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PROSPECTING ASSESSMENT REPORT

ON THE

FOX MINERAL CLAIM GROUP

NORTHERN VANCOUVER ISLAND, BRITISH COLUMBIA

NTS: 92L/12W

Latitude: 50° 37' N

Longitude: 127° 56' W

By

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VOR 2R0

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

April 15, 1994

23,376

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SUMMARY

During 1993 exploration comprising three prospecting trips was performed on the FOX mineral claims by the author and P. Dasler.

The exploration work was carried out as daily prospecting trips from a base at Port Hardy. The work included panning of heavy mineral samples and visual gold, geological mapping and sampling of mineralized zones. The work was mainly confined to old forest access roads, and to creeks. One boat trip along Holberg Inlet enabled moss mat and heavy sediment samples to be collected at the mouth of Native Creek.

The results of the sampling and mapping are detailed in the following report, which also outlines the regional geology of northern Vancouver Island.

INTRODUCTION

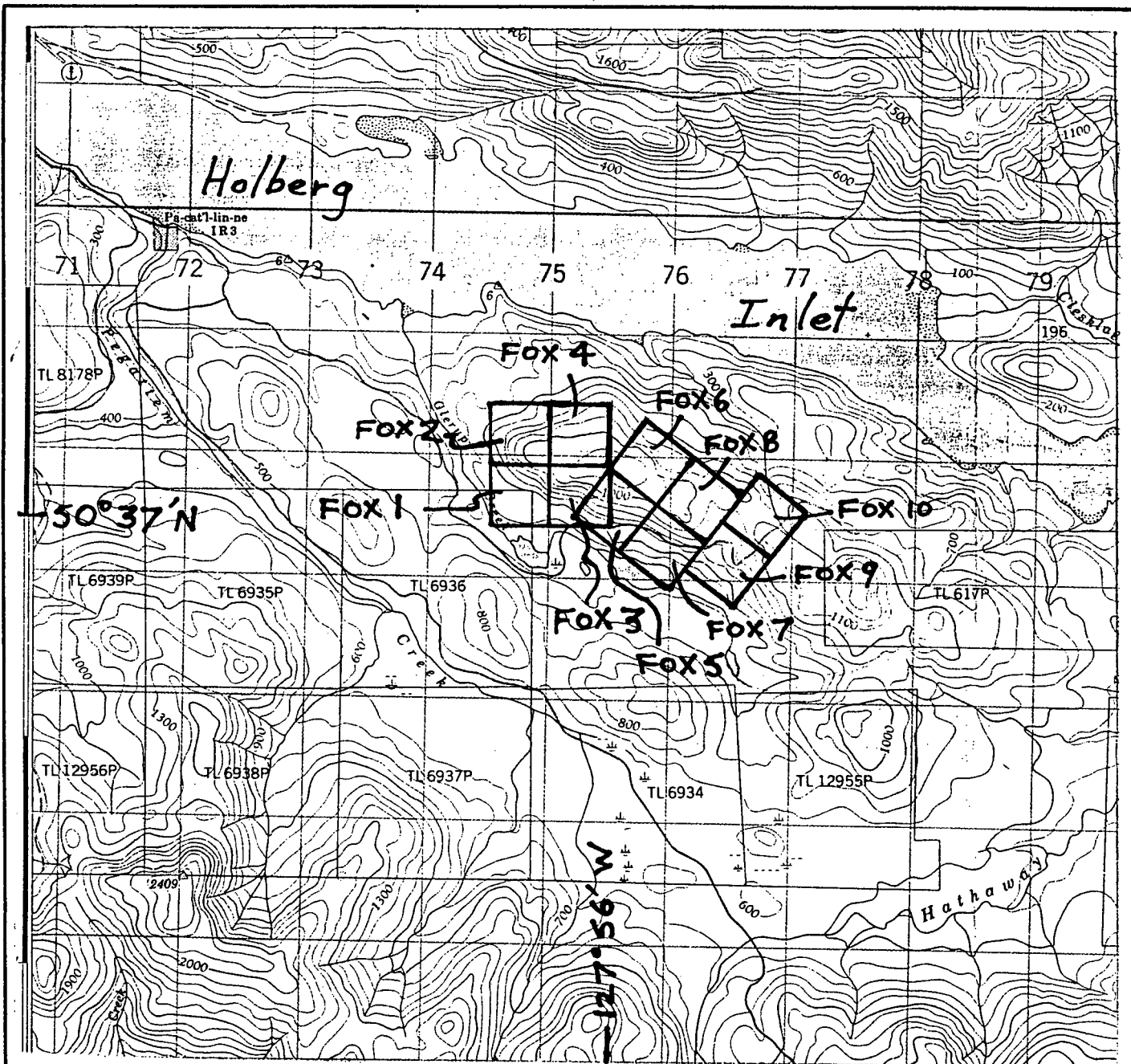
Between February 27 and August 29, 1993 geochemical rock and heavy mineral sampling, prospecting and geological mapping were carried out on the FOX mineral claims.

This report describes the geology of the claim area, and includes a map and sample descriptions for the current work program.

The field work was carried out between February 27 and August 29, 1993. A total of \$2,141.87 was spent on the work program.

LOCATION, ACCESS AND TOPOGRAPHY

The FOX property is located 8 km east-southeast of Holberg on northern Vancouver Island, within N.T.S. map-sheet 92L/12.



Scale 1:50,000



FOX PROPERTY	
LOCATION MAP	
NANAIMO MINING DIVISION	
NTS 92L/12W	APRIL 1994
DRAWN BY: DJP	FIG. 1

The FOX claims area is accessible from Holberg by logging roads along the southern shore of Holberg Inlet. "Lake Main" logging road extends into the south-central part of the property area. Spur roads from "Lake Main" provide good access to most sections of the FOX mineral claims.

The property area has been logged and replanted, and is forested by second growth trees.

PROPERTY

The property consists of the following contiguous mineral claims located within the Nanaimo Mining Division. The claims are shown on figure 1:

Name	Record No.	Units	Expiry	Recorded Owner
FOX 1	316307	1	February 27, 1994	D. Pawliuk
FOX 2	316308	1	February 27, 1994	D. Pawliuk
FOX 3	316309	1	February 27, 1994	D. Pawliuk
FOX 4	316310	1	February 27, 1994	D. Pawliuk
FOX 5	316311	1	February 27, 1994	D. Pawliuk
FOX 6	316312	1	February 27, 1994	D. Pawliuk
FOX 7	316313	1	February 27, 1994	D. Pawliuk
FOX 8	316314	1	February 27, 1994	D. Pawliuk
FOX 9	316315	1	February 27, 1994	D. Pawliuk
FOX 10	316316	1	February 27, 1994	D. Pawliuk

The expiry date shown is that in effect prior to the present assessment work being applied to the mineral claims.

HISTORY

The FOX mineral claims property area has been explored in the past for limestone, copper and gold.

During 1962 a governmental aeromagnetic survey was flown over the region including the FOX mineral claims. The survey results indicate an aeromagnetic anomaly in the eastern part of the property area.

In 1974 five diamond drill holes totalling 149.35 m (490 ft) were drilled by Holberg Mines Ltd. (N.P.L.) in an area of limestone overlying basalt; this was done to test anomalies from earlier geological and geophysical surveys (Weymark, 1974). The earlier work included the discovery of copper occurrences near the headwaters of Native Creek (Weymark, 1974 and 1980). The drill holes intersected a basalt with chalcopyrite traces in the bottom of one hole, and a trace of chalcopyrite in a limestone band within andesite in another hole.

A progress report for Holberg Mines Ltd. (N.P.L.) indicates an estimated reserve of 260 million short tons (235 million metric tonnes) of limestone to a depth of 45.72 m below surface (Haslam, 1975b); part of this limestone deposit is covered by the present FOX mineral claims. The report includes a 1973 laboratory analysis of a limestone sample. The results were: 43.40 loss on ignition (CO₂ etc), 97.32 % CaCO₃ (calculated), 1.19 % MgO, 0.14 % Fe₂O₃, 0.51 % SiO₂, 0.20 % Al₂O₃, 0.01 % S and 0.011 % P.

A total of 374.9 m of diamond drilling in 1977 and 243.8 m in 1978 was performed to test the limestone. The holes confirmed the extension of quality limestone in the deposit (Weymark, 1978).

In 1980 World Cement Industries Ltd. evaluated the Quatsino Formation limestone within the property area by 182.9 m of diamond drilling (Weymark, 1980). A high quality limestone was recovered from the drill holes, and the contact with the underlying volcanic rocks is discrete with little or no mixing indicated. Weymark determined that the rock was of adequate quality to be used for various applications including cement.

REGIONAL GEOLOGY

Vancouver Island south of Holberg Inlet is mainly underlain by rocks of the Vancouver Group. These rocks range in age from Upper Triassic to Lower Jurassic. They are intruded by rocks of Jurassic and Tertiary age and disconformably overlain by Cretaceous sedimentary rocks.

Faulting is prevalent in the area. Large-scale block faults with hundreds to thousands of metres of displacement are offset by younger strike-slip faults with displacements up to 750 m (2,500 feet).

The Vancouver Group is described as follows (Muller, et al, 1974):

- (a) Basal Sediment - Sill Unit: Middle and Upper Triassic Age
- (b) Karmutsen Formation: Upper Triassic Age
- (c) Quatsino Formation: Upper Triassic Age
- (d) Parson Bay Formation: Upper Triassic Age
- (e) Harbledown Formation: Lower Jurassic Age
- (f) Bonanza Formation: Lower Jurassic Age

Cretaceous Sediments

The Vancouver Group is unconformably overlain by non-marine Cretaceous sediments of the Longarm Formation which are estimated to be about 300 metres (1,000 feet) thick in the Port Hardy area.

Intrusive Rocks

The Vancouver Group rocks are intruded by a number of Jurassic-aged stocks and batholiths. In the Holberg Inlet area a belt of northwest-trending stocks extend from the eastern end of Rupert Inlet to the mouth of Stranby River on the north coast of Vancouver Island (Carson, 1973).

Quartz-feldspar porphyry dykes and irregular bodies occur along the south edge of the belt of stocks. At the Island Copper Mine, these porphyries are enveloped by altered, brecciated, mineralized Bonanza wallrocks. The porphyries are also cut by quartz veins, pyritized, extensively altered and are mineralized where they have been brecciated. The quartz-feldspar porphyries are thought to be differentiates of Middle Jurassic felsic, intrusive rocks.

Structure

The structure of the rocks north of Holberg and Rupert inlets is that of shallow synclinal folds along a northwesterly fold axes. The steeper southwesterly limbs of the folds have apparently been truncated by faults roughly parallel to the fold axes. Failure of limestone during folding may have influenced the location of some of the faulting as indicated by the proximity of the Dawson and Stranby River faults to the Quatsino Formation. Transverse faulting is pronounced and manifested by numerous north and northeasterly trending faults and topographic lineaments.

The northern part of Vancouver Island lies in a block faulted structural setting with post Lower Cretaceous northwesterly trending faults apparently being the major system. This system causes both repetition and loss of parts of the stratigraphic section, with aggregate movement in a vertical sense in the order of tens to hundreds of metres. The most significant of these fault systems trends west to northwest following Rupert and Holberg inlets. Near the western end of Holberg Inlet this fault splits, with the main branch following Holberg Inlet and the other branch passing through the west side of the Stranby River valley. Another northwesterly to westerly system passes through William Lake and other, smaller systems pass through Nahwitti Lake and Georgie Lake.

Northeasterly trending faults comprise a subordinate fault system. In some cases, apparent lateral displacement in the order of several hundred metres can be measured on certain horizons. Movement, however, could be entirely vertical with the apparent offset resulting from the regional dip of the beds. A strong northeasterly trending system passes through the Goodspeed River valley and Lake of the Mountains.

Recent computer modelling of airborne magnetometer data from governmental surveys has provided a clear understanding of the relationship of secondary conjugate sets of northeast and north westerly faults related to the major west-northwest trending breaks. These conjugate fault sets appear to relate directly to the significant mineralization at the Island Copper, Hushamu, Hep and Red Dog copper/gold deposits.

Generally, regional dip of the bedding is gentle to moderate southwesterly. West of Holberg dips are locally much steeper in close proximity to major faults. There is little folding or flexuring of bedding visible, except along loci of major faults where it is particularly conspicuous in thinly bedded sediments of lower Bonanza Formation. Bedding is generally inconspicuous in massive beds of Karmutsen, Quatsino and Bonanza formation rocks, particularly inland where outcrops are widely scattered.

REGIONAL MINERALIZATION

A number of types of mineral occurrences are known on northern Vancouver Island. These include:

1. Skarn deposits: copper-iron and lead-zinc skarns;
2. Copper in mafic volcanic rocks (Karmutsen Formation): in amygdules, fractures, small shears and quartz-carbonate veins, with no apparent relationship to intrusive activity;

3. Veins: with gold and/or base metal sulphides, related to intrusive rocks;
4. Porphyry copper deposits: largely in the country rock surrounding or enveloping granitic rocks and their porphyritic phases.

BHP Minerals Canada Ltd. (formerly Utah Mines Ltd.) in their many years of exploration in the region of Holberg and Rupert inlets, focused their attention on the search for porphyry copper deposits. Their exploration resulted in the location and development of the Island Copper Mine. They also located other areas of porphyry mineralization, as well as two areas with anomalous gold concentrations and one area with massive sulphide mineralization within their properties.

PROPERTY GEOLOGY AND MINERALIZATION

The western part of the Fox property is mainly underlain by massive limestone of the Quatsino Formation. A 1970 report by D.R. Morgan quoted in Haslam (1975a) describes the Quatsino Formation in the region: pale grey to buff grey limestone, aphanitic with conchoidal, splintery fracture; pale buff grey dolomitic limestone, aphanitic with conchoidal, splintery fracture; and dark grey to black with argillaceous or carbonaceous inclusions and occasional fossils probably close to the bottom of the formation.

The eastern part of the property is underlain by maroon to green, medium grained basaltic volcanic rock of the Bonanza Formation. This rock is cut by occasional calcite veins up to 5 cm wide.

Hairline veinlets of chalcopyrite, pyrite and rare molybdenite locally occur within the Bonanza Formation rocks in the eastern property area.

Geochemical sample locations and geology are presented in figure 2.

SAMPLE COLLECTION AND ANALYSIS

Locations for all of the samples collected on the property are shown on figure 2, and sample descriptions are included in appendix 2.

Three of the five rock samples collected during February, 1993 were assayed for copper and molybdenum from a 1 gm sample leached in 50 ml aqua-regia, with analysis by ICP. The samples were also fire-assayed for gold using a 1 assay ton sample. The rocks were analyzed at Acme Analytical Laboratories Ltd., Vancouver, British Columbia. The assay certificate is included in appendix I.

The three assayed rocks contain less than 0.001 % molybdenum, up to 0.266 % copper and up to 0.001 oz/ton gold.

One rock, one moss-mat sample and one panned concentrate collected from the property area were analyzed for 30 elements by ICP and for gold on the minus 80 mesh fraction. Gold analysis was by acid leach/atomic absorption technique on a 10 gm sample. These analyses were also performed by Acme Analytical Laboratories Ltd., Vancouver, British Columbia. The certificate of analysis is included in appendix I.

The rock contains 14,114 ppm copper, 2.3 ppm silver and 14 ppb gold. The moss-mat sample contains 136 ppm copper, 0.2 ppm silver and 5 ppb gold. The panned concentrate contains 131 ppm copper, 0.2 ppm silver and 7 ppb gold (Appendix I).

CONCLUSIONS AND RECOMMENDATIONS

The FOX property is located in an area which has undergone exploration for limestone and copper deposits. The work performed to date indicates that the limestone within the property area may be economically important.

The prospecting programme has confirmed that the rocks within the property area contain anomalous amounts of copper.

The next exploration on the property should be directed towards evaluating the limestone within the claims to confirm that it is adequate for the making of cement, and also to determine if it is adequate for dimension stone or other purposes. This can be accomplished by further sampling and analysis of the limestone.

Further prospecting and mapping of the remaining parts of the property, and geochemical soil sampling across the more prospective areas may result in the discovery of additional copper occurrences.

STATEMENT OF COSTS

1.0 Personnel

P. Dasler, Geologist - 2 days @ \$380/day	\$ 760.00
D. Pawliuk, Geologist - 2 days @ \$340/day	<u>680.00</u>
	1400.00

2.0 Food and Accommodation

4 days @ \$50	200.00
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3.0 Transportation (truck, fuel) 3 days @ \$75	225.00
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4.0 Field Supplies (sample bags, etc.)	10.00
--	-------

5.0 Office Costs (typing, copying)	50.00
------------------------------------	-------

6.0 Analyses

1 moss-mat, 1 rock and 1 panned concentrate for 30-element ICP and Au by acid leach @	48.35
--	-------

3 rocks for assay for Cu and Mo by ICP and Au by F.A. @	<u>68.40</u>
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2,001.75

7.0 GST	140.12
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TOTAL	<u>\$2,141.87</u>
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CERTIFICATE OF QUALIFICATIONS

I, David J. Pawliuk, do hereby certify that:

- 1.0 I am the registered owner of the FOX mineral claims.
- 2.0 I am a graduate of the University of Alberta, Edmonton, Canada, with a degree of B.Sc., Geology.
- 3.0 I am a member, in good standing, of the Association of Professional Engineers, Geologists and Geophysicists of Alberta.
- 4.0 I am a member, in good standing, of the Association of Professional Engineers and Geoscientists of British Columbia.
- 5.0 I have practised my profession since 1975.
- 6.0 This report is based upon my personal fieldwork and fieldwork by Peter Dasler, M.Sc., and upon reports of others working in the area.
- 7.0 This report is submitted for assessment purposes only.

David J. Pawliuk

David J. Pawliuk, B.Sc., P.Geo.
April 15, 1994



REFERENCES

- Muller, J.E., Northcote, K.
and Carlisle, D. (1974) Geology and Mineral Deposits of Alert Bay-Cape Scott Map-Area (92L-102I) Vancouver Island, British Columbia; Geological Survey of Canada Paper 74-8.
- Carson, D.J.T. (1973) Petrography, chemistry, age and emplacement of the plutonic rocks of Vancouver Island; Geological Survey of Canada Paper 72-44.
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- Haslam, H.S. (1975b) Progress report on the limestone deposits at Holberg Inlet, Vancouver Island; BCMEMPR assessment report 5666 for Holberg Mines Ltd. (N.P.L.).
- Weymark, Wm.J. (1974) Drilling assessment report, FOX nos. 1-20 mineral claims, Holberg Inlet, Vancouver Island; BCMEMPR assessment report 4908 for Holberg Mines Ltd. (N.P.L.).
- Weymark, Wm.J. (1978) Lime Group mineral claims, Holberg Inlet area, diamond drilling assessment report, Nanaimo Mining Division, British Columbia; BCMEMPR assessment report 6951 for Holberg Mines Ltd. (N.P.L.).

Weymark, Wm.J. (1980) Lime Group mineral claims, Holberg Inlet area, diamond drilling assessment report, Nanaimo Mining Division, British Columbia; BCMEMPR assessment report 8073 for Holberg Mines Ltd. (N.P.L.).

APPENDIX I

Certificates of Analysis



ASSAY CERTIFICATE



Kamaka Resources Ltd. File # 93-0389
 6074 - 45A Ave, Delta BC V4K 1H7 Submitted by: Peter G. Dasler

SAMPLE#	Mo %	Cu %	Au** oz/t
FX1	<.001	.078	<.001
FX2	<.001	.266	.001
FX5	<.001	.167	<.001
RE FX5	<.001	.170	<.001
STANDARD R-1/AU-1	.096	.860	.101

1 GM SAMPLE LEACHED IN 50 ML AQUA - REGIA, ANALYSIS BY ICP. AU** BY FIRE ASSAY FROM 1 A.T. SAMPLE.
 - SAMPLE TYPE: ROCK Samples beginning 'RE' are duplicate samples.

DATE RECEIVED: MAR 3 1993 DATE REPORT MAILED: *March 9/93* SIGNED BY: *C. Leong* D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS



GEOCHEMICAL ANALYSIS CERTIFICATE



Kamaka Resources Ltd. File # 94-0500 Page 1

6074 - 45A Ave, Delta BC V4K 1M7 Submitted by: Peter Dasler

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
A	1	14114	5	21	2.3	109	16	178	4.20	2	<5	<2	<2	18	1.2	4	8	65	5.58	.025	3	22	.91	<2	.31	20	3.39	.02	<.01	<1	14

ICP - .500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.

THIS LEACH IS PARTIAL FOR MN FE SR CA P LA CR MG BA TI B W AND LIMITED FOR NA K AND AL.

ASSAY RECOMMENDED FOR ROCK AND CORE SAMPLES IF CU PB ZN AS > 1%, AG > 30 PPM & AU > 1000 PPB

- SAMPLE TYPE: ROCK AU* ANALYSIS BY ACID LEACH/AA FROM 10 GM SAMPLE.

DATE RECEIVED: FEB 21 1994

DATE REPORT MAILED: *March 2/94*

SIGNED BY.....*C. Leong*.....D.TOYE, C.LEONG, J.WANG; CERTIFIED B.C. ASSAYERS



ACME ANALYTICAL



ACME ANALYTICAL

SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
B	<1	131	8	85	.2	237	54	864	6.50	9	<5	<2	<2	34	.8	3	<2	133	2.42	.023	2	82	3.58	11	.46	24	3.79	.29	.03	1	7

Sample type: H.M.PAN.



SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Ni ppm	Co ppm	Mn ppm	Fe %	As ppm	U ppm	Au ppm	Th ppm	Sr ppm	Cd ppm	Sb ppm	Bi ppm	V ppm	Ca %	P %	La ppm	Cr ppm	Mg %	Ba ppm	Ti %	B ppm	Al %	Na %	K %	W ppm	Au* ppb
C	<1	136	4	84	.2	245	55	932	6.54	4	<5	<2	<2	35	.2	3	<2	110	1.67	.021	2	76	3.67	14	.43	12	3.70	.05	.02	<1	5

Sample type: H.M.MOSS MAT.

APPENDIX IISAMPLE DESCRIPTIONSSample Number

- FX1 Grab rock sample from several sites within an area approximately 5 m by 1 m. Dark maroon-brown, medium grained Bonanza Formation with local 1 % pyrite, traces chalcopyrite(?) and traces malachite in the southwest corner of a rock pit. The rock has been sericite-altered and is moderately magnetic with magnetite in dark clots up to a few mm across.
- FX2 Select rock sample taken 8 m northwest of FX1, in similar rock. Azurite, malachite and chalcopyrite occur along the margins of calcite veinlets and veins up to 5 cm wide and about 50 cm long. Irregular disseminated pyrite masses up to 3 % rock volume within say 4 cm of calcite vein. Occasional greenish chalcopyrite occurs as narrow, elongate mass along hairline fracture. Orange-brown limonite coats fracture surfaces.
- FX5 Select rock sample with malachite on weathered fracture surface strike 041 degrees dip 77 SE. Molybdenite within veinlet to 2 mm wide and also disseminated within a band up to a few mm wide along strike from the veinlet. The molybdenite occurs about 10 mm from malachite-stained surface; both malachite and molybdenite mineralization are likely fracture-controlled.

- A Grab sample of malachite-stained, maroon and green basaltic flow containing disseminated chalcopyrite. The rock has been intensely sheared. The shearing appears related to a fault striking 010 degrees with a vertical dip; the fault is exposed in a small quarry.
- B Panned concetrate from Native Creek where it empties into Holberg Inlet. No gold was seen in this sample.
- C Moss-mat sample collected from 10 m upstream of the panned concentrate above.

Holberg Inlet

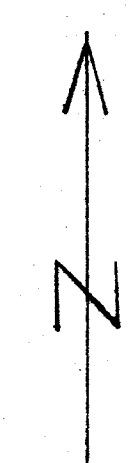
B panned concentrate; no visible gold

C moss mat sample

ANALYTICAL RESULTS

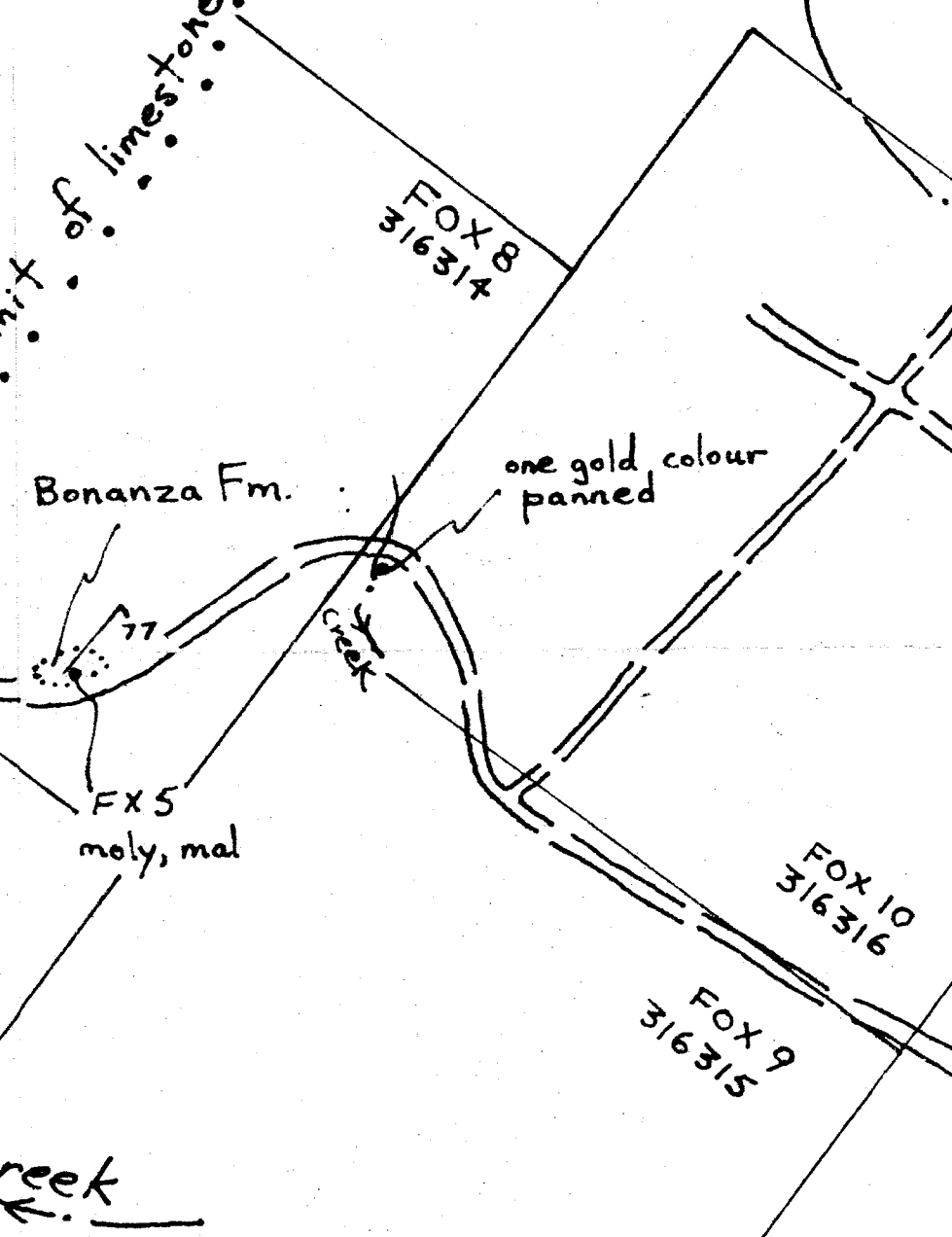
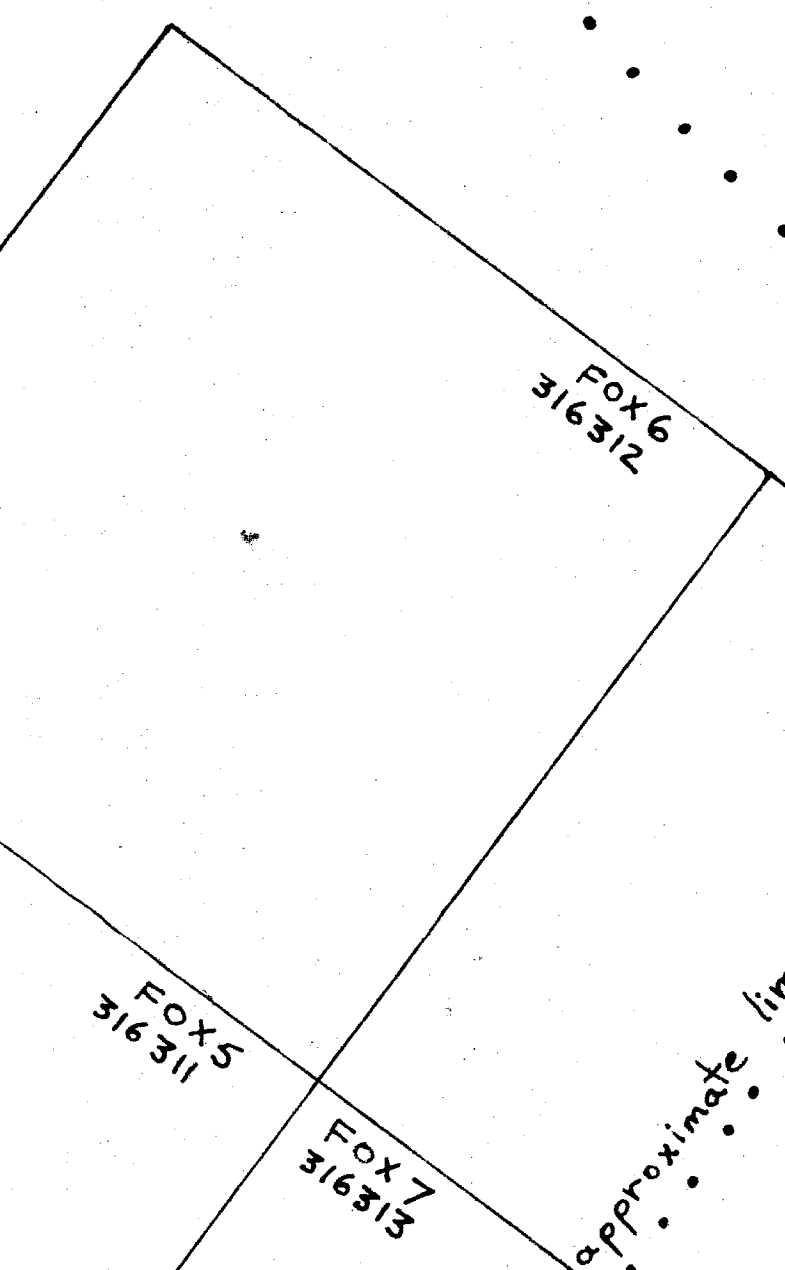
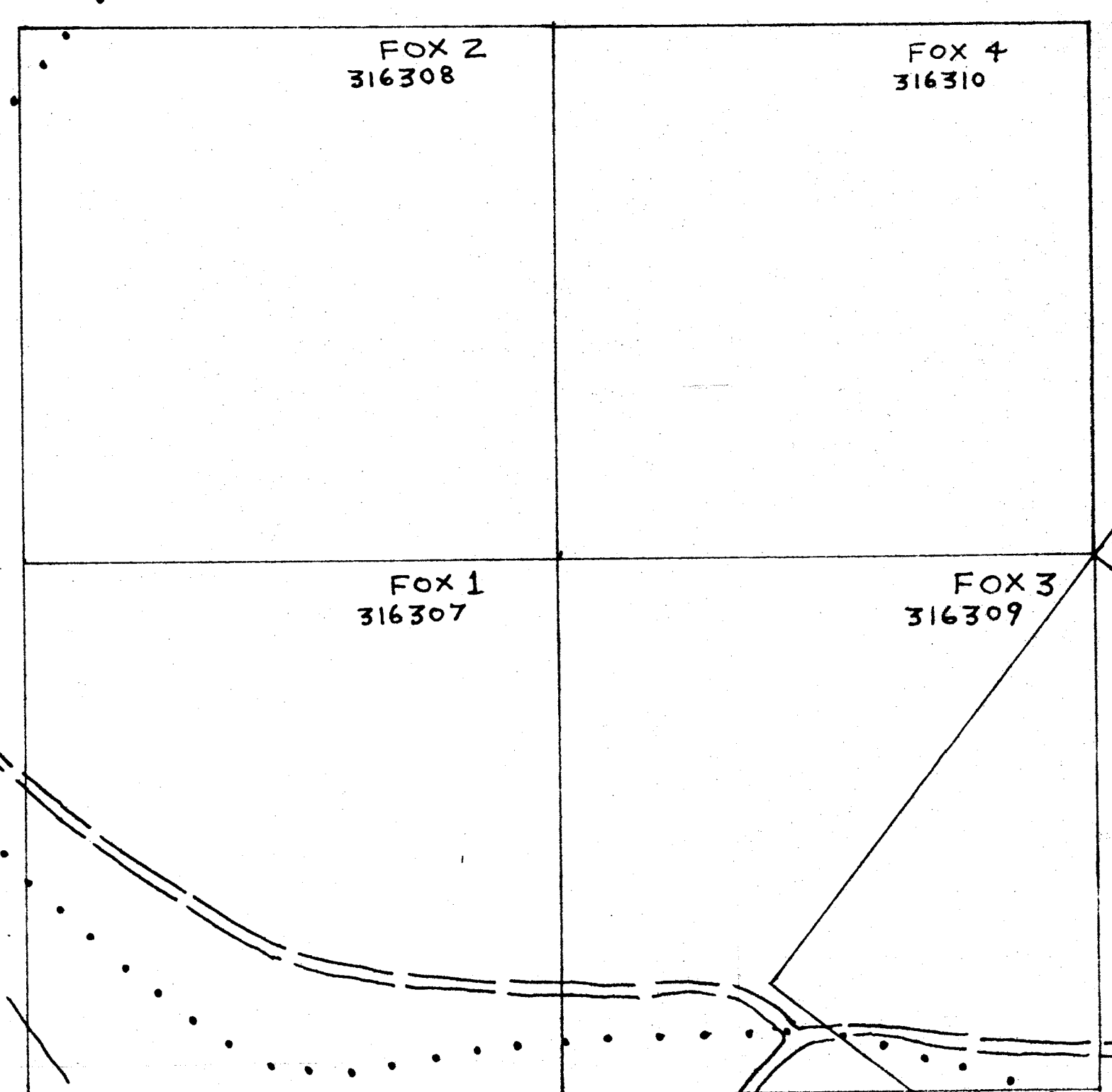
SAMPLE	Mo	Cu	Pb	Zn	Ag	Bi	Co	Mn	Fe	As	Sb	Te	Se	U	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	Si	Alp		
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
A	1 14114	5	21	2.3	109	16	178	4.20	2	< 5	< 1	10	1.2	4	8	65	5.58	.025	3	22	.91	< .31	26	3.30	.02	<.01	< 1	14	
B	< 1	131	8	89	.2	237	54	864	6.50	9	< 5	< 2	34	.8	3	< 2	132	2.42	.025	2	82	3.58	11	.46	24	3.70	.02	1	7
C	< 1	136	4	84	.2	245	55	952	6.54	4	< 5	< 2	35	.2	3	< 2	110	1.67	.021	2	74	3.67	14	.43	12	3.70	.05	< 1	5

SAMPLE	Mo %	Cu %	Au** %
FX1	<.001	.078	<.001
FX2	<.001	.266	.001
FX5	<.001	.167	<.001
RE FX5	<.001	.170	<.001
STANDARD R-1/AU-1	.096	.860	.101



approximate limit of limestone

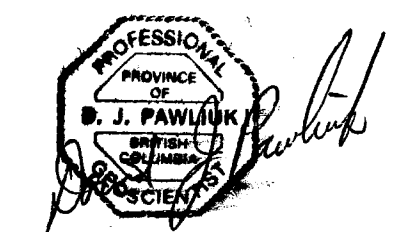
Native Creek



Bonanza Fm.
quarry
A mal, cp road

Bonanza Fm.
one gold colour panned
FX5 moly, mal

Bonanza Fm.
quarry
FX1 py, cp (?), mal
FX2 py, az, mal, cp



scale 0 100 200 300 m

50° 37' N

FOX PROPERTY
NANAIMO MINING DIVISION
**PROSPECTING,
SAMPLING
MAP**
Figure 2
1:5000 scale April 1994 NTS 92L/12470

GEOLOGICAL BRANCH ASSESSMENT REPORT

To accompany a report by D. Pawliuk

23,376