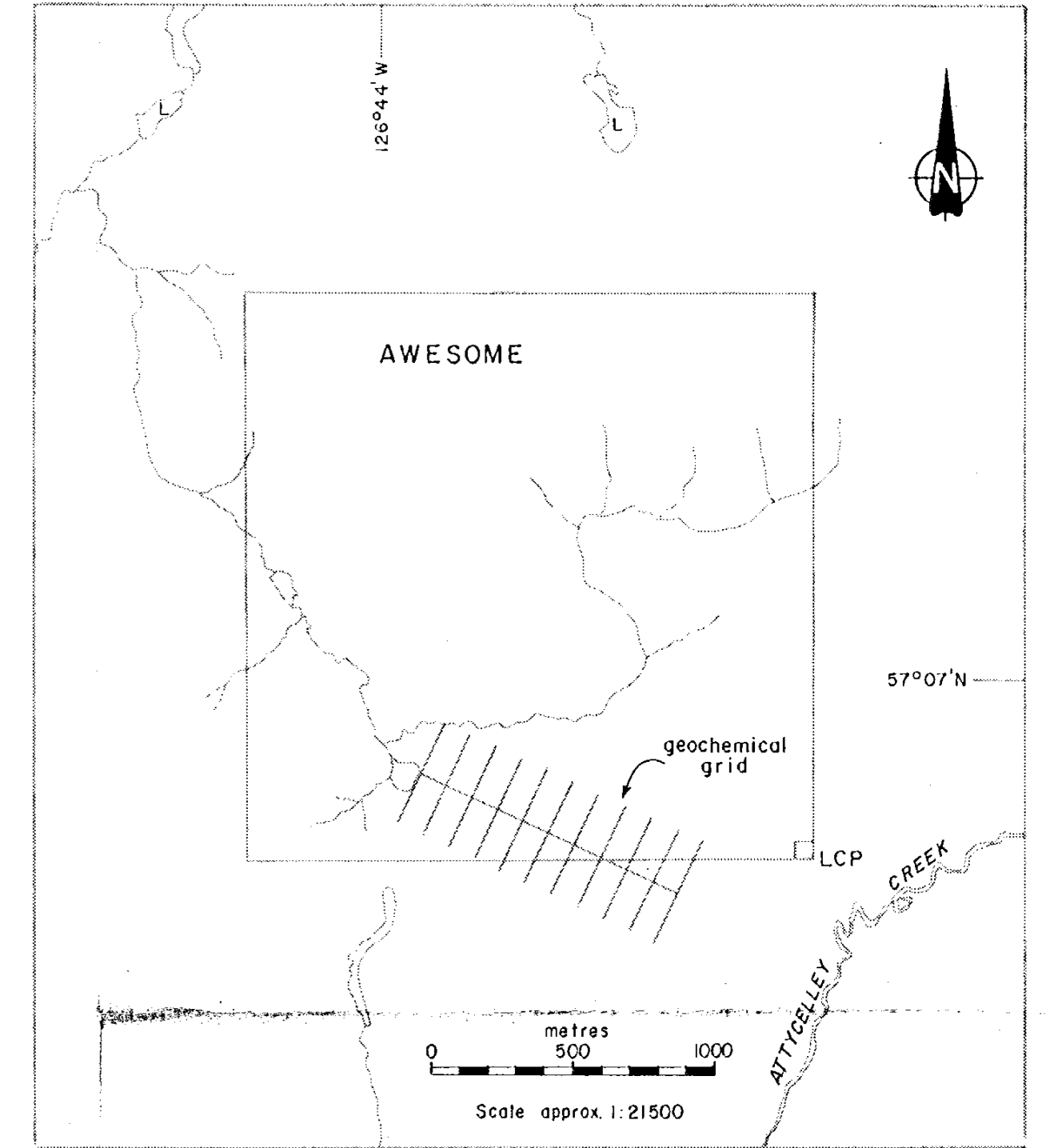
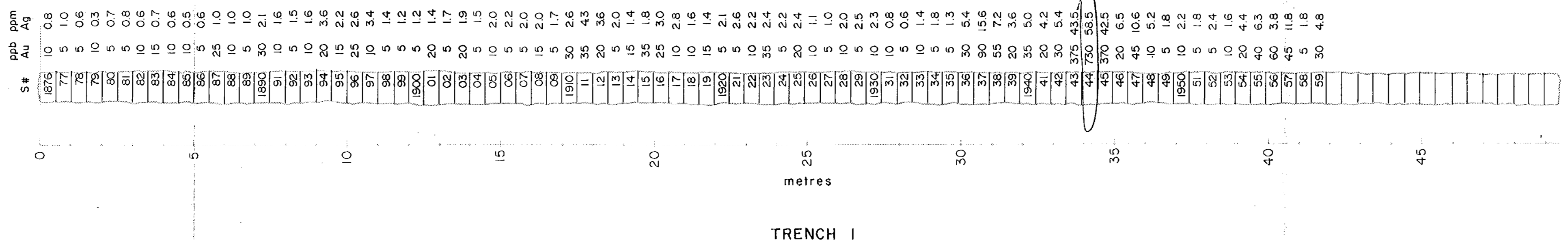
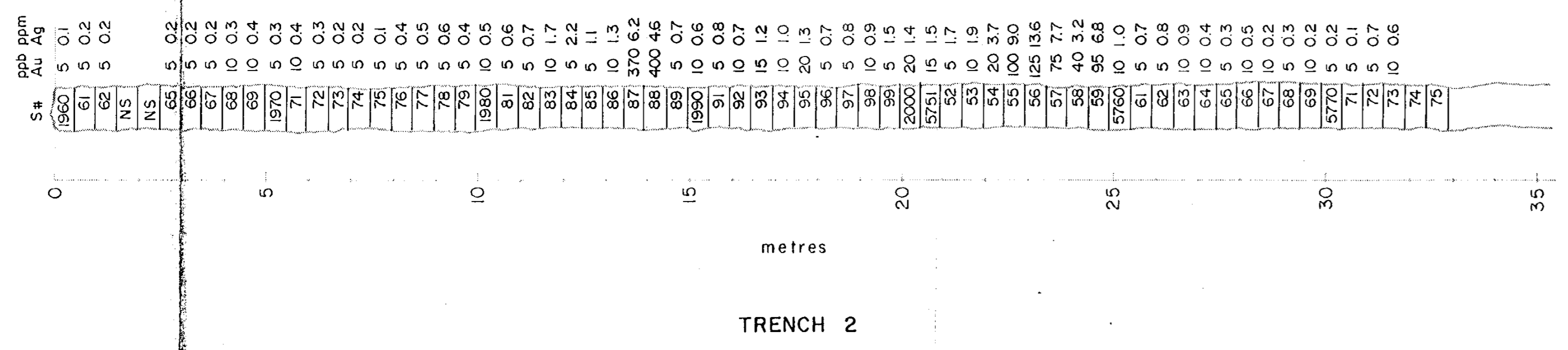
GEOLOGY

NTS 94E/2E Proj. 21

WORK BY CFS DRAWN BY ER, GT DATE: NOVEMBER 1982

SCALE IN METRES 1:2500

Figure: 3

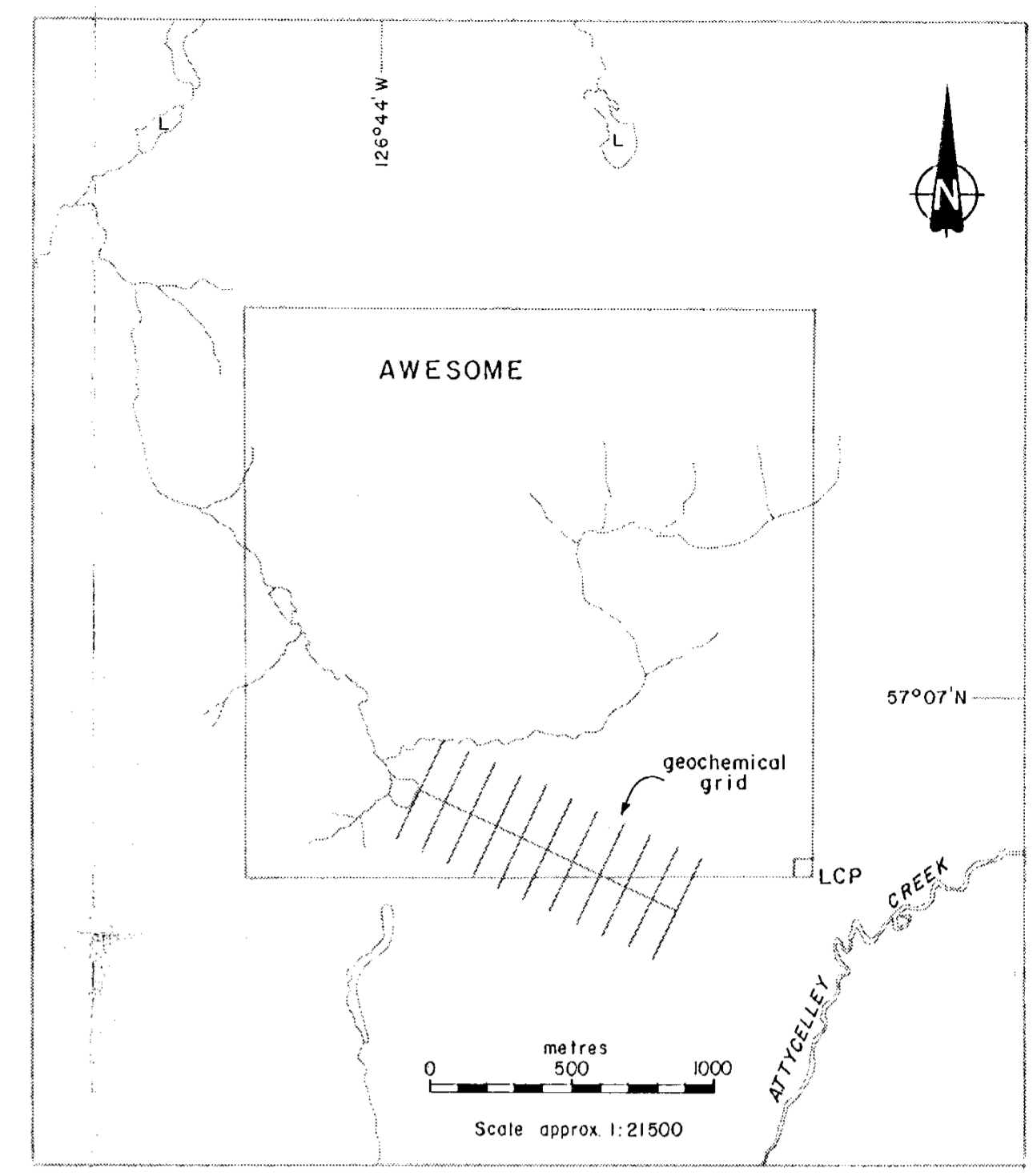
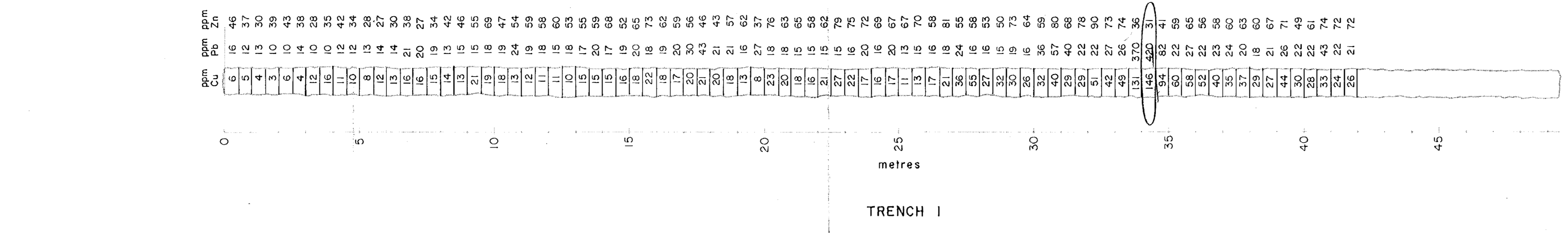
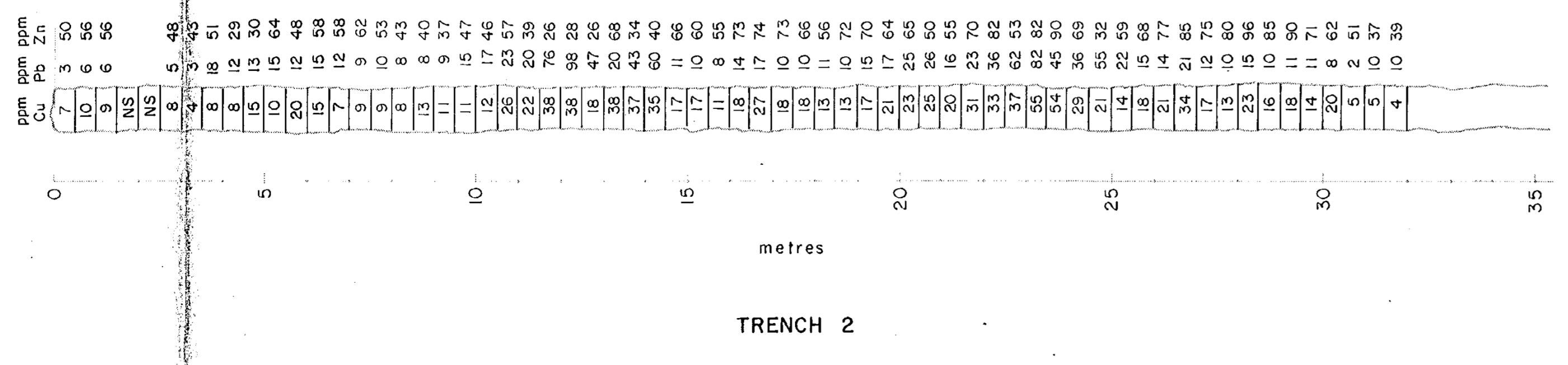


LEGEND
 x float rock sample (ppb Au, ppm Ag)
 A outcrop rock sample

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AWESOME PROPERTY		
GOLD AND SILVER GEOCHEMISTRY		
NTS 94E/2E		Proj. 21
WORK BY CFS	DRAWN BY ER,GT	DATE: NOVEMBER 1982
SCALE IN METRES 1:2500		
Figure: 4		



LEGEND
 x float rock sample (ppm Cu, ppm Pb, ppm Zn)
 ▲ outcrop rock sample

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Kidd Creek Mines Ltd.			
AWESOME PROPERTY			
COPPER, LEAD AND ZINC GEOCHEMISTRY			
WORK BY		DRAWN BY	
CFS		ER, GT	
DATE: NOVEMBER		1982	
SCALE IN METRES 1:2500			
Figure: 5			