

81-906-9692

REPORT ON GEOLOGY AND
SOIL GEOCHEMISTRY OF THE
BJ, BEE, JAY, WINDY, GREY, RAINY
DAY, VERY, FALL AND VALLEY CLAIMS

LIARD MINING DIVISION
104 G/2W
57°08'N, 130°58'W

OWNED BY
TECK CORPORATION

OPERATED BY
TECK EXPLORATIONS LTD.
UNDER THE SUPERVISION OF
PETER HOLBEK, B.Sc.

9692

Vancouver, B. C.

January, 1982

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1. INTRODUCTION

1.1 Location and Access

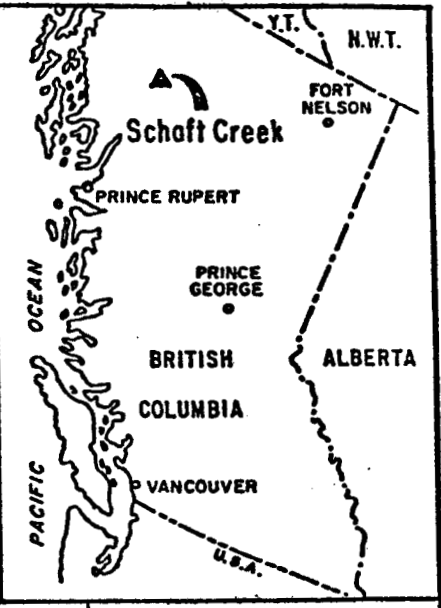
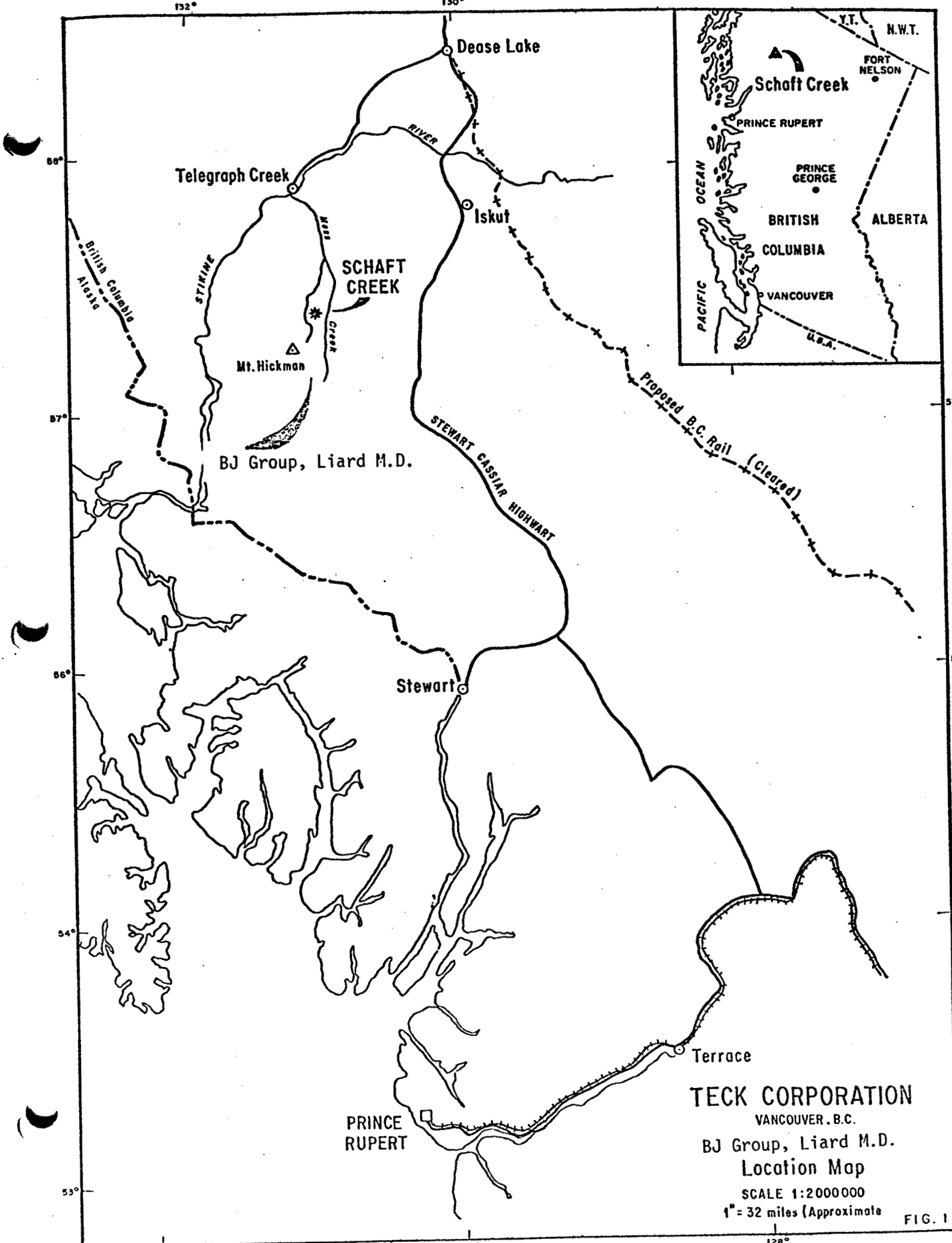
The BJ group and related claims are situated at the headwaters of Mess Creek, 57°08' north, 130°50' west, approximately 130 km southwest of Dease Lake, British Columbia. The area is covered by NTS map sheet 104 G/2W and lies within the Liard Mining Division.

Although the Stewart-Cassiar highway passes 50 km east of the property the nearest permanent settlement is Telegraph Creek, 60 km to the north. An airstrip served by Trans Provincial Airlines from Terrace is located at Teck's Schaft Creek deposit, 15 km northwest of the claims. Property access is by helicopter from Schaft Creek. Permanent helicopter bases are located at Dease Lake and Eddontenajon.

1.2 Property and History

The initial claims; BJ, Bee and Jay were staked in July 1980 based on follow-up of stream geochemistry. Subsequent staking of Windy, Grey, Rainy and Day claims was completed in August of 1980. Very, Valley and Fall claims were recorded in September, 1980 but have since been reduced. Three additional claims, Snout, JB, and Wish were located in September, 1981. Claim data are summarized in Table 1.

Although indication of early prospecting on the property has been found, there is no record of any previous claims having been staked in the area.



TECK CORPORATION
 VANCOUVER, B.C.
 B.J. Group, Liard M.D.
 Location Map
 SCALE 1:2000000
 1" = 32 miles (Approximate)

FIG. 1

<u>Name</u>	<u>Units</u>	<u>Date Located</u>	<u>Date Recorded</u>	<u>Record No.</u>
Bee	4	13 July 1980	29 July 1980	1478 (7)
Jay	20	16 July 1980	29 July 1980	1479 (7)
BJ	20	10 July 1980	29 July 1980	1480 (7)
Windy	18	20 Aug. 1980	29 Aug. 1980	1556 (8)
Grey	12	14 Aug. 1980	29 Aug. 1980	1557 (8)
Rainy	12	13 Aug. 1980	29 Aug. 1980	1558 (8)
Day	8	13 Aug. 1980	29 Aug. 1980	1559 (8)
Very	2	13 Aug. 1980	29 Aug. 1980	1555 (8)
Fall	2	Sep. 1980	22 Sep. 1980	1623 (9)
Valley	6	Sep. 1980	22 Sep. 1980	1626 (9)
JB	6	1 Sep. 1981	22 Sep. 1981	2064 (9)
Wish	2	1 Sep. 1981	22 Sep. 1981	2065 (9)
Snout	2	1 Sep. 1981	22 Sep. 1981	2066 (9)

TOTAL
UNITS = 114

TABLE 1: SUMMARY OF CLAIM DATA, BJ GROUP AND RELATED CLAIMS.

1.3 Climate and Physiography

Located on the eastern flank of the Coast Mountains, the area is rugged with elevations ranging from 1,000 to 2,000 m. The property is bounded to the south and west by ice fields and to the north and east by the Mess Creek valley. Numerous alpine glaciers transect the property exploiting zones of structural weakness and providing good outcrop exposure in areas of recent retreat.

The climate is cool and moist resulting in snow cover for nine months of the year. Moderate precipitation and topography have combined to produce rapid erosion within the area.

1.4 Work Done

Geological mapping of the property was begun in early June, 1981. Extensive snow cover necessitated later remapping of some of the earlier work. Collection of more than 200 samples for petrological and chemical examination, and samples for assay took place simultaneously with mapping. Based on early results, numerous rock assay samples were collected later during mid-August. Three small soil geochemistry grids, five soil profile pits, and reconnaissance type soil geochemistry traverses were carried out during August as part of a geochemical orientation survey. Soil geochem data are plotted on Appendix III. Soil samples were collected in standard kraft bags. On the Grizzly soil grid every other sample was collected in duplicate; one of which was panned to check for improved contrast.

Due to the geological complexity of the property, peripheral areas adjacent to the claims were mapped in order to increase confidence in stratigraphic and structural interpretations. Mapping was carried out on various scales depending on geological complexity, bedrock exposure, and proximity to mineralization and generalized on a 1:12,500 scale map in Appendix I. Due to the extent of mapping it was not feasible to map areas of outcrop. Outcrop locations may be inferred from the map by defined geological contacts, geological stations, or structural data.

In total, approximately 20 square kms. were mapped and 230 petrological samples, 75 rock assay samples and 185 geochemical samples were collected. Assay and analytical techniques can be found in Appendix IV.

1.5 Regional Geology

The area of study is underlain by Permian and older metamorphosed volcanics, volcani-clastics and derived sediments. Stratigraphy shows strong similarity to the Cache Creek Group, but is part of the Stikine assemblage; an allochthonous island arc that was accreted to the continent between Triassic and Jurassic time (Monger, 1981).

To the northwest the paleozoic rocks are unconformably overlain by Upper Triassic sediments and volcanics which give way to Coast Range plutons. Paleozoic volcanics continue to the south and east but sharp transitions in metamorphism and degree of deformation suggests fault contacts. No older rocks are known in the region and the high degree of dynamothermal metamorphism indicates that property stratigraphy is basal to the Paleozoic section.

2. PROPERTY GEOLOGY

2.1 Stratigraphy

Facies changes, complex interfolding, metamorphism and alteration severely complicate stratigraphic contacts and succession within the paleozoic rocks. Gross stratigraphy is more easily discernible and includes: Upper Triassic and later sediments, volcanics and intrusives; orogenic and/or epithermal alteration products; orogenically associated intrusive greenstones; and pre-Permian, probably Mississippian (Monger, pers. comm.) pyroclastics and related sediments. Based on composition, mineralogy and structural style the paleozoic pyroclastics and sediments were sub-divided into four units. Alteration was mapped as a separate unit when either original rock type was indistinguishable or when it was sufficiently advanced to be economically significant. Because the alteration was often gradational with other units, contacts are therefore somewhat arbitrary.

2.1.1 Upper Triassic and Later Rocks

The Upper Triassic is easily recognized by its relative lack of metamorphism and deformation. Rocks are dominantly coarse fossiliferous sandstones with interbedded shales and cherts, grits, conglomerates and minor volcanics. The paleozoic-mesozoic contact is never well exposed but where observed it is either a thrust fault or undisturbed massive purple volcanics isostructurally sitting upon unweathered purple and green phyllites.

2.1.2 Alteration Products

Two types of alteration products are conspicuous to the area: rusty weathering, botryoidal or brecciated iron rich carbonates; and quartz, sericite, carbonate, talc schist.

The iron rich carbonates are commonly thin slivers, and occasionally large masses associated with faults and fractures within the greenstones and, more rarely, the chlorite schists. Although mineralization appears to be spatially associated with these zones, they are not particularly auriferous.

Quartz, sericite and quartz, sericite, carbonate, talc(?) schists are widely distributed over the property. Schists can be greater than 300 m thick, are frequently mylonitized, display extensive conformable contacts and persistent stratigraphic appearances, but also exhibit discordant gradational contacts with all units and are spatially related to quartz veins and faults. Cause of this alteration is likely to be part lithological and metamorphic and part epithermal. Mineralization is frequently, but not exclusively, found within this unit.

2.1.3 Greenstones

Greenstones range from fine-grained, massive or foliated, chlorite, albite schists to coarsely crystalline, partially altered gabbros. Very subtle banded textures and slight crosscutting contacts suggest gabbroic sills as an origin for these rocks. Resistance to erosion has caused this unit to form prominent knobs and ridges over much of the property.

2.1.4 Felsic Fragmental Volcanics

Typically this unit displays a good fragmental texture ranging from green crystal-lithic tuffs to coarse breccias. Siliceous or felsic fragments are set in a very fine quartz, chlorite, albite matrix. It is common for the fragmental texture to be all but obliterated by pervasive and strong foliation. Well developed coarse crenulation cleavage, pencil cleavage and mylonitic texture occurs frequently.

2.1.5 Purple and Green Phyllites

This unit consists of intercalated purple and green phyllitic schists and minor grey and black graphitic talc schists. Occasionally, small lenses of limestone and preserved volcanic bombs were observed indicating a marine deposited pyroclastic unit. Locally, conspicuous development of maraposite and kammererite around chromite (spinel?) grains was observed.

2.1.6 Chlorite Schist and Argillite

The argillite and argillaceous phyllite was frequently noted to contain thin bands and lenses of chlorite schist. In a few areas the chlorite schist became thick enough to map as a separate unit. The chlorite schist appeared to be more susceptible to alteration which often resulted in a conspicuous banded yellow and black schist. These units have a combined structural thickness in excess of 400 m.

2.2 Structure

2.2.1 Structural Sequence and Orientation

Four phases of folding are evident on the property. Two early phases of isoclinal folding are indicated by refolded minor folds and mineral lineations along foliation planes. These two phases are nearly co-axial and trend to the northwest. Scale of this folding is regional. The third phase of folding consists of east-west trending warps, chevron folds and kink bands. Scale of these folds seldom exceeds 20 m and therefore has little effect on contact geometry of the map. The final deformational feature is a broad open fold, gently plunging to the south-southwest. The axial trace of this fold runs along the western edge of the property producing moderate easterly dips over much of the area. This fold tightens and steepens dramatically to the west.

2.2.2 Structural Synthesis

The early phases of deformation were accompanied by regional

greenschist metamorphism. Metamorphogenic quartz veins, and possibly some mineralization, were concentrated in fold noses during both episodes. Mafic intrusion likely occurred prior to, or during this period. Tectonic stresses were maximized in an east-west direction and were possibly related to continental accretion of an allocthonous terrain.

With well developed foliation, minor north-south compressive stress resulted in small chevron folds and kink bands. Metamorphism was absent or mild during, but some quartz veining appears to be associated with this event. Major north-south strike slip faulting was also likely to be related to this phase.

Final deformation was most intense to the west and gradually faded eastward. Easterly thrusting and possibly alteration took place contemporaneous to this event, which may be related to significant plutonism in the region. Vast ductility contrasts between the greenstones and other units during this event accounts for mylonitic textures below the greenstones.

2.2.3 Faults and Fractures

Much of the faulting and fracturing on the property are related to the later deformational events and are important as they form the locus of much mineralization. Displacement on most of the faults is unknown but presumed to be minor. Movement along individual thrust sheets is also relatively

minor but total thrusting may be more substantial. It is believed that most fault movement is in response to intrusive activity. Pervasive alteration appears to be localized along faults which tends to conceal their identity; therefore faulting may be even more extensive than it appears on the map.

2.3 Metamorphism

Metamorphic grade in the area is upper greenschist to lower amphibolite facies. Both metamorphism and deformation decrease in all directions away from the central portion of the property. Secondary biotite and small poikilitic hornblende mark the transition into amphibolite facies. Other metamorphic minerals present include talc, tremolite, anthophyllite, albite, chlorite and muscovite. Petrological textures suggest metamorphic overprinting but more work is required to define individual phases and to determine which phase, if any, is related to mineralization.

2.4 Igneous Activity

Apart from the greenstones there is little sign of intrusive activity within the property. A badly altered granodiorite outcrops in a number of locations north and west of the property with only one very small outcrop in the northwest corner of the Windy claim. Occasional lamprophyre and diabase dykes and plugs are located on the claims but are small and deemed insignificant.

3. MINERALIZATION

Pyritiferous quartz veins are ubiquitous. Most are metamorphogenic, occurring in noses of early phase folds. Other veins vary from slight discordance to perpendicularly crosscutting. Nearly all of these veins are barren with respect to gold except for a few which carry interesting but sub-economic values. In the field, auriferous quartz veins are indistinguishable from barren ones. Sulphide minerals also contained in these veins include pyrite, arsenopyrite, chalcopyrite and galena.

Significant mineralization occurs in fault and fracture associated quartz and quartz carbonate breccias. Breccias vary from silicified fragments of wallrock in a quartz matrix to autobreccias with round to angular quartz and carbonate fragments in a quartz and carbonate matrix. Mineralization is normally disseminated but may be semi-massive and includes arsenopyrite, pyrite, chalcopyrite, tetrahedrite, sphalerite, galena, hessite and electrum. Fracture filling breccias are narrow, (10-90 cm) discontinuous and difficult to evaluate.

4. GEOCHEMISTRY

4.1 Methods

Soil geochemistry reconnaissance traverses and grids were run by compass and hipchain. Sample intervals ranged from 20 to 150 m depending upon the grid location. All samples were collected from the B horizon where possible. In areas of swamp, samples were collected at least 2 m above water level from the nearest up-slope bank. On the grizzly soil grid alternate duplicate samples were panned and pulverized prior to analysis. Soil grids were analysed for Cu, Pb, As, Au and Ag (except for the grizzly grid in which As was omitted) by standard atomic absorption techniques. The reconnaissance traverse samples were analysed for 24 elements by induction coupled plasma analysis with additional Au analysis by atomic absorption. All analyses were performed by Acme Analytical Labs in Vancouver. A brief description of analytical methods can be found in Appendix IV.

4.2 Results

Gold values ranged from detection limit of 5 ppb to 10,000 ppb. While many samples were valued at the detection limit an over-abundance contained regionally anomalous results. Background values, therefore, may be considered to run from 5 to 100 ppb with greater than 75 ppb considered to be anomalous for the area. Samples taken from recent glacial till frequently contained anomalous values; therefore, soil type should be carefully documented. Soil profiles

were, in general, not well developed and gold distribution could not be correlated with depth. Soil colour appeared to be a significant factor in results, with red-brown soils containing consistently high values. Whether this observation is due to the association of red soils with mineralization or scavenging effects of iron is not known. Panning soils had little effect on geochem results. This is attributed to high clay content of soils and micron size of gold. Careful panning with use of detergents significantly improved contrast but it is doubtful that results justify the time involved.

Silver and gold only showed signs of correlation within the anomalous population. Arsenic and lead values were useful for indicating type of mineralization and showed greater dispersion, better outlining zones of mineralization. Copper analyses are of questionable value. Geochemical values were useful as indicators but did not correlate with grade or tenor of mineralization.

5. SUMMARY AND CONCLUSIONS

5.1 Mineralization within the BJ group is hosted by extensively deformed, metamorphosed, and altered paleozoic volcanics, sediments and gableric sills. Both strataform and fractured controlled mineralization is present, with the latter considered more significant. Sufficient mineralization has been found to account for the geochemistry of area but economically exploitable grades and size have not been discovered. More detailed petrological, structural and chemical work is presently being undertaken to evaluate nature and origin of mineralization and further potential of the area.

Soil geochemistry is a useful exploration tool provided care is taken during sampling and interpretation. It is feasible that geophysical techniques could be used to delineate zones of alteration, faults and areas of high sulphide mineralization.

ITEMIZED COST STATEMENT

1. <u>GEOLOGICAL MAPPING AND SAMPLING</u> <u>BETWEEN JUNE 11 AND SEPTEMBER 3</u>	\$
P. Holbek, Geologist: 47 days at \$100.00/day	4,700.00
H. Smit, Assistant: 40 days at \$65.00/day	2,600.00
W. Willows, Assistant: 4 days at \$65.00/day	260.00
Food: 91 man days at \$30.00/day	2,730.00
Thin Sections: 41 at \$5.50/section	225.00
Helicopter: Quasar Aviation Bell 206B from Schaft Creek 24 hrs. at \$525.00/hr (including fuel)	<u>12,700.00</u>
	<u>\$23,215.00</u>
2. <u>SOIL GEOCHEMISTRY</u>	
P. Holbek, Geologist: August 1, 28, 29 3 days at \$100.00/day	300.00
H. Smit, Assistant: July 28, 29, August 1 4 days at \$65.00/day	260.00
W. Willows, Assistant: July 14, 28, 29, August 1, 28, 29 5 days at \$65.00/day	325.00
P. Shipley, Helper: July 14, 28, 29, August 1 4 days at \$55.00/day	220.00
Food: 16 man days at \$30.00/day	<u>480.00</u>
	<u>\$ 1,585.00</u>
3. <u>GEOCHEMICAL ANALYSIS</u>	
ICP Analysis + Au by A.A: 40 at \$8.75/sample	350.00
Cu, Pb, Au, Ag Analysis: 74 at \$6.50/sample	481.00
Cu, Pb, As, Au, Ag Analysis: 71 at \$6.50/sample	416.50
Sample Preparation: 185 at \$0.40/sample	74.00
Air Freight	<u>94.50</u>
	<u>\$ 1,416.00</u>
Helicopter: Quasar Aviation Bell 206B from Schaft Creek 7 hrs. at \$525.00/hr. (including fuel)	<u>\$ 3,675.00</u>
	<u>\$ 6,670.00</u>

4. ROCK ASSAYS

		\$
P. Holbek, Geologist:	August 30, 31, September 2, 3	
	4 days at \$100.00/day	400.00
W. Willows, Assistant:	August 30, 31, September 2, 3	
	4 days at \$65.00/day	260.00
Food:	8 man days at \$30.00/day	<u>240.00</u>
		\$ 900.00

Assays:

Au, Ag	76 samples at \$10.00/sample	760.00
Cu	49 samples at \$ 3.50/sample	171.50
Pb	15 samples at \$ 3.50/sample	52.50
Zn	7 samples at \$ 3.50/sample	24.50
Sb	16 samples at \$ 3.50/sample	56.00
As	22 samples at \$ 7.50/sample	165.00
Hg	4 samples at \$ 7.50/sample	<u>30.00</u>
		\$ 1,259.00

Helicopter:	Yukon Air Hughes 500D	
	3 hrs. at \$610.00/hr. (including fuel)	\$ 1,830.00
		<u>\$ 3,989.00</u>

5. CONSULTANTS AND TRAVEL

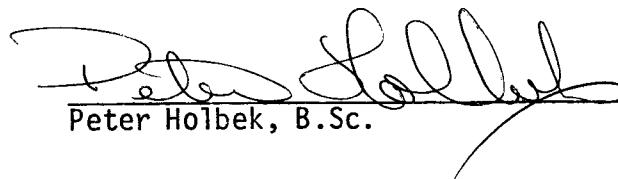
P. Holbek:	Vancouver-Schaft Creek Return x 2 at \$476.00	952.00
H. Smit:	Vancouver-Schaft Creek Return	476.00
Dr. H. J. Greenwood:	August 9, 10, 11	
Dr. G. I. Godwin:	August 23, 24, 25	
W. Bergey:	August 24, 25	
W. Meyer:	August 24, 25	
	4 Vancouver-Schaft Creek Return Flights	1,904.00
Food:	10 man days at \$30.00/day	300.00
Freight, Mobilization, Equipment Rental		2,153.00
Report Preparation		<u>1,100.00</u>
		\$ 6,885.00
	<u>GRAND TOTAL EXPENDITURE</u>	<u>\$40,759.00</u>

CERTIFICATE OF QUALIFICATIONS

PETER HOLBEK, B.Sc.

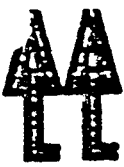
I hereby certify that:

1. I graduated from the University of British Columbia in 1980 with a B.Sc.(Hons.) Degree in Geological Sciences;
2. I am presently completing an M.Sc. degree in Geology at the University of British Columbia;
3. I have worked as a geologist or assistant for the past seven field seasons;
4. The work described herein was done under my direct supervision.


Peter Holbek, B.Sc.

APPENDIX IV

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 demineralized water.

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

* denotes background correction.

Geochemical Analysis for Au

10.0 gram samples that have been ignited overnight 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.



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Assaying & Trace Analysis

852 E. Hastings St., Vancouver, B.C. V6A 1R6

Telephone : 253 - 3158

Multi Element Analysis by ICP

Digestion of Sample

0.5 gram samples are digested with hot aqua regia for one hour and the sample is diluted to 10 ml. The diluted sample is aspirated by ICP and the analytical results are printed by Telex, either in percent or ppm as shown.

Please Note : This digestion is partial for Al, Ca, La, Mg, P Ti, W and very little Ba is dissolved.

Report Format

HO/22N 3850W
EGC

BURN # 1 GE16 15:46 3FEB1981

IS
1357

MO	CU	PB	ZN	AG	NI	CO	MN	FE%	AS
3.92	41.5	9.00	136	.332	15.3	5.70	312	3.167	5.73
U	IS	TH	IS	CD	SB	BI	V	CA%	P%
4.11	.371	.424	1073	.960	1.94	4.51	52.7	1.107	.206
LA	IN	MG%	BA%	TI%	B	AL%	IS	IS	W
22.1	3.50	.2589	.0184	.0014	-.05	1.720	0	3.06	.276

*O/M1
EGC

BURN # 1 GE16 15:48 3FEB1981

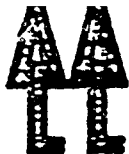
1358

.563	29.3	34.6	171	.154	33.4	11.5	794	2.536	8.77
3.57	.044	2.79	765	1.08	.635	4.25	54.8	.6452	.109
6.42	2.88	.6008	.0252	.0753	-.37	1.944	0	2.32	-.61

Code :

HO, *O, EGC
/22N 3850 W
/M1
15:46 3FEB1981
BURN # 1 GE16
IS

Computer Instructions.
Sample Number.
ACME Geochem standard for quality control.
Time and Date of Analysis.
Geochem Computer Program.
Internal Standard.



ACME ANALYTICAL LABORATORIES LTD.

Assaying & Trace Analysis

852 E. Hastings St., Vancouver, B.C. V6A 1R8

Telephone : 253 - 3158

Interpretation of Results

Standard M-1 is a certified geochem standard used to monitor the results. M-1 has the following analysis.

1.	Mo	:	in ppm	M1	2.	ppm
2.	Cu	:	in ppm	M1	28.	ppm
3.	Pb	:	in ppm	M1	38.	ppm
4.	Zn	:	in ppm	M1	180.	ppm
5.	Ag	:	in ppm	M1	0.3	ppm
6.	Ni	:	in ppm	M1	32.	ppm
7.	Co	:	in ppm	M1	12.	ppm
8.	Mn	:	in ppm	M1	800.	ppm
9.	Fe	:	in %	M1	2.5	%
10.	As	:	in ppm	M1	8.	ppm
11.	U	:	in ppm	M1	3.	ppm
12.	IS	:	Internal Standard.			
13.	Th	:	in ppm	M1	3.	ppm
14.	IS	:	Internal Standard.			
15.	Cd	:	in ppm	M1	2.	ppm
16.	Sb	:	in ppm	M1	3.	ppm
17.	Bi	:	in ppm	M1	2.	ppm
18.	V	:	in ppm	M1	54.	ppm
19.	Ca	:	in %	M1	0.62	%
20.	P	:	in %	M1	0.11	%
21.	La	:	in ppm	M1	8.	ppm
22.	In	:	in ppm	M1	2.	ppm
23.	Mg	:	in %	M1	0.67	%
24.	Ba	:	in %	M1	0.023	%
25.	Ti	:	in %	M1	0.07	%
26.	B	:	in ppm	M1	12.	ppm
27.	Al	:	in %	M1	1.9	%
28.	IS	:	Internal Standard.			
29.	IS	:	Internal Standard.			
30.	W	:	in ppm	M1	1.	ppm

Notes:

1. Zinc over 5000 ppm interferes on W channel.
2. Iron over 1. % interferes on In and Sb channel.

Monitoring of Results:

If analysis of standard M-1 is different than the certification, then compensate (add or subtract) samples appropriately.

Standardization:

Complete set of USGS standards, Canadian Certified Reference Materials and 72 spepуре metals from Johnson Matthey.

ACME ANALYTICAL LABORATORIES LTD.

FIRE ASSAY PROCEDURE - GOLD, SILVER, PLATINUM, PALLADIUM : -

1. Concentration of Precious Metals

a) Fusion

0.5 A.T (Assay Procedure) or 10 gram (Geochemical Procedure) samples of geological pulp are mixed with a suitable flux and fused to obtain a 30 gram lead button.

b) Cupellation

The lead button is cupelled to obtain a Dore bead (primarily silver) which is weighed.

2. Determination of Gold

The assayer has the option of determining gold by

a) gravimetric method - dissolving the silver and weighing the residual gold. (d.l. = 0.01 oz/ton or 0.5 ppm.)

b) direct AA method - dissolving both gold and silver and determining gold by AA. (d.l. = 0.001 oz/ton or 0.05 ppm.)

c) graphite AA method - dissolving both gold and silver and determining gold by graphite AA (d.l. = 0.0001 oz/ton or 0.001 ppm.)

3. Determination of Platinum and Palladium

Platinum and Palladium can both be determined in the Dore bead by dissolving the bead and running Pt and/or Pd by direct or graphite AA.

Platinum - direct AA d.l. = 0.020 ppm.

- graphite AA d.l. = 0.001 ppm.

Palladium- direct AA d.l. = 0.010 ppm.

- graphite AA d.l. = 0.001 ppm.

4. Determination of Silver

Silver is generally determined by difference on higher grade material or determined in a separate acid digestion by AA.

NOTES

1. The detection limit can be lowered and sampling errors reduced by taking larger (1. - 2. AT) samples through the Fusion or by combining a number of Fusions.

2. The Fire assay method can be applied to soils, rocks, drill core, concentrates, metallurgical samples and alloys.

020 N

-

92
10 - 15
47 4



0

96
14 - 350
357 20

49
10 - 5
16 .2

020 S

46
9 - 5
11 .1

225
57 - 25
21 .6

040

38
13 - 5
49 .7

267
105 - 30
23 4

060

43
13 - 5
8 .7

146
31 - 5
20 .4

080

174
86 - 5
18 .4

51
24 - 5
6 .5

100

246
107 - 15
21 .6

790
42 - 5
17 .5

120

270
131 - 10
19 13

218
36 - 5
12 .3

140

1305
40 - 125
15 .7

272
105 - 5
27 12

160 S

2815
20 - 120
25 .6

212
15 - 25
13 .5

9692

MARMOT SOIL GRID

VERY CLAIM

1cm = 10 m

As
ppm Pb - Au_{ppb}
Cu Ag_{ppm}

00
050 S
100
150
200
250
300
350
400
450
500
550
600
650
700
750
800
850
900
950
1000
1050
1100
1150
1200
1250
1300 S

PAN SOIL SAMPLES ON LINE B

90, 18
63, 15
10, 8
50, 13
95, 12
10, 12
25, 13
48, 11
52, 12
95, 21
72, 17
55, 14
175, 10
85, 13
55, 9
18, 12
16, 10
19, 20
110, 4
18, 9
40, 14
150, 13
4, 5
70, 18
96, 18
65, 24
6, 15
55, 20
59, 15
30, 15
12, 24
47, 16

LINE B

63, 15
33, 14
7, 13
40, 17
55, 10
100, 4
17, 11
155, 2
38, 9
55, 9
25, 5
7, 10
22, 9

PAN SOIL SAMPLES ON LINE A

40, 16
16, 15
75, 25
45, 23
64, 14
50, 19
50, 14
50, 21
85, 26
70, 18
60, 22
45, 14
70, 22
50, 13
85, 14
10, 6
24, 9
50, 20
130, 17
15, 19
19, 24
15, 17
12, 14

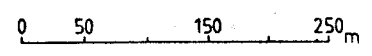
LINE A



EXPLANATION
12, 24
Cu Pb
Results in p.p.m

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GRIZZLY GRID
JAY CLAIM
SOIL AND PAN SOIL SAMPLING



00
050 S
100
150
200
250
300
350
400
450
500
550
600
650
700
750
800
850
900
950
1000
1050
1100
1150
1200
1250
1300 S

PAN SOIL SAMPLES ON LINE B

.4, 65
↓
.2, 25 .2, 30
.1, 15
.1, 65 .3, 75
.3, 5
.1, 5 .1, 50
.2, 105
.5, 45 .3, 5
.6, 215
1.6, 105 .3, 105
7, 65
3, 215
3, 30
1, 25
1, 5
.9, 35 .3, 10
.9, 5
.1, 5 .1, 5
.1, 25
.6, 85 .5, 100
4, 175
2, 53
3, 5 .4, 5
1.8, 5
2.4, 5 .3, 5
.9, 5
.9, 5 .5, 5
3, 35
1.2, 15
.5, 15 .6, 5
3, 205

LINE B

PAN SOIL SAMPLES ON LINE A

.1, 60
↓
.1, 705
.1, 15
.1, 5
.2, 105
.3, 290
.4, 5
.5, 15
1.1, 5
1.5, 5
.3, 5
1.0, 5
.1, 20
.6, 45
.1, 10
.2, 200
.1, 205
.5, 20
.6, 85
.5, 115
.2, 5
.7, 5
.4, 5
.4, 45

LINE A



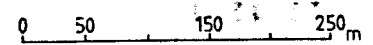
EXPLANATION
 .6, 215
 Ag pp.m. Au pp.b.

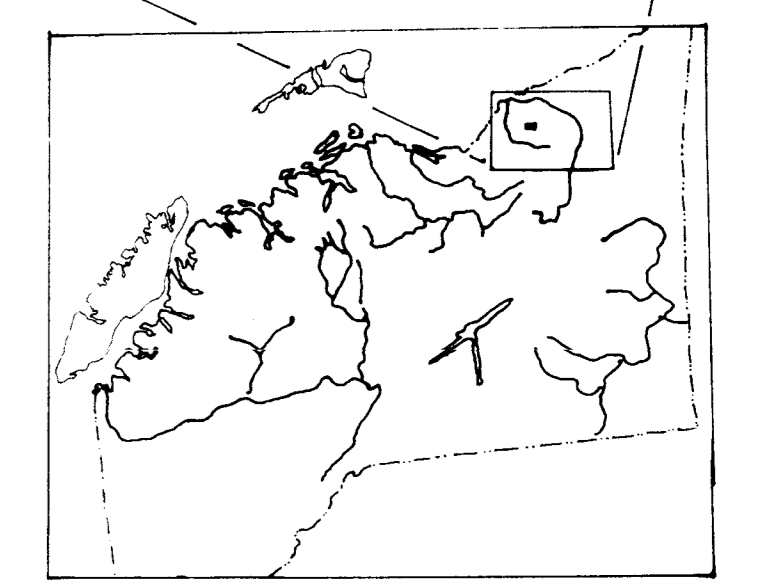
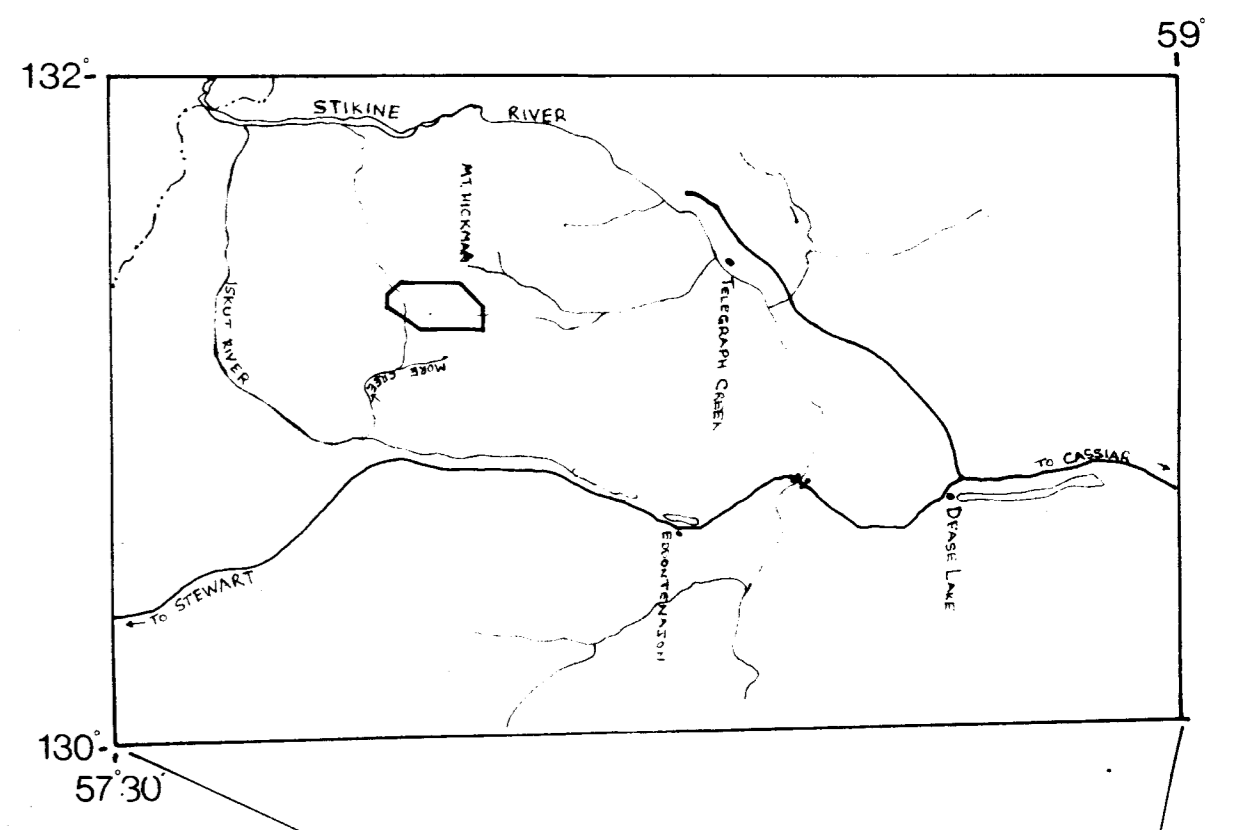
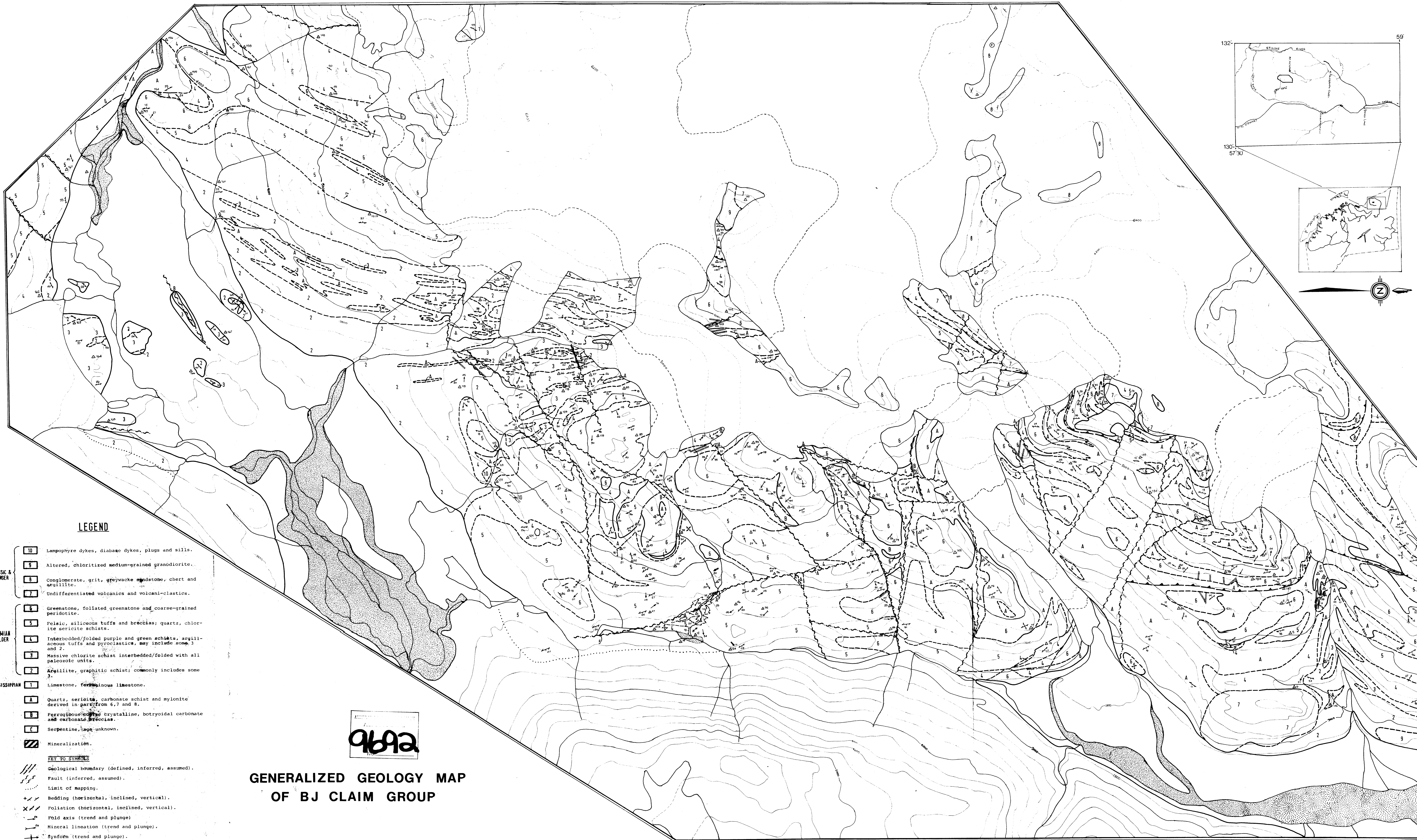
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GRIZZLY GRID

JAY CLAIM

SOIL AND PAN SOIL SAMPLING





LEGEND

- 10** Lamphyre dykes, diabase dykes, plugs and sills.
 - 9** Altered, chloritized medium-grained granodiorite.
 - 8** Conglomerate, grit, greywacke sandstone, chert and scallite.
 - 7** Undifferentiated volcanics and volcani-clastics.
 - 6** Greenstone, foliated greenstone and coarse-grained peridotite.
 - 5** felsic, siliceous tuffs and breccias; quartz, chlorite sericite schists.
 - 4** Interbedded/foliated purple and green schists, argillaceous tuffs and pyroclastics, may include some 3.
 - 3** Massive chlorite schist interbedded/foliated with all paleozoic units.
 - 2** Argillite, graphitic schist; commonly includes some 3.
 - 1** Limestone, ferruginous limestone.
 - A** Quartz, sericite, carbonate schist and mylonite derived in part from 6, 7 and 8.
 - B** Ferruginous coarse crystalline, botryoidal carbonate and carbonate breccias.
 - C** Serpentine, age unknown.
 - Mineralization**
- KEY TO SYMBOLS**
- Geological boundary (defined, inferred, assumed).
 - Fault (inferred, assumed).
 - Limit of mapping.
 - Bedding (horizontal, inclined, vertical).
 - Foliation (horizontal, inclined, vertical).
 - Fold axis (trend and plunge).
 - Mineral lineation (trend and plunge).
 - Synform (trend and plunge).
 - Antiform.
 - Thrust fault (teeth towards hanging wall).
 - Station location.

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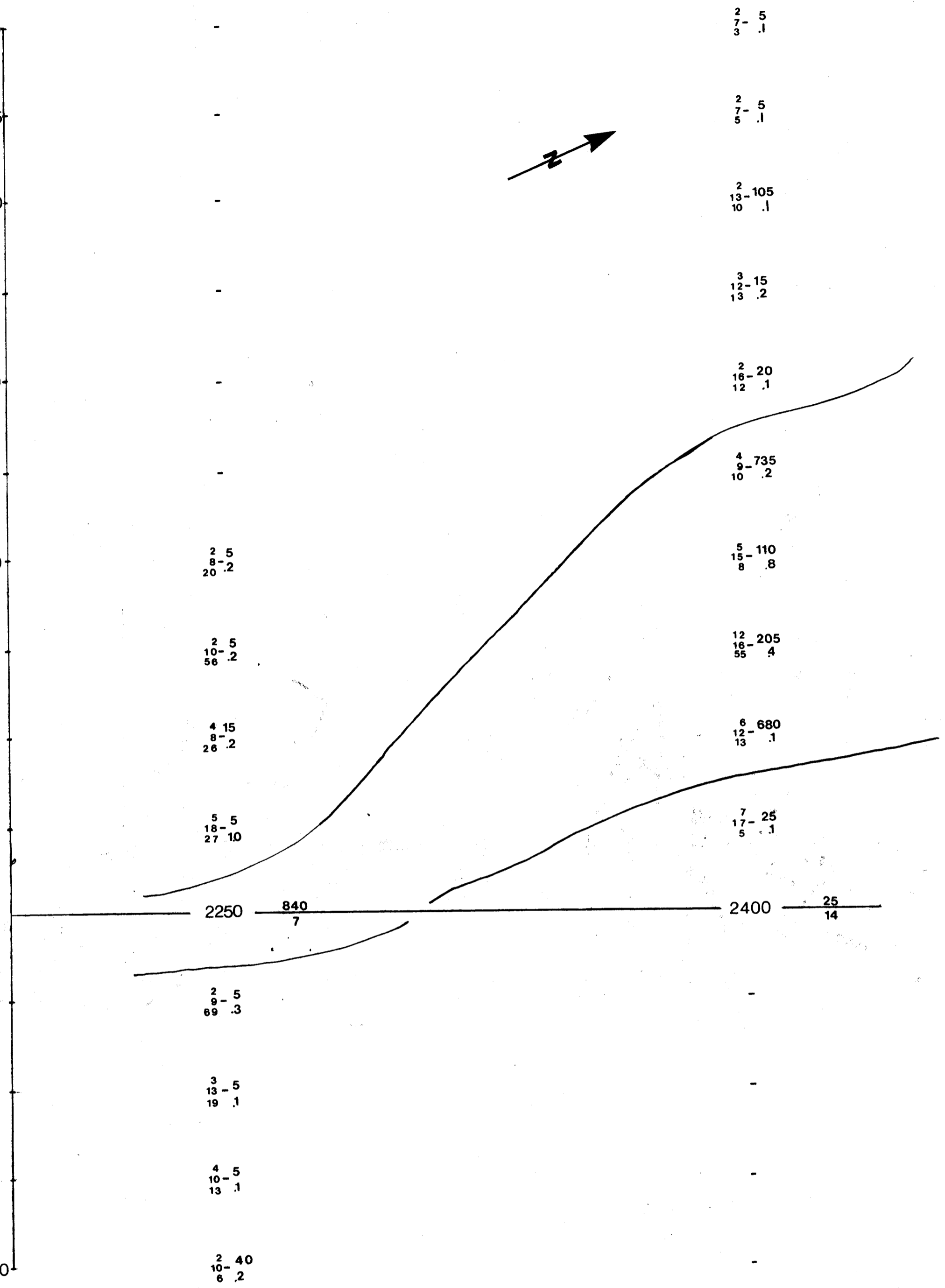
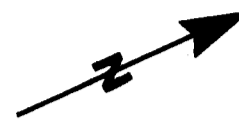
**GENERALIZED GEOLOGY MAP
OF BJ CLAIM GROUP**



W

250
225
200
175
150
125
100
75
50
25
25
50
75
100

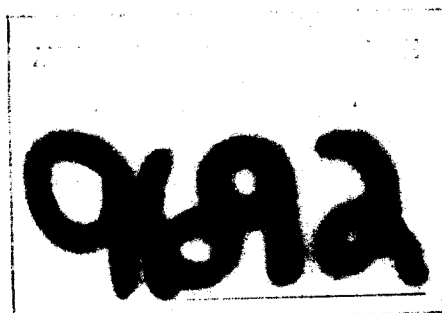
E

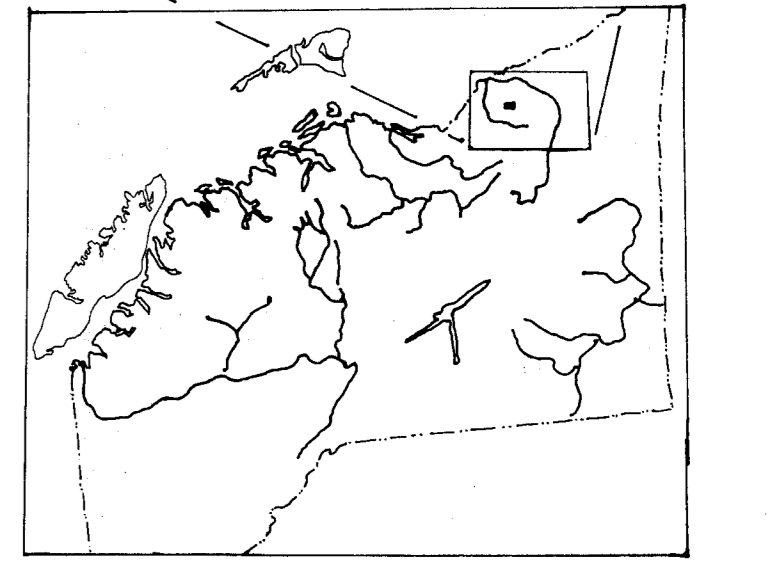
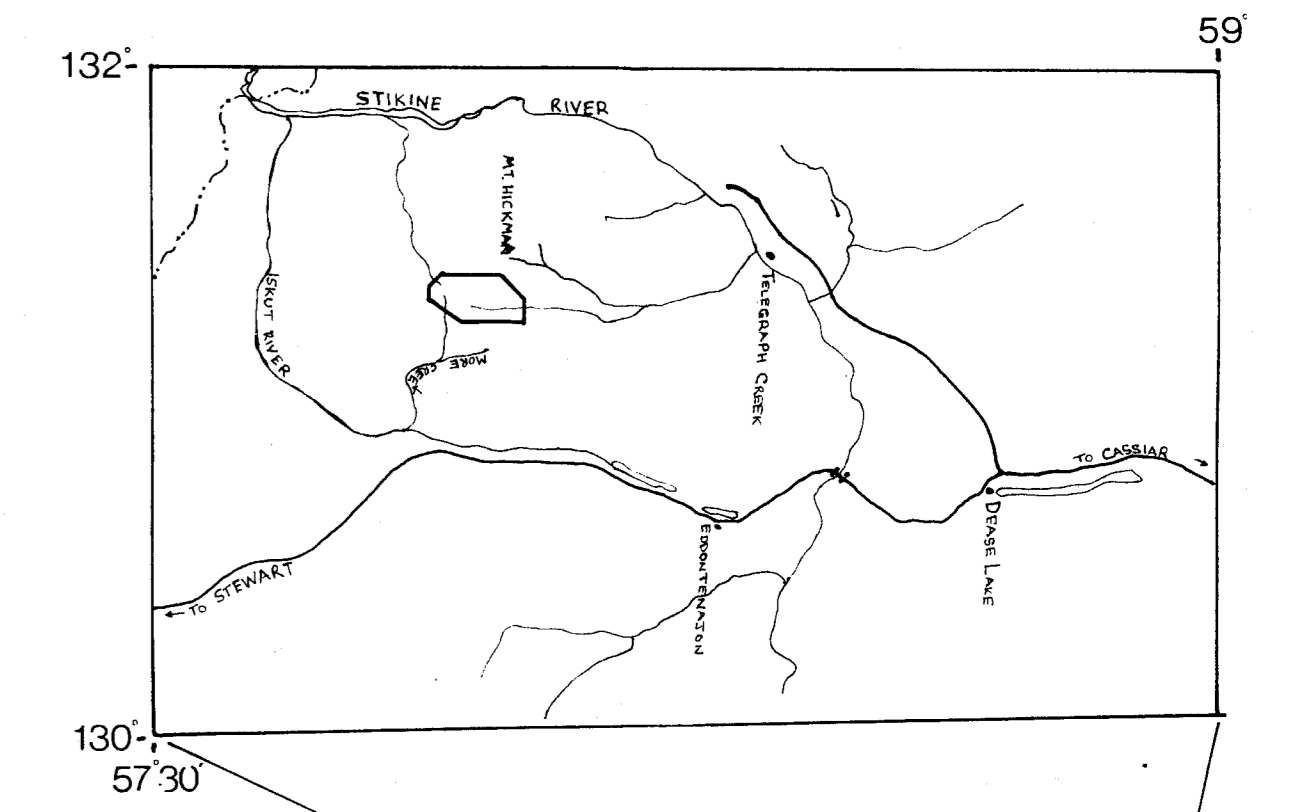
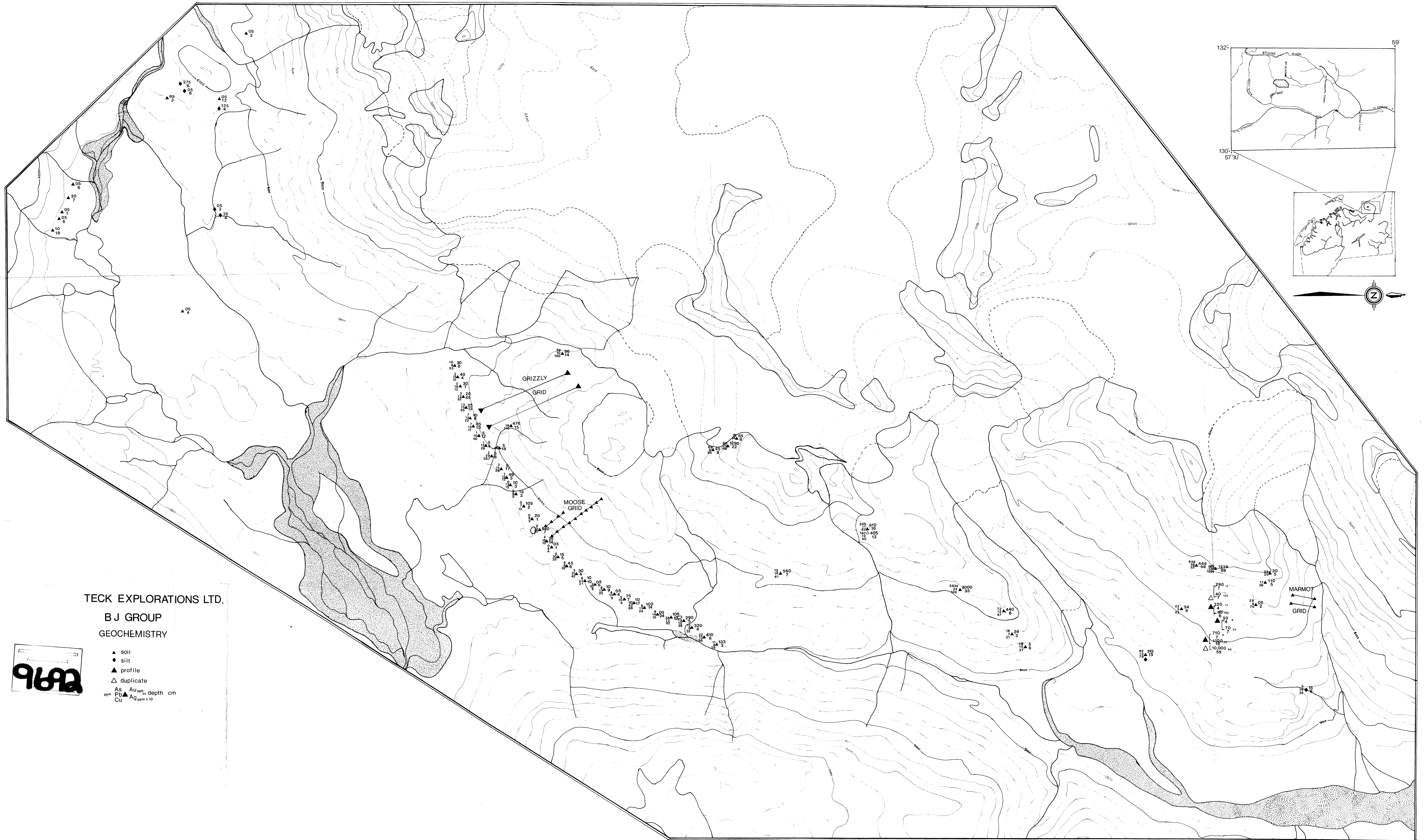


MOOSE SOIL GRID

ppm { As - Au_{ppb}
 Pb - Ag_{ppm}
 Cu

BJ GROUP

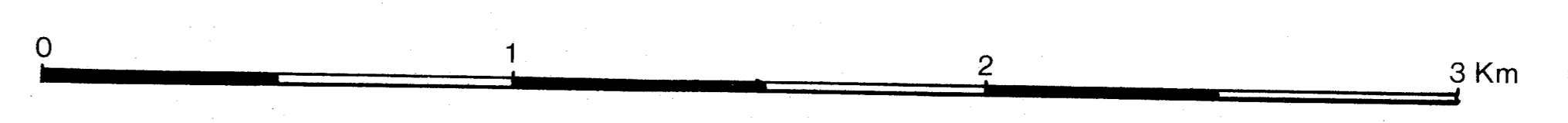


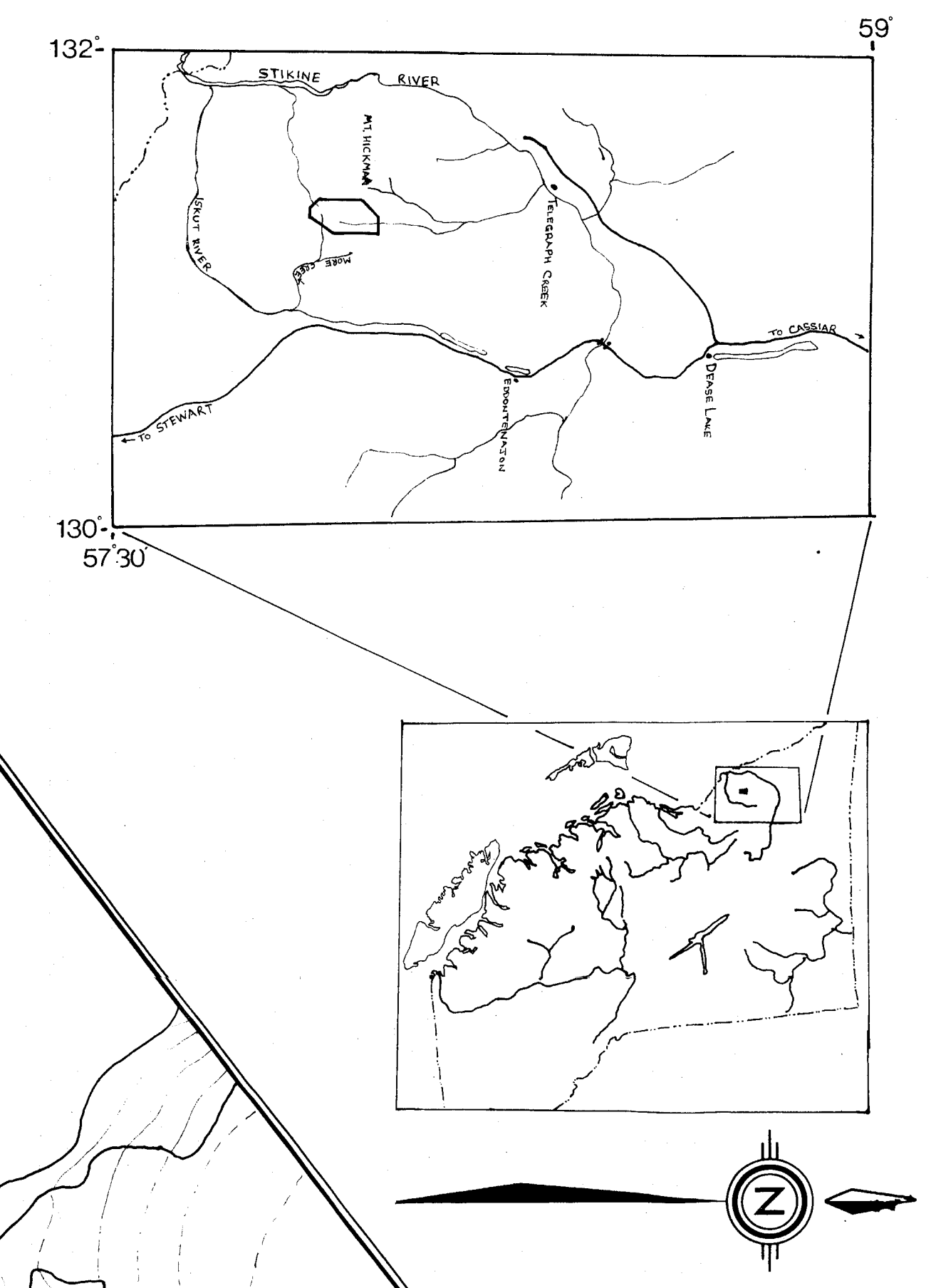
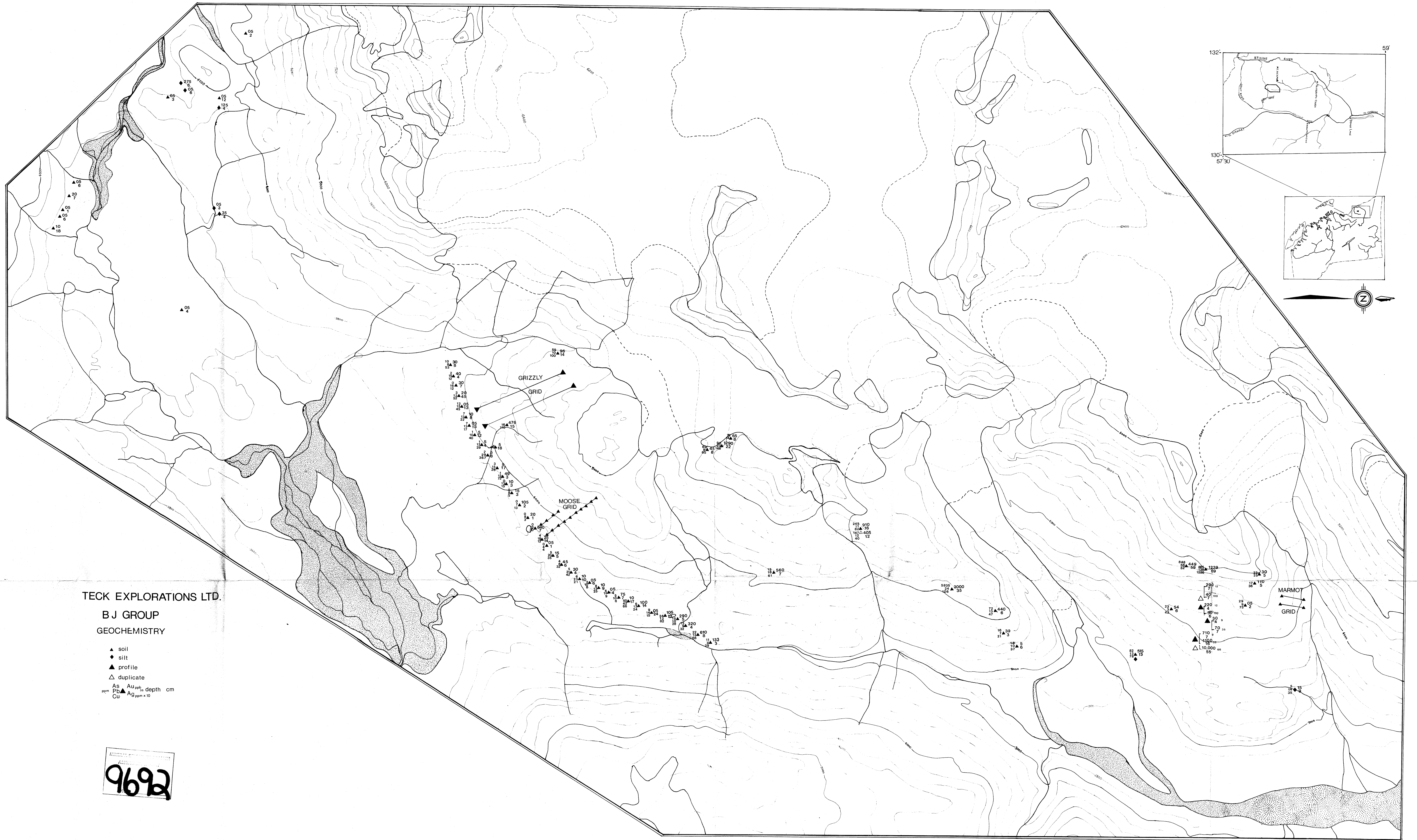


TECK EXPLORATIONS LTD.
 BJ GROUP
 GEOCHEMISTRY

9692

- ▲ soil
- ◆ silt
- ▲ profile
- △ duplicate
- As Au ppm, depth cm
- Pb Ag ppm x 10
- Cu





TECK EXPLORATIONS LTD.

BJ GROUP

GEOCHEMISTRY

- ▲ soil
 - ◆ silt
 - ▲ profile
 - △ duplicate
- As Au ppm
 Pb Ag ppm
 Cu Ag ppm × 10

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