84.#162 - 12641
-85

GEOLOGICAL, TOPOGRAPHICAL MAPPING

&

PHYSICAL WORK REPORT

ON THE

CHALICE CLAIM GROUP

LOWER JERVIS INLET AREA

VANCOUVER MINING DIVISION

N.T.S. 92F/16E, 92G/13W

LAT 49° 45' LONG 123° 59'

FOR

CHALICE MINING INC.

BY

CONSULTANTS:

EDWARD W. GROVE, Ph.D., P. Eng.
DAVID FLEMING, B.Sc.
McELHANNEY SURVEYING & ENGINEERING LTD.

COMPILED BY:

STEVEN HODGSON
DIRECTOR/V.P.,EXPLORATION

FEBRUARY, 1984

INTRODUCTION

LOCATION AND ACCESS

The Chalice mineral claims are located some 50 air miles northwest of Vancouver on the Sechelt Peninsula near Earl's Cove, B.C. Coordinates are 49 deg. 45.5 min. North and 123 deg. 59 min. West. NTS grid is 92-H-13W.

Access is via vehicle and the Langdale ferry from Horseshoe Bay to Earl's Cove then either by vehicle over an extensive pioneer road system constructed in 1982-83 or by boat to the shoreline showings.

Topography is rolling with low but abrupt cliffs along the shoreline.

HISTORY

The lower section of Jervis Inlet was mapped by W.R. Bacon and reported in 1957 (W.R. Bacon (1957) Geology of Lower Jervis Inlet, B.C., B.C.D.M., Bull. 39). Dr. Bacon reported two pits, 4 and 6 feet deep from which pyritic material assayed 6.21 oz/t Au and 6.4 oz/t Ag. Host rock is chloritized quartz diorite-granodiorite.

The showings on the shoreline have been staked as the SKOOKUM and as the RC claims in the past. In 1970, F.G. Tomlinson conducted an electromagnetic survey for Bart Mines Ltd. (B.C.D.M. Assessment report 2722). Abacon Minerals Ltd. reportedly made a shipment of unknown size from the pit area, a pyritic specimen from which assayed 2.2 oz/t Au and 2.4 oz/t Ag.

Work underataken by Chalice Mining Inc. in 1982 and 1983 included a detailed topographic map of the area, 2 line km. of baseline, more than 50 line km. of grid line and soil geochemistry, 40 line km. of magnetometer survey, 20 line km. of VLF-EM survey, 11 line km. of multi-level Induced Polarization survey, geological mapping of most of the Chalice I claim and 3.7 km. of new road construction.

PROPERTY

The claims comprising the Chalice Group are wholly owned by Chalice Mining Inc. Particulars are as follows:

Claims Name	Units	Record No.	Expiry Date
Chalice I	20	1146(2)	Feb. 5, 1984
Chalice II	20	1147(2)	Feb. 12, 1984
Chalice III	12	1160(3)	Mar. 9, 1984
Chalice IV	20	1550(8)	Aug. 31, 1984
Stein	4	1165(3)	Mar. 22, 1984

Claims Name	Units	Record No.	Expiry Date
Wally I	9	1161(3)	Mar. 11, 1984
Wally II	15	1162(3)	Mar. 11, 1984

Results of the extensive exploration work carried out by Chalice Mining in 1982-1983 have led consulting geologist E.W. Grove to recommend further prospecting, geochemical and geophysical surveys and sampling with maximum efforts to be concentrated in the area between North Lake and Agamemnon Channel.

ITEMIZED COST STATEMENT

Date	Job Performed
Feb. 9-10,'83	Geological field examination
Feb. 21-25,'83	Geological field examination
Mar. 2-4,'83	Geological field examination
Mar. 7,11,14,'83	Drafting/report preparation
Mar. 29-30,'83	Geological field examination
Apr. 30-May17,'83	Topographic mapping
May 15-June1,'83	Report and work proposal

Fees

McElhanney Surveying & Engineering	topo. mapping	$1,775.00
David Fleming, consulting geo.	11 da. @ $100 da.	1,100.00
E.W. Grove Consultants Ltd.	15 da. @ 450 da.	6,595.00
	Total	$9,470.00

Costs

Ferry	8 x $16.95	$135.60
Mileage	440 km @ 15¢/km	66.00
	800 km @ 25¢/km	200.00
Motel		30.74
Meals		44.90
Telephone		17.64
Photos		90.95
Reproductions		174.57
Courier		33.00
	TOTAL	$10,363.40

Geology and Structure
of the Chalice I
and Stein Mineral Claims

Vancouver M. D.

92 F/16E, 92 G/13W

David Fleming, BSc.

March 14, 1983

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Fig. 1 Geological Map

Fig. 2 Claim Map

Fig. 3 Stereonet - poles to jointing, veining, foliation

Fig. 4 Stereonet - density contour

Appendix I Pace & Compass Geology of Mineralized areas 1:100 & 1:500

Appendix II Geochemical Results

SUMMARY

See Edward W. Groves' report of June 28, 1982

INTRODUCTION

Detailed rock type and structure was determined to support geochemical and geophysical work recommended by Edward W. Groves in his June 28, 1982 report and carried out by Chalice Mining personnel from Oct. - Dec., 1982. This report is additional to Groves' report.

CONCLUSIONS

Auiferous - argentiferous quartz- marcasite veins, lenses and stockwork zones are hosted entirely within biotite - hornblende granodiorite. No felsic intrusive phases occur on the property. There is no evidence of felsic volcanic or sub volcanic activity.

Large (73m) diorite and feldspar - hornblende porphyry dikes are commonly indirectly associated with mineralization. These dikes are possibly pre-mineral and could have acted as "dams" for hydrothermal fluids, although there is no direct evidence for this.

All veins and stockwork zones are apparently discontinuous on surface. The continuity of the C-3 stockwork zone is uncertain. Mineralized veins are widespread and, at the time of writing, were being discovered south and east of the Chalice I mineral claim.

RECOMMENDATION

Drill testing for an extension of the mineralized beach should be a priority. Both stockwork and massive vein type mineralization can be tested effectively.

Reconnaissance stream sediment sampling and propecting should be carried out to the south in an effort to find further mineralization which has not been defined to date.

GEOLOGY

Intrusive Geology:

Medium to coarse grained biotite - hornblende granodiorite hosts all the hydrothermal auriferous - argentiferous quartz - pyrite - marcasite veins and lenses. Granodiorite underlies the central and eastern parts of Chalice I mineral claim and is in contact with foliated, medium to coarse grained hornblende diorite to the west and is in apparent fault contact (?) with the diorite to the southwest on Chalice I. An estimated 5 - 10% of outcrop consists of several different types of dikes.

a) biotite - hornblende granodiorite (Map Unit B)

Textural and slight compositional changes are common in the granodiorite. An increase in mafic mineral content occurs locally. Coarse biotites (greater than 1.0 cm.) are associated with slightly argillized feldspars and are thought to be an alteration feature. Grey quartz up to 0.5 cm. occupy greater than 10% of the rock locally, approaching a quartz - diorite in composition. High bluffs near the beach from 800 N to 950 N and on line 1200 N near the Egmont road consist, in part, of fine grained hornblende granodiorite and aplitic phases.

Pegmatite and aplite lenses and veins are common.

Alteration consists of epidote and chlorite along vein selvages and joints and as plagioclase and biotite alteration products. Shearing in the granodiorite results locally in development of secondary K-feldspar. Light green sericite and pyrite alteration envelopes, adjacent to mineralized veins and fractures, is usually associated with significant gold and silver geochemistry.

b) hornblende diorite (Map Unit A)

Varying textures in the hornblende diorite often occur within a single outcrop. Coarse clots and lenses of hornblende are common with apparent irregular distribution. Pyrite and magnetite are disseminated to less than 10%. Possibly, some fine grained pyrrhotite occurs as "bronzy"disseminations.

The diorite is highly foliated adjacent and parallel to the contact with the granodiorite to the east. Large bluffs in the bay, at the end of line 200 S, show silicification, pyritization and abundant slickenside surfaces striking south - east and dipping steeply to the north - east. A normal fault from the bay to North Lake is thought to have brought the two intrusive bodies into contact at this point (?).

Pink pegmatite veins and lenses are common in the diorite and are locally highly irregular.

To the west, on the Stein mineral claim, the diorite is in intrusive contact with auto - brecciated mafic volcanics, chert, pyroclastics and limestone of unknown age. At the beach, a pyrite - marcasite healed breccia occurs at the contact.

In a log dump along the Egmont Road is a 10 meter diorite outcrop, brecciated, and cut by a stockwork of aplite and felsite and by composite quartz - felsite veins that carry minor disseminated galena and pyrite.

c) felsite dikes (Map Unit 1)

0.5 to 10.0 meter felsite dikes represent the most compostionally felsic dikes on the property. These dikes are generally large (greater than 3.0 meters) and are restricted to the eastern part of the property (no farther west

than line 1200 N). They occupy joints striking 130 - 140° and are near vertical, dipping steeply to the north - east.

Fine biotite is disseminated in a siliceous, light grey - green matrix that is often aplitic and harder than a knife blade. White and, quite often, pink feldspar phenocrysts vary from 0.5 mm. to 3.0 mm. These dikes weather light pink and appear similar to fine grained granodiorite on a weathered surface.

d) feldspar - hornblende porphyry dikes (Map Unit 3)

These dikes are ubiquitous on the property and have been noted to closely proximal to some mineralized vein occurences (BL - 400 N/JR, 1510 N - 1050 E, 850 N at the beach/C-4 and 800 N - 775 W/C6). At 850 N along the beach, this porphyritic dike is greater than 8 meters in width.

The groundmass is medium to dark grey, fine grained, consisting of biotite - hornblende, feldspar and minor quartz. Some dikes are feldspar porphyries with a quartz rich groundmass. No attempt was made to distinguish these.

Southeast strikes of 130 - 140° and 120 - 110° were obtained.

e) diorite dikes (Map Unit 2)

Equigranular feldspar - hornblende - biotite dikes are ubiquitous on the Chalice I claim. Pyrite is disseminated less than 1%. Both fine to very fine grained and medium to coarse grained diorite is included in this unit.

An 8 meter coarse grained diorite dike separates two mineralized zones on the beach at 650 to 750 N, but no direct relationship has been noted.

Southeast strikes of 130° - 140° have been noted.

f) andesite dikes (Map Unit 4)

Fine grained, dark green felted dikes, usually less than 3.0 meters in width, are most abundant and ubiquitous. They also occupy joints striking north and north - east in exposures along Agamemnon Channel along with the regional 130 - 150° and 105 - 120° joints. These dikes converge and diverge occupying both of the south - east joint sets.

Locally, they cut a medium - coarse grained diorite dike and are later than the mineralized quartz veins. They are thought to represent the latest intrusive phase.

Foliated diorite along the granodiorite - diorite contact indicates that the diorite is older than the granodiorite.

Andesite dikes are the youngest. No other age relationships have been noted due to the parallel nature of the dikes.

Roof Pendant Geology

Extensive bleaching, silicification and shearing at the intrusive contact made indentification of rock type difficult. Beach exposures on the Stein mineral claim indicate an interbedded sequence of auto brecciated mafic volcanics, pyroclastics, chert and limestone.

Bedding attitudes on the beach strike 120° but are east - west along the Egmont Road. Exposures between the beach and Egmont Road are highly contorted, consisting of mafic volcanics and sheared diorite dikes/lenses (?). Pegmatite veins and lenses are common.

A small roof pendant outcropping on the beach at 700 N consists of interbedded mafic volcanics and minor chert, striking 120° and dipping vertically.

A small roof pendant outcropping on the beach at 700 N consists of interbedded mafic volcanics and monor chert, striking 120° and dipping vertically.

Sheared outcrops at 1600 N - 400 W along a road appear to be brecciated mafic volcanics but close observation indicates that these are andesite dikes which have been brecciated by late shearing.

Pyritic lenses and shears at the intrusive contact on the Stein mineral claim have been sampled for gold and silver with negative results.

STRUCTURE

An equal area projection of poles to jointing, veining and foliation outline the major structural trends in the granodiorite (Fig. 3 & 4).

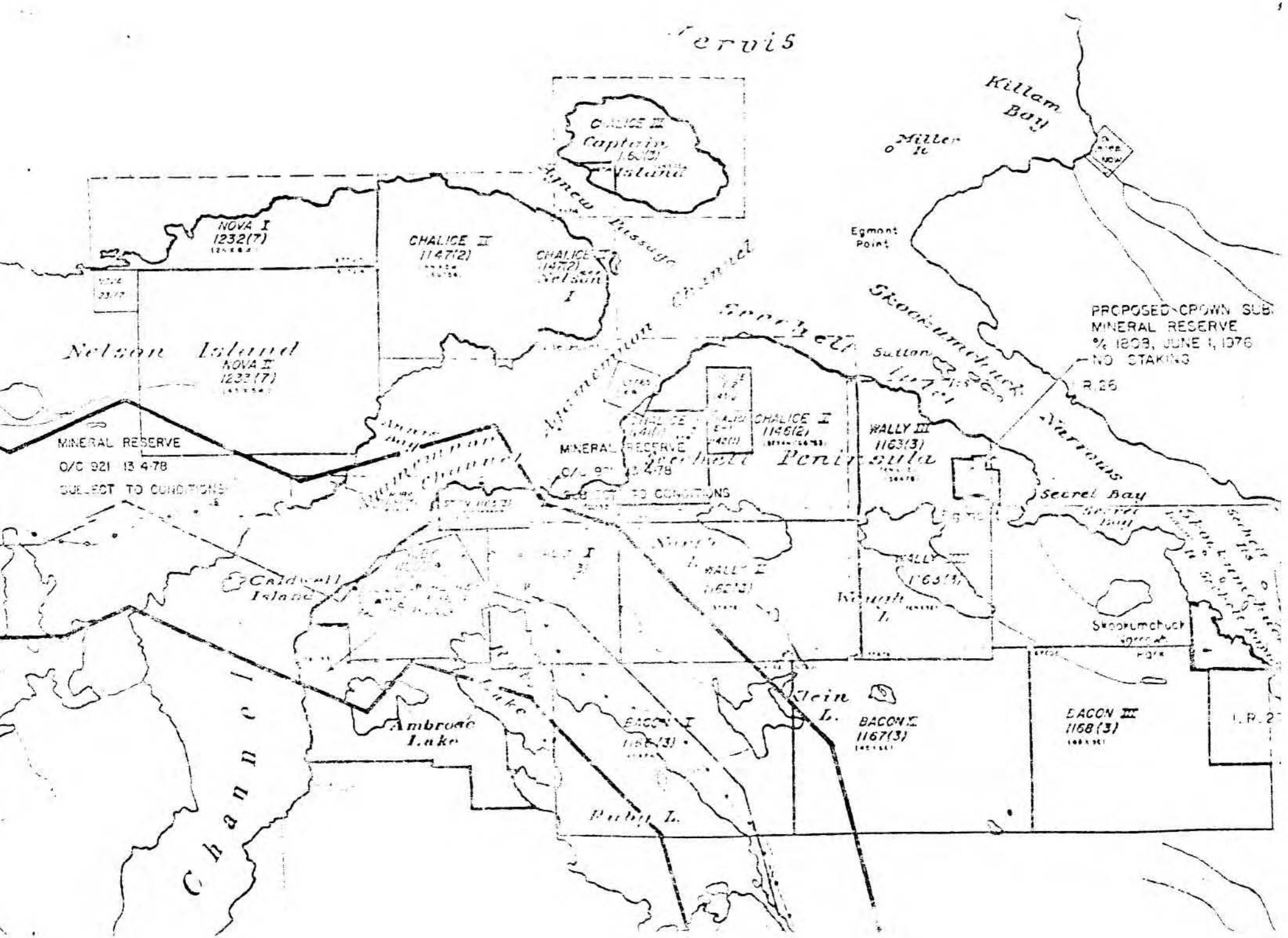
Dikes occupy 130 - 150° and 105 - 120° striking joints on the property and locally strike north - east.

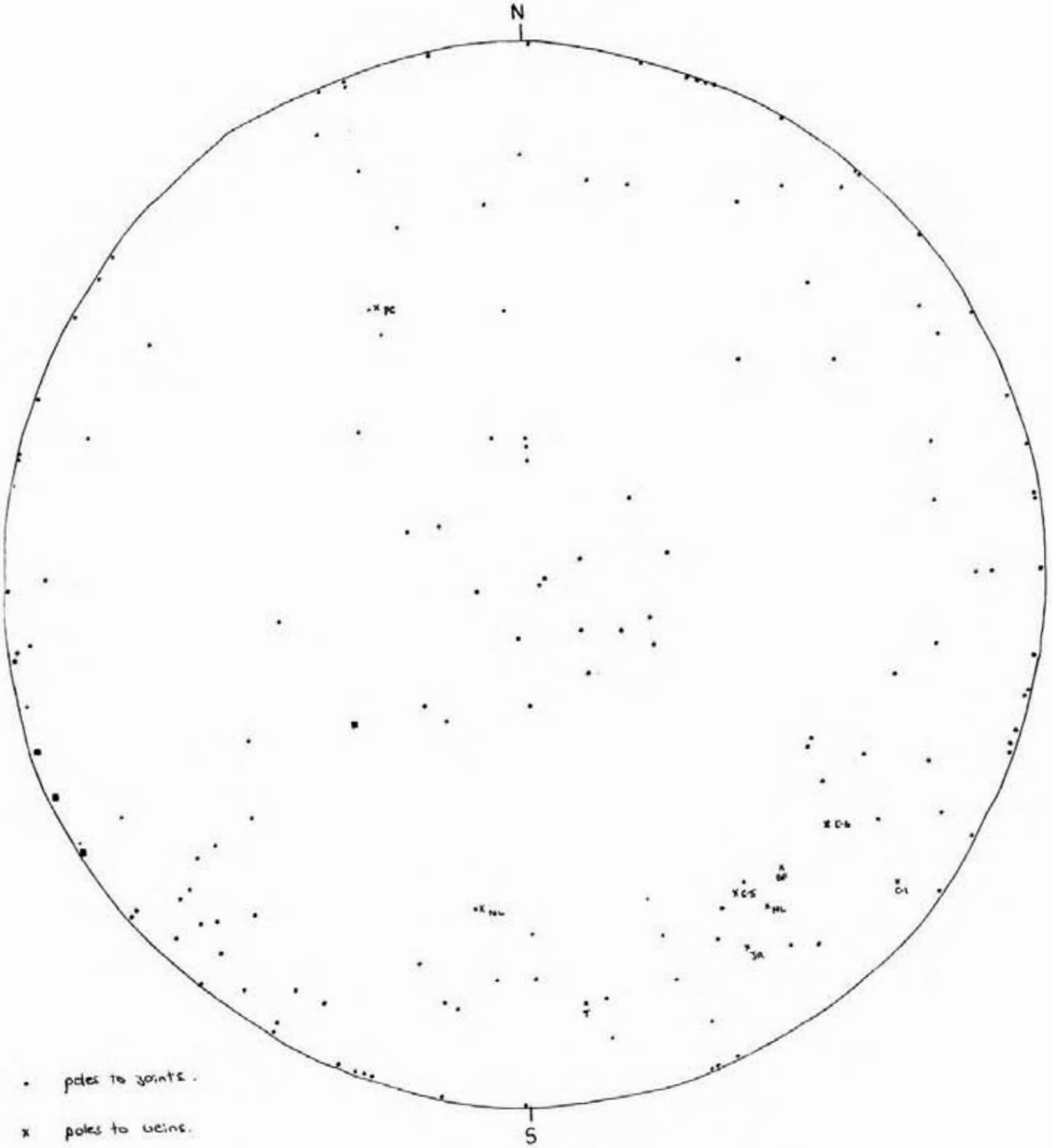
Quartz veins occupy three major structural trends. 050 - 070° and 030 - 040° striking veins are most common and, at North Lake, a second set of 100° veins form a widespread stockwork. Noted exceptions are the T and PC veins which, incidentally, have relatively low gold and silver values. Two high density stockwork zones (C-4 and C-3) show vein fracture orientations different to the major trends of most large, isolated mineralized veins.

Horizontal jointing on the property was observed as being later than mineralization and andesite dikes.

Major lineaments sub - parallel to lines 1200 - 1300 N and 1500 - 1600 N are localizing structures for fine grained felsic dikes. Local shearing of andesite dikes indicates that these faults are later than the dikes.

A fault from North Lake to Agamemnon Channel strikes 120° and possibly


Nelson Island
NOVA I
1232(7)
NOVA II
1233(7)
CHALICE II
1147(2)
CHALICE III
Captain
1150(3)
Nelson I
MINERAL RESERVE
O/C 921 13 4-78
SUBJECT TO CONDITIONS
MINERAL RESERVE
O/C 921 13 4-78
SUBJECT TO CONDITIONS
CHALICE I
1146(2)
WALLY III
1163(3)
Peninsula
Egmont Point
Killam Bay
Miller
Sutton Islet
Skookumchuck Narrows
Secret Bay
PROPOSED CROWN SUB
MINERAL RESERVE
% 1208, JUNE 1, 1976
NO STAKING
I.R.25
Caldwell Island
Channel
Ambrose Lake
Ambrose Lake
Klein L.
BACON I
1166(3)
BACON II
1167(3)
BACON III
1168(3)
Skookumchuck
I.R.2
Parker L.



• poles to joints.

x poles to veins.

■ poles to foliation.

FIG.3
STEREONET-poles to jointing
veining, foliation

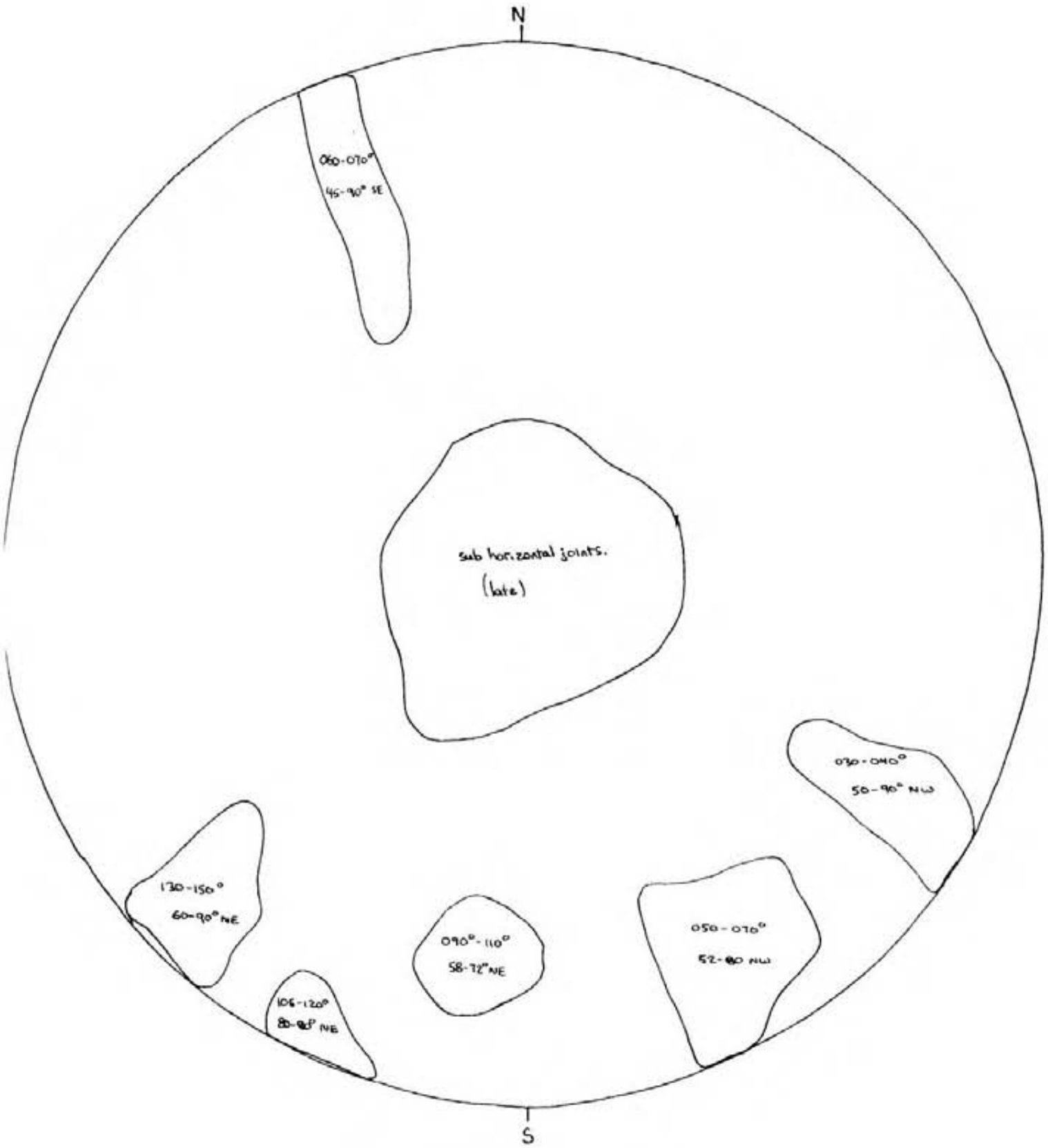


FIG.4
STEREONET-density contour

juxtaposes the granodiorite and the diorite. Slickenslides indicate normal faulting.

Exposures along Agamemnon Channel are sheared sub - parallel to the coastline from line 250 N to the north - east.

MINERALIZATION

Hydrothermal quartz - marcasite veins range from several millimeters to 0.5 meters in width. Pits on the beach indicate possible wider structures. The veins are discontinuous on surface. Sulfide content of the veins is also irregular, ranging from 0 to 100% across a vein width. Wallrock alteration and mineralization is most intense at North Lake, where samples over 1.0 meter of wallrock assayed .22 oz Au/ton (see Noranda sample results). Elsewhere, the wallrock is weakly mineralized.

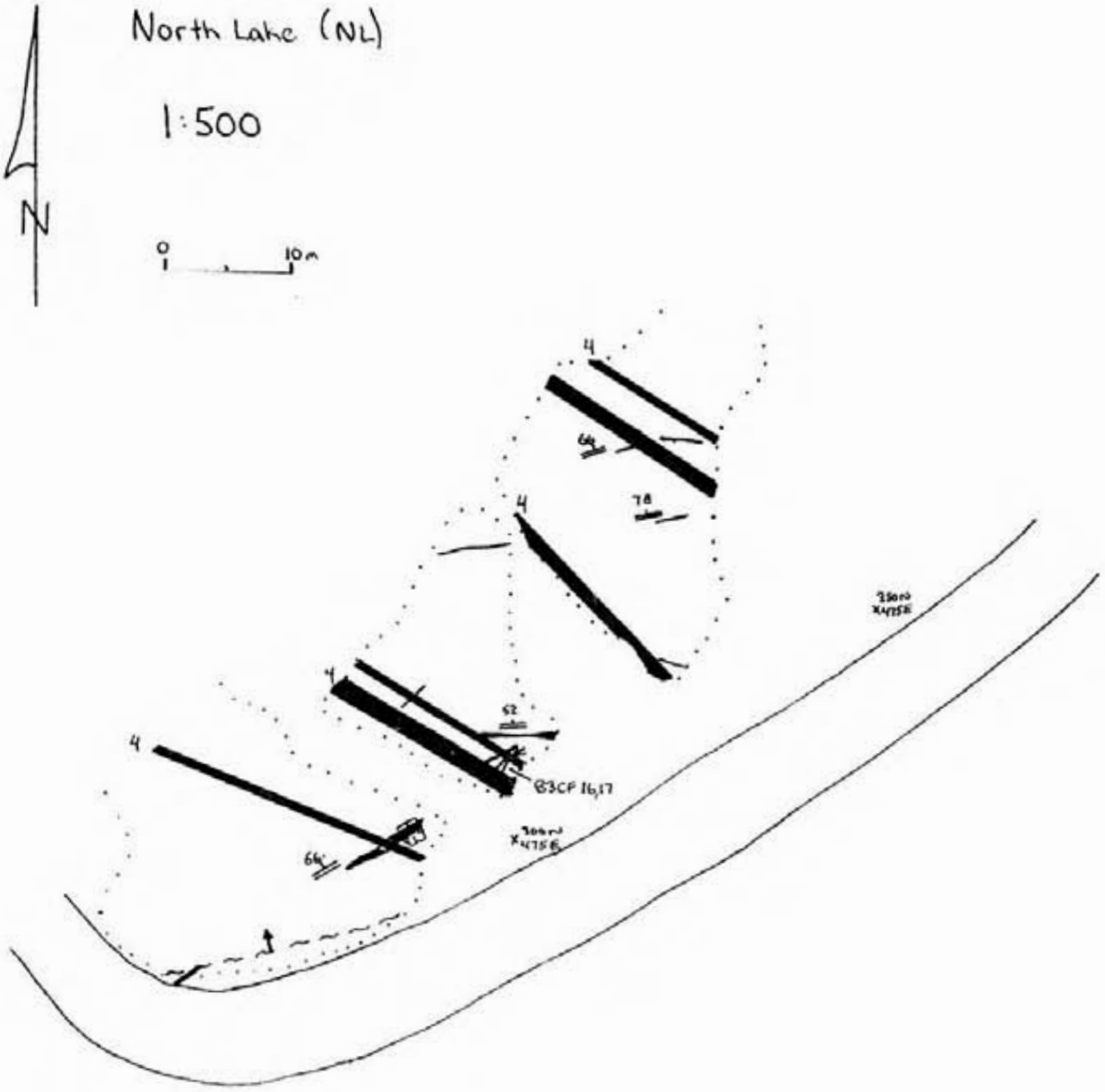
The structural nature of the veins, as mentioned earlier, is of two types. Mineralization occurs most commonly as one or several north - east striking and north - westerly dipping veins. Sulfide analyzed from these veins carry significant gold and silver values. Old pits on the beach indicate that mineralization here occurs as a near massive lens of auriferous - argentiferous marcasite.

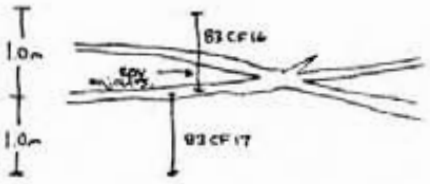
High density fracturing and veining along the shoreline has resulted in two stockwork zones carrying significant continuation on the surface. The C-3 beach showing is non - traceable due to private cabins and lack of exposure inland.

Minor chalcopyrite has been noted at several mineral showings.

The marcasite healed contact breccia on the Stein claim was thoroughly sampled, and found to carry no significant gold or silver values (83 CF 29 - 34 App. II).

APPENDIX I





LEGEND

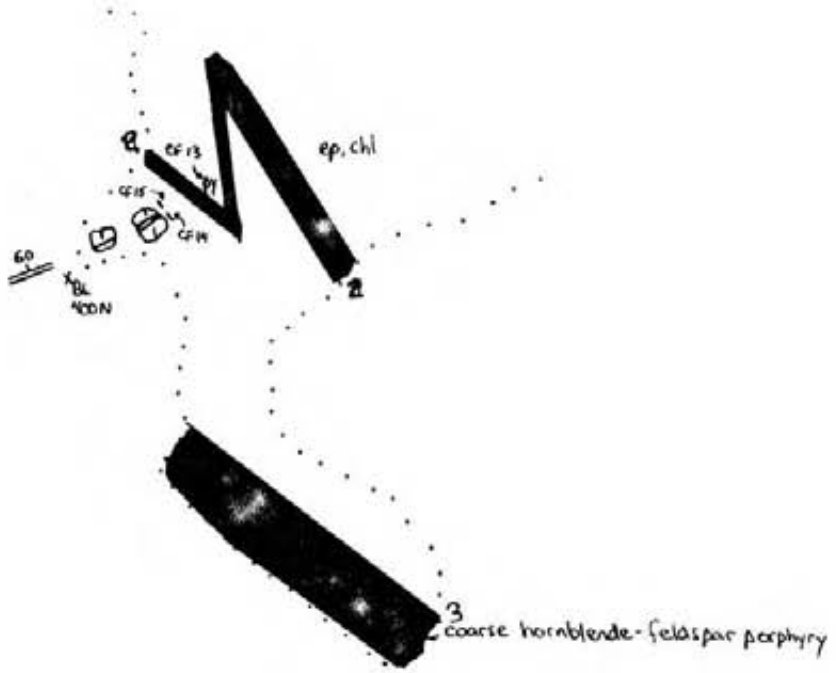
- pit
- limit of outcrop
- vein qtz-py
- 66 vein attitude
- fault
- geological contact
- dyke (see 1:2500 map for ha. type)
- mafic volcanics

B 400 (JR)

1:500

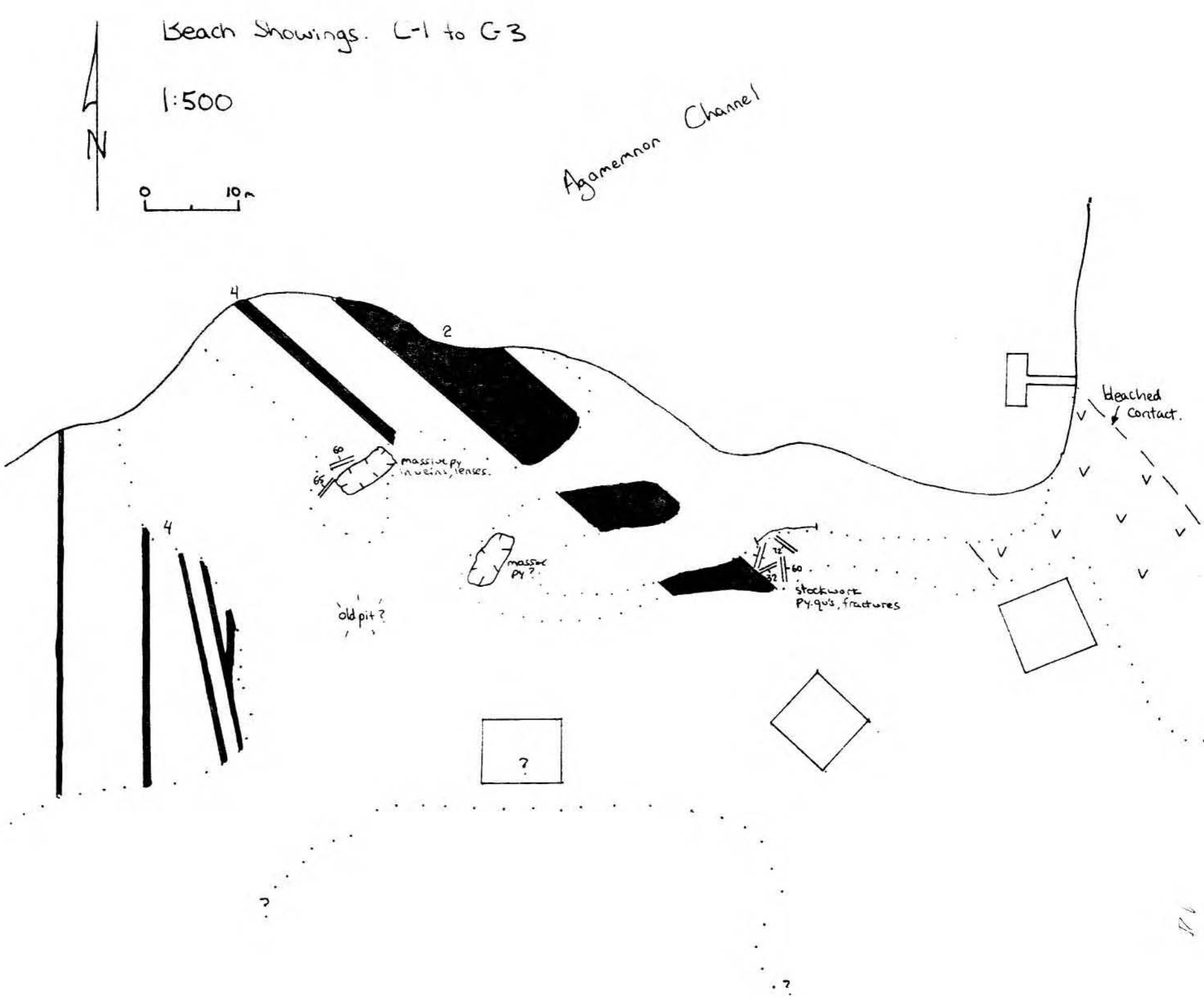
N

0 10 m



logging road

B3CF 13-15 one metre chip samples (continuous)

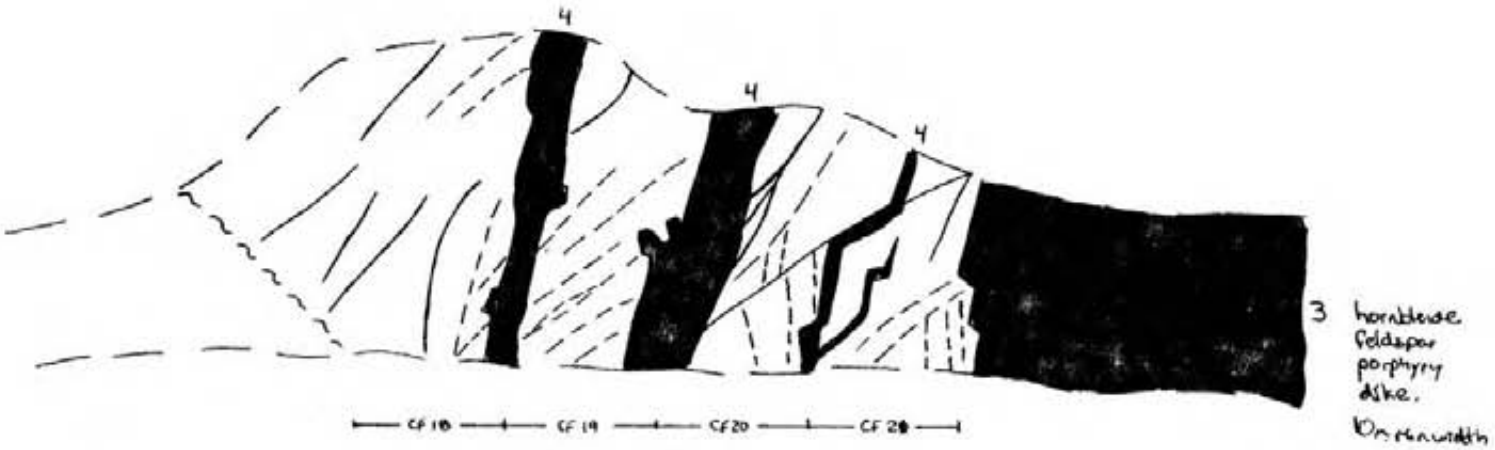

Beach Showings. C-1 to C-3
1:500
N
0
10 m
Agamemnon Channel
4
2
4
60
65
massive py in vein, lenses.
massive py?
old pit?
72
60
32
stockwork Py. qu's, fractures
bleached contact.
?
?
?

Cliff Zone (C-4)

1:100

vertical section looking 150°

0 ——— 2.0 m



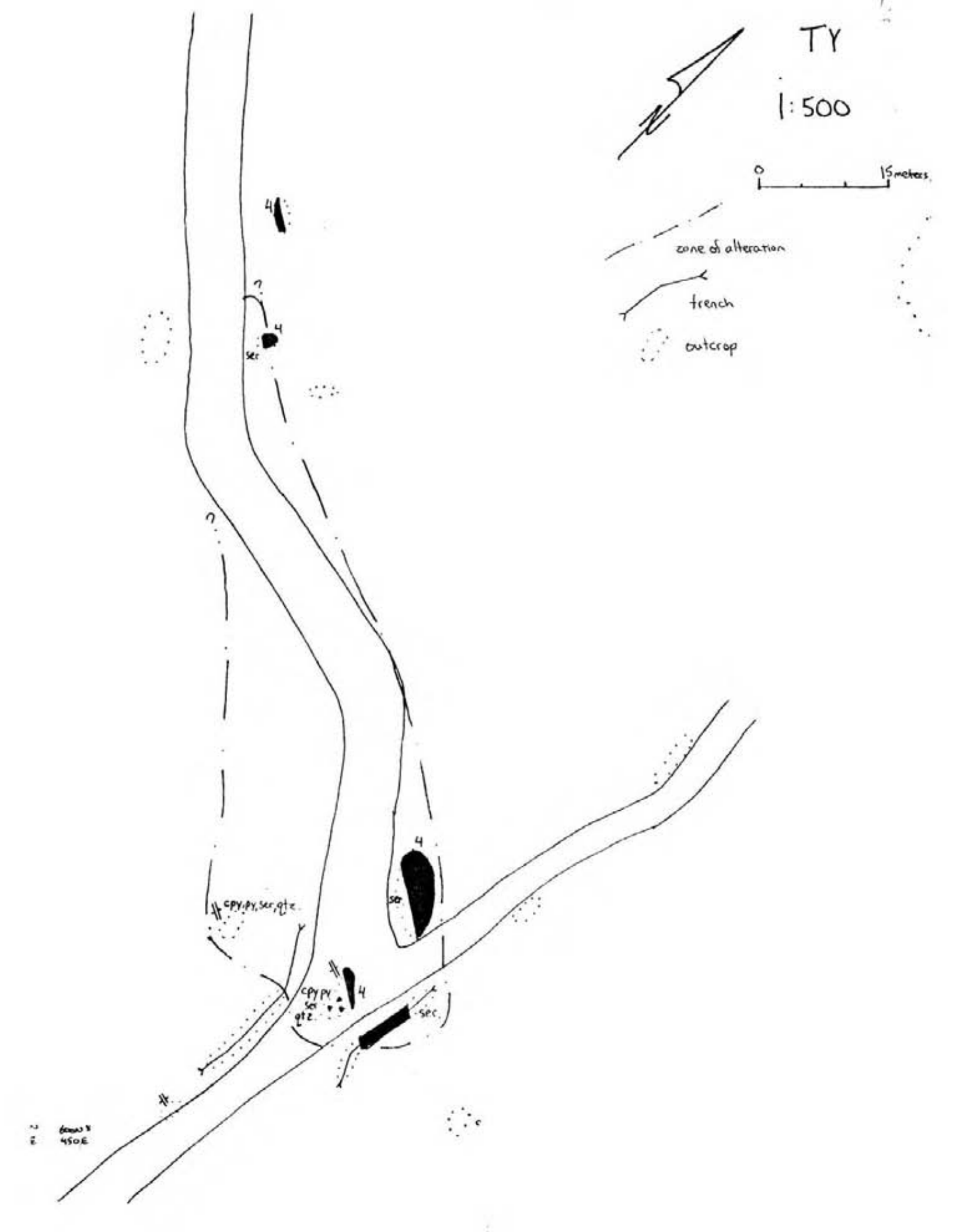
* exposed face subparallel to veins (120-125°) ∴ not a true width of the mineralized zone.

true width app 3.0 m.

length exposed app. 5.0 - 8.0 m.

qtz-pyrite veins with sericite pyrite envelopes

pyritic fractures with sericite-pyrite envelopes


TY
1:500
0
15 meters
zone of alteration
trench
outcrop
4
?
4
ser
?
4
ser
cpy, py, ser, qtz
cpy py
ser
qtz
4
sec
450E

APPENDIX II

CHEMEX LABS LTD.

212 BROOKSBANK AVE
NORTH VANCOUVER, B.C
CANADA V7J 2C

TELEPHONE: (604) 984-022
TELEX: 043-5259

• ANALYTICAL CHEMISTS • GEOCHEMISTS • REGISTERED ASSAYERS

CERTIFICATE OF ASSAY

TO : CHALICE MINING INC.

BOX 2240
SECHELT,B.C.
V0N 3A0

CERT. # : A8310331-001
INVOICE # : I8310331
DATE : 14-FEB-83
P.O. # : NONE

Sample description		Prep code	Cu %	Ag FA oz/T	Au FA oz/T			
C-4		207	--	1.04	1.092	--	--	--
C-8		207	--	1.20	1.648	--	--	--
83 CF-11		207	--	0.34	0.142	--	--	--
83 CF-12		207	--	0.04	0.014	--	--	--
83 CF-13	JR	207	--	0.03	0.008	--	--	--
83 CF-14		207	--	0.06	0.004	--	--	--
83 CF-15		207	--	0.03	0.003	--	--	--
83 CF-16	NORTH LAKE.	207	<0.01	0.05	0.024	--	--	--
83 CF-17		207	<0.01	0.03	0.012	--	--	--
83 CF-18	C-4 0-2	207	--	0.16	0.162	--	--	--
83 CF-19	2-4	207	--	0.09	0.139	--	--	--
83 CF-20	4-6	207	--	0.04	0.010	--	--	--
83 CF-21	6-8m	207	--	0.02	0.003	--	--	--

CTA MEMBER CANADIAN TESTING ASSOCIATION

Registered Assayers, Province of British Columbia

CHEMEX LABS LTD.

212 BROOKSBANK AV
NORTH VANCOUVER, B.
CANADA V7J 2
TELEPHONE: (604) 984-02
TELEX 043-525

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CERTIFICATE OF ANALYSIS

TO : CHALICE MINING INC.

BOX 2240
SECHELT, B.C.
VON 3A0

CERT. # : A8310332-CO
INVOICE # : I8310332
DATE : 11-FEB-83
P.O. # : NONE

Sample Description	Prep code	Cu ppm	Zn ppm	Ag ppm	AU-AA ppb		
83 CF-9	205	--	--	0.1	10	--	--
83 CF-10	205	--	--	0.1	20	--	--
17575	205	193	17	0.1	20	--	--
17576	205	119	48	0.1	10	--	--
17577	205	630	65	0.3	10	--	--
17578	205	450	47	0.1	10	--	--
17580	205	225	23	0.1	40	--	--

CTA MEMBER CANADIAN TESTING ASSOCIATION

Certified by Hart Bichler

CHEMEX LABS LTD.

212 BROOKSBANK AVE
NORTH VANCOUVER, B.C.
CANADA V7J 2C1
TELEPHONE (604) 984-0221
TELEX 043-52597

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CERTIFICATE OF ANALYSIS

TO : CHALICE MINING INC.

BOX 2240
SECHELT, B.C.
VON 3A0

CERT. # : A8310600-001
INVOICE # : I8310600
DATE : 14-MAR-83
P.O. # : NONE

Sample description	Prep code	AU-AA ppb						
83 CF 23	205	5700	--	--	--	--	--	
83 CF 24	205	300	--	--	--	--	--	
83 CF 25	205	20	--	--	--	--	--	
83 CF 26	205	<10	--	--	--	--	--	
83 CF 27	205	<10	--	--	--	--	--	
83 CF 28	205	<10	--	--	--	--	--	
83 CF 29	205	10	--	--	--	--	--	
83 CF 30	205	<10	--	--	--	--	--	
83 CF 31	205	80	--	--	--	--	--	
83 CF 32	205	20	--	--	--	--	--	
83 CF 33	205	10	--	--	--	--	--	
83 CF 34	205	<10	--	--	--	--	--	
960N 725W	205	<10	--	--	--	--	--	
1050N 825W	205	10	--	--	--	--	--	
1350N 175W B	205	20	--	--	--	--	--	
1375 NWBI	205	<10	--	--	--	--	--	
1375 NWBIS	205	10	--	--	--	--	--	
1400 NWBI	205	10	--	--	--	--	--	
1400N 1460E	205	>10000	--	--	--	--	--	
1500 NWBI	205	700	--	--	--	--	--	
1600N 2050E	205	3600	--	--	--	--	--	
K.S.	205	<10	--	--	--	--	--	
PP DOCK I	205	10	--	--	--	--	--	
P.P.P.B.	205	<10	--	--	--	--	--	

CTA MEMBER CANADIAN TESTING ASSOCIATION

Certified by .....