'81- #324- # 9117

GEOLOGICAL AND GEOCHEMICAL REPORT

ON THE

CASTLE #1 and CASTLE #2 CLAIMS

LIARD MINING DIVISION

104G/16 E

57° 49' N 130° 10' W

BY

P. FOLK, P. ENG.

OF

TECK EXPLORATIONS LIMITED

FOR

TECK CORPORATION

February, 1981

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MAPS AND FIGURES

INTRODUCTION

Location and Access (Fig. 1)

The Castle #1 and #2 claims, Liard M.D. are located about 15 km. west of Iskut and the Stewart-Cassiar Highway in the Stikine region. Access is by helicopter to the claims which are between 1840 and 2130 m. in elevation. Many mountain goats and some sheep inhabit the area.

Property, History, Work Done (Fig. 2)

In March, 1980 employees of Teck Explorations staked the Castle #1 and #2 claims (27 units) over an area in which Sumitomo did work including a small amount of drilling in the early 1970's.

Castle #1	Rec. No.	1231 (3)	15 units
Castle #2	Rec. No.	1232 (3)	12 units

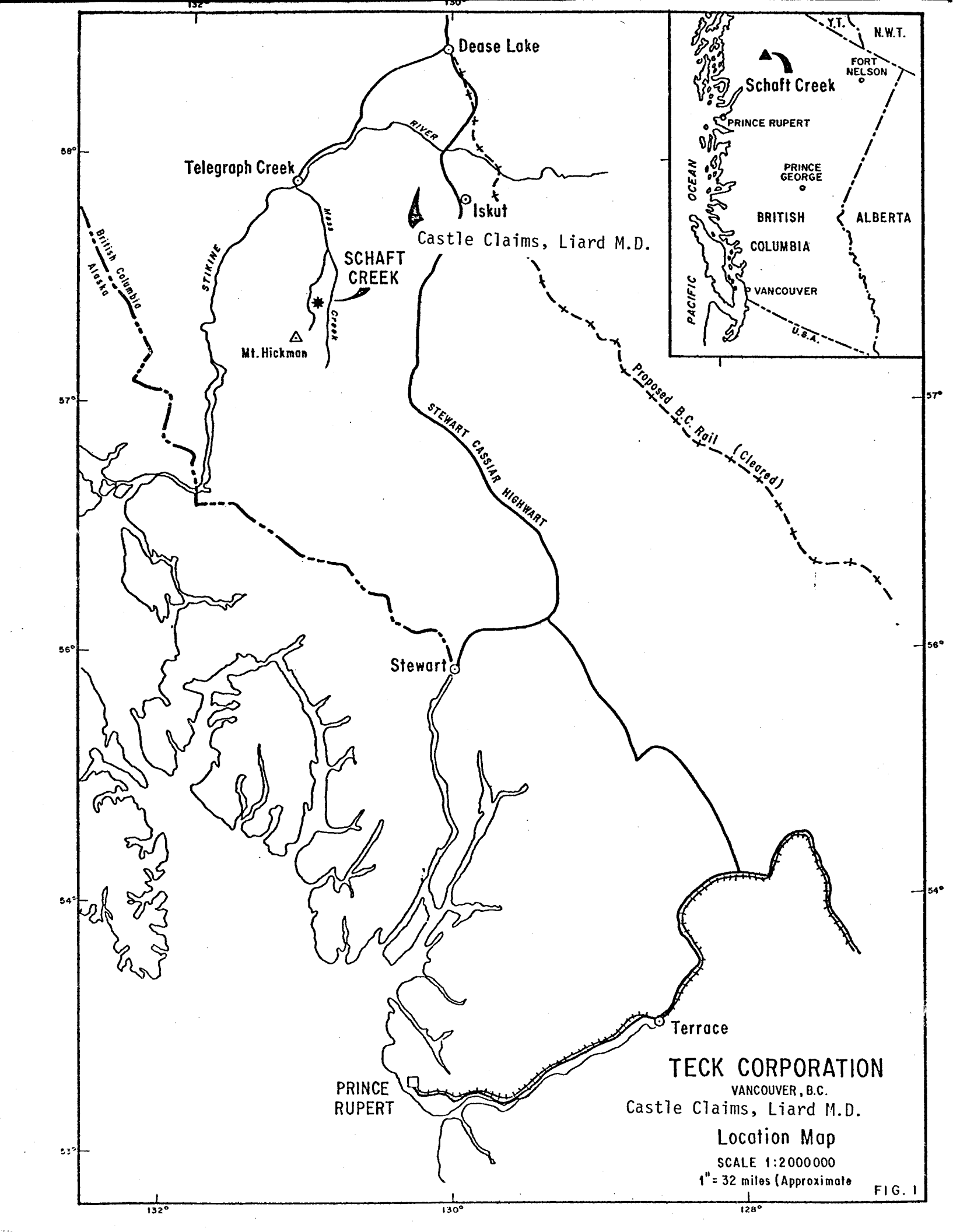
During late July 1980 Teck Explorations Limited conducted a soil geochemical survey and geological mapping on behalf of Teck Corporation.

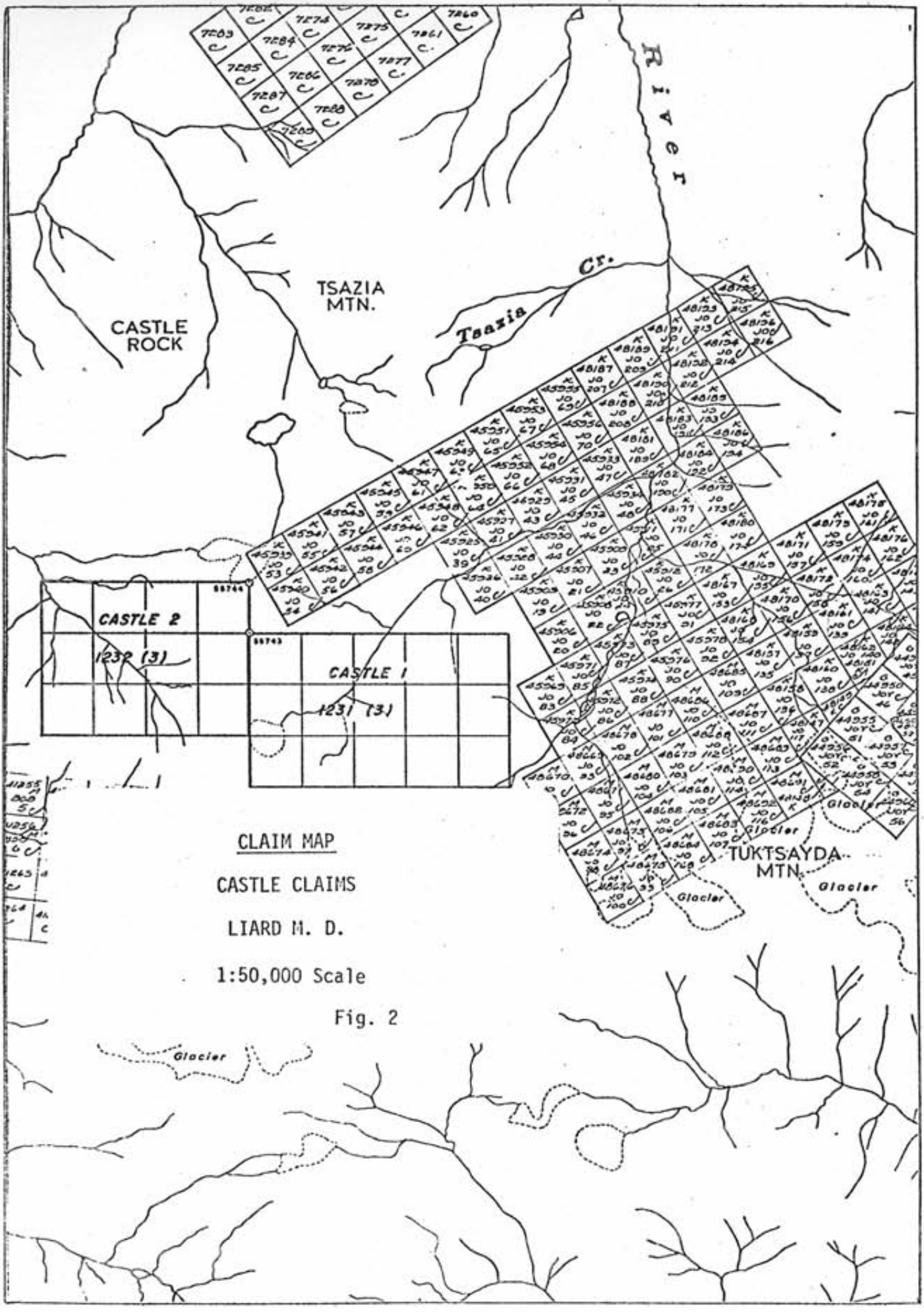
Two hundred and twenty-six soil samples were taken on a 50 m. by 100 m. picketed grid which was not corrected for slope distances. Geological mapping was done on the grid at a 1:2500 scale and also on a 1:50,000 scale in the vicinity.

GEOCHEMICAL SURVEY

Methods

Soil samples were taken at depths of a few cm. in "B" or "C" horizon material in the poorly developed mountain soils. Many of the samples consisted of Talus fines from moderate to steep slopes. The material was assayed by standard atomic absorption techniques at Acme Analytical Labs in Vancouver. Assay methods are described in the appendix.


Dease Lake
Telegraph Creek
RIVER
Iskut
Castle Claims, Liard M.D.
SCHAFT CREEK
STIKINE
MESS
CREEK
Mt. Hickman
British Columbia
Alaska
Proposed B.C. Rail (Cleared)
STEWART CASSIAR HIGHWART
Stewart
Terrace
PRINCE RUPERT
58°
57°
56°
54°
53°
132°
130°
128°
Y.T.
N.W.T.
FORT NELSON
Schaft Creek
PRINCE RUPERT
PRINCE GEORGE
OCEAN
BRITISH COLUMBIA
ALBERTA
PACIFIC
VANCOUVER
U.S.A.
TECK CORPORATION
VANCOUVER, B.C.
Castle Claims, Liard M.D.
Location Map
SCALE 1:2000000
1" = 32 miles (Approximate
FIG. 1



CLAIM MAP

CASTLE CLAIMS

LIARD M. D.

1:50,000 Scale

Fig. 2

Results

Analyses were performed for Au, Ag, Zn, Cu and Mo and are plotted and contoured on figures 3 through 7.

Cu

The 200 ppm Cu contour which was visually estimated to be anomalous is located along the creek valley in a linear zone about 150 m. wide and 1400 m. long. The peak value in the anomaly is 3250 ppm Cu at line 17 west 100 south.

Mo

The 5 ppm Mo contour was visually estimated to be anomalous and is strongly coincident with the Cu anomaly. The maximum Mo value is 92 ppm which also corresponds to the copper, gold and silver high values.

Au, Ag

The .05 ppm Au and .5 ppm Ag values were visually estimated to be anomalous. 13 ppm Ag and 1.3 ppm Au are the peak values. The anomalous areas correspond well with Cu and Mo highs.

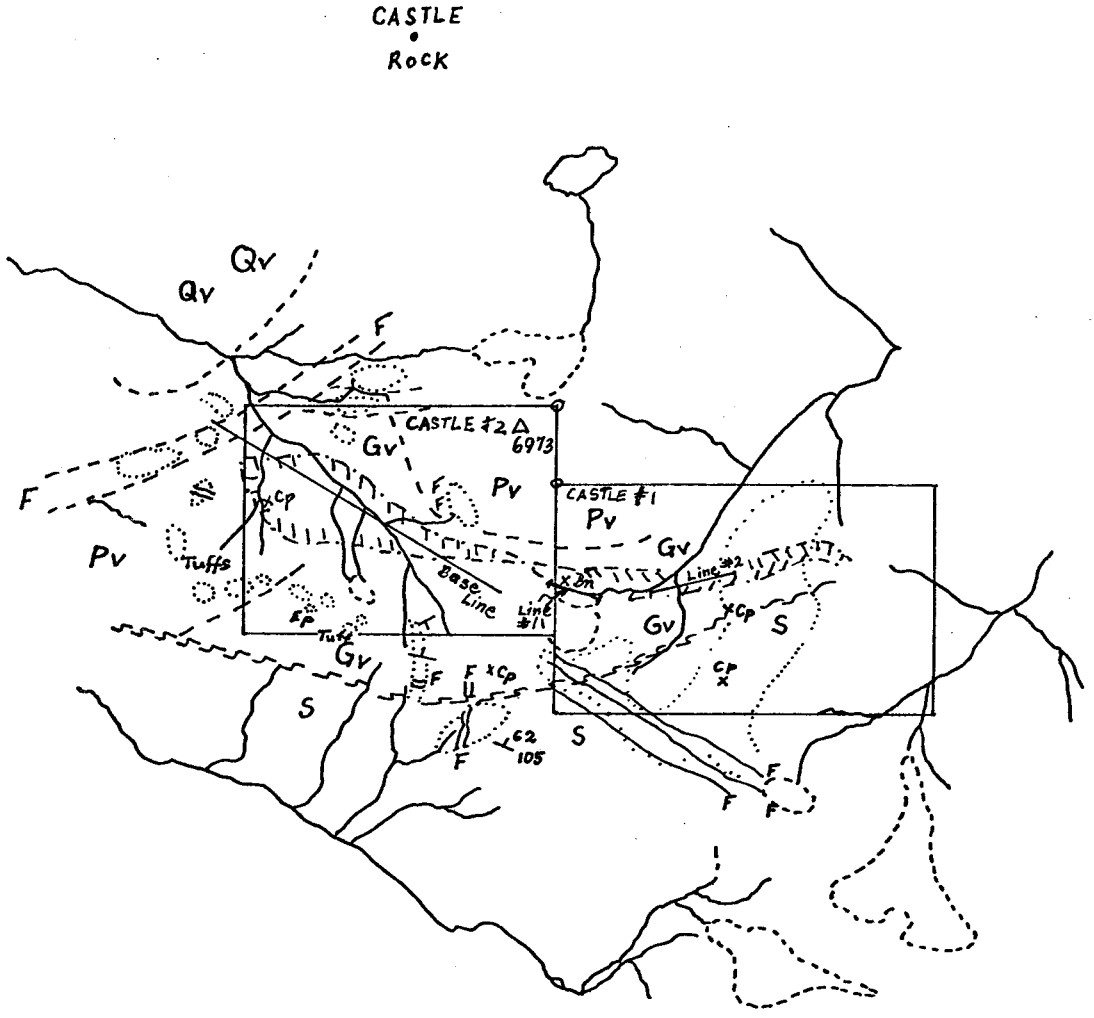
Zn

Zinc values are low, generally less than 200 ppm and have an inverse relationship to the Mo, Cu, Ag and Au values.

GEOLOGY

Regional Geology (Fig. 8)

Most of the property is underlain by purple and greenish andesitic flows and pyroclastics which according to G.S.C. Map 11-1971 by J.G. Southy are Upper Triassic in age. Reconnaissance mapping by the author is shown on fig. 8.



TECK EXPLORATIONS LTD

Stikine Region

Castle Claims

REGIONAL GEOLOGY

Scale 1: 50 000

0 1000 2500 m

LEGEND

	Pyritized Zone
xCp	Mineral Occurrences
Qv	Quaternary Volcanics
F	Felsite
Pv	Purple Volcanics and Tuffs
Gv	Green Volcanics and Tuffs
S	Thinly banded Sediments, Shales, Limestone
Cp	Chalcopyrite
Bn	Bornite
Ep	Epidote

The volcanic sequence of pyroclastics and porphyritic flows has been divided on the basis of colour, probably an alteration effect, into green and purple units. A fault separates these units from a sequence of slightly older (?) shales and other fine grained sediments with minor limestone. Fine grained pinkish feldspar rich dykes named felsite for convenience intrude the older rocks and are associated with a linear gossan zone which runs through the center of the property. Quaternary black olivine basalt tephra outcrops to the northwest.

Property Geology (Fig. 9)

Most of the property is underlain by andesitic flows and pyroclastics which have been divided into purple and green volcanics on the basis of colour only. There is no discernible difference in the original textures or constituents of the two rock types, the color variations being produced by epidote alteration in the one and primary fine hematite in the other.

Coarse grained tuffs, porphyritic andesite and tuffaceous sandstones are all present but have not been mapped in great detail. Discrete grains of magnetite up to about 5% of rock volume were noted as well as up to 10% small augite phenocrysts.

The sedimentary sequence which is not found on the grid area consists mostly of dark thinly bedded shales with some sandstone and thin limestone layers.

Light brown to pinkish felsite and feldspar porphyry dykes from a few cm. to tens of metres wide cut through the sediments and volcanics but do not intrude the Quaternary to recent olivine basalt tephra which forms black bluffs and spires just off the property to the northwest.

Mineralization and Alteration

The volcanics have been subject to epidote and carbonate alteration to produce a greenish coloration which is not directly linked to sulfide mineralization. A linear band of highly pyritized volcanics runs through the center of the property and is associated with a multi-element geochemical anomaly. In addition, small zones of highly bleached, pyritic material internal to the pyrite zone are associated with thin felsite dykes, quartz stringers and chalcopyrite mineralization. A character sample of fairly massive pyrite - chalcopyrite from 2275 west, 50 south assayed 10.80% Cu, 0.90 oz Ag/T, 0.004 oz Au/T. Oddly, the sample site is not within the bounds of the main geochemical anomaly. External to the pyrite zone are small showings of chalcopyrite and bornite on fractures and with felsite dykes.

Structure

A linear band of well pyritized and highly fractured volcanics extends the length of the property. Poor and contradictory evidence suggests that this structure may be parallel to the original bedding in the volcanics. Otherwise there is a major fault which divides sediments from volcanics in the southeastern part of property and a substantial northeast trending felsite dyke which cuts through the northwest corner. Folding of the strata is not thought to be of significant proportions.

Discussion

The Cu, Mo, Au, Ag geochemical association with an inverse relationship to Zn is suggestive of a porphyry type setting rather than a massive sulfide type. Visible chalcopyrite and bornite is associated with felsite dykes, minor silicification, pyrite and intense bleaching. From a geochemical standpoint the bulk of the pyritized and sheared linear zone which transects the property is

strongly anomalous in copper and silver with some gold. The high values could be partly ascribed to scavenging by the fairly abundant limonite which is present but the coincidence of the various elements suggests that little transportation has occurred. Unfortunately, there is no way to predict bedrock values from soil analyses.

SUMMARY AND CONCLUSIONS

1. Cu, Mo, Au and Ag anomalies in soils are the result of an unknown grade or distribution of mineralization in a linear zone of fracturing and pyritization which transects the property.

2. The sparse copper mineralization seen would not explain the geochemical anomaly unless spurious geochemical processes such as scavenging by limonite are present.

3. It is also possible that the source of the anomaly is hidden by overburden.

4. The geochemical associations present are indicative of porphyry type, shear zone or contact metamorphic style source mineralization rather than volcanogenic massive sulfides.

5. The narrow zone totally precludes the existence of a major porphyry system.

6. There is a possibility for high grade veins, shears or contact zones with precious metal associations.

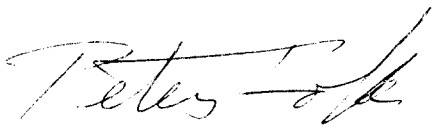
RECOMMENDATIONS

Further examinations are warranted.

1. Compile drill results from previous operators and locate the drill core.

2. Run an E.M. survey on the grid and drill the best targets in the zone.

Respectively Submitted,



Peter Folk, P. ENG.

CERTIFICATE OF QUALIFICATIONS

Peter G. Folk, P. ENG.

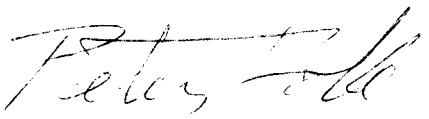
I hereby certify that:

1. I graduated from the University of British Columbia in 1971 with a B.A.S.C. degree in geological engineering.

2. I am a member in good standing of the Association of Professional Engineers of the Province of British Columbia.

3. I have worked since graduation as an exploration geologist and mine geologist in Canada and the United States.

4. The work described herein was done under my direct supervision.



ITEMIZED COST STATEMENT

P. Folk, P. Eng.	
July 24 - 28 5 days @ $200/day	$1,000
P. Smith, Geological Assistant	
July 24 - 28 5 days @ $65/day	325
M. Kay, Helper	
July 24 - 28 5 days @ $55/day	275
Room and Board	
5 days @ $20/day per man =	300
Geochemical Analyses	
226 samples @ $6.40	1,446
Helicopter - N. Mountain Helicopters @ Schaft Creek	
4.5 hours @ $400/hour including fuel	1,800
Radio Rental, Freight	
Transportation from Vancouver	500
Report Preparation, Drafting	700
	$6,346

APPENDIX

GEOCHEMICAL ASSAY TECHNIQUES

ACME ANALYTICAL LABORATORIES LTD.
Assaying & Trace Analysis
852 E. Hastings St., Vancouver, B.C. V6A 1R6
Telephone : 253 - 3158

GEOCHEMICAL LABORATORY METHODOLOGY - 1981

SAMPLE PREPARATION

1. Soil samples are dried at 60°C and sieved to -80 mesh.

2. Rock samples are pulverized to -100 mesh.

Geochemical Analysis for Ag*, Bi*, Cd*, Co, Cu, Fe, Mn, Mo, Ni, Pb, Sb*, V, Zn

0.5 gram samples are digested hot dilute aqua regia in a boiling water bath and diluted to 10 ml with dimineralized water.

All the above elements are determined in the acid solution by Atomic Absorption.

* demotes background correction.

Geochemical Analysis for Au

10.0 gram samples that have been ignited overnite at 600°C are digested with hot dilute aqua regia, and the clear solution obtained is extracted with Methyl Isobutyl Ketone.

Au is determined in the MIBK extract by Atomic Absorption using background correction (Detection Limit = 5 ppb direct AA and 1 ppb graphite AA.)

Geochemical Analysis for Au, Pd, Pt, Rh

10.0 - 30.0 gram samples are subjected to Fire assay preconcentration techniques to produce silver beads.

The silver beads are dissolved and Au, Pd, Pt, and Rh are determined in the solution by Atomic Absorption.

Geochemical Analysis for As

0.5 gram samples are digested with hot dilute aqua regia and diluted to 10 ml.

As is determined in the solution by Graphite Furnace Atomic Absorption.

ACME ANALYTICAL LABORATORIES LTD.
Assaying & Trace Analysis
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Telephone : 253 - 3158

Geochemical Analysis of Hg

Digestion

A .50 gram sample is digested with aqua regia and diluted with 20% HCl.

Determination

Hg in the solution is determinated by cold vapour AA using F & J Scientific Hg assembly. An aliquot is added to stannous chloride-hydrochloric acid solution. The reduced Hg is swept out of the solution and passed into the Hg cell where it determined by AA.

Oxalic Acid Leach of Rock, Soil & Silt Samples

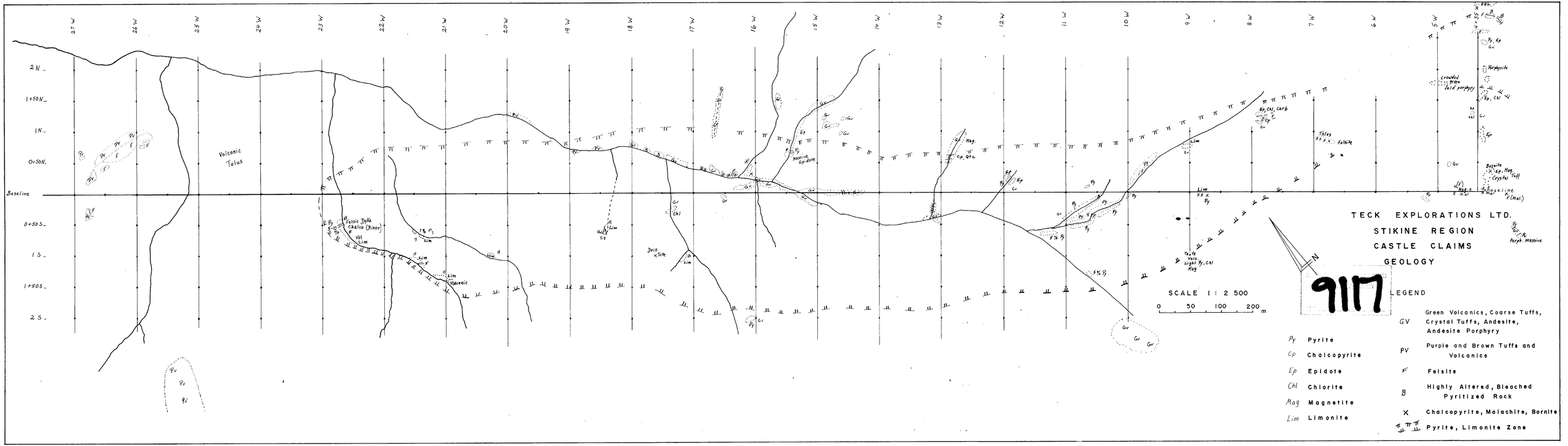
A .50 gram sample is digested hot with 10 mls 5% oxalic acid solution. The oxalic acid will dissolve Fe and Mn from their oxided of M - 1 fraction (but not from magnetite & ilmenite) limonites and clays. The following metals are analysed by atomic absorption : Cu, Zn, Pb, Ni, Mo, Fe & Mn.

Cold HCl Acid Extraction

A .50 gram sample is leached with 10 ml 5% HCl solution at room temperature for 2 hours with ocasional shaking. Copper is dissolved from the organic and surface layers of clay fractions.

EDTA Extraction

A .50 gram sample is leached at room temperature for 4 hours with 10 mls of 2.5% EDTA solution.



TECK EXPLORATIONS LTD.

STIKINE REGION

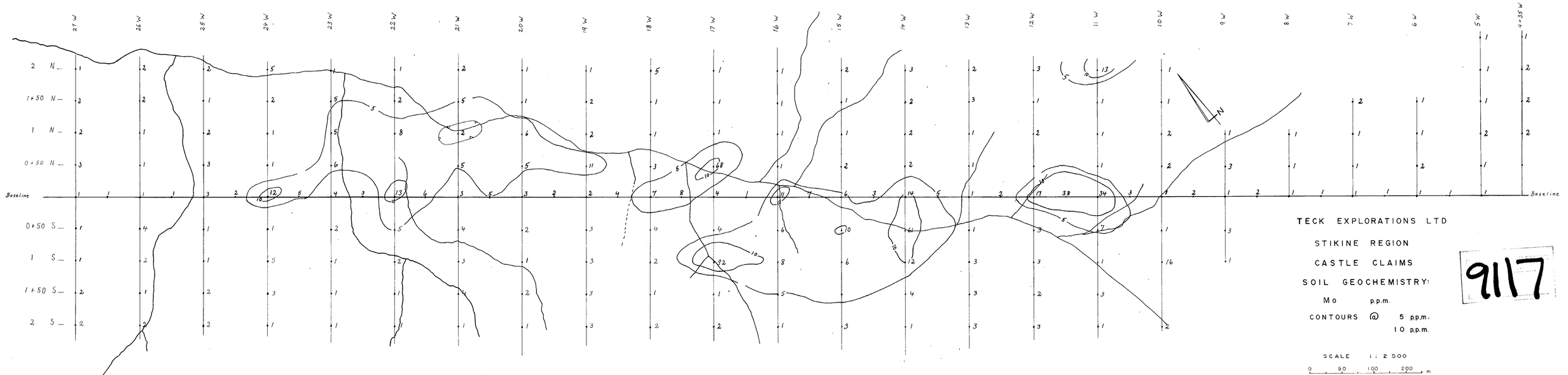
CASTLE CLAIMS

GEOLOGY

LEGEND

GV	Green Volcanics, Coarse Tuffs, Crystal Tuffs, Andesite, Andesite Porphyry
PV	Purple and Brown Tuffs and Volcanics
F	Felsite
B	Highly Altered, Bleached Pyritized Rock
X	Chalcopyrite, Malachite, Bornite
	Pyrite, Limonite Zone

Py	Pyrite
Cp	Chalcopyrite
Ep	Epidote
Chl	Chlorite
Mag	Magnetite
Lim	Limonite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6 W
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4+35 W
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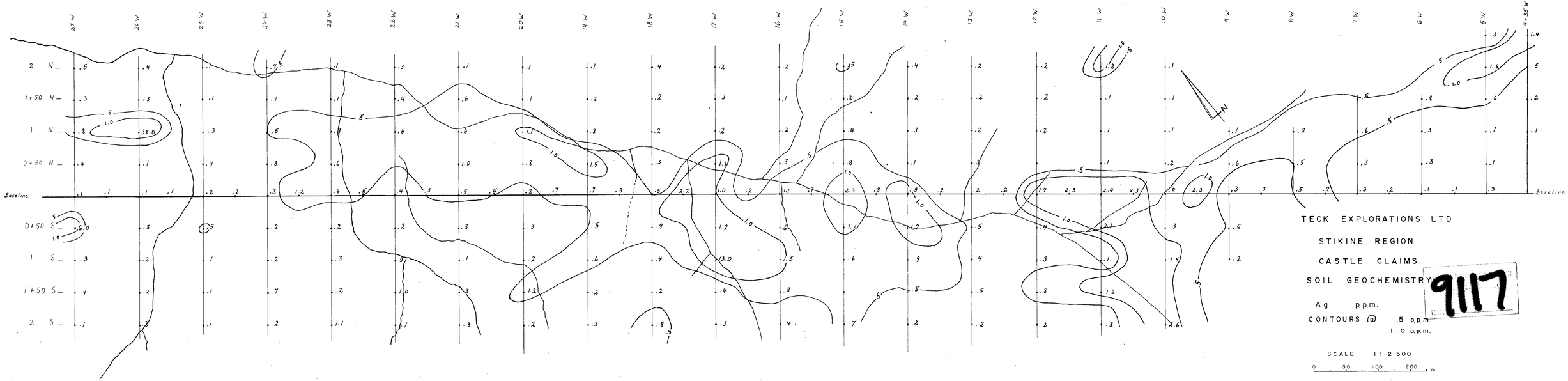
1 N
0+50 N
Baseline
0+50 S
1 S
1+50 S
2 S
Baseline
N
TECK EXPLORATIONS LTD
STIKINE REGION
CASTLE CLAIMS
SOIL GEOCHEMISTRY:
Mo p.p.m.
CONTOURS @ 5 p.p.m.
10 p.p.m.
SCALE 1 : 2 500
0 50 100 200 m

9117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TECK EXPLORATIONS LTD
STIKINE REGION
CASTLE CLAIMS
SOIL GEOCHEMISTRY
Ag p.p.m.
CONTOURS @ .5 p.p.m.
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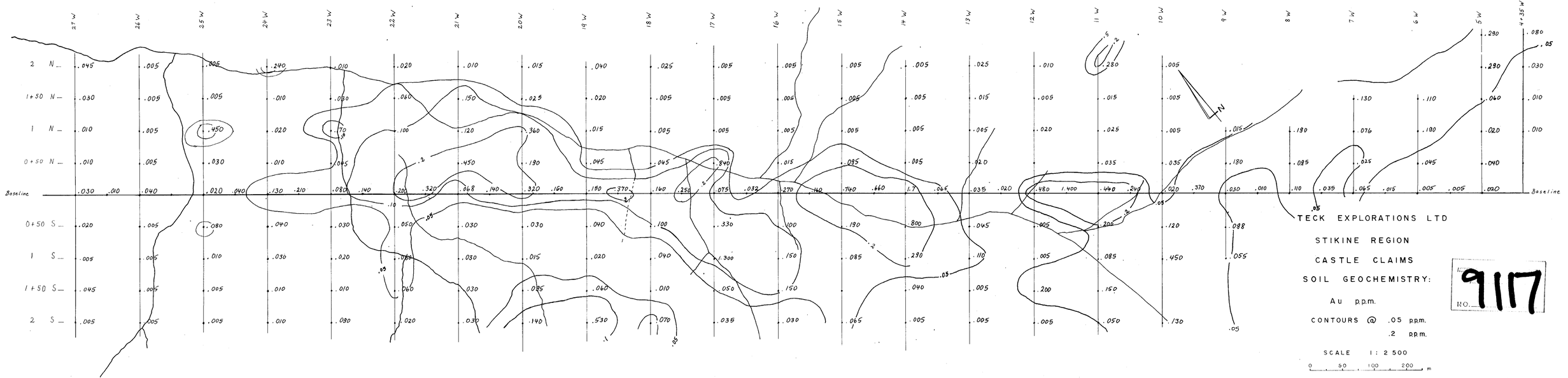
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2 S
TECK EXPLORATIONS LTD
STIKINE REGION
CASTLE CLAIMS
SOIL GEOCHEMISTRY:
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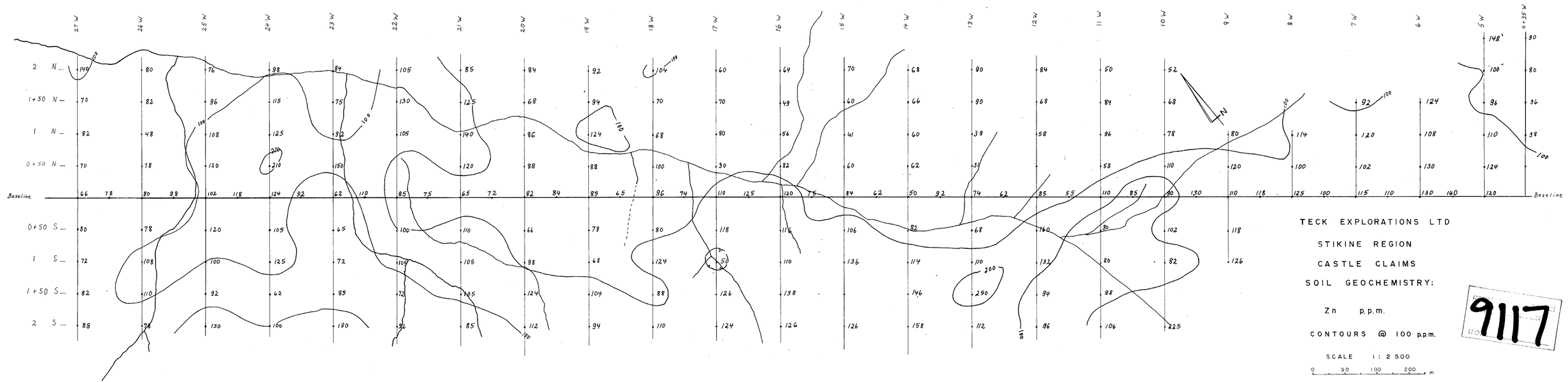
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TECK EXPLORATIONS LTD
STIKINE REGION
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CONTOURS @ 100 p.p.m.
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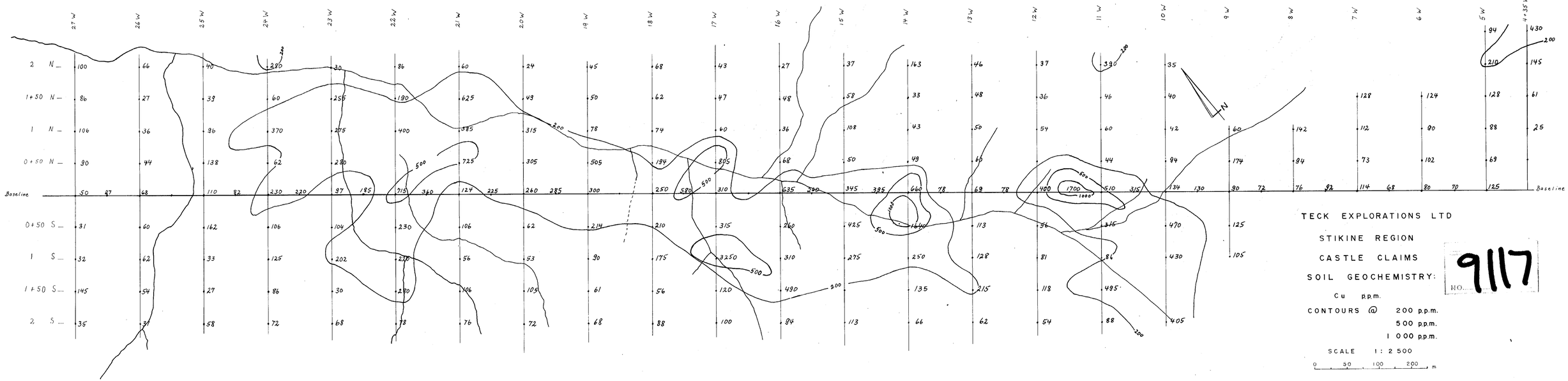
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TECK EXPLORATIONS LTD
STIKINE REGION
CASTLE CLAIMS
SOIL GEOCHEMISTRY:
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