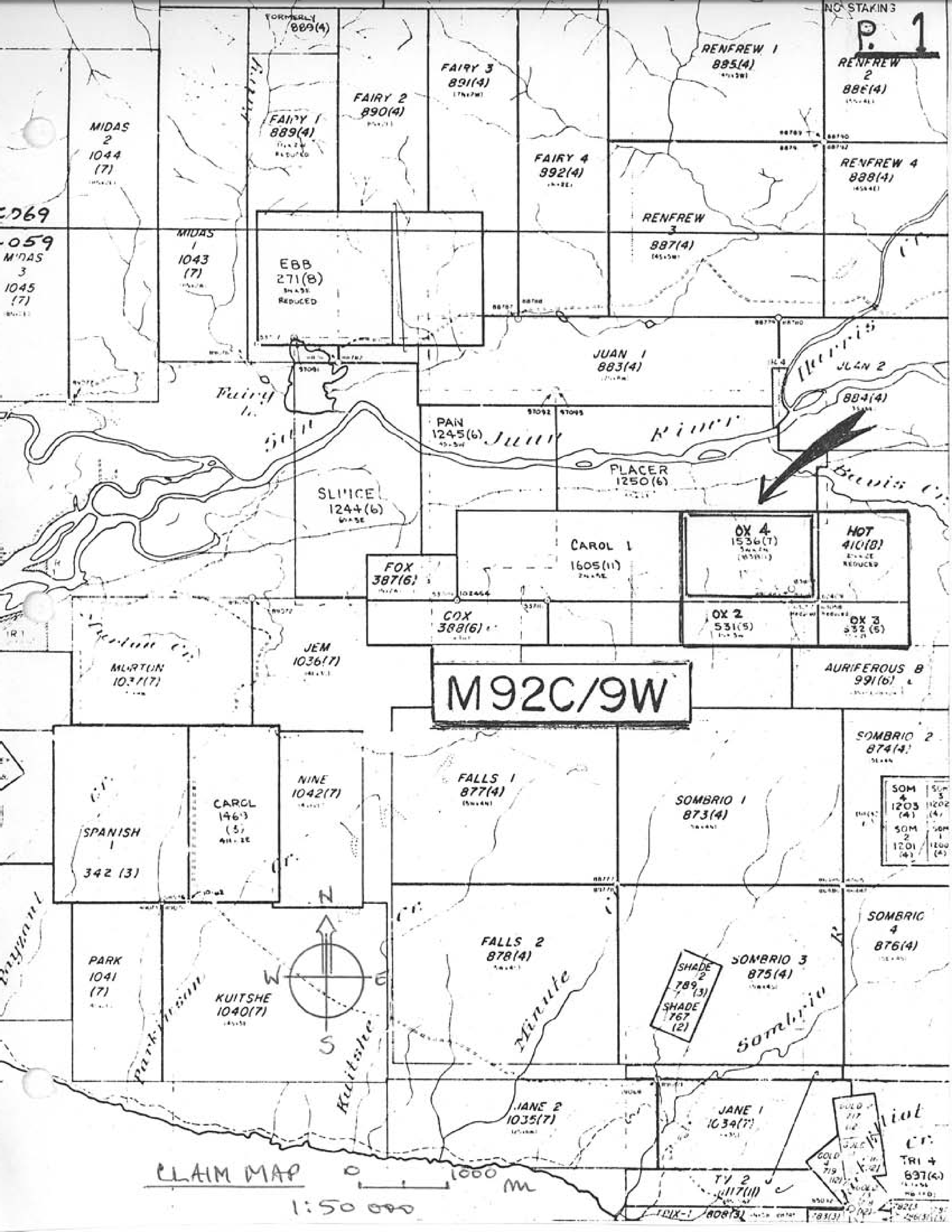
GEOLOGICAL AND GEOCHEMICAL REPORT
ON OX 4 [1536] MINERAL CLAIM
SITUATED 9 KM E OF PORT RENFREW
VICTORIA M.D.
NST 92C/9W

Lat. 48°34'N Lcng. 124°17'W

OWNER, OPERATOR AND AUTHOR
MATTI TAVELA

Sept. 24. 1985

CONTENTS


NO STAKING
FORMERLY 889(4)
FAIRY 3 891(4)
FAIRY 2 890(4)
FAIRY 1 889(4) REDUCED
FAIRY 4 992(4)
RENFREW 1 885(4)
RENFREW 2 886(4)
RENFREW 3 887(4)
RENFREW 4 888(4)
MIDAS 2 1044 (7)
MIDAS 1 1043 (7)
MIDAS 3 1045 (7)
EBB 271(8) REDUCED
JUAN 1 883(4)
JUAN 2 884(4)
PAN 1245(6)
San Juan River
Harris
PLACER 1250(6)
SLUICE 1244(6)
FOX 387(6)
CAROL 1 1605(11)
OX 4 1536(7)
HOT 410(8) REDUCED
COX 388(6)
OX 2 531(5)
OX 3 532(6)
JEM 1036(7)
MORTON 1037(7)
AURIFEROUS 8 991(6)
M92C/9W
SOMBRIO 2 874(4)
SOMBRIO 1 873(4)
SOMBRIO 3 875(4)
SOMBRIO 4 876(4)
SOM 4 1203 (4)
SOM 2 1201 (4)
SOM 1 1200 (4)
FALLS 1 877(4)
FALLS 2 878(4)
NINE 1042(7)
CAROL 1463 (3)
SPANISH 1 342 (3)
PARK 1041 (7)
KUITSHE 1040(7)
SHADE 2 789 (3)
SHADE 767 (2)
Minute
Sombrio
Kuitshe
Parkinson
JANE 2 1035(7)
JANE 1 1034(7)
TY 2 1117(11)
TRI 4 697(4)
N
W
E
S
CLAIM MAP
0
1000
m
1:50 000

INTRODUCTION

[Location Map and Fig. 1]

General Description

OX 4 claim is accessible by automobile from Port Renfrew along Red Creek ML beginning from the village proper and Mosquito Creek ML beginning 3 km E from Port Renfrew along Hwy 14. Both ML's run E; the former close to the claims' N border and the latter in the middle of the claims.

Previous Reports

This report is a sequel to the following reports, which in text, is abbreviated referring to its year:

OX GROUP #81-1041-9707	OX -81
OX 2 GROUP #82-520-10519	OX -82
OX GROUP	OX -85

Topo Control is based on 1:5,000 maps surveyed by theodolite and chain by B.C. Forest Industries Ltd. On S side of San Juan valley, BCFP has oriented these maps as to be viewed to S. This has not been changed; N-arrow in all maps, points as required.

Property Definition

Gold in four separate quartz showings within a 190 m. stretch of a canyon and creek parallelling the country shale and cutting the quartz.

Structures and Au values: 2 ptygmatic multiple veins [under water] in the middle [chips qualitatively up to 2000 ppb]; at the ends: straight veins at opposing walls, one of which is traceable for 46 m. [quantitative, non-mineable widths: 0.25, 0.40 and 0.90 oz/t].

Attitudes: one vein is perpendicular and vertical with ambiguous opposite; two contacts are covered by gravel and water; 4 plunge down. The quartz showings strike approximately SSW and the country WNW.

Summary of Work

Geological survey:	scale 1:2500, 6 units = 150 ha.
Geochemical survey:	19 blasted sample sites; 20 analyses for Au

GEOLOGICAL REPORT

[Figs. 1 to 5]

Regional Setting [Fig. 1]

OX 4 and adjoining OX 2, 3 and Hot claims [a group of 15 units] lie on the S slope of San Juan valley between the same river and Sombrio ridge and diorite.

The slope's prevailing country rock is an E - W striking, steeply N dipping shale which, in the area of the group, is in roof pendant position with Mosquito diorite, a body similar to Sombrio diorite.

Sombrio diorite outcrops as a mild dome on a plateau. Mosquito diorite appears on both sides of E-W running thrust zone of Mosquito canyon, creek and ridge with rough topography. Here diorite [and its derivatives deuteric micro diorite, granite and albitite] occupy about 15% of the surface.

Mosquito ridge rises from W with step faults, culminating at the summit [S] and then declining fast to a confluence of several creeks forming a roundish, deep depression. The creeks are in steep, high canyons in shale. At the bottoms dolerite and albitite prevail. Formation is tentatively called Bevis Caldera.

The upturned shales have, besides the strong Mosquito thrust, many small ones rather than folds: gliding has used the countless slick surfaces such as the graphite shales.

Resulting joint and drainage pattern lacks the longitudinals except at Mosquito, where the creeks running from Sombrio turn E and W. Here the Gabbro Cr. Extension is the only cross joint extending N of the ridge. It defines with

the summit the crest of the culmination.

Of the oblique joints the NE-SW running are well pronounced, often in pairs and also E of Bevis [outside Fig.1]. This older generation of joints is rather sterile, mostly only chloritized; also dislocations are minor. The exception is the crest area at Mosquito/Gabbro Cr. confluence. Here a later movement is envisaged with introduction of a basic suite and quartz. [Fig. 1, neck, N]

The GSC's aeromagnetic map shows a roundish [3.5 by 5 km] low starting on the outer periphery of Sombrio diorite, and Bevis Caldera and Mosquito diorite. The two former form two separate well defined sub-lows. The latter is at a steep down gradient, contours of which strike SW.

OX 4 IN DETAIL

Country Rocks

Within the black shales in S, bordering Sombrio diorite, thick and short sandstones make appearances. Toward N the lenses become thinner and longer. At Mosquito thrust zone only quartz beds remain often as boudins [Fig. 4, frames +260, +310]; depository conditions have been delta-like.

Then without contact and with the black shale's attitude appears a green shale, an enveloping unit prevailing N and NE of the Mosquito diorite.

The included units are small lenses of black shale, loosely consolidated, yellowish mud lenses and much larger, consistent greenstones. This latter unit has its own inclusions of contorted quartz and magnetite beds, often containing carbonates and with traces of iron and base metal sulfides.

The greenish hue is from ferrous iron in green amphiboles and epidotes. The oxygen deficient conditions, mixing of lava, tuffaceous sediments and deltaic material refer to underwater volcanic eruptions in front of the delta. Earlier reported petrographic descriptions indicate the same.

This greenstone may be the precursor for the succeeding dioritic/basic/quartz intrusions.

Structures

The peneconcordant gradual intrusion of the diorite magma into the upturning shale suggests that no contemporaneous disruptive tectonic movements operated. If otherwise, much mixing would be evident.

The major thrust/share/fault at Mosquito is laterally

confined to the diorite body as if this competent body in the shale resisted the ongoing thrust.

When the thrust broke, intrusions of basics and quartz filled part of it. Similar event is possibly repeated 300 m. N at the 2700/2000 junction.

At the latter, basalt and amphibolite enter into a zone structurally characterized by a narrow WSW running share. Topographically it has two parallel sets of shuttle formed narrow crests and swamps.

The Basic Suite at Mosquito

Gabbro, basalt, amphibolite and greenschist are well mixed. Gabbro is a granular, independent unit only in Gabbro Cr. and its confluence. Elsewhere it appears as schliren in greenstones or vice versa, or as near +310 has quartz schliren. The microscopically defined rock basalt appears as massive, fine grained but still foliated, issuing fine quartz veinlets.

This suite coincides with the gold quartz showings. The greenstones' axis of foliation is that of the creek with varying attitudes; same applies to the quartz veinlets. The country shale's foliation [also bedding] is constantly steep. Even if the basics have intruded nearly confirmably, they are not metamorphosed with the shale. Rather they have a character of autometamorphism during the intrusion.

This, in several aspects of mixed character, refers to hypabyssic conditions. In general then, also here the concept of roof section applies.

Gold Quartz Veins [Fig. 4]

Fig. 10 in report-81 describes the discovery vein [+120] in detail. The -85 report describes the three additional veins [+200, +260, +310]. The gold values are in this report's property definition. The following concentrates to the structural features. For this purpose veins are grouped into two:

1. +120, +310: vertical and perpendicular
2. +200, +260, ptymatic without visible vertical dimensions.

1. +120, frames B and C: The vein begins from a diffused quartz/gold cloud or dissemination, then shoots perpendicularly and vertically in shale visibly 16 m, then extrapolated 30 m. ending at site "1620", Fig. 5. It seems reasonable to assume ± 23 m. [46 m.] vertical dimensions. Then the vein sets one firm 3-dimensional attitude.

   +120, frame A: a tiny V-formed vein together with barren joints on the N wall is not directly opposite but offset by 6 m. Implication is that these veins have entered during post consolidation tremors.

   +310 is also vertical in N wall, disappearing in S under a deep pool's gravels. Opposite wall 8 m. apart has no visible or analytical sign of gold/quartz. The N wall and slope on upper part of the vein have been cleared by blasting: vein has no upward extension; it rather dips down; the section represents the vein's roof.

2. +210, +260 [2 frames each] are mainly under water or gravel. The creek is at these sites about 20 m. wide at a tectonic bend which has not affected the shale [same quartzite horizon in frame +310 and +200]. These two sites show the

quartz radiating from two or more starfish-like centers with multiple arms roughly perpendicular to the creek.

Three out of four creek/canyon nick points are exposed. The quartz disappears at this point under the wall's shale.

The upper walls have been visually examined and the slopes have been sampled. The one 55 ppb value [Fig. 5] is too little to confirm any upward extension and three showings are therefore considered to be cut at or near the original roof level.

In the +200, +260 and +310 veins, gold is invisible, quartz milky, sometimes large crystal faces, totally void of sulfides. In contrast the +120 vein's quartz is yellowish, clear, gold visible, some chalcopyrite.

If the four showings belong to one and the same system the mineralogical implications are that the three milky ones have cooled faster than the clear vein.

Related Occurrences

A monograph by D. Gallagher [1940, Econ. Geology, V.35, pp. 698-736] "Albitite and Gold" describes these deposits in a global sense. One such belt extends from the Alaskan panhandle down along the Western Cordilleran.

Since the monographs' times it has become clearer that albitite is an intermediate hypabyssic unit between diorite and andesite and that albitite related deposits most of the time have basic/ultrabasic suites with quartz. Some students believe that the quartz with gold is derived from these basic rocks during the process of expelling the excess quartz.

Mosquito's gold fits this description. At the same time its basic and quartz rocks have such a limited exposure area that the exact nature remains obscure especially as to the extension of quartz and greenstone.

In this respect an imagination stretcher is Bralorne-Pioneer mine with its small surface indications but viable subsurface geology. While enveloping sedimentary rocks are different than in Mosquito, the igneous rocks are the same: "diorite, soda granite and greenstone", gold quartz intruding into them and immediate sediments with an angle. The greenstone occupies much more space in Bralorne than is known at Mosquito. The intensity and frequency of faults and shears in both is high.

Considerations for Future Actions [Figs. 3, 5]

The derivations from surveys since 1980 are as follows:

Proposition B is more tangible than A and if X-section along Mosquito continues to 2700/2000 area, then Proposition A becomes only a segment of B.

The break of the present deadlock of new information is possible by a 10 to 20 m. equidimensional mag. survey. It's prone to clarify the relationship of two gold bearing areas, both with known local high/low patterns. Surface geology is adequately known and magnetic fingerprints of main rock units established before.

While this survey is desirable, even without it, a heavier physical attack is possible:

- to bulldoze a trench at the postulated S end of vein +120 with the main aim to reveal the vein's attitude here;

- to drill and blast for second, possibly third, round at the diffused quartz clouds of Mosquito and between the former and 2700/2000 junction;

- diamond drilling at the 4 showings in Mosquito Cr. The canyon and creek prohibits trenching; upper slopes have been sampled. The requirement is several 30 m. holes by portable drill primarily aimed to clarify structures.

GEOCHEMICAL REPORT

[Fig. 5 with results]

The survey produced only 19 samples due to the thick glaciofluvial cover requiring more than one blasting round per pit. Fig. 5 explains the reason: accumulation of esker material against the creek's N wall. Total number of samples here and immediate surroundings [1980-85] is 238, mostly drilled holes or crowbar holes, then blasted. The trend of diminishing return is evident.

This season results benefitted mostly geology and were used in that report. In summary the results and comments are:

- Float 210/211 an angular albitite/magnetite slab resting vertically in bottom till [Au 110 and 10 ppb respectively]. Nearby blasting failed to produce bedrock. Source is believed to be at the nick level where albitite is in contact with shale; magnetic surveys will make use of the information.

- Pit in bog, 40 forsite sticks, revealed albitite outcrop and bottom till; No Au.

- Bedrock 229 is a continuation of +120 vein exposed by erosion; Au 1.1 oz/t confirms with previous samplings. Nearby rock and soil [228,227]: barren.

Two earlier indicative results are included in Fig. 5:-81/1620 ppb Au; -85/55 ppb Au.

Bondar-Clegg & Company Ltd.
130 Pemberton Ave.
North Vancouver, B.C.
Canada V7P 2R5
Phone: (604) 985-0681
Telex: 04-352667

BONDAR-CLEGG

Geochemical Lab Report
3-0.08.85

REPORT: 125-2496 (COMPLETE)

REFERENCE INFO:

CLIENT: DR. MATTI TAVELA
PROJECT: NONE GIVEN

SUBMITTED BY: M. TAVELA
DATE PRINTED: 30-AUG-85

ORDER	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
1	Au Gold - Fire Assay	11	5 PPB	FIRE-ASSAY	Fire Assay AA

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
S SOILS	4	1 -80	4	CRUSH,PULVERIZE -150	7
R ROCK OR BED ROCK	7	2 -150	7	DRY, SEIVE -80	4

REPORT COPIES TO: DR. MATTI TAVELA

INVOICE TO: DR. MATTI TAVELA

REPORT: 125-3027 (COMPLETE)

REFERENCE INFO:

CLIENT: DR. MATTI TAVELA
PROJECT: NONE GIVEN

SUBMITTED BY: M. TAVELA
DATE PRINTED: 30-SEP-85

ORDER	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
1	Au Gold - Fire Assay	8	5 PPB	FIRE-ASSAY	Fire Assay AA

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
S SOILS	2	1 -80	2	DRY, SEIVE -80	2
R ROCK OR BED ROCK	6	2 -150	6	CRUSH,PULVERIZE -150	6

REPORT: 125-3087 (COMPLETE)

REFERENCE INFO:

CLIENT: DR. MATTI TAVELA
PROJECT: NONE GIVEN

SUBMITTED BY: M TAVELA
DATE PRINTED: 2-OCT-85

ORDER	ELEMENT	NUMBER OF ANALYSES	LOWER DETECTION LIMIT	EXTRACTION	METHOD
1	Au Gold - FIRE ASSAY	1	0.001 OPT		

SAMPLE TYPES	NUMBER	SIZE FRACTIONS	NUMBER	SAMPLE PREPARATIONS	NUMBER
R ROCK OR BED ROCK	1	2 -150	1	AS RECEIVED, NO SP	1

STATEMENT OF COSTS

M. TAVELA, P. Eng. Aug. 12-26, Sept. 11-15 Total 20 days, $350/day including travel and support		$ 7,000
BARRY THOMPSON of Port Renfrew Sept. 11-15, $100/day		500
One case of forsite, T.N.T. Contractors, Victoria, B.C.		156
19 Analyses, one assay by Bondar Clegg Co.		184
Reporting		140
	TOTAL	$ 7,980

Balance from P.A. account #9835

STATEMENT OF QUALIFICATIONS

I, Matti Tavela, hereby state that:

1. I am a Prospector, a citizen of Canada and reside at #1, 2230 Harrison Drive, Vancouver, in the Province of British Columbia.

2. I have a M.Sc. degree in Chemistry and a Ph.D. degree in Geology from the University of Helsinki, Finland. I have practiced these professions since 1947.

3. My Canadian experience is: 1961-62 Geologist/ Geochemist for Selco Inc.; 1970-72 Geochemist for Kennco Explorations, (Canada) Limited; 1973 Project Manager for Brinco Limited; 1975-78 Vice President of Compass Exploration Limited; 1979-present as independent.

4. My foreign experience has been in Scandinavia, the Far East, NE Africa, Cental and West South America, and California.

5. I am a Registered Professional Engineer in B.C., Registered Geologist in the State of California, and Licenced Mining Surveyor in Finland.

Matti Tavela, P.Eng.

SOMBRIO RIDGE

DIORITE

GABBRO CR

MAG

C.

BENIS CK

N

S

CANYON

MOSQUITO CR

RIDGE

GABBRO CK EXTENTION

NE-SW OBLIQUE JOINTS

SAN JUAN RIVER

+ + + + + +	DIORITE
C.	CALDERA
S	SUMMIT
N	NECK

CANYON W/T 2 STEEP WALLS

DO- ONESIDED

MAG AEROMAG TREND & DOWN GRADIENT

N

INTRUSIVES & DRAINAGES AT OX 2,3,4 & HOT CLAIM GROUP

L. OUTER CORNER POSTS:

INDEXED TO LOCATION MAP, PAGE ONE

1:20,000

1000 M

1

OX3/36058 532 (5)
HOT/62409 410 (8)
LCP
OX2/36057 531 (5)
OX4/83811 1536 (7)

MOSQUITO

MOSQUITO ML

GABBRO

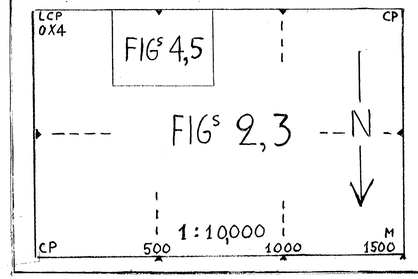
MOSQUITO EAST CREEKS

CP-OX4

CP-OX4

OX4-CP

INDEX
FOR 1:2500 FIGS



TOPOGRAPHY
CLAIM OX4
WITH PARTS OF CLAIMS OX2,3& HOT

1:2500
250 M

N

BASE: BCFP'S TOPO
MAP 1:5000
CONTOUR INTERVAL
50 FEET (15M)

GEOLOGICAL BRANCH
ASSESSMENT REPORT

2

15,105

MOSQUITO CK

ANDESITE DYKE

GABBRO CK

LCP
OX4

CP

float

A

B

Au

EAST CK

MOSQUITO CK

soil Au

2700
JUNCTION
2000

+XS

GEOLOGICAL BRANCH
ASSESSMENT REPORT

15,105

GABBRO CK EXTENSION

QUARTZ
- RIBBON
- VEIN WITH STRIKE
- TENSION FEATHERS
- PTYGMATIC
- DISPERSED
- Au — GOLD BEARING

STRUCTURES
- LONGITUDIAL SHEAR
- PERPENDICULAR JOINT
- A;B — TRENDS OF GOLD QUARTZ

SEDIMENTS
- SANDSTONE
- SHALE, BLACK
- SHALE, GREEN

IGNEOUS ROCKS
- BASALT
- AMPHIBOLITE
- GABBRO
- ALBITITE

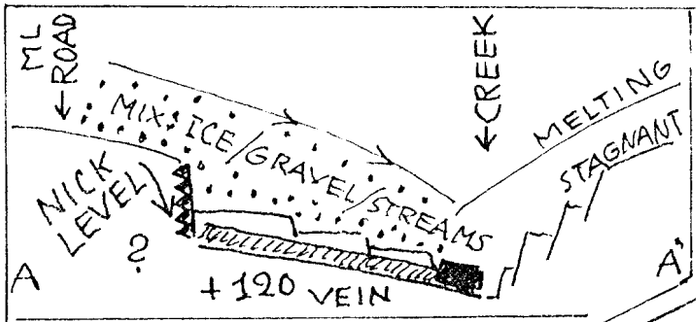
OX 4
GEOLOGY
1:2500

M 100 200

N

3

CP



X-SEC. SKETCH OF MOSQUITO CK AT Au-QRZ SHOWINGS DURING ICE MELTING

GABBRO CK

MOSQUITO ML

AREA OF ~EVEN DISTR. OF ROCK/SOIL SAMPLES & PARTIAL MAG COVER

AREA OF HIGH FREQUENCY/AMPLITUDE MAG

SHADED: THICK SOIL COVER; SEE SKETCH

-85 Au ppb -81

GEOLOGICAL BRANCH ASSESSMENT REPORT

MOSQUITO CK LEVEL

15,105

55 226 225 224 223 222 +260 +310 ±200 216 1620 228 229 229 227 214 215 218 219 220 210 211 217 213 212 +120

A A'

EAST CK

R9700

REPORT 125-2496		REPORT 125-3027	
SAMPLE	ELEMENT Au	SAMPLE	ELEMENT Au
NUMBER	UNITS ppb	NUMBER	UNITS ppb
S1 214	5	S1 223	5
S1 215	5	S1 227	5
S1 217	5	R2 222	5
S1 218	5	R2 224	5
		R2 225	5
R2 210	110	R2 226	5
R2 211	10	R2 228	5
R2 212	5		
R2 213	5	R2 229	10000
R2 216	5	R2 229 oz/t	1.181
R2 219	5		
R2 220	5		

228 ROCK IN PLACE

213 FLOAT (227) SOIL

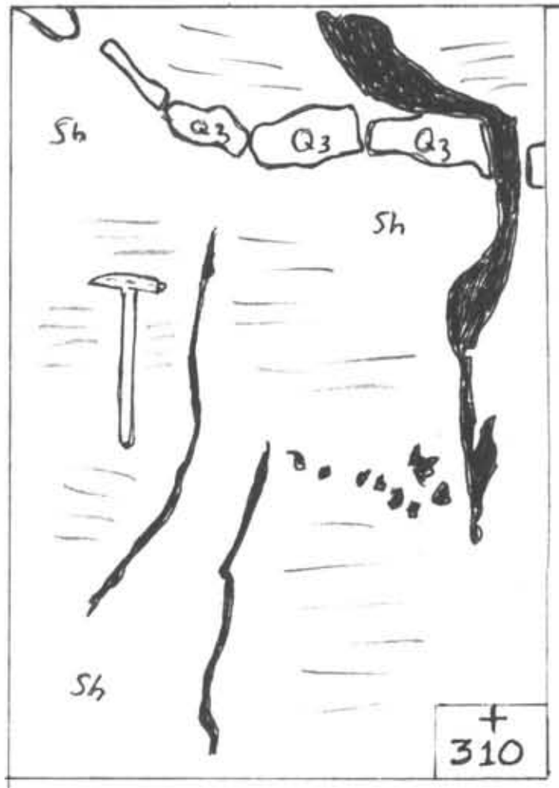
55 1620 TWO RESULTS FROM -81, -85 REPORTS; ROCK CHIPS FROM BLASTED SOIL PITS

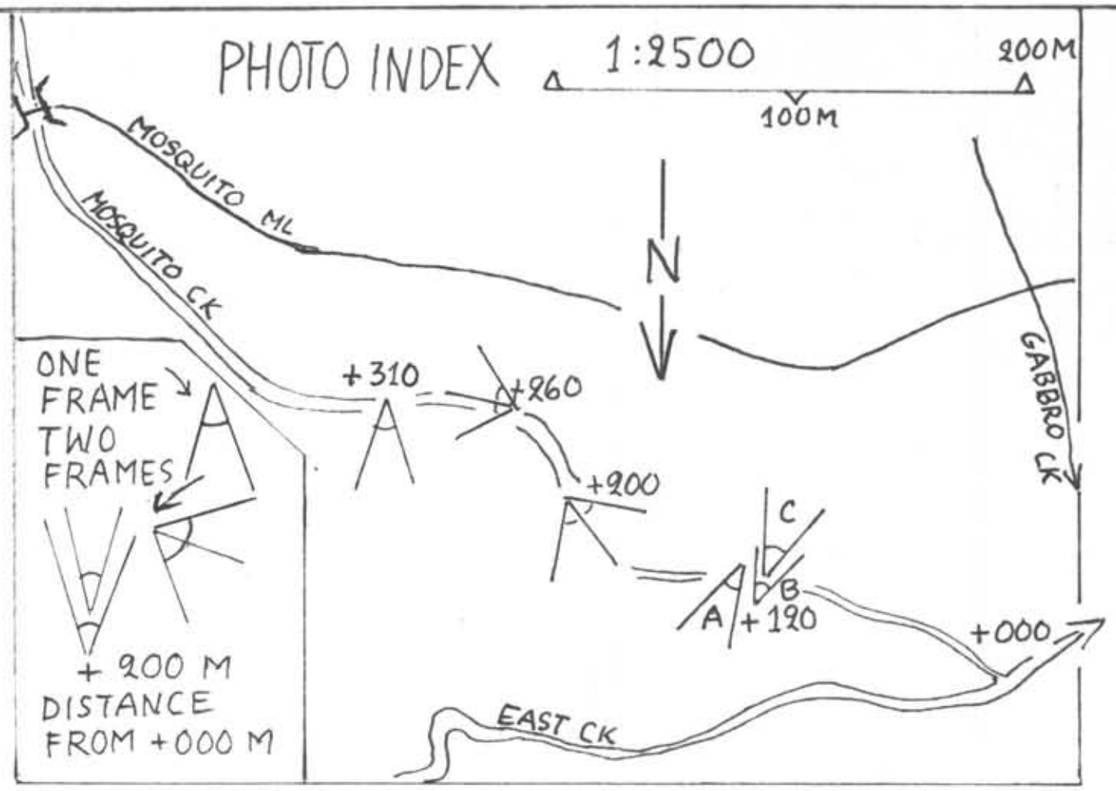
EXPLORATION COVERAGE & GEOCHEMISTRY

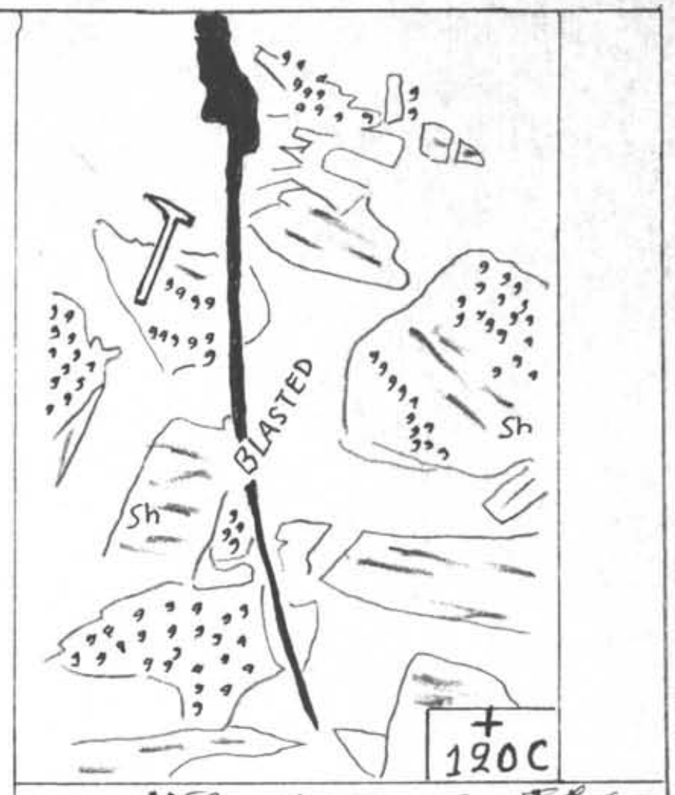
1:2500

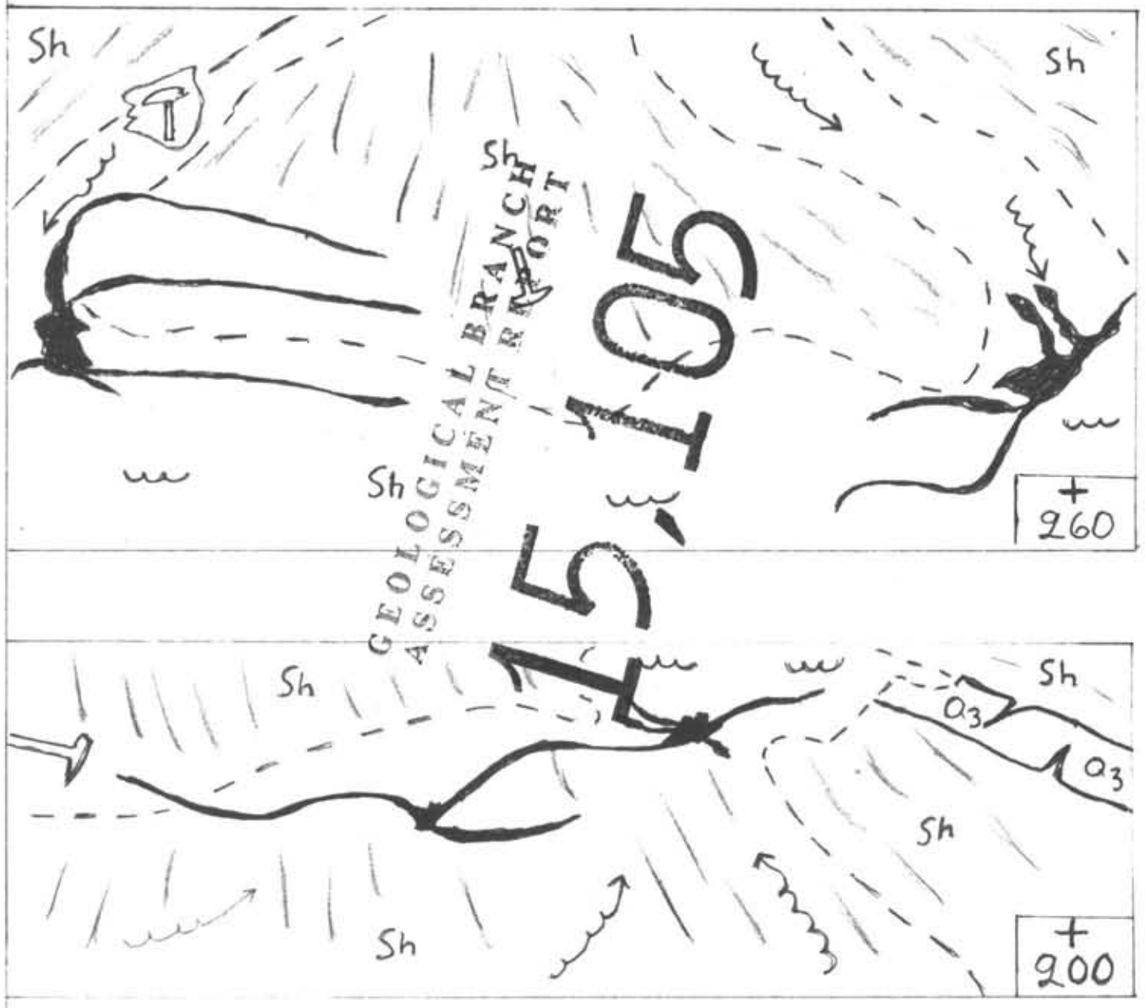
M 50 100 150

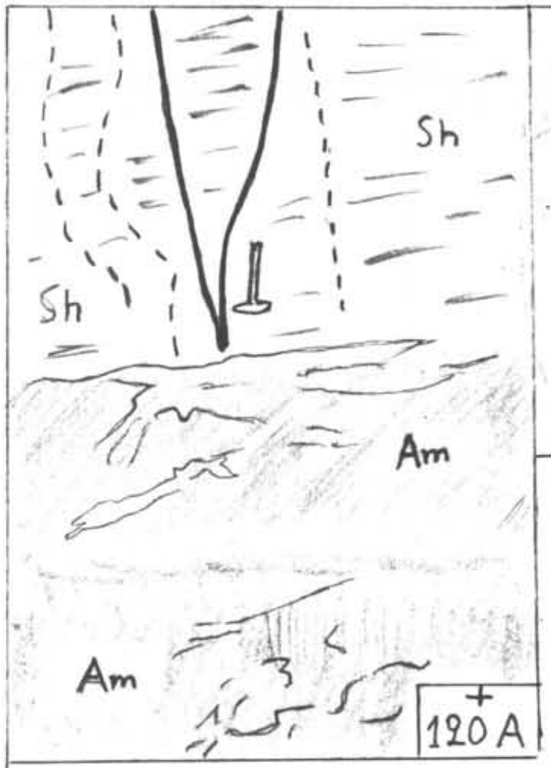
5

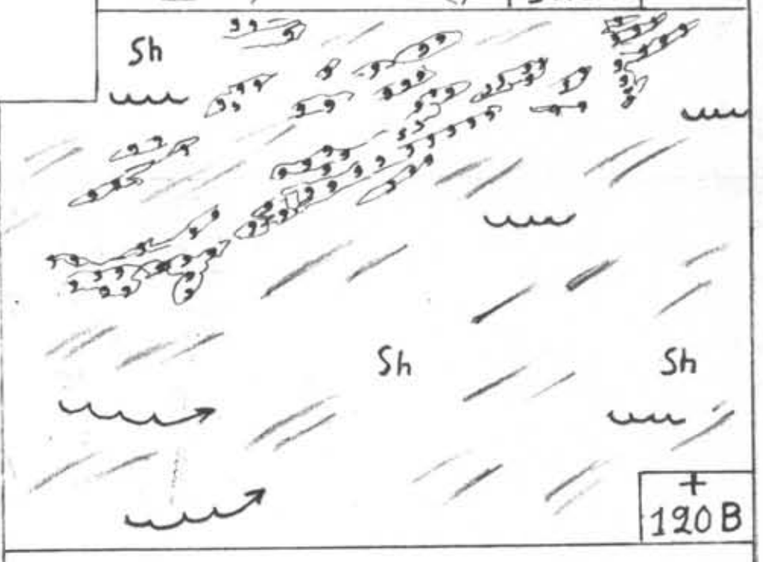












STYLE OF GOLD QUARTZ

Sh — SHALE WITH STRIKE; JOINT IN Sh

Am — AMPHIBOLITE W/T QRZ STRINGERS

Q_3 — THICK QRZ BED

GOLD QUARTZ

SOLID VEIN

DISPERSED IN Sh

SCALE: HAMMER = 33 CM

WATER:

NEARLY LEVEL

FAST FLOW

LOW MARK

4