81-#859 - 9660

GEOLOGICAL REPORT

ON THE

LATE CLAIM

LIARD MINING DIVISION
NTS: 104G/6E

131° 02' Longitude
57° 27' Latitude

OWNER: TECK CORPORATION

OPERATOR: TECK EXPLORATIONS LTD.

Peter Holbek, B.Sc.

October 1981

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Maps and Figures

1. INTRODUCTION

1.1 Location and Access

The Late claim is located on the east side of Schaft Creek, 9 km north of the Schaft Creek copper deposit. Telegraph Creek, 50 km to the north, is the nearest permanent settlement. An airstrip in the Schaft Creek valley is served on a regular basis during the summer months by Trans Provincial Airlines from Terrace, B.C. The property is easily accessible by helicopter from the Schaft Creek airstrip.

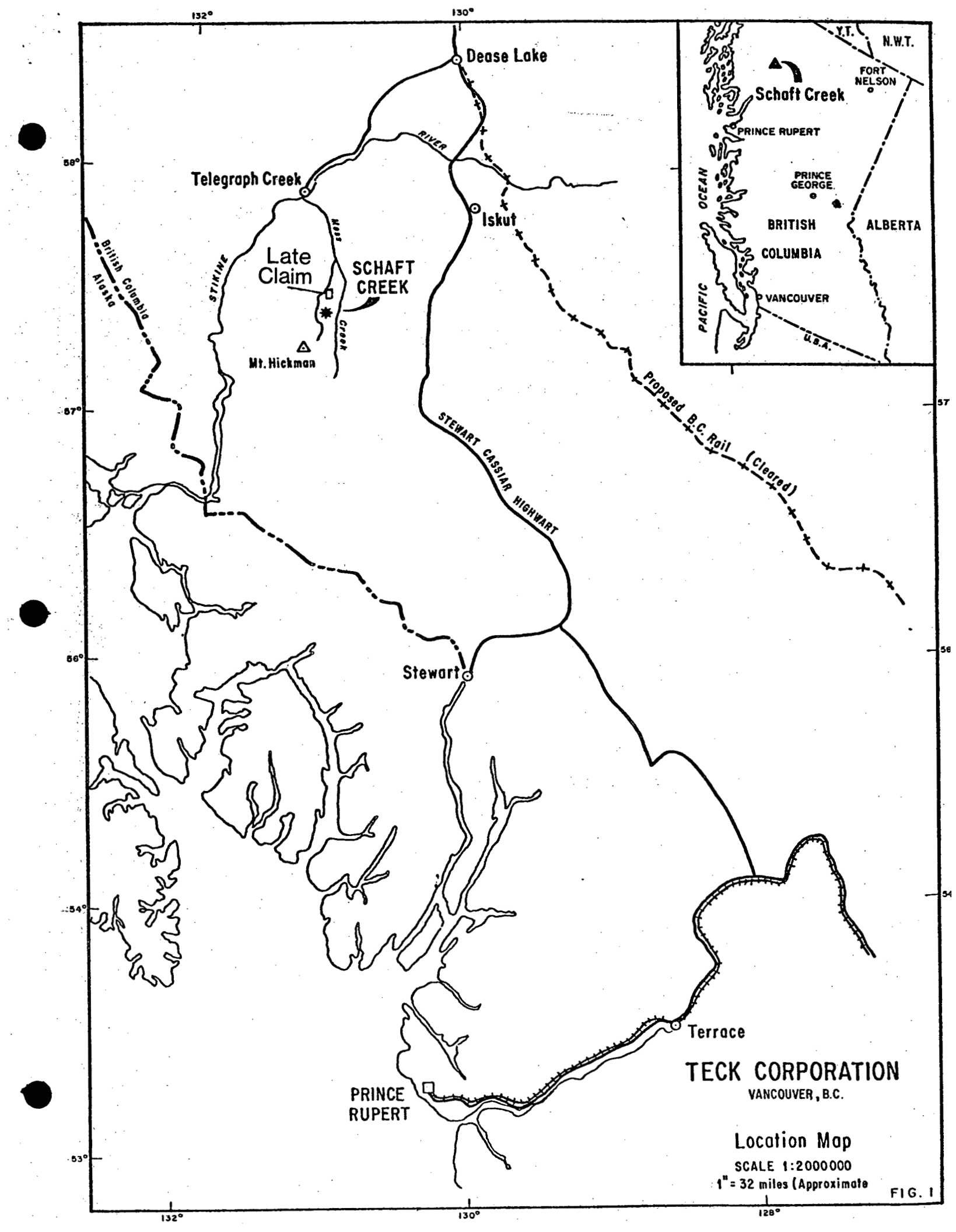
1.2 History and Physiography

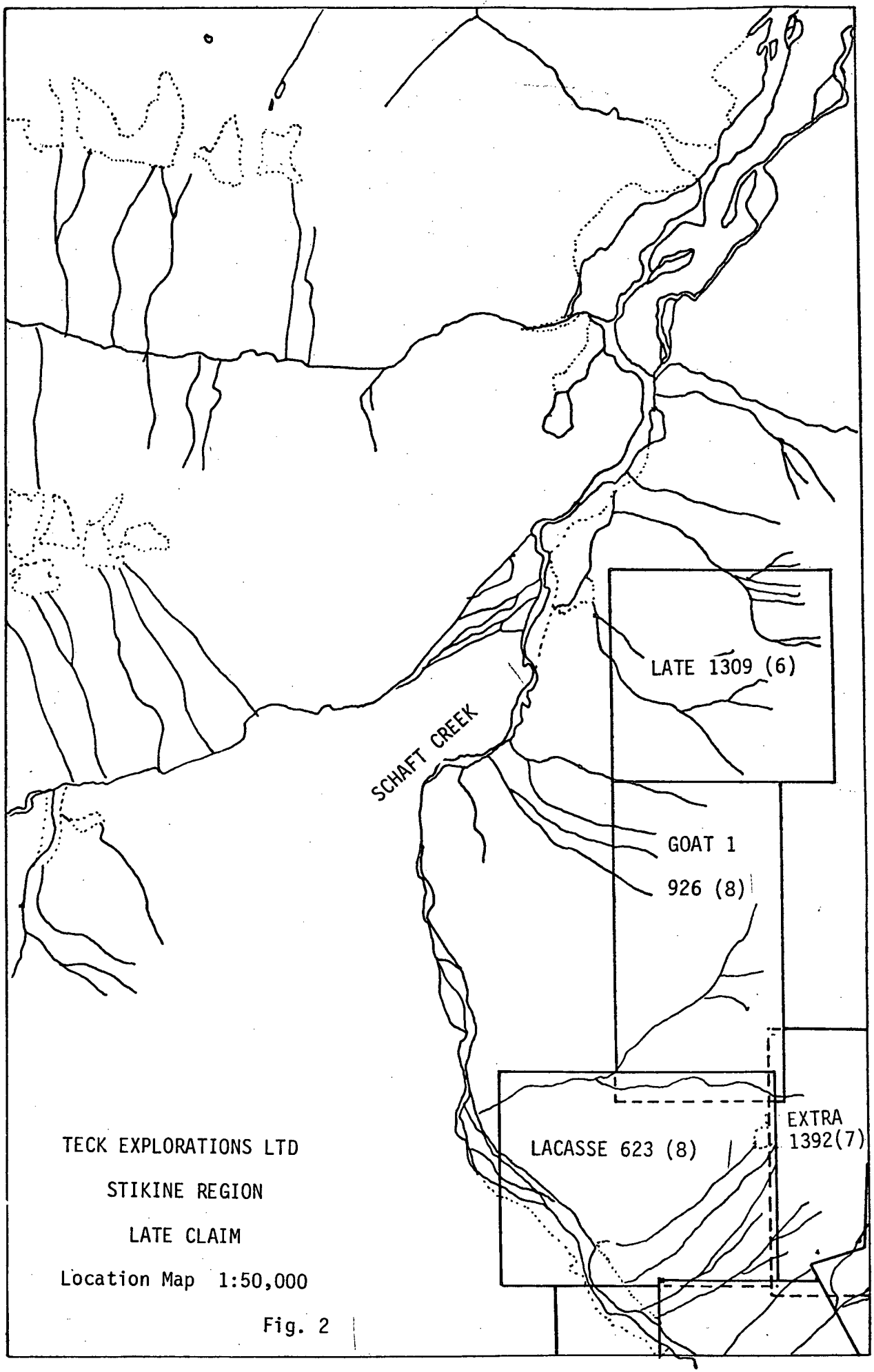
Following the discovery of Liard Copper (Schaft Creek deposit) in the mid-1950's, the surrounding area was heavily prospected. Several small showings were noted in the area of the Late claim. These showings were staked in 1970 by Phelps Dodge Ltd., and at least one showing was drilled. The Phelps Dodge claims lapsed and were restaked in 1980 by employees of Teck Explorations Ltd.

The Late claim (record number 1309) comprises 16 units (4 by 4), and adjoins the Goat claim to the south. The claim is situated on the west slope of the northern ridge of Mt. LaCasse. Elevations vary from 6,500' along the eastern claim boundary to 2,650' in the northwestern corner. Much of the northern area of the claim is unaccessible due to the rugged topography. The western area of lower elevations is predominantly covered by talus or glacial drift.

1.3 Work Done

In spring of 1980, the Late claim was staked as part of a regional exploration program based at Schaft Creek. The claim area was prospected and zones of the most geological interest were mapped at a scale of 1:5000 in early June, 1980. During mid-June, 1981 the property was re-examined and 45 metres of chip samples in five locations were collected and assayed for copper, gold, silver and molybdenum.


132°
130°
128°
58°
57°
56°
54°
53°
Dease Lake
Telegraph Creek
Iskut
RIVER
Late Claim
SCHAFT CREEK
Mt. Hickman
STIKINE
MOSS
Creek
British Columbia
Alaska
STEWART CASSIAR HIGHWAY
Proposed B.C. Rail (Cleared)
Stewart
Terrace
PRINCE RUPERT
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.
Location Map
SCALE 1:2000000
1" = 32 miles (Approximate
FIG. 1



TECK EXPLORATIONS LTD

STIKINE REGION

LATE CLAIM

Location Map 1:50,000

Fig. 2

2. GEOLOGY

2.1 Regional Geology

The oldest rocks in the area are Triassic age (Souther, 1971) intermediate volcanic flows, pyroclastics and derived sediments. These rocks, believed to be Takla Group equivalents, occupy a north-south trending belt between Schaft and Mess Creeks. Three intrusive units form a broad north-south trending belt to the west of Schaft Creek. The Late claim is situated at the contact between the volcanics and at least two of the intrusive units. Ages of the intrusive rocks range from pre-Lower Jurrasic to pre-Tertiary (Souther, 1971).

2.2 Property Geology

2.2.1 Volcanic Rocks

Volcanic rocks underlie the eastern edge of the claim area and are generally well exposed. The massive nature, alteration, and structural complexities of these rocks prevented differentiation into more than one unit. Lithology ranges from volcanic derived sediments, greywackes, tuffs and breccias in the south to massive fragmental andesites and feldspar-pyroxene porphyries in the north end of the claim. Indications of bedding or flowtops were observed in two localities, both of which suggested northerly strikes with moderate easterly dips. Appearances of folding were observed but lack of bedding or contacts prevented the delineating of these structures.

Mineralization within the volcanic rocks is only significant in areas adjacent to the intrusive contact. The intrusive-volcanic contact is geometrically irregular and, most commonly, gradational through a "hybrid" or metasomatized zone up to 80 m. thick. Recrystalization of volcanics near the intrusive contact is frequent and locally the contact is sharp with a hornfelsed or chlorite schist zone.

A narrow band of rusty weathering, heavily pyritized greenstone frequently occurs near or within the intrusive-volcanic contact. Cross cutting relationships suggest that this unit is a pre-intrusive dyke but its origin and mineralization is not clear.

2.2.2 Intrusive Rocks

Two lithologically distinct intrusive phases underlie the western portion of the property. The phases are complexly interdigitated with both sharp and gradational contacts. In areas of shearing and alteration,

particularly near gradational contacts, distinction between phases becomes vague.

The dominant phase in the northern region is a relatively fresh looking medium grained hornblende biotite granodiorite. The granodiorite consists of nearly equal amounts of euhedral plagioclase and interstitial orthoclase with 10% to 20% quartz and up to 15% mafic minerals. Mafic minerals are locally weakly aligned and chloritized. Thin sections show moderate to extensive sausseritization of plagioclase and some mermyktic intergrowths of quartz and orthoclase. This phase can often be identified, even when altered, by abundant grains of yellow-brown sphene.

Much of the southern claim area is underlain by flesh to orange coloured, medium grained, slightly porphyritic quartz monzonite. Although easily distinguished by its colour which suggests a syenite composition, thin sections show up to 30% of rock is composed of plagioclase while an equal percentage is accounted for by large smoky quartz grains. Mafic minerals generally account for less than 5%. Plagioclase is often sausseritized and may be surrounded by very fine secondary biotite. Felsic dykes and veinlets appear to both emanate from, and cut this unit.

2.2.3 Alteration and Mineralization

Alteration, which includes felspathization, development of sericite and chlorification, occurs in both units almost exclusively adjacent to numerous east-west trending faults and shear zones. Displacement along faults or shears is difficult to discern due to irregularities in contacts, but has limited vertical extent. Shear, and alteration, zones seldom exceed 100 m. in width, although several zones may occur side by side.

Sparse mineralization occurs over the entire property and adjacent areas but is most prominent along the intrusive-volcanic contact and in shear/alteration zones. Within the volcanics and "hybrid" rocks mineralization consists of irregularly distributed, fine specks of chaleopyrite and bornite. Two, three kg. chip samples totalling 25 m. in the best mineralized "hybrid" zone averaged 0.07% Cu and 0.006 oz. Au per ton.

Two types of mineralization occur within the intrusive rocks. Disseminated to small semi-massive clots of pyrite, chalcopyrite and bornite occur in narrow discontinuous quartz veinlets. These inconsequential veinlets are widely distributed and show no preferred orientation. Pyrite, chalcopyrite and less frequently bornite are found along silicified fractures adjacent to shear zones. This type of mineralization has limited lateral extent, seldom exceeding 10 m., and fades vertically but shows the best potential. Chip samples over 5 m. of mineralization in two adjacent shears assayed 0.16 and 0.05% Cu with negligible molybdenum, silver and gold values.

3. CONCLUSIONS

Copper mineralization is widespread throughout the property and surrounding areas but nowhere have economic grades at surface been observed. Much of the area is covered by talus and overburden which could conceivably mask a mineralized area. The presence of mineralization in all units and hydrothermal alteration adjacent to shear zones suggests that a "porphyry type" system may exist at depth, and the possibility that a small, but economic, ore body exists at moderate depth cannot be ruled out.

4. RECOMMENDATIONS

Rugged topography and extensive talus cover renders conventional geochemical and geophysical prospecting techniques of dubious value. Economic potential of the area is low and can only be adequately tested by diamond or percussion drilling. At the present time, the cost of such drilling is not justified.

Peter Holbek, B.Sc.

Reference: Souther, J.G., 1971.
Telegraph Ck. Map Area
G.S.C. Paper 71-44

5. COST STATEMENT

		$
Wages		
P. Folk, P.Eng.	June 11/81	200.00
P. Holbek, B.Sc., Geologist 6 days @ $100	June 7-10/81 June 11-12/81	600.00
Helicopter		
Bell 206B, based at Schaft Creek 2 hrs. @ $500/hr. including fuel		1,000.00
Room and Board		
7 man days @ $20 day/man		140.00
Assays		
5 assays @ $17.00		85.00
Freight		100.00
Transportation from Vancouver		200.00
Report preparation and drafting		400.00
	TOTAL:	$2,725.00

APPENDIX I

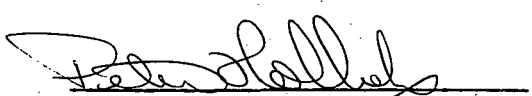
CERTIFICATE OF QUALIFICATIONS

I hereby certify that:

1. I graduated from the University of British Columbia in 1980 with a B.Sc. (Hons.) degree in geology.

2. I am currently candidate for an M.Sc. in geology at the University of British Columbia.

3. The work described herein was done by me.



Peter Holbek, B.Sc.

CERTIFICATE OF QUALIFICATIONS

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.

Peter G. Folk, P.Eng.

APPENDIX II

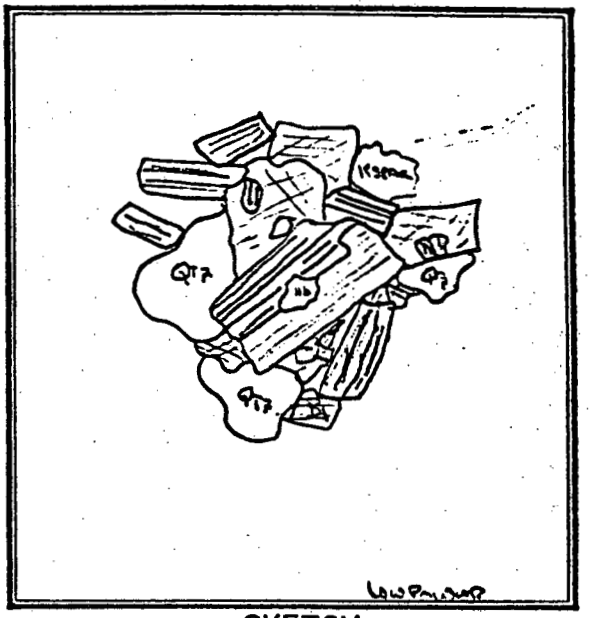
Rock Description

I.D.#: 81 - HA 10A PROJECT: LACASSE / LATE / 1264 DATE: OCT / 81

UNIT: HICKMAN BATHOLITH. FIELD NAME: QUARTZ DIORITE

LOCATION: HEAD WATERS OF SCHAFT CK / SCIMITAR GLACIER AREA.

HAND SPECIMEN DESCRIPTION: MEDIUM GRAINED EQUI-GRANULAR RELATIVELY FRESH ROCK. BOTRYM 25% MAFICS W/ HBL = BI 10% SMALL PINKISH GRAINS PROBABLY K-SPAR. REST OF ROCK IS PS W/ LITTLE QTZ VISIBLE. WEAK ALTERATION ALONG FRACTURES AND SOME MAFICS ⇒ CHL.



SKETCH

THIN SECTION DESCRIPTION: SECTION IS PREDOMINATELY EUHEDRAL PLAG (An_{22} BY CARLSBAD ALBITE METHOD) WITH SOME LARGE PORKILITIC KSPAR GRAINS (ENCLOSING PLAG) HBL IS ~~PARTLY~~ ANHEDRAL, GREEN AND PLEOC. KSPAR FORMS MOD ANHEDRAL GRAINS AND SOME INTERSTITIAL MATERIAL. WEAK HYDROTHERMAL ALTERATION OF PLAG. ONE SMALL GRAIN OF MONAZITE.

MODE:

PLAG	54%
QTZ	20%
KSPAR	10%
HBL	9%
BI	6%
OTHER	1%

COMPOSITION:

ROCK NAME: ~~GRANODIORITE~~ (TRONDHJEMITE) {GRANODIORITE}

AGE:

ANALYSIS:

Rock Description

PAGE: 11

I.D.#: RBI-HA19A PROJECT: LATE CLAIM DATE: SEPT 4/81

UNIT: GSC 19/QM FIELD NAME: QTZ-MONZONITE

LOCATION: NORTH CENTRAL CLAIM AREA

HAND SPECIMEN DESCRIPTION: ORANGE TO FLESH PINK MED GRAINED ROCK. REDDISH (ALMOST PORPHYRITIC) QTZ GRAINS SIT IN A MASS OF EUHEDRAL TO ANHEDRAL PINK FELDSPAR WITH ONLY MINOR WHITE FELDSPAR. VIRTUALLY NO MAFICS OR ACCESSORY MINERALS (APART FROM MAGNETITE WHICH CAN BE LOCALLY ABUNDANT (10%)

SKETCH

THIN SECTION DESCRIPTION: ROCK HAS SUBEQUANTLY HIGH PLAG (AN 55) CONTENT. MORE 3/4 OF PLAG IS SAUSSURATIZED TO FINE GRAINED MASS OF SERICITE AND BIOTITE MOST OF THE K-SPAR IS UNALTERED. QTZ-K-SPAR SHOW SOME EMBAYMENT TYPE INTERGROWTHS

MODE: KSPAR 40 %
PLAG 28 %
QTZ 30 %
OPAQUES 1 %
MAFICS 1 %

COMPOSITION:

ROCK NAME: QTZ-MONZONITE (ALASKITE) AGE:

ANALYSIS:

Rock Description

I.D.#: 81 HALC1 PROJECT: LATE CLAIM DATE: SEPT 4/81

UNIT: GSC 17 GRANODIOR FIELD NAME: GRANODIORITE

LOCATION: SOUTH WEST CORNER OF LATE CLAIM ON A SMALL KNOB IN MID BURN UTM.=

HAND SPECIMEN DESCRIPTION: RELATIVELY FRESH LOOKING, MED. TO COARSE GRAINED HORNBLENDE-BIOTITE GRANODIORITE. HORNBLENDS & BIOTITES ARE EVENLY DISPERSED IN SLIGHTLY ~~THE~~ CHLORITIZED EUHEDRAL GRAINS AND FINE ACCRETIONS. PINK KSPAR(?) SLIGHTLY LESS THAN PLAG., LOW QUARTZ CONTENT. SMALL SPHENE GRAINS ARE COMMON.

SKETCH

THIN SECTION DESCRIPTION: ROCK IS HOLOCRYSTALLINE WITH EQUAL SIZED PLAG XTALS OCCURRING ~~WITH~~ WITH A RANGE OF SIZES FOR BOTH K-SPAR AND QTZ XTALS. THE PLAG ($An_{\sim}$) IS WEAKLY ZONED AND EXTENSIVELY SAUSSURITIZED. MUCH OF THE BI & HBL IS CONVERTED TO PALE GREEN PLEOC. CHLORITE. SOME INTERSTITIAL QTZ GRAINS DISPLAY MYRMEKITIC INTERGROWTH WITH POTASH FELSPAR

MODE:

PLAG.	40%
KSPAR	35%
QTZ	13%
MAFICS	10%
ACCS.	2
	100%

COMPOSITION:

ROCK NAME: GRANODIORITE AGE:

ANALYSIS:

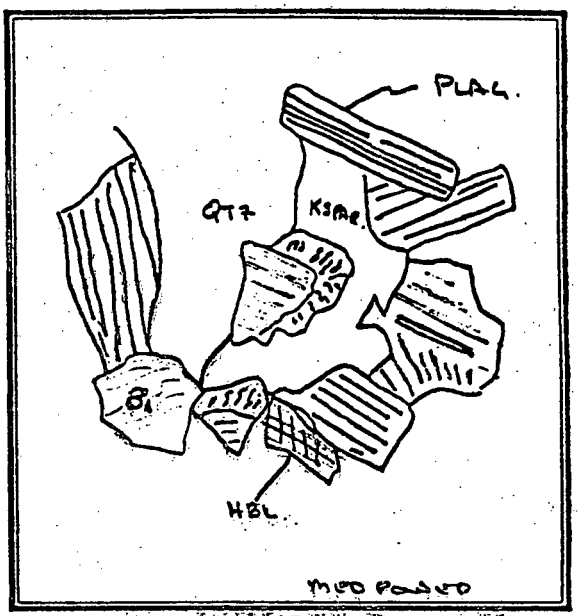
Rock Description

I.D.#: RBI-HA17A. PROJECT: LACASSE/LATE/1269 DATE: OCT/91

UNIT: #CSC17 (GDIOR) FIELD NAME: GRANODIORITE.

LOCATION: EAST END OF RIDGE ACROSS SCHAFT CK FROM LATE CLAIM. UTM.

HAND SPECIMEN DESCRIPTION: A MED. GRAINED VERY FRESH EQUIGRANULAR GRANODIORITE. ALL GRAINS ARE EASILY DISTINGUISHABLE W/ PLAG. PREDOMINANTLY AND ABOUT EQUAL K-SPAR AND QTZ. MAFICS 10-15% W/ BI > HBL. SOME BI FORMS LARGE BOOKS. CONSPICUOUS AND ABUNDANT BROWN-YELLOW SPHENE GRAINS.



SKETCH

THIN SECTION DESCRIPTION: A MOSAIC OF PLAG (ANZT BY CARLSBAD-ALBITE METHOD) HBL & BI IN LARGE POIKILITIC ORTHOCLASE AND QTZ GRAINS. PLAG, HBL & BI ARE EUHEDRAL TO SUBHEDRAL AND SHOW SIGNS OF VERY WEAK HYDROTHERMAL ALTERATION (SAUSSURITE & CHLORITE) SOME MYRMEKITIC TEXTURES, AND SHADOWY INDICATING ZONATION AND OVERGROWTHS OF FELDSPARS. ONE SMALL GRAIN OF ALLANITE.

MODE: PLAG 50%
QTZ 20%
K-SPAR 20%
BI 5%
HBL 4%
SPHENE 1%

COMPOSITION:

ROCK NAME: GRANODIORITE (TRONDHJEMITE) AGE:

ANALYSIS:

N

CREEK

SCHAFT

LATE CLAIM

GOAT CLAIM

L.C.P.

TALUS

0.08% Cu 5m

0.11% Cu 5m

0.07% Cu 25m

0.16% Cu 5m

0.05% Cu 5m

2500 3000 3500 4000 4500 5000 5500 6000

LEGEND

- CONTACT: DEFINED, INFERRED
- FAULT/SHEAR
- BEDDING, FORMATION
- SYNFORM
- Py, Cp, Bn — MINERAL OCCURANCE: PYRITE, CHALCOPYRITE, BORNITE
- LIMIT OF OUTCROP

4	QUARTZ MONZONITE, MONZONITE AND RELATED FELSITE
3	HORNBLENDE-BIOTITE, GRANODIORITE TO BI QUARTZ DIORITE
2	GREENSTONE. HEAVILY PYRITIZED, ALTERED VOLCANIC OR INTRUSIVE ROCK
1	UNDIFFERENTIATED VOLCANICS. PORPHYRITIC AND FRAGMENTAL ANDESITES, TUFFS, BRECCIAS, DERIVED SEDIMENTS

SAMPLE DATA

	Cu%	Mo%	Ag%	Au%	Length
1	.07	.001	.01	.006	25 m
2	.08	.001	.01	.001	5 m
3	.11	.001	.01	.001	5 m
4	.16	.001	.01	.001	5 m
5	.05	.002	.01	.001	5 m

Fig. 3

TECK CORPORATION

STIKINE REGION

LATE CLAIM

GEOLOGY