MPH

REPORT ON
GEOLOGY, GEOPHYSICS, AND
DIAMOND DRILLING

FITZWATER GROUP

(Fitz, Water, Lat, Port and
Starboard Claims; Aud and Aud 2 Fr.)

Alberni, Victoria Mining Divisions, B.C.
NTS 92F/2 49°03'N Lat. 124°38'W Long.

for

CREW MINERALS INC. / TP RESOURCES LTD.

February 29, 1988

T. Neale, BSc. T.M. Naciuk, BSc.

Volume I of V

FILMED

GEOLOGICAL BRANCH
ASSESSMENT REPORT

16,731

part 2 of 6

SUMMARY

Phase IIIa and IIIb geological, geochemical, geophysical, and diamond drilling exploration of the Crew Minerals Inc. Fitzwater property was carried out from July 26 to November 21, 1987. A large zone (1400 m long by 500 m wide) of coincident IP chargeability and Au ± Ag, Zn, As soil geochemical anomalies in an area underlain by Buttle Lake Formation limestone and calcareous siltstone (Paleozoic Sicker Group) was discovered. Sulphide-bearing quartz and quartz-carbonate veins exposed on surface within the anomalous zone returned results of up to 44.57 g/t Au, 16.16% Zn, up to 1.92% Pb, and up to 347.0 g/t Ag. Diamond drilling intersected sulphide-rich quartz and quartz-carbonate veins which yielded results of up to 1.95 g/t Au over 0.27 m and 0.72 g/t Au over 0.84 m.

Phase IIIc I.P. geophysics and diamond drilling was conducted from November 22, 1987 to February 29, 1988, for Crew Minerals Inc. and TP Resources Ltd. It consisted of 50 metre line-spacing delineation I.P. geophysics, and exploration drilling centred on newly-discovered gold-enriched sulphide-bearing quartz-carbonate veins occurring in M6 and Nicki Creeks. Diamond drilling resulted in the discovery of significant gold-enriched intensely-altered calcareous siltstone horizons within the Buttle Lake Formation. Values of up to 2.35 g/t Au over 6.59 m and 14.85 g/t Au over 0.64 m have been returned from this zone.

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CREW MINERALS INC.
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GENERAL LOCATION MAP
FITZWATER GROUP

VICTORIA, ALBERNI MINING DIVISIONS

Project No: V 227	By: T. N.
Scale: 1 : 8 000 000	Drawn: J. S.
Drawing No: FIG. 1	Date: FEB. 1988.

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1.0 INTRODUCTION

This report describes the results of work carried out on the Fitzwater Group by MPH Consulting Limited at the request of Crew Minerals Inc. and TP Resources Ltd. Exploration Phases IIIa and IIIb, carried out from July 26, 1987 to November 21, 1987, include 12 km^2 of 1:10,000 scale and 5 km^2 of 1:2500 scale geological mapping, 23.85 line-km of soil sampling (1006 samples analyzed for Au and by 30-element ICP), 80 m of backhoe trenching, 11.2 line-km of linecutting, 10.825 line-km of dipole-dipole I.P. geophysics surveying, and 896 m of diamond drilling in nine holes from four set-ups (Fitz-1 to 9-87). Results reported from Phases IIIa and IIIb satisfy FAME grant reporting requirements. Exploration Phase IIIc, carried out from November 22, 1987 to February 29, 1988, included an additional 2.425 line-km of I.P. geophysics and 1437 m of wireline diamond drilling.

2.0 LOCATION, ACCESS, TITLE

The Fitzwater Group of claims is located 22 km southeast of Port Alberni on the northern slopes of Mt. Spencer and along the Rift Creek Valley in the Victoria and Alberni Mining Divisions of British Columbia (Figures 1,2). The Fitzwater Group is centred at roughly 49°03'N latitude, 124°38'W longitude on NTS Mapsheet 92F/2. All of the claims are located within the Alberni Mining Division, except the Lat, Aud Fraction and Aud 2 Fraction claims which are in the Victoria Mining Division.

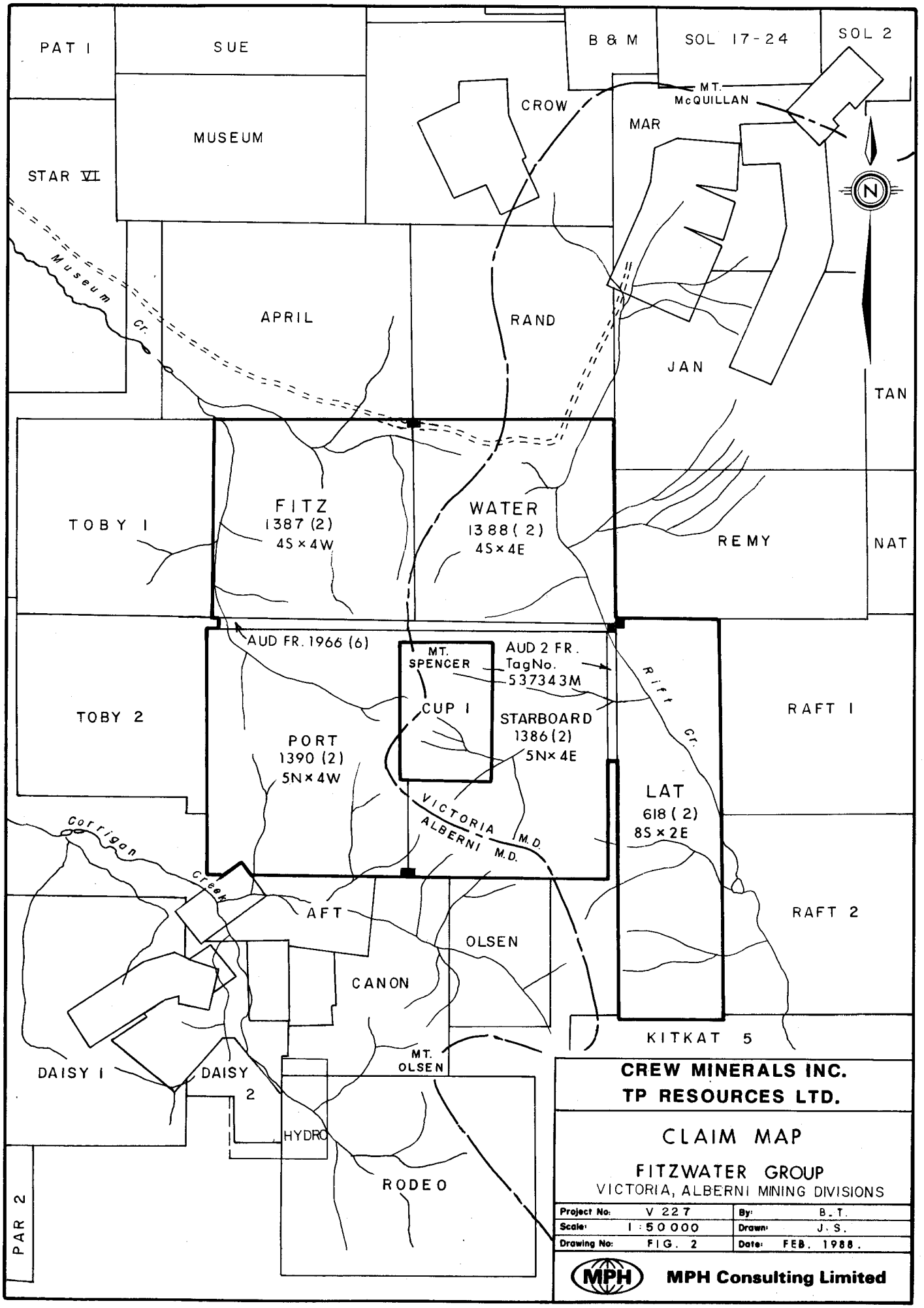
Access to the Fitzwater Group claim block is provided by the all-weather gravel Bamfield Road from Port Alberni to Franklin River, then the Thistle Mine Road and Museum Road up Museum Creek. The Museum Road runs through the northern portion of the Fitz and Water claims. Numerous logging roads provide good access to the Water and Lat claims; only one road goes into the Fitz claim. The southwest part of the property may be accessed via the Corrigan Creek Road from the Bamfield Road.

Claim information is summarized below:

Claim	Record No.	Units	Anniversary Date	Owner	Year Registered
Fitz	1387(2)	16	25/2/90	Ladysmith Minerals Ltd.	1982
Water	1388(2)	16	25/2/91	Ladysmith Minerals Ltd.	1982
Lat	618(2)	16	25/2/90	Ladysmith Minerals Ltd.	1982
Starboard	1386(2)	20	25/2/90	Lode Resource Corp.	1982
Port	1390(2)	20	25/2/90	Lode Resource Corp.	1982
Aud Fr.	1966(6)	1	24/6/90	E. Hayes *	1987
Aud 2 Fr.	537343M	1		T. Naciuk*	1988
	Total	90			

* in trust for Crew Minerals Inc.

The Aud 2 fraction has not yet been assigned a record number. All of the claims were grouped as the Fitzwater Group by Notice to Group dated February 25, 1988. Crew Minerals Inc. is the operator of the property by virtue of option agreements with the claim owners. Anniversary dates include work filed on February 25, 1988.



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CLAIM MAP

FITZWATER GROUP

VICTORIA, ALBERNI MINING DIVISIONS

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Drawing No:	FIG. 2	Date:	FEB. 1988.

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3.0 PREVIOUS WORK

A report by R.W. Phendler (1983) summarizes the general history of the Port Alberni area. From 1860 to 1890, total placer mining on China Creek was reported to have exceeded $440,000. This led to extensive prospecting in the 1890's and the discoveries of several precious and base metal deposits, four of which occur south of China Creek.

The discovery of gold bearing quartz veins on Mineral Creek in 1895, led to the construction of an eight stamp mill by the owners (Vancouver Island Gold Mines) in 1898.

In 1933, Vancouver Island Gold Mines resumed exploration on the Mineral Creek deposits and by 1936 constructed a 35 ton per day concentrator.

From 1933 to 1942 there were three additional lode discoveries south of China Creek due to increased activity spurred on by a rise in the price of gold ($20/oz to $35/oz).

A small quantity of gold was produced from the Havilah property over three years commencing in 1936. The Havilah and Mineral Creek properties have a combined recorded production of 1565 tons averaging 12.3 g/t (0.36 oz/ton) Au and 30.5 g/t (0.89 oz/ton) Ag.

The Thistle Mine produced 6867 tons averaging 13.4 g/t (0.39 oz/ton) Au, 8.2 g/t (0.24 oz/ton) Ag and 4.56% Cu from 1938 to 1942. Bralorne Gold Mines and Pioneer Gold Mines were actively prospecting in an area about 1.4 km south of the Havilah property.

Recorded exploration on the Port and Starboard claims dates back to 1962 when an airborne magnetometer survey was conducted by

Hunting Survey Corporation (G.S.C., 1987). This survey was carried out on behalf of the CPR and included the Mount Spencer area of the Ladysmith to Parksville segment of the E&N Railway Land Grant. It also covered the area of the Fitzwater Group.

From 1964 to 1966, a reconnaissance geological, geochemical and prospecting survey was conducted by CPOG in partnership with Gunnex Ltd. (operator). Staking, prospecting and trenching followed the discovery of the Mary and other showings in 1964 on Mount Spencer. Detail mapping, sampling, EM, magnetometer, SP and IP surveys and eight diamond drillholes totalling 1005 metres were conducted.

In 1967, Cominco Ltd. conducted geological mapping, horizontal loop EM and magnetometer surveys as well as drilling four diamond drillholes, for a total of 493 m, and five Winkie DDH's for a total of 135 m.

In 1976, Gold Valley Resources drilled three holes totalling 280 metres.

From 1979 to 1981, Summit Pass Mining Corp. prospected and summarized previous work.

In February, 1986, MPH Consulting Limited, on behalf Lode Resource Corp. conducted reconnaissance geological mapping, and rock sampling on the Port/Starboard Group. Due to heavy snow cover, the work was limited to the northeastern corner of the Starboard claim and the southwestern corner of the Port claim. Lithogeochemical concentrations from 19 rock samples were not anomalous (Hawkins and Neale, 1985).

During the fall of 1985, reconnaissance geochemical sampling, prospecting and limited geological mapping were conducted by

Ashworth Explorations Limited on behalf of Lode Resource Corporation. Gold bearing quartz veins were found near the contact margins of Jurassic intrusions, and gold bearing skarn zones were found in contact with limestone. Feldspar porphyritic dykes (and sills?) of Tertiary age occur throughout the Mt. Spencer area and elsewhere in the vicinity. These are intimately associated with mineralization at the Mary Showings as well as some silver bearing quartz veins. Soil sampling yielded anomalous concentrations of gold, silver, zinc and silver in the northeast corner of the Starboard claim which is underlain by 'karsted' limestone (Laanela, 1985).

The Cup 1 claim (6 units) surrounded by the Port and Starboard claims, is owned by Imperial Metals Corporation. In the summer and early fall of 1984, work was undertaken on the Cup claim. This included soil sampling, a magnetometer survey and work sampling on a constructed grid, and geological mapping, soil sampling and a magnetometer survey on another grid to evaluate a magnetic 'high.' A broad copper-in-soil anomaly north of the area of the past workings trends in line with the workings. This zone also contains anomalous silver and local gold concentrations. It is thought that these anomalies are due to shear zones with possible associated quartz veins, although their extent is not known (Clark, 1985).

The Fitz, Water, and Lat claims, adjoining the Port and Starboard to the north and east, were briefly examined by MPH Consulting Limited on behalf of Schreiber Resources in 1984 (Hawkins, 1984). Several large float boulders of massive pyrite were located in the northeastern corner of the Water claim (130 ppb Au, 1.0 ppm Ag). Pyritic basalt south of the float boulders contained up to 210 ppb Au.

During the spring of 1986, geological mapping, rock sampling, prospecting and soil and silt sampling were carried out over

claims of the Fitzwater Group (Neale and Hawkins, 1986). Phase I exploration located a wide zone of intense quartz carbonate alteration on the Water claim and a pyritic argillite horizon on the Lat claim. Soil geochemical Au anomalies were located within this zone of alteration. There is evidence to suggest that the Mine Flow Unit, which hosts the Thistle Mine and the Panther Road showings on the adjacent Thistle property, trends toward these anomalous gold soil sample concentrations.

Phase II exploration, including 1:10,000 scale geological mapping; rock, soil, and silt sampling; and VLF-EM and magnetometer surveying was carried out from February to December 1986 (Hawkins and Getsinger, 1986). This work located values of up to 576 g/t Au in float rock samples collected just west of the property boundary, leading to the subsequent addition of the Port and Starboard claims to the property. A small soil grid in this area also yielded anomalous Au values.

4.0 REGIONAL GEOLOGY, STRUCTURE AND ECONOMIC SETTING

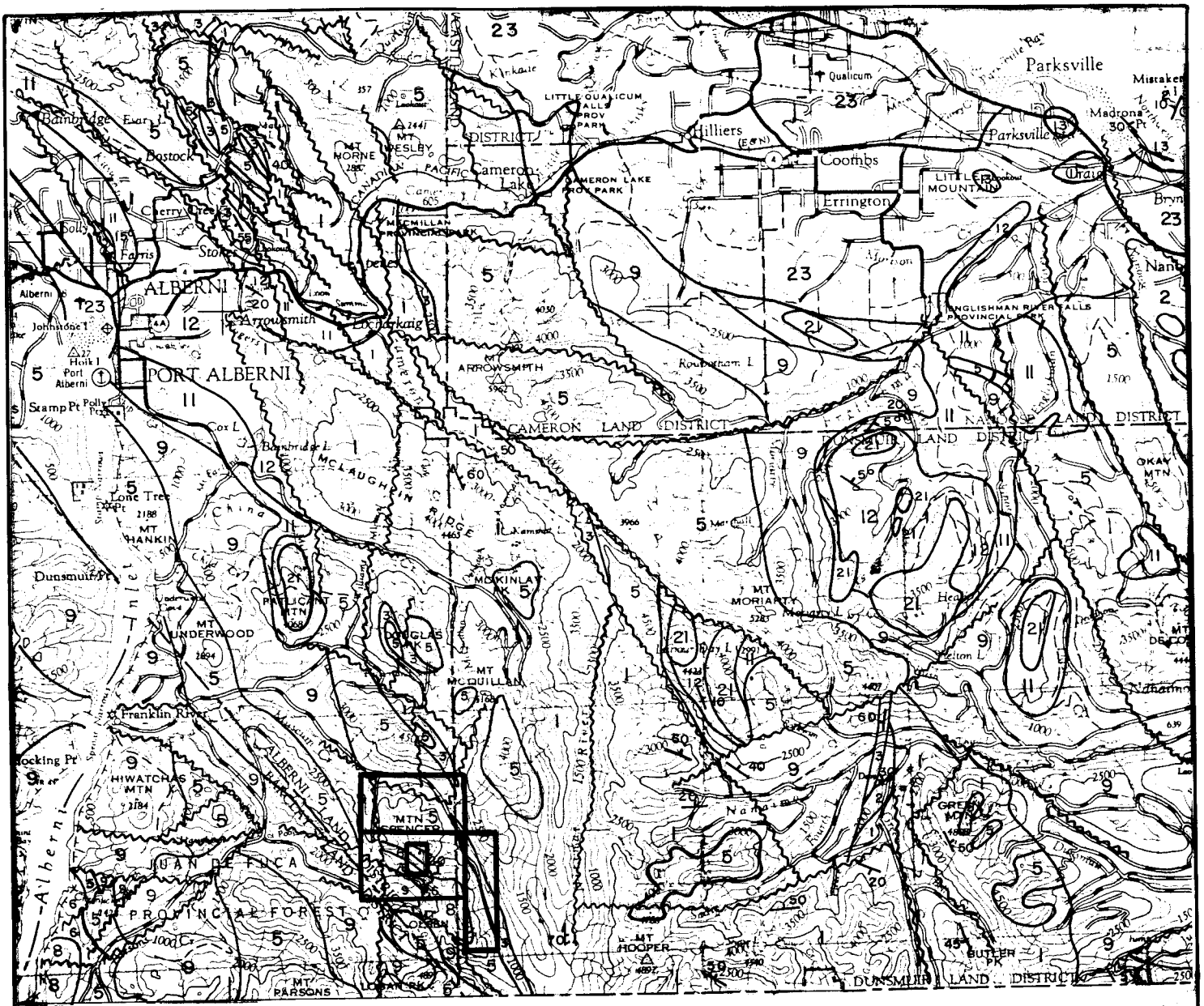
Upper Paleozoic **Sicker Group** rocks and Lower Mesozoic Vancouver Group rocks are the predominant rock units in the Port Alberni-Nitinat River area. These units are eugeosynclinal sequences of volcanic and sedimentary rock. The Sicker Group has been subdivided by Muller (1980) from oldest to youngest as follows: Nitinat Formation, Myra Formation, Sediment-Sill Unit and Buttle Lake Formation.

The **Nitinat Formation** consists of predominantly mafic flow breccias, agglomerates including massive flow and rare pillow basalts, with local interbedded basaltic tuff. Uralitized gabbroic rocks underlie and intrude the volcanics and are believed to be feeder dykes, sills and magma chambers to the volcanics.

The **Myra Formation** unconformably overlies the Nitinat Formation and in the Nitinat-Cameron River area comprises a lower basaltic tuff and breccia unit, a middle banded pelitic feldspathic tuff and argillite unit, and an upper thick-bedded feldspathic tuff and breccia unit. At Myra Creek at the south end of Buttle Lake, volcaniclastic rocks consisting of dominantly rhyodacitic and rhyolitic tuff, lapilli tuff and breccia with quartz porphyry and minor mafic flows and argillite, are host to Westmin Resources' Myra, Lynx, Price and H-W massive sulphide (Cu, Zn, Pb, Au, Ag, Cd) deposits.

The **Sediment-Sill Unit** contains thinly bedded to massive argillite, siltstone and chert with interlayered sills of diabase. It is transitional between the Myra and Buttle Lake Formations.

The **Buttle Lake Formation** comprises a basal green and maroon tuff overlain by crinoidal and calcarenitic limestone with minor



LEGEND

QUATERNARY

23 — Glacial and alluvial deposits.

TERTIARY

21 — Hornblende quartz diorite, leucoquartz monzonite, porphyritic dacite, breccia.

UPPER CRETACEOUS
NANAIMO GROUP

13 — EXTENSION-PROTECTION FM.: sandstone, conglomerate, shale, coal.

12 — HASLAM FM.: shale, siltstone, fine sandstone.

11 — COMOX FM.: sandstone, conglomerate, shale, coal.

MIDDLE TO UPPER JURASSIC

9 — ISLAND INTRUSIONS: biotite-hornblende granodiorite, quartz diorite.

LOWER JURASSIC

8 — BONANZA GROUP: andesitic to latitic breccia, tuff, and lava; minor greywacke, argillite, and siltstone.

UPPER TRIASSIC
VANCOUVER GROUP

6 — QUATSINO FM.: massive to thick bedded limestone, minor thin bedded limestone.

5 — KARMUTSEN FM.: pillow-basalt and pillow breccia, massive basalt flows; minor tuff, volcanic breccia; Jasperoid tuff, breccia and conglomerate at base.

TRIASSIC OR PERMIAN

4 — Gabbro, periodite, diabase.

LOWER PERMIAN TO PENNSYLVANIAN
SICKER GROUP

3 — BUTTLE LAKE FM.: limestone, chert.

2 — MYRA FM.: lower unit; argillite, greywacke, conglomerate, tuff, minor limestone. Upper unit; rhyodacite to rhyolite tuff, lapilli tuff, breccia lesser siliceous siltstone, argillite, quartz porphyry and mafic flows.

1 — NITINAT FM.: basaltic uralite porphyry, agglomerate, pillow lava; greenschist.

0 5 10 km

N

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REGIONAL GEOLOGY MAP
FITZWATER PROJECT
VICTORIA, ALBERNI MINING DIVISIONS

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Drawing No:	3	Date:	FEBRUARY 1988.

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chert nodules and lesser amounts of argillite, siltstone greywacke and chert.

The Middle and Upper Triassic **Vancouver Group Karmutsen Formation** unconformably overlies the Buttle Lake Formation limestone, and is the thickest and most widely distributed sequence of rocks on Vancouver Island. The Karmutsen Formation, which is well exposed southeast of Port Alberni, comprises pillowed basalt, massive basalt and pillow breccia. Pillow lavas occur locally near the base of the section. Flows are commonly aphanitic and amygdaloidal.

The Upper Triassic **Quatsino Formation** massive to thick-bedded limestone occurs south of Mt. Spencer, and in contact areas with intrusive rocks, is host to the majority of known economic skarn deposits on Vancouver Island.

North-northwesterly trending axial uplifts are believed to be the oldest (before Late Cretaceous) structural features of south-central Vancouver Island. Additional tilting, folding and uplift occurred after the Late Cretaceous. Sicker Group rocks occur at the core of these uplifts. Asymmetric northwest-trending, southwest-verging antiforms with subvertical southwest limbs and moderately dipping northwest limbs, mapped in the Buttle Lake and Cameron-Nitinat River areas, are thought to have formed during the Jurassic.

Economic Setting

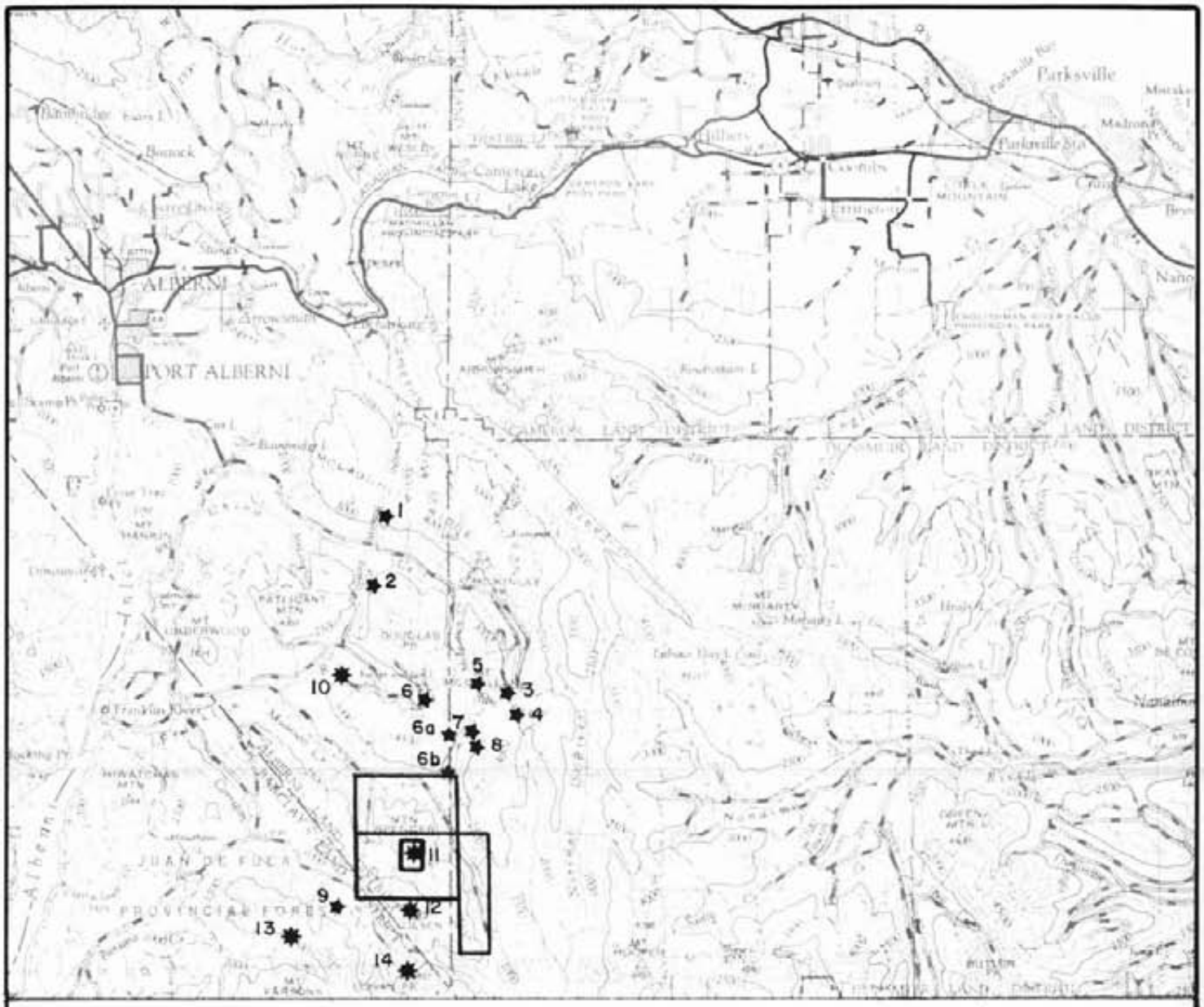
Volcanogenic massive sulphide deposits have traditionally been the most economically significant exploration targets within Sicker Group volcanic rocks. Known deposits include Westmin Resources' Buttle Lake Mine deposits, 90 km northwest of the Fitzwater Group, where ore minerals include sphalerite,

chalcopyrite, galena, tetrahedrite-tennantite, minor bornite and covellite hosted by pyritic rhyolitic to rhyodacitic volcanic and pyroclastic rocks of the Myra Formation. Total reserves of the Lynx and Price deposits are 839,800 t grading 1.00% Cu, 0.91% Pb, 7.79% Zn, 2.22 g/t Au (0.065 oz/ton), 74.52 g/t Ag (2.18 oz/ton) (1983). Mineable ore reserves of the H-W deposit based on a 2700 t/day production rate and $33 Cdn. cut-off grade, are 13,302,000 tonnes grading 2.02 g/t Au (0.059 oz/ton), 30.38 g/t Ag (0.886 oz/ton), 1.91% Cu, 0.27% Pb, 4.48% Zn (McKnight, 1987).

The Twin J Mine volcanogenic massive sulphide orebodies near Duncan on Mt. Sicker, which are approximately 46 m apart, contain pyrite, chalcopyrite, sphalerite and minor galena in a barite-quartz-calcite gangue and chalcopyrite in quartz and occur in schists derived from the Myra Formation. Total production from 1898 to 1964 was 277,400 t producing 1,383,803 g Au, 29,066,440 g Ag, 9,549,590 kg Cu, 20,803,750 kg Zn, 164,590 kg Pb and 4.5 kg Cd.

Recent exploration on Abermin Corp.'s Lara property (56 km south-east of the Fitzwater Group) has traced volcanogenic massive sulphides in the Coronation and Coronation Extension zones along a strike length of 1500 m, over a true width averaging 3.3 m. Published indicated and inferred reserves are 1,125,000 tonnes grading 2.88 g/t Au, (0.084 oz/ton), 67.9 g/t Ag (1.98 oz/ton), 3.59% Zn, 0.67% Cu, and 0.72% Pb (Vancouver Stockwatch, Feb. 9, 1988). Underground exploration totalling 823 m is scheduled to begin in early 1988 with a decline on the Coronation zone to provide access to the ore zone on three levels. Two kilometres to the north, four diamond drill holes intersected several polymetallic horizons over a strike length in excess of 2.4 km (Northern Miner, January 1987).

In the Port Alberni area, five past producing mines, as well as numerous showings, occur (Figure 4). The Thistle Mine (3 km



GOLD DEPOSITS AND OCCURRENCES

1. Vancouver Island Gold Mine
2. Regina
3. Golden Eagle
4. B & K
5. Havilah
6. Thistle
6a. Panther Rd.
6b. Rift Cr.
7. Black Panther
8. Black Lion
9. 3 - W

BASE METAL OCCURRENCES

10. Upper Franklin R.
11. Mary Group
12. Mt. Olsen Cu Showing
13. Parsons Creek
14. Arland's Showing

N

0 5 10 km

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MINERAL OCCURRENCE LOCATION MAP
FITZWATER PROJECT

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Drawing No:	4	Date:	FEBRUARY 1988.

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north of the Fitzwater property, on the adjacent property) contains disseminated and massive sulphide mineralization within pyritic, quartz-sericite schists and at their contact with chlorite altered mafic volcanics of the Sicker Group. Production from 1938 to 1942 totalled 6276 tonnes of ore yielding 85,844 g Au, 65,438 g Ag, and 309,739 kg Cu (13.7 g/t Au, [0.40 oz/T]; 10.5 g/t Ag [0.31 oz/T], 4.92% Cu).

Exploration by Westmin Resources Ltd. has located 16 Cu and/or Au occurrences over a strike length of 4.6 km grading up to 16.8 g/t Au (0.049 oz/ton) over 2.1 m (Benvenuto, 1984).

The Black Panther Mine is a quartz vein deposit hosted by a shear zone in Sicker Group andesite and Island Intrusions diorite located 2 km north of the Fitzwater Group, on the adjacent property. Production of 1715 t yielded 15,830 g Au (509 oz), 29,640 g Ag (953 oz), 5587 kg Pb and at least 2030 kg Zn and 226 kg Cu.

The 3-W Mine consists of gold-bearing quartz veins in Island Intrusions diorite and granodiorite. Production amounts to 105 t of ore grading 137 g/t Au (4.0 oz/ton), 147.4 g/t Ag (4.3 oz/ton), 0.23% Cu, 1.1% Pb. The 3-W Mine is located 1.5 km southwest of the Fitzwater property.

The Havilah Mine (950 t produced 8,056 g Au [259 oz], 43,670 g Ag [1,404 oz]) and the Vancouver Island Gold Mine (438 t produced 11,944 g Au [384 oz], 1617 g Ag [52 oz]) are quartz vein deposits hosted by andesite and andesite tuff of the Sicker Group and are located 4 km and 11 km respectively, north of the Fitzwater Group.

Exploration on the Debbie and Yellow properties, surrounding the old Vancouver Island Gold Mine, has located three zones of gold mineralization. The 900 Zone has provided the best results to

date, including 14.36 m (47.1') grading 139.82 g/t Au (4.078 oz/T) and 13.50 m (44.3') of 38.98 g/t Au (1.137 oz/T). At the 900 Zone, the gold occurs in a silicified quartz stockwork zone hosted by a variety of Sicker volcanic rocks. The Mineral Creek Zone, which is fault-controlled, has been outlined for about 250 m on the Debbie property and 150 m on the adjacent Yellow property. Gold intersections are lower grade, but generally wider, than in the 900 Zone, and include 21.06 m (69.1') of 3.53 g/t Au (0.103 oz/T). The Linda Zone, which may be an extension of the Vancouver Island Gold Mine, consists of a series of auriferous quartz veins in barren wall rock. Intersections from this zone include 1.40 m (4.6') of 44.91 g/t Au (1.310 oz/T) and 2.00 m (6.6') of 47.35 g/t Au (1.381 oz/T).

Drilling in areas away from the known zones has also intersected gold mineralization (18.75 g/t Au [0.547 oz/T] over 1.0 m, 475 m north of the Mineral Creek Zone; and 8.40 g/t Au [0.245 oz/T] over 0.61 m, 300 m west of the Mineral Creek Zone). A total of 30,580 m of diamond drilling in 163 holes was carried out in the 1987/88 season on the Debbie and Yellow properties. Over $5 million is to be spent in 1988 on the properties, including the driving of a 1.9 km adit to provide access to the Mineral Creek and Linda zones.

The Cup showings are located on the Cup claim, which is enclosed by the Fitzwater property. Vancouver Group volcanics and limestone host Cu-Zn-Pb-Ag-Au mineralization in quartz veins, shear zones, and skarns. Assays include 2.23% Zn, 11.3 g/t Au (0.33 oz/T) over 0.6 m; 2.72% Cu, 6.22% Pb, 0.65% Zn, 990 g/t Ag (28.9 oz/T) from a grab sample; and 6.8 g/t Au (0.20 oz/T), 867 g/t Ag (25.3 oz/T) also from a grab sample.

Complete descriptions of the showings located in the area of the Fitzwater Group (Figure 4) are contained in previous reports on the property (Hawkins and Neale, 1985; Neale and Hawkins, 1986; and Hawkins and Getsinger, 1986) and are not repeated in this report.

5.0 PHASE III EXPLORATION

5.1 Property Geology and Mineralization (Figures 5,6,7)

Geological mapping has shown the Fitzwater Group to be underlain by rocks of the Paleozoic Sicker Group and Triassic Vancouver Group (Figure 3). Volcano-sedimentary rocks consisting of thin-bedded lithic tuff, massive tuffs, basaltic flows, pillow basalts and pillow breccias occur on either side of Rift Creek. While regional correlations with Sicker Group volcanics are apparent, property-scale formational correlations are tenuous. This is due to the occurrence of massive volcaniclastic and pillow basalt units, generally correlative with Nitinat Formation, within moderate to thinly bedded volcaniclastic units correlative with Myra Formation lithologies. Since bedded volcaniclastics appear to conformably host pillow basalts and flows, it will be assumed that these are Myra Formation lithologies.

Lithologies east of Rift Creek consist of thin bedded lithic tuff, pyritic chert, and basaltic flows to diabasic sills. The flow units may be correlative with the "Mine Flow Unit" (Benvenuto, 1984) which hosts the Thistle Mine (to the northwest). The volcano-sedimentary rocks lie in the northeast part of the Water claim, strike northeast with moderate to steep dips to the southeast, and overlie Unit 1 volcanics.

Volcanics outcropping on most of the Lat claim and on the eastern part of the Water claim consist of massive basaltic flows, pillow basalts, agglomeratic lapilli tuffs, and flow breccia. Strikes are generally northwest with steep dips to the northeast. North to northwest-trending regional shear zones and associated faults crosscut the volcanic units. These intensely foliated zones are characterized by sericitic and ankeritic alteration. Slickensides on fault surfaces indicate possible east-west movement.

The Buttle Lake Formation outcrops on south-central and north-eastern part of the Water claim, and the central area of the Lat claim. It consists mainly of interbedded light grey bioclastic (crinoidal) limestone and medium grey to black calcareous siltstone. Buttle Lake Formation rocks form a dip slope, being in unconformable contact (dipping 25°E to 30°E) with underlying volcanics and themselves underlying Triassic Vancouver Group volcanics to the west. Undulatory bedding and intense local shearing within the Buttle Lake Formation may have resulted from a combination of paleotopography and folding related to regional and local deformation.

The Buttle Lake Formation is host to several near surface shallowly dipping gold-bearing quartz and quartz-carbonate veins (locally up to 30 cm thick). Total sulphide content of up to 75% includes variable combinations of pyrite-arsenopyrite-sphalerite-chalcopyrite-galena-pyrrhotite. Geological mapping and diamond drilling has shown these veins to be located in zones of intense local shearing and occurring along or subparallel to bedding planes. The best exposures of near surface veining are in the M6 Creek/Nicki Creek zones.

Phase IIIc diamond drilling has discovered several intensely altered polymetallic sulphide-bearing quartz-carbonate stockwork vein systems at depth within the Buttle Lake Formation. These systems, intersected in DDHs Fitz-10 to 13-87/88, are characterized by accompanying Fe-carbonate alteration, silicification, and calcic garnet skarn formation (see Appendix V: Summary of Petrography). They have not yet been found in outcrop.

Triassic Vancouver Group (Unit 6) rocks underlie most of the remainder of the Fitzwater Group. They are characterized by maroon weathering and consist of massive basaltic flows, pillow basalts, and pillow breccias.

A summary of highlights from rock sampling within the 1987 grid area is listed by zone (Figure 5) below.

Sample No.	Type	Au g/t	Other
1. **M6 Creek Zone** - the veins are exposed along 175 m of strike (* indicates sample taken along vein for continuity, usually 2 m length):			
20031*	6-10 cm wide vein chip	32.40	
20033*	4- 5 cm	8.67	
20035*	2- 5 cm	0.79	
20036*	4- 8 cm "	29.83	
20038*	10 cm	41.28	
20040*	5- 8 cm wide vein chip	17.14	
20051	grab	11.18	24.0 ppm Ag
20052		7.27	91.9 ppm Ag
20053		16.94	32.2 ppm Ag
20054	"	22.32	61.7 ppm Ag
20055		4.18	48.0 ppm Ag
20056		12.24	347.0 ppm Ag
20057	grab	3.98	41.1 ppm Ag
20086*	10-20 cm wide vein chip	5.35	
20091*	10 cm " " "	36.14	
20092	1.0 m chip	0.69	
20094*	10 cm wide vein chip	33.70	
20097*	10 cm " " "	13.61	
10100*	10 cm wide vein chip	25.75	
20200	grab	10.25	17.4 ppm Ag
22652*	12 cm wide vein chip	13.06	
22654*	15 cm	23.31	
22656*	15 cm " " "	6.31	
22658*	15 cm	7.65	
22660*	12 cm	12.99	
22662*	10 cm wide vein chip	17.66	
22665	grab	0.72	
2. **23+50S Creek Zone** - veins strike oblique to the creek, exposed along 100 m of strike:			
20026	grab	7.34	
20027		44.57	16.16% Zn
20041		8.02	
20042	"	9.94	
20043		6.93	
20085		13.27	
22751		5.35	
22752	grab	24.24	

Sample No.	Type	Au g/t	Other

3. **Nicki Creek Zone** - veins strike approximately perpendicular to the creek, exposed along a 125 m section:

20137	grab	1.82	14.7 ppm Ag
20140	"	12.62	27.4 ppm Ag, 7.88% Zn
20141		1.34	9.3 ppm Ag
20142	grab	0.86	46.6 Ag, 1.92% Pb, 2.62% Zn

4. **M3 Road Zone** - approximately 175 m x 150 m zone (surface area) exposed along road and as indicated by soils:

2969	grab	41.04	188.7 ppm Ag, 114,870 ppm Zn
20155		5.18	19,135 ppm Zn
20170		31.34	21.0 ppm Ag
20171	"	17.66	132.5 ppm Ag, >99,999 ppm Zn
20172		2.54	32.3 ppm Ag, 38,409 ppm Zn
22670	grab	35.04	

5. **M4 Road Zone (M4 Road)** - approximately 200 m x 200 m zone (surface area) exposed along road and as indicated by soils:

20126	grab	3.98	26.1 ppm Ag
20133		3.02	4,211 ppm Zn
20199	"	7.20	17.6 ppm Ag
22674		1.41	
22675		5.93	
22676	grab	1.30	
22678	4 m chip	3.15	
22679	grab	1.34	

6. **11+00 Zone** (L11+00S) - approximately 200 m x 100 m zone (surface area) exposed along road and as indicated by soils:

20016	grab	1,200 ppb	2,204 ppm Zn
20175	"	23.25	6.7 ppm Ag

7. **North Rift Creek Zone** - local zones exposed along N.Rift Creek and the nearby Panther Road:

20112	grab	1,960 ppb
20115		700 ppb
20192	"	0.45

5.2 Soil Geochemistry (Figures 8,9,10,11)

A total of 1006 soil geochemical samples was collected at 25 m intervals along a 23.85 line-km grid and analyzed for gold by atomic absorption and for a 30-element suite by ICP during the Phase IIIa exploration program. The result was the discovery of a significant broad zone (1400 m long, 500 m wide) of highly anomalous gold geochemistry with coincident silver, zinc, and arsenic anomalies overlying the Buttle Lake Formation.

At least three discrete zones, generally striking north-northwest to south-southeast, can be identified within the broader anomaly. The strongest, **Zone 1**, is approximately 725 m long (from 16+75S to L24+00S) and up to 275 m wide. Geochemical highlights from this zone are as follows:

Station		Gold (ppb)	Other (ppm)
L23+00S	0+50E	15,000	33.7 Ag, 810 Zn, 11582 As, 479 Cu, 629 Pb
L22+00S	2+00E	5,600	4.6 Ag, 131 Zn, 207 As, 140 Cu, 186 Pb
	1+75E	4,200	4.9 Ag, 131 Zn, 158 As, 110 Cu, 157 Pb
L21+00S	2+00E	2,020	2.6 Ag, 418 Zn, 123 Cu
L19+50S	1+25E	2,240	1.2 Ag, 344 Zn
	0+00E	1,240	1.0 Ag, 1214 Zn, 169 As

Phase IIIc diamond drilling has concentrated on this zone.

Zone 2 is approximately 1200 m long (from L26+00S to L14+00S) and up to 100 m wide. Geochemical highlights from this zone include:

Station		Gold (ppb)	Other (ppm)
L 1+00E	37+50S	1,160	(1986 grid)
L26+00S	2+75E	380	
123+50S	3+25E	350	614 Zn
L19+50S	4+75E	550	101 Zn

Zone 3, approximately 100 m long (from L21+50S to L20+50S) and 100 m wide is limited in extent by topography and stream boundaries. Highlights from this zone include:

Station		Gold (ppb)	Other (ppm)
L20+50S	0+75W	300	724 Zn
	1+25W	200	1.2 Ag, 646 Zn
L21+50S	0+50W	190	1.1 Ag, 232 Zn, 113 Cu

Geological mapping and prospecting has shown that the anomalies described above are related to near surface sulphide-mineralized quartz and quartz-carbonate veins. Their east-west extent likely results from geochemical slope transport overprinting east-west oriented sulphide-bearing shear zones and north-south oriented quartz veins. Their north-south extent likely reflects the strike of shallow dipping sulphide mineralized quartz veins. The strong similarity of the gold anomaly and the zinc-arsenic soil geochemistry data suggests a strong relationship between sulphide mineralization and gold enrichment.

5.3 Trenching

A backhoe excavator was used to expose rocks underlying high soil geochemical values in two locations (Figure 5). The 11+00S trench (approximately 40 m long) tested a 1986 soil geochemistry high of 2100 ppb Au (1987 soil re-sample returned a value of 1600 ppb Au). Trenching revealed that at least one silicified hornblende feldspar porphyritic dyke with crosscutting quartz-calcite veins occurs in the area. The best result from rock samples from the area is 4300 ppb Au, 1.5 ppm Ag, and 294 ppm Cu from a grab sample. Adequate exposure was not achieved for proper chip sampling. The 22+00S trench (approximately 40 m long) exposes rocks adjacent to gold geochemical highs of 5600 ppb and 4200 ppb

(soil geochemistry Zone 1). The peak rock sample value (0.022 oz/T Au [0.75 g/t], 6.7 ppm Ag, 1113 ppm As, 480 ppm Cu) was returned from a 0.75 m chip sample across a bioclastic siltstone crosscut by several quartz-carbonate filled shears containing 4-7% pyrite and trace arsenopyrite. Further trenching is required to explain more adequately the high soil values in this area.

5.4 I.P./Resistivity Survey

The following I.P. survey was conducted by MPH Consulting Limited geophysicists in two phases.

Phase IIIa was completed between July 26, 1987 and November 26, 1987. Phase IIIc was done in the period of November 27, 1987 to December 15, 1987.

Interpretation of the geophysical data shown in accompanying maps and the following section of the report is by K. Lund, BSc. and J. Roth, MA of MPH Consulting Limited.

5.4.1 Survey Description

I.P./Resistivity surveys were carried out over an area identified as favourable on the Fitzwater property. A total of 13.25 line-km of dipole-dipole I.P. geophysics was completed, consisting of 11.5 km over 14 cut lines (which trend 053° to 056°).

In addition, approximately 1.75 km of survey traverses were run along the M3 and M4 roads. The I.P. measurements were made on roads trending roughly north-south, targeting any east-west structure crosscutting stratigraphy.

The survey was carried out using Huntec time-domain instrumentation consisting of a 25 kW transmitter and a MK IV receiver. The

dipole-dipole array was used throughout with an 'a' spacing of 12.5, 25, and 50 m read to an 'n' separation equal to 4. The parameters of primary voltage (Vp) and secondary voltage (Vs) over ten windows from 0.1 seconds to 1.1 seconds were measured for each dipole pair during the survey. The total chargeability was selected as optimal for purposes of display. Details of the IP/resistivity method and equipment specifications are found in Appendix IX.

Observed chargeability highs and resistivity lows are indicated on each pseudosection providing a graphic characterization of the anomaly source location, strength and geometry. The apparent resistivity and total chargeability for the first separation (n=1) have been plotted in plan contoured form comprising Figures 12 through 15 (Appendix X). Also shown on these maps are the chargeability highs and resistivity lows interpreted from the pseudosections. The most significant of these anomalous features have been given alphabetic designations as shown in the attached maps.

The calculated apparent resistivities and chargeabilities plotted in standard pseudosection format may be found in Appendix XI (Figures 16 through 33). Note that along the road traverses, the apparent resistivities are calculated assuming a straight line and are moderately in error due to local kinks and bends in the roads. In order to better appreciate the topography and its distorting affect on the pseudosection plots, terrain compensated pseudosection plots were prepared for lines 0+00S through 23+50S, including the M3 and M4 roads. In these plots, the actual locations of the dipoles and the actual terrain profiles are used to produce pseudosection plots that partially correct for the variation in the horizontal distance between the dipoles due to irregular terrain.

5.4.2 Resistivity Survey Results

As seen in Figures 14 and 15, the survey area is interpreted to be underlain by moderately resistive bedrock within which conduction zones are trending north-northwest. Seven zones have been outlined where detected during the course of the survey. Five of these zones form persistent anomalous features or correlate with polarizable bedrock sources. The other three lows could be reflecting fault zones or lithologic contacts.

Resistivity low **a** is a line to line feature defined from lines 17+80S through 23+50S, near the baseline. This low exhibits a close correlation with chargeability zone A.

Resistivity low **b** is a feature parallel to low a near 1+25E defined by a moderate contrast with the surrounding resistive host lithology trending between low a and low b. Two crosscutting features are interpreted to displace low b near lines 18+50S and 22+50S. Low b is moderately correlative to polarizable zone B.

Resistivity low **c**, the most persistent resistivity low defined in the survey, located around 4+50E, trending generally N-S is continuous from line 21+50S through 8+00S is interpreted to divide into c, and c^2 around L17+50S.

Resistivity low **d** is located around 3+00E and conformable with stratigraphy, having a strike length of approximately 300 metres. This feature was tested by diamond drill hole Fitz-14-88, intersecting a lithologic unit consisting of argillaceous siltstone which contains layers of graphite/clay.

Resistivity low **f** is a feature coincident with Rift Creek, from lines 18+50 to 11+00S. Rift Creek is observed to be a major northwest trending structure.

Resistivity low **g** is observed traversing the property along a northwest trend, seen as a feature semi-parallel to Rift Creek, approximately 200 metres east of the creek. The feature is not continuous along this trend and is interrupted by two east-west trending structures. The existence of these structures is inferred from the disruption of continuity of resistivity lows c, f, g and h.

Resistivity low **h** is a broad feature observed on line 8+00S to 0+00S around 6+00E. This feature is a near surface response and interpreted to reflect an overburden response.

5.4.3 Chargeability Survey Results

The chargeability results over the survey area indicate four significant chargeability zones, designated A through O, plus several additional weak and/or isolated chargeability sources.

Chargeability zone **A** consists of a moderate to strong IP source detected on lines 17+50S to 23+50S, around baseline, open along strike to the north and south. The response is interpreted to reflect a near surface feature with intrinsic chargeability of 50 to 70 milliseconds, exhibiting a broad response. This response is interpreted to be reflecting a lithologic contrast from a bioclastic calcareous siltstone to argillaceous calcareous siltstone. Testing by diamond drilling identified an intensity of sulphides and alteration, both near surface and below 70 metres in four drill holes (Fitz 10 through 13-88).

Chargeability zone **B** is defined as a continuous IP feature from line 18+50S through 23+50S near 1+50E. Zone B is defined by a moderate IP response with an intrinsic chargeability ranging from 25 to 60 milliseconds. The zone is interpreted to reflect a

from 25 to 60 milliseconds. The zone is interpreted to reflect a near surface response. However, zone B, on lines 18+50S and 20+50S is interpreted to reflect a response at depth. Zone B was tested by diamond drilling with holes Fitz-16 to 18-88.

Chargeability zone **C** in a continuous IP feature from 15+00S through 21+50S, approximately 100 metres west of the M4 road. Zone C shows a moderate to strong IP response, interpreted to depths ranging from 10 to 30 metres. Zone C was tested by diamond drilling with hole Fitz-19-88. Diamond drill hole Fitz-19-88 intersected several seams of trace pyrite with graphite including quartz veining stockwork at depth (96 metres) assaying 1090 ppb gold over 0.5 metres.

Chargeability zone **D** is a continuous IP feature from 17+50S to 23+50S, just west of the M4 road. This zone is observed to also be on lines 15+00S and 11+00S along a similar trend as the feature exhibits to the south. Zone D exhibits a strong IP response, having an intrinsic chargeability of 70 milliseconds. The northern extent of zone D is interpreted to be a near surface response. The southern portion of zone D exhibits a strongly polarizable feature at an estimated depth of 25 to 30 metres. Zone D was tested by diamond drilling with Fitz-14, 15-88.

5.4.4 IP Geophysics and Soil Geochemistry Discussion

A strong positive correlation exists between the distribution of the gold soil geochemistry and IP chargeability anomalies. The geophysical survey resulted in the identification of at least four north-northwest to south-southeast trending chargeability anomalies (Figures 12, 13). Anomaly A, strongly correlative with soil Zone 3 and moderately correlative with the southern

extension of soil Zone 1, is at least 600 m long and 100 m wide. Anomaly B is strongly correlative with soil Zone 1. Anomaly C, within the broad soil anomaly, is up to 300 m long and 75 m wide. Anomaly D consists of two narrow north-south trending polarizable horizons which appear to merge into one chargeability anomaly at about L21+00S. It is up to 500 m long and 75 m wide. This zone is moderately correlative with soil Zone 2.

The strong positive correlation between the soil geochemistry and IP surveys when considered with the underlying geology, indicates a dual cause for the pattern of anomalies seen on the Fitzwater Group. Specific high geochemical and/or chargeability anomalies are due to the near surface subcropping of gold-bearing sulphide-enriched quartz veins or quartz-carbonate shear zones. The north-northwest to south-southeast trend of the geochemical/geophysical anomalies reflects orientations of the quartz veins subparallel to bedding as well as local bedding orientations. The southern portion of chargeability Anomaly D, showing two polarizable horizons with an intervening resistivity low, likely reflects interbedded argillaceous/non-argillaceous calcareous siltstone horizons.

The effective depth of exploration of the induced polarization survey utilized can give reliable information to 50 metres. However, the drilling results indicate a sulphide/auriferous alteration zone at 50 to 70 metres and this is below the effective depth of investigation of the IP survey carried out over the property. The drill holes 12- through 15-88 were targeted on IP features estimated to only a depth of 25 to 30 metres. In the area between Nicki Creek and M6 Creek, the IP possibly indicates a polarizable feature derived from deeper sources. IP grid extensions are required to further delimit and define these anomalies. A single test on lines 23+50S or 22+50S, utilizing an a-spacing of 50 metres on 25 metre moves should be incorporated with existing data base to determine possible usefulness of greater depth penetration.

5.4.5 Diamond Drilling

Phase IIIb drilling, diamond drill holes Fitz-1 to 9-87, was designed to test road accessible geological, geochemical, and geophysical targets. It consisted of a total of 869 m of wireline diamond drilling in nine holes from four drill pad locations. Phase IIIc drilling, DDHs Fitz-10 to 12-87 and Fitz-13 to 19-88, was designed to test the newly discovered M6 Creek/Nicki Creek vein zones and by step-outs to delineate its extent. It consisted of 1437 m of wireline diamond drilling in ten holes from two helicopter access drill pads and four road access drillpads. Results are summarized below. Drill logs are included in Appendix XII. Drill sections are included in Appendix XII. Drill sections are included in Appendix XIII.

DDH Fitz-1-87 (Figure 34)
Total Depth: 117.32 m

Objective: To intersect the M3 Road showing (1.197 oz/T, 40.80 g/t Au) and a chargeability high at depth.

Lithologies Intersected: Entire hole in interbedded light to medium grey bioclastic calcareous siltstone and black calcareous siltstone. The vein intersected in the 51.00 m to 51.25 m interval projects to M3 Road showing (vein contains 30% pyrite, 30% sphalerite). The IP high is probably a result of the draping effect caused by this sulphide rich vein and the underlying contact between non-argillaceous and argillaceous rocks.

Highlights:

From (m)	To (m)	Interval (m)	Au oz/T	Au g/t	Other (ppm)
3.66	4.14	0.48	0.008	0.27	
4.14	4.35	0.21	0.033	1.13	
51.00	51.25	0.25	0.025	0.86	
62.90	63.80	0.90	0.012	0.41	
83.08	83.24	0.16	70 ppb		2.9 Ag, 102 Cu, 2910 Zn, 1417 Pb

DDH Fitz-2-87 (Figure 34)
Total Depth: 78.01 m

Objectives: To achieve a second intersection of the high grade M3 Road showing and to complete the geological profile in this section of the property.

Lithologies Intersected: Intercalated character seen in Fitz-1-87 does not repeat. Upper 50 m consists of light grey bioclastic (crinoidal) calcareous siltstone. From 50 m to end of hole is dark grey to black calcareous siltstone. Interval of gold-bearing quartz-carbonate veining within calcareous siltstones from 35.76 m to 36.90 m loosely correlates with M3 Road showing.

Highlights:

From (m)	To (m)	Interval (m)	Au oz/T	Au g/t	Other (ppm)
35.76	35.88	0.12	0.101	3.46	10.6 Ag, 5484 Zn, 806 As, 218 Cu, 541 Pb
35.88	36.02	0.14	0.012	0.41	1.7 Ag, 394 Zn, 159 As
36.02	36.74	0.72	0.002	0.07	108 Zn
36.74	36.90	0.16	0.012	0.41	362 Zn, 113 As

DDH Fitz-3-87 (Figure 35)
Total Depth: 123.42 m

Objectives: To intersect high soil geochemistry, projection of M4 Road showing (4 m chip sample returning 0.092 oz/T, 3.15 g/t Au), and flank of IP chargeability high.

Lithologies Intersected: Interbedded dark grey to black calcareous siltstone and light to medium grey, locally bioclastic, calcareous siltstone dominate section to 75.97 m. Quartz-carbonate veining occurs sporadically throughout, but

with minimal mineralization. Minor Fe-carbonate and sericitic alteration associated with strong foliation occurs from 63.95 m to 75.97 m. Fine to medium-grained tuffs and lapilli tuffs complete section to end of hole. High zinc values at top of hole may relate to local soil geochemistry anomaly. M4 Road showing not intersected as volcanic contact is closer to surface than expected. Local chargeability highs probably due to variable argillaceous content in calcareous siltstones.

Highlights:

From (m)	To (m)	Interval (m)	Au oz/T	Au g/t	Other (ppm)
6.26	7.01	0.75			1.0 Ag, 141 Zn, 56 Pb
7.29	8.02	0.73			0.6 Ag, 137 Zn
115.00	115.84	0.84	0.021	0.72	1.2 Ag, 179 Cu, 222 As
118.93	119.08	0.15	40 ppb		1.0 Ag, 601 Zn, 857 Cu

DDH Fitz-4-87 (Figure 36)
Total Depth: 142.61 m

Objectives: To intersect coincident IP chargeability and gold soil geochemistry highs. To begin to define nature of contact between Buttle Lake Formation and underlying volcanics in this area of the property.

Lithologies Intersected: Upper section consists of interbedded dark grey to black calcareous siltstone and light to medium grey, locally bioclastic, calcareous siltstone. Narrow (less than 4 cm) quartz and quartz-carbonate veinlets containing up to 30% total sulphides (mainly pyrite and sphalerite; mode 2-4% total sulphides) occur sparsely throughout Buttle Lake Formation section, to 92.58 m. Moderate Fe-carbonate and

sericitic alteration associated with strong foliation and moderate brecciation occurs from 92.58 m to 97.71 m. Dark green fine-grained tuff completes section to end of hole. Moderate gold, silver, zinc, and copper values throughout top of hole likely contribute to local high soil geochemistry. Combination of above and variable argillite content likely contribute to local chargeability anomaly.

Highlights:

From (m)	To (m)	Interval (m)	Au oz/T	Au g/t	Other (ppm)
11.08	11.20	0.12	290 ppb		1.1 Ag, 15309 Zn, 407 Cu
15.25	15.46	0.21	70 ppb		0.6 Ag, 958 Zn
69.17	69.44	0.27	0.057	1.95	3.6 Ag, 137 As, 80 Pb
79.75	80.04	0.29	150 ppb		296 Zn, 55 As
125.98	126.45	0.47	40 ppb		1.0 Ag, 1340 Zn, 129 Cu, 355 Pb

DDH Fitz-5-87 (Figure 36)

Total Depth: 109.70 m

Objectives: To intersect coincident soil geochemistry and IP chargeability anomalies, to provide a more complete geological profile of this area of the property, and to intersect the M4 Road showing.

Lithologies Intersected: Section to 86.52 m consists of inter-bedded dark grey to black calcareous siltstone and light to medium grey, locally bioclastic, calcareous siltstone. Sparse quartz and quartz-carbonate veinlets with up to 25% total sulphides (mainly pyrite; mode 1-3% total sulphides) occur throughout section. Moderate Fe-carbonate and sericitic alteration associated with strong foliation and moderate local brecciation occurs from 86.52 m to 89.82 m. Dark green fine-grained to lapilli tuff completes section to end of hole. Weak gold, silver, zinc, and copper values at

top of hole likely contribute to local high soil geochemistry. Combination of above and presence of dark grey (argillaceous) calcareous siltstone in upper section of hole likely accounts for local chargeability anomaly.

Highlights:

From (m)	To (m)	Interval (m)	Au oz/T	Au g/t	Other (ppm)
8.59	8.93	0.14	50 ppb		0.6 Ag, 797 Zn
11.38	11.52	0.14	90 ppb		166 As, 6858 Zn, 124 Cu
47.54	47.73	0.19	270 ppb		1.0 Ag, 591 Zn, 314 As

DDH Fitz-6-87 (Figure 37)
Total Depth: 78.87 m

Objectives: To intersect the projection to depth of the M4 Road showing (see Fitz-3-87 objectives) and local IP chargeability anomaly.

Lithologies Intersected: Section to 52.82 m consists of interbedded dark grey to black, locally bioclastic calcareous siltstone and light to medium grey, locally bioclastic, calcareous siltstone. Minor quartz and quartz-carbonate veinlets, locally sulphide-enriched (up to 5% pyrite) occur throughout upper 63 m of hole. Moderate to intense Fe-carbonate and sericitic alteration occurs from 52.82 m to 58.12 m (associated with strong foliation and local intense brecciation). Fine-grained volcanic tuff completes the section to end of hole. Local chargeability highs are likely a result of argillite content variations. The projection of the M4 Road showing was not intersected due to shallow occurrence of volcanics.

Highlights:

From (m)	To (m)	Interval (m)	Au ppb	Au g/t	Other (ppm)
11.42	11.89	0.47	140		
12.32	12.43	0.11	120		0.7 Ag, 18928 Zn, 138 Cu, 119 As
21.03	21.23	0.20	180		216 As

DDH Fitz-7-87 (Figure 37)
Total Depth: 69.50 m

Objectives: To intersect local IP chargeability anomaly and provide a complete geological profile for this area of the property.

Lithologies Intersected: Section to 45.24 m consists of interbedded dark grey, calcareous siltstones and light grey, locally bioclastic, calcareous siltstones as in Fitz-6. Intensely sheared and Fe-carbonate/sericite/hematite altered siltstones occur to 57.70 m. Fine to medium-grained dark green volcanic tuffs complete the section to end of hole. Local chargeability highs are likely a result of argillite content variations. The contact between Buttle Lake Formation and underlying volcanics, strikes approximately north-northwest and dips east (25-30°, based on drillhole contact intersection geometry).

Highlights:

From (m)	To (m)	Interval (m)	Au oz/T	Au g/t	Other (ppm)
20.80	21.02	0.22	0.018	0.62	470 Cu, 30643 Zn, 1.9 Ag, 153 As, 212 Cd
21.64	21.83	0.19	0.046	1.58	461 Cu, 22113 Zn, 2.4 Ag, 581 As, 175 Cd

DDH Fitz-8-87 (Figure 38)
Total Depth: 71.65 m

Objectives: To intersect coincident high IP chargeability and gold soil geochemistry.

Lithologies Intersected: Section to 46.43 m consists of interbedded dark grey calcareous siltstones and light grey, locally bioclastic, calcareous siltstones as in holes 6,7.

Quartz and quartz-carbonate veinlets, with sparse sulphide enrichment common throughout section. Section from 46.43 m to 58.61 m consists of interbedded Fe-carbonate/sericite-altered strongly foliated calcareous siltstone and dark green fine-grained tuff (extremely oxidized at lower tuff contact). Dark green fine-grained tuff, locally chlorite-altered, completes section to end of hole. Coincident geophysical and geochemical anomalies are likely due to the presence of a sulphide-rich horizon at the same approximate depth as an increase in argillite content (at approximately 11 m depth).

Highlights:

From (m)	To (m)	Interval (m)	Au oz/T	Au g/t	Other (ppm)
10.88	11.11	0.23	0.016	0.55	1006 Zn, 145 As
11.28	11.38	0.10	0.029	0.99	563 Zn, 231 As
37.76	37.87	0.11	80 ppb		27.2 Ag, 3264 Zn, 7193 Pb, 280 Cu
39.89	40.01	0.12	0.044	1.51	5250 Zn, 253 As
56.26	56.55	0.29	0.033	1.13	262 Zn, 118 As

DDH Fitz-9-87 (Figure 39)
Total Depth: 78.35 m

Objectives: To intersect the projection to depth of the M4 Road showing (see Fitz-3-87 objectives). To intersect local chargeability high.

Lithologies Intersected: Section to end of hole consists of interbedded light to medium grey, locally bioclastic, calcareous siltstone and dark grey calcareous siltstone. Narrow tuffaceous intercalations were intersected from 52.27 m to 52.42 m and from 56.39 m to 56.48 m. An argillaceous horizon with an associated quartz vein containing approximately 50% pyrite was intersected from 20.40 m to 21.34 m (likely accounts for local chargeability anomaly). This may correlated with the projection of the M4 Road showing but is relatively unmineralized (40 ppb Au, 547 Zn, 162 As.).

No significant intersections.

DDH Fitz-10-88 (Figure 40)
Total Depth: 80.77 m

Objectives: To intersect gold-enriched sulphide-mineralized quartz-carbonate veins observed in nearby M6 Creek and to develop a stratigraphic profile for this area of the property.

Lithologies Intersected: Buttle Lake Formation sediments consisting of locally bioclastic and argillaceous calcareous siltstones are intersected from collar to volcaniclastic contact at 79.17 metres. Narrow gold-enriched sulphide-mineralized quartz-carbonate veins similar to those observed in the M6 Creek exposures are intersected in the drillhole from 10.35 to 10.44 m, 10.74 to 10.79 m, 16.43 to 16.49 m, 18.11 to 18.21 m and 26.52 to 26.96 metres. Gold-enriched sulphide-mineralized stockwork vein systems associated with intense hydrothermal alteration, occur from 50.88 to 79.17 metres. Dark green to black lapilli tuff is intersected from 79.17 m to the end of the hole at 80.77 metres.

Highlights:

	From (m)	To (m)	Length (m)	Au (oz/T)	Au (g/t)	Other (ppm)
	10.35	10.79	0.44	0.127	4.35	
incl.	10.35	10.44	0.09	0.588	20.16	2.14 oz/T Ag (73.4 g/t Ag)
	18.11	18.62	0.51	0.161	5.52	
incl.	18.11	18.21	0.10	0.810	27.77	4.06 oz/T Ag (139.2 g/t Ag), 2.66% Cu
	63.38	63.73	0.35	0.099	3.39	
incl.	63.38	63.57	0.19	0.143	4.90	1.68 oz/T Ag (57.6 g/t Ag)
	64.47	64.85	0.38	0.041	1.41	
	72.03	72.96	0.93	0.031	1.06	
	75.60	76.00	0.40	0.044	1.51	

DDH Fitz-11-88 (Figure 40)
Total Depth: 169.77 m

Objectives: To intersect altered gold-bearing horizons discovered in Fitz-10-87, to intersect gold-enriched sulphide-

mineralized quartz-carbonate veins observed in nearby M6 and to provide a vertical fan for correlation purposes.

Lithologies Intersected: Interbedded light grey, locally bioclastic, calcareous siltstone and dark grey to black, locally bioclastic, argillaceous siltstone occur from collar to 105.77 metres. Sulphide-mineralized gold-enriched quartz-carbonate veins (sulphides include pyrite-chalcopyrite-sphalerite-arsenopyrite-galena) similar to those seen in the nearby M6 Creek exposures were intersected from 10.26 to 10.33 m and from 17.63 to 17.76 metres. Intercalated medium-grained tuff and light to medium grey calcareous siltstone, both displaying local intense alteration accompanied by sulphide-enriched quartz-carbonate veining is encountered from 105.77 to the end of hole at 169.77 metres. The vertical fan shown in Figure 40 demonstrates the high level of lithological correlation and mineralogical continuity present in this area of the property.

Highlights:

	From (m)	To (m)	Length (m)	Au (oz/T)	Au (g/t)	Other (ppm)
	10.26	10.33	0.07	0.690	23.66	8.38 oz/T Ag (287.3 g/t Ag), 2.00% Cu
	65.90	66.81	0.91	0.254	8.71	13.0 Ag
	100.85	101.37	0.52	0.062	2.13	9.7 Ag, 1990 Cu
	110.42	111.06	0.64	0.433	14.85	
incl.	110.87	111.06	0.19	1.240	42.51	10.5 Ag, 1242 Cu
	116.94	117.96	1.02	0.205	7.03	
incl.	117.54	117.96	0.42	0.263	9.02	10.0 Ag
	123.80	130.39	6.59	0.069	2.35	
incl.	123.80	125.81	2.01	0.123	4.23	
incl.	123.80	124.28	0.48	0.214	7.32	15.90 Ag, 1649 Cu
and	124.50	125.42	0.92	0.132	4.51	
incl.	124.79	125.10	0.31	0.225	7.71	
and	126.58	127.54	0.96	0.082	2.81	11.2 Ag
	140.55	140.98	0.43	0.126	4.32	9.4 Ag, 1241 Cu
	149.09	150.54	1.45	0.057	1.95	16.0 Ag, 2132 Cu

DDH Fitz-12-87 (Figure 41)
Total Depth: 129.53 m

Objectives: To intersect altered gold-bearing horizons discovered to the south in Fitz 10 and 11, and to intersect gold-enriched sulphide-mineralized quartz-carbonate veins observed in nearby Nicki Creek.

Lithologies Intersected: Interbedded light grey, locally bioclastic, calcareous siltstone and dark grey to black, locally argillaceous and bioclastic, calcareous siltstone occur to 93.57 metres. These siltstones are host to several narrow gold-enriched sulphide-mineralized quartz-carbonate veins identical to those observed in the Nicki Creek exposures (see especially intervals: 18.93 to 19.02 m, 35.04-37.99 m, and 87.62 to 91.60 m). Intercalated dark green-grey brecciated and intensely-altered lapilli tuff or flow breccia and light to medium grey, intensely-altered and brecciated, calcareous siltstone occurs from 93.57 m to the end of hole at 129.53 metres. Within this intercalated interval several gold-enriched sulphide-mineralized horizons occur, generally associated with quartz-carbonate stockwork vein systems.

Highlights:

	From (m)	To (m)	Length (m)	Au (oz/T)	Au (g/t)	Other (ppm)
	35.04	35.25	0.21	0.118	4.05	
	37.05	37.99	0.94	0.221	7.58	9.8 Ag, 3808 Zn
	88.65	90.52	1.87	0.093	3.19	
incl.	88.65	89.58	0.92	0.119	4.08	
	113.45	114.65	1.20	0.031	1.06	
incl.	114.28	114.65	0.37	0.060	2.06	
	114.97	115.78	0.81	0.058	1.99	
incl.	114.97	115.41	0.44	0.072	2.47	

DDH Fitz-13-87/88 (Figure 41)
Total Depth: 172.81 m

Objectives: To intersect altered gold-bearing horizons discovered in Fitz 10 to 12, to intersect gold-enriched sulphide-mineralized quartz-carbonate veins observed in nearby Nicki Creek, and to provide a vertical fan for correlation purposes.

Lithologies Intersected: Buttle Lake Formation sediments consisting of calcareous siltstone, bioclastic calcareous siltstone, argillaceous calcareous siltstone are encountered from collar to the volcaniclastic contact at 139.18 metres. Thin quartz-carbonate veins identical to those observed in the Nicki Creek exposures were intersected from 20.12 to 20.37 m, 33.99 to 34.05 m, and 35.85 to 46.47 metres. Gold-bearing quartz-carbonate stockwork vein systems, generally associated with intense silicification, Fe-carbonate alteration, brecciation, and minor garnet development occur in horizons from 47.20 to 139.18 metres. High gold results are intimately associated with the presence of pyrite, chalcopyrite, sphalerite, ± pyrrhotite, ± galena, ± malachite, ± magnetite. Medium to dark green metabasaltic flows and tuff occurs from 139.18 m to the end of the hole at 172.81 m. The vertical fan demonstrates a high degree of lithological correlation and mineralogical continuity between Fitz-12 and Fitz-13.

Highlights:

	From (m)	To (m)	Length (m)	Au (oz/T)	Au (g/t)	Other (ppm)
	20.12	20.37	0.25	0.042	1.44	
	33.99	34.05	0.06	0.494	16.94	2.32 oz/T Ag (79.5 g/t Ag)
	45.42	46.47	1.05	0.149	5.13	
incl.	45.42	45.94	0.52	0.256	8.78	
	63.64	64.76	1.12	0.066	2.28	
incl.	63.64	64.25	0.61	0.102	3.50	
	71.17	72.41	1.24	0.118	4.05	0.67 oz/T Ag (23.0 g/t Ag)

	From (m)	To (m)	Length (m)	Au (oz/T)	Au (g/t)	Other (ppm)
incl.	71.17	71.62	0.45	0.178	6.10	0.99 oz/T Ag (33.9 g/t Ag)
	77.09	78.42	1.33	0.097	3.33	
incl.	77.09	78.01	0.92	0.113	3.87	
	93.57	97.48	3.91	0.051	1.75	
incl.	94.57	94.93	0.36	0.095	3.26	
and	96.46	97.48	1.02	0.101	3.48	
	107.51	107.87	0.36	0.245	8.40	
	125.71	128.00	2.39	0.080	2.76	
incl.	127.02	128.00	0.98	0.175	6.00	12.87 oz/T Ag (441.3 g/t Ag), 5.17% Cu
	132.55	133.19	0.64	0.074	2.54	1.48 oz/T Ag (50.7 g/t Ag)

DDH Fitz-14-88 (Figure 42)
Total Depth: 182.01 m

Objectives: To intersect the possible northeast extension of altered gold-bearing horizons discovered in DDHs Fitz 10-13, and to intersect coincident gold soil geochemistry and I.P. geophysics chargeability anomalies.

Lithologies Intersected: A thick succession of Buttle Lake Formation interbedded bioclastic calcareous siltstone, argillaceous siltstone, and calcareous siltstone is encountered from collar to 133.67 metres. It is characterized by local brecciation, minor quartz-carbonate stockwork systems, and varying argillite content. Coincident soil geochemistry and geophysics anomalies are likely due to the presence of near-surface sulphide-mineralized quartz-carbonate veins hosted in siltstone with variable argillite content. Low intensity sericite and Fe-carbonate alteration occurs within the Buttle Lake Formation lithologies from 110.45 m to the volcaniclastic contact at 133.67 metres. Fine-grained, medium to dark green, fine-grained to lapilli tuff occur to the end of the hole at 182.01 metres.

Highlights:

From (m)	To (m)	Length (m)	Au (oz/T)	Au (g/t)	Other (ppm)
55.64	55.98	0.34	50 ppb		8.9 Ag, 3522 Zn
94.32	94.81	0.49	0.007*	0.24	
123.62	124.37	0.75	0.008*	0.27	0.6 Ag

* Geochemical Conversion

DDH Fitz-15-88 (Figure 43)

Total Depth: 172.51 m

Objectives: To intersect coincident gold soil geochemistry and IP geophysics chargeability anomalies and to intersect the possible northeast extension of altered gold-bearing horizons discovered in DDHs Fitz 10-13.

Lithologies Intersected: Medium grey to black argillaceous calcareous siltstone, locally brecciated and with minor intersections of quartz-carbonate stockwork veining, occurs from casing to 108.0 metres. Coincident soil geochemistry and geophysics anomalies are likely due to the presence of near-surface sulphide-mineralized quartz-carbonate veins hosted in siltstone with variable argillite content. An interval of felsic intrusive occurs from 58.40 to 58.85 metres. Locally brecciated and silicified, bedded, light to medium grey calcareous siltstone is encountered from 108.50 to 121.00 m. Medium grey to black argillaceous calcareous siltstone occurs form 121.00 to 154.25 metres. Medium grey to black siltstone (as above) is encountered to the end of the hole at 154.25 metres. Due to drilling difficulties, the hole was not completed in the usual volcaniclastic stop rock.

Highlights:

From (m)	To (m)	Length (m)	Au (oz/T)	Au (g/t)	Other (ppm)
80.32	80.59	0.27	0.158	5.42	3.2 Ag, 891 Cu, 51433 Zn
118.53	118.79	0.26	0.011*	0.38	1.3 Ag, 767 Zn

* Geochemical Conversion

DDH Fitz-16-88 (Figure 44)
Total Depth: 142.03 m

Objectives: To intersect sulphide-mineralized gold-bearing altered horizons intersected in Fitz-10 to 13, and to intersect a local IP chargeability anomaly.

Lithologies Intersected: Interbedded medium grey and black, bioclastic and locally argillaceous calcareous siltstone occurs from collar to 66.95 metres. Local IP anomalies are likely due to near-surface variations in argillite content. Light grey, locally bioclastic, calcareous siltstone is encountered from 66.95 to 93.03 metres. Within this unit, from approximately 84.00 m to the volcaniclastic contact at 93.03 m, is a silicified weak sericite/Fe-carbonate altered horizon (with trace pyrite throughout). It is loosely correlatable with the intensely-altered gold-bearing horizons discovered in Fitz 10-13. Medium to dark green, locally agglomeratic, lapilli tuff (with trace to 3% disseminated pyrite) completes the hole to 114.90 metres.

Highlights:

From (m)	To (m)	Length (m)	Au (oz/T)	Au (g/t)	Other (ppm)
26.10	26.72	0.62	0.100	3.43	67 Ag
28.83	29.18	0.35	0.015	0.51	3.7 Ag, 287 Cu
34.85	35.43	0.58	0.005*	0.16	10.7 Ag, 344 Cu
36.98	37.62	0.64	0.008*	0.25	20.0 Ag, 663 Cu, 3187

* Geochemical Conversion

DDH Fitz-17-88 (Figure 45)
Total Depth: 142.03 m

Objectives: To intersect coincident high gold soil geochemistry and IP chargeability anomalies, to intersect the possible northeast extension of altered gold-bearing horizons discovered in DDHs Fitz-10,11,12,13, and to intersect high grade mineralization exposed in the 225OS trench.

Lithologies Intersected: A thick succession of Buttle Lake Formation siltstone, argillaceous calcareous siltstone and bioclastic calcareous siltstone with local graphitic horizons, soft sediment deformation features and local quartz-carbonate stockwork vein systems is encountered from collar to 103.16 metres. High local IP chargeability values are likely due to near-surface variations in argillite content. Local gold soil geochemistry anomalies are likely due to the occurrence of near-surface sulphide mineralized quartz-carbonate veins (such as those exposed in the 2250S trench). Weak sericitic/Fe-carbonate alteration and silicification, loosely correlatable with gold-bearing Fe-carbonate altered horizons discovered in Fitz 10 to 13, occurs from 92.80 to 103.16 metres. Dark green agglomeratic lapilli tuff completes the hole to 114.90 metres.

Highlights:

From (m)	To (m)	Length (m)	Au (oz/T)	Au (g/t)	Other (ppm)
30.11	30.60	0.49	0.012	0.41	4.5 Ag, 225 Cu
44.22	44.43	0.21	0.041	1.41	12.9 Ag, 1311 Cu, 217 Zn
102.30	102.96	0.66	0.083	2.85	10.2 Ag, 377 Cu, 3052 Zn
104.32	105.00	0.68	160 ppb		3.1 Ag, 2175 Zn

DDH Fitz-18-88 (Figure 45)
Total Depth: 108.92 m

Objectives: To intersect coincident high gold soil geochemistry and IP chargeability anomalies, to intersect the possible northeast extension of altered gold-bearing horizons discovered in DDHs Fitz-10,11,12,13, and to intersect high grade mineralization exposed in the 22+50S trench.

Lithologies Intersected: An interbedded succession of Buttle Lake Formation, siltstone calcareous siltstone, argillaceous calcareous siltstone, all locally bioclastic and brecciated, is encountered from collar to underlying volcaniclastics at 104.16 metres. Quartzcarbonate vein systems, soft sediment deformation features, and graphitic horizons occur sporadically throughout the upper unit. High gold soil values are likely due to sulphide mineralization in outcropping vein systems similar to those exposed in the 22+50S trench and seen in near-surface veining (see highlights below). IP chargeability highs likely correlate with argillite content variations in the host calcareous siltstone. An iron-carbonate-sericite-altered and silicified bioclastic calcareous siltstone horizon with stockwork quartz-carbonate veining is encountered from 79.50 to 104.16 metres. This horizon, loosely correlatable with high-gold horizons discovered in Fitz-10,11,12,13 carries trace pyrite and weakly anomalous gold values (up to 70 ppb Au over 0.92 m; Sample #3502G). Medium to dark green lapilli tuff with local hematitic alteration, carrying trace pyrite and chalcopyrite, occurs to the end of the hole at 108.92 metres.

Highlights:

From (m)	To (m)	Length (m)	Au (oz/T)	Au (g/t)	Other (ppm)
25.69	26.52	0.83	0.024*	0.82	9.0 Ag, 1244 Zn
41.24	41.76	0.52	0.008*	0.28	1.5 Ag

* Geochemical Conversion

DDH Fitz-19-88 (Figure 46)
Total Depth: 163.67 m

Objectives: To intersect possible southeastern extension of altered mineralized horizons discovered in DDHs Fitz-10,11, 12,13.

Lithologies Intersected: A thick succession of Buttle Lake Formation siltstone, argillaceous calcareous siltstone, and bioclastic calcareous siltstone; with local graphitic horizons, soft sediment deformation features and local quartz-carbonate stockwork vein systems was intersected from collar to 132.66 m. Within this unit, three narrow (less than 1 m) light green-grey felsic intrusives, with aphanitic homogeneous matricies, occur from 12.00 to 12.40 m, 107.79 to 108.20 m, and 114.02 to 114.32 m (each hosts trace to 3% pyrite). Intensely altered calcareous siltstone (alteration products chiefly ankerite, sericite, and hematite) occur from 130.76 m to the volcaniclastic contact at 132.66 m. Subrounded to subangular basaltic lapilli clasts hosted in a fine-grained dark green matrix occur to the end of hole at 163.67 m. While mineralization similar to that discovered in Fitz 10 to 13 was not intersected in DDH Fitz-19-88, it is apparent from the highlights listed below that significant anomalous gold enrichment can be traced south of the main gold-enriched zone north of M6 Creek.

Highlights:

From (m)	To (m)	Length (m)	Au (oz/T)	Au (g/t)	Other (ppm)
96.79	97.26	0.47	0.032*	1.09	4.7 Ag
130.76	131.04	0.28	0.003*	0.10	2.7 Ag, 434 Cu, 1909 Zn

* Geochemical Conversion

6.0 PROPOSED PHASE IV EXPLORATION PROGRAM

6.1 Plan

The Phase IV exploration program is designed to establish the potential of the Fitzwater Group to host an economic orebody. Attention is focussed on delineating along and across strike the gold bearing sulphide mineralization discovered between Nicki and M6 Creeks.

Approximately nine helicopter access fly drill pads would be necessary to test the remaining area between Nicki and M6 Creeks (to the Karmutsen Formation contact), the coincident soil geochemistry/IP chargeability anomaly north of Nicki Creek and west of baseline, and the areas proximal to the Karmutsen Formation/Buttle Lake Formation contact north of Nicki Creek and south of M6 Creek. For cost effectiveness and correlation purposes, it is proposed that two holes be drilled from each drill pad (depending upon results). An average depth of 135 m is estimated for intersection to underlying volcanics based on 1987/1988 results.

It is further proposed that additional mapping be undertaken to establish whether near surface gold-enriched quartz veining can be traced south of the current grid area. Cost estimates for the proposed exploration program follow.

6.2 Budget

Personnel	$ 65,675
Transportation (trucks, helicopter)	20,460
Room and Board	9,625
Equipment Rental	2,955
Analyses	22,100
Diamond Drilling	206,550
Drillsite Preparation	50,000
Miscellaneous (supplies, communication)	2,550
Report Costs (drafting, copying, typing)	9,675
Administration	45,202
Contingency	65,219
Total, say	$500,000

Phase IV exploration is estimated to take up to approximately 8 weeks to complete.

7.0 CONCLUSIONS

1. The Fitzwater Group is underlain by Paleozoic Sicker Group (Myra and/or Nitinat Formation, Buttle Lake Formation) volcaniclastics and calcareous sediments and limestone, and Triassic Vancouver Group (Karmutsen Formation) basaltic flows and pillow basalts.

2. Phase III geological, geochemical, and geophysical exploration of the Fitzwater Group has resulted in the delineation of a large zone (1400 m long by 500 m wide) of coincident IP chargeability and Au $\pm$ Ag, Zn, As soil geochemical anomalies in an area underlain by Sicker Group Buttle Lake Formation limestone and calcareous siltstone.

3. Mineralization exposed on surface within the anomalous zone consists of quartz and quartz-carbonate veins up to 30 cm wide and containing up to 75% sulphides. Rock sample results from the showings include 41.28 g/t Au over 10 cm and, from grab samples, 12.24 g/t Au, 347.0 g/t Ag; 44.57 g/t Au, 16.16% Zn; 41.04 g/t Au, 188.7 ppm Ag, 114,870 ppm Zn; 46.6 ppm Ag, 1.92% Pb, 2.62% Zn.

4. Drilling results have shown:

   a) A dip slope contact of approximately 25° to 30°E exists between the Buttle Lake Formation and underlying volcanics.

   b) The broad soil geochemistry anomaly is due to the presence of near surface sulphide bearing quartz veins and quartz-carbonate shear zones.

   c) The strong chargeability anomalies are attributable to a combination of near surface sulphide bearing veins and variable argillite content.

d) Significant gold-enriched stockwork vein systems occur within Buttle Lake Formation lithologies in the area of M6 and Nicki Creeks. This zone is open to the west and south.

5. Based on 1987/1988 exploration program results, it is concluded that the Fitzwater Group has significant exploration potential and that further work, particularly in the M6 Creek/Nicki Creek areas is warranted.

8.0 RECOMMENDATIONS

1. It is strongly recommended that further diamond drilling be undertaken, stepping out from DDHs Fitz-10-87 to Fitz-13-88, to delineate the highly anomalous gold-enriched horizons discovered between M6 and Nicki Creeks.

2. Additional mapping and prospecting is recommended in areas south of the present grid to extend the known area of near surface mineralization.

3. It is recommended that the above exploration work be carried out at an estimated total cost of $500,000.

Respectfully submitted
MPH CONSULTING LIMITED

T. Neale, BSc.

T.M. Naciuk, BSc.

Feb. 29, 1988

CERTIFICATE

I, T. Neale, do hereby certify:

1. That I am a graduate in geology of The University of British Columbia (BSc. 1978).

2. That I have practised as a geologist in mineral exploration for 12 years.

3. That the opinions and conclusions contained herein are based on fieldwork carried out on the Fitzwater Group by MPH Consulting Limited personnel from July 1987 to February 1988.

4. That I own no direct, indirect, or contingent interest in the subject property or shares or securities of Crew Minerals Inc. or associated companies.

T. Neale, BSc.

Vancouver, B.C.
February 29, 1988

CERTIFICATE

I, T. Naciuk, do hereby certify:

1. That I am a graduate in geology from the University of Alberta (BSc. 1985).

2. That I have practised as a geologist in mineral exploration for three years.

3. That the opinions and conclusions contained herein are based on fieldwork carried out on the Fitzwater Group from July 26, 1987 to February 29, 1988 and supervised by me.

4. That I own no direct, indirect, or contingent interests in the subject property or shares or securities of Crew Minerals Inc. or associated companies.

T.M. Naciuk, BSc.

Vancouver, B.C.
February 29, 1988

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APPENDIX I

ROCK SAMPLE DESCRIPTIONS

ROCK SAMPLE DESCRIPTIONS AND LITHOGEOCHEMICAL RESULTS

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20001	Location: 451 m elev. Tonto Ck Rock Type: Diorite Sill in Basalt Material Sampled and Sample Type: Float Occurrence Size: 30 x 20 x 10 cm A mottled white/black diorite sill with 15-20% pyrite across its 1 cm thickness occurs in a dark green basalt with hornblende (equant) phenocrysts to 2.5 mm. Pyrite content in the basalt is 2-4%. The sample is subrounded.	5	0.7	2	448	
20002	Location: 530 m elev. Tonto Ck Rock Type: Diorite Material Sampled and Sample Type: Float Occurrence Size: Cobble 15 x 10 x 10 cm Black hornblende phenocrysts are seen in a matrix of medium grey quartz and feldspar. A crosscutting diorite to granodiorite sill (1 cm thick) may have caused the microfracturing where one sees 2-4 mm disseminated pyrite cubes. The sample is subrounded.	5	1.2	13	688	
20003	Location: 545 m elev. Tonto Ck Rock Type: Diorite Material Sampled and Sample Type: Float Occurrence Size: 50 cm x 30 cm x 30 cm Up to 40% feldspar and 20-25% hornblende phenocrysts are seen in a quartz groundmass. Fine-grained disseminated pyrite, up to 7%, also occurs in the specimen. The cobble is angular.	5	0.2	2	91	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20004	Location: 1015 m elev. above lower Cup camp Rock Type: Basalt Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Gossanous zone approx. 15 m strike length The sample is dark green grey basalt with an aphanitic homogeneous matrix. Pyrite (up to 4%), pyrrhotite (3-5%), and specular hematite (trace) occur along shears striking 167/85E. Basalts in this area are likely of the Karmutsen formation.	5	2,0	7	1490	
20005	Location: 1017 m elev. above lowest drill site on Cup claim Rock Type: Feldspar Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 2 m wide over approximately 10 m Feldspathic porphyries with indistinct boundaries (up to 1 cm; 40% of sample) occur within a dark green chloritic (?) homogenous matrix. Trace pyrite and chalcopyrite occurs as fine-grained disseminates throughout the sample.	5	2.7	2	5895	
20006	Location: 1017 m elev. on ck above lower drill site, Cup claim Rock Type: Quartz-carbonate vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 5 cm shear over 2.5 m Trace pyrite and chalcopyrite occur as fine-grained disseminates within a 5 cm quartz-carbonate vein. The vein occurs between a feldspar porphyry (#20005) and on unmineralized massive basalt. Its orientation is approximately 170/87E.	70	20.5	22	1701	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20007	Location: 1092 m elev. (above lower Cup camp) Rock Type: Quartz-vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 10 cm vein over 2 m 2-4% pyrite and <3% chalcopyrite occur as aggregates disseminated along fractures in quartz vein material. The vein is hosted by Karmutsen volcanics (basaltic flows?) and is relatively flat lying (26/9SE), similar to enriched quartz veins found on the Fitzwater group.	5	4.8	15	694	
20008	Location: 1180 m elev., above lowest drill site on Cup claim Rock Type: Gossan Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: (see below) Sample consists of several high-grade grabs across the 30 x 15 m exposure of gossan. The exact strike of the gossan was not determined due to the lack of structure in the area. Mineralization includes specular hematite, pyrite, pyrrhotite, sphalerite, and possible molybdemun. Sulphide content is up to 80%.	10	6.1	2	3089	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20009	Location: 1270 m elev. on ridge saddle, Cup claim Rock Type: Gossan Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Gossanous rocks occur spottily along the length of a 100 m trench Chalcopyrite and pyrite, locally up to 75% occur in massive and disseminated forms in a wide sulphide-enriched zone outlined by trenching on the Cup claim ridge. The gossanous zones are probably related to the one seen at 1180 m elevation. Possible enriching structures are a shear swarm filled with quartz veins striking 109/60S.	30	3.7	7	7963	
20010	Location: 3 m N of IP station L15S, 1+75E Rock Type: Limestone Material Sampled and Sample Type: Float Occurrence Size: 30 x 20 x 15 cm Grey white massive sparry limestone hosts a 1 cm quartz-calcite vein with minor ankeritic alteration. Associated with the vein is specular hematite, malachite, and minor pyrite. The sample is angular. It is probably local.	440	2.4	44	535	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20011	Location: Museum main, 87 m on rd N of L18+50S Rock Type: Feldspar porphyritic intrusive Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Approximately 3 m exposed Feldspar phenocrysts, up to 2.5 mm, with indistinct outlines are hosted in an aphanitic homogeneous pale grey groundmass. Fine-grained disseminated pyrite up to 4% occurs throughout the sample. The outcrop is gossanous and occurs in limy siltstones and bioclastic limestones. Due to sloughing from above, its orientation was not determined.	5	0.1	91	88	
20012 Flag #12-1	Location: Gully between M3+M4 Rock Type: Feldspar porphyritic intrusive Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 2-3 m wide over 3 m Feldspar phenocrysts, up to 2.0 mm, with indistinct outlines are hosted in an aphanitic homogeneous pale grey groundmass. Fine-grained disseminated pyrite, up to 5%, occurs throughout the sample.	50	0.2	42	12	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20013 Flag #12-2	Location: 75 m W of M4 in gully going to M3 Rock Type: Feldspar porphyritic intrusive Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Boulder 1.0 x 0.5 x 0.5 m Feldspar phenocrysts to 1.0 mm occur in a pale grey homogeneous groundmass. Fine-grained disseminated pyrite, up to 5%, occurs throughout the sample. Boulder is very angular and probably local.	50	1.5	209	188	
20014 Flag # 12-3	Location: Station L18+50N, 2+50W Rock Type: Pyritic siltstone (argillite?) Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Outcrop exposed over 3 m Sample is homogeneous, black, very slightly micaceous (<5%), lacks fissility, and is slightly foliated. 2-4% very fine-grained pyrite occurs disseminated along foliation planes. May be slightly graphitic.	5	0.4	10	19	
20015	Location: Intersection of M3 rd + L11S Rock Type: Quartz-calcite vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 4 cm vein exposed over 3.5 m 1-3% pyrite, trace malachite, and trace sphalerite occur in a 5 cm quartz-calcite vein crosscutting bioclastic limestone. The Fe-Zn-Cu mineralization is disseminated along the vein/host rock interface. The sample occurs 1 m above #20016.	320	4.3	43	557	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20016	Location: Intersection of M3 Road and L11S Rock Type: Quartz-Calcite Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 2 cm vein exposed over approx. 1 m Trace pyrite, galena, malachite, and sphalerite occur disseminated and fine-grained throughout a 2 cm quartz-calcite vein which crosscuts bioclastic (crinoidal) limestone. Galena crystals occur in sizes up to 5 mm. The sample is located 1 m below #20015.	1800	4.1	22	177	
20017	Location: M6 Road Rock Type: Felsic Intrusive Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Approx. 5 m exposed. Total width not known due to overburden cover. 3-5% crystalline fine-grained disseminated pyrite occurs within a silicified aphanitic pale blue-grey felsic groundmass.	30	0.4	5428	23	
20018	Location: M6 Road Rock Type: Felsic Intrusive Material Sampled and Sample Type: Outcrop Grab Occurrence Size: Grab from 1 location on 4 m thick dyke. A blue-grey homogeneous aphanitic groundmass hosts 1-3% very fine-grained pyrite. Much of the outcrop has been destroyed or altered by road building.	5	0.1	6	12	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20019	Location: M6 Road Rock Type: Bioclastic Argillaceous Limestone Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 3-5 cm thick exposed over 3 m 5 to 10% crinoid fragments occur in a black matrix of slightly foliated argillaceous limestone with 3% very fine-grained disseminated pyrite.	5	0.5	15	11	
20020	Location: M6 Road Rock Type: Argillite Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 20 cm thickness exposed over 5 m 1 to 3% fine-grained pyrite occurs within a black, slightly foliated argillaceous matrix. The rock has a very slight fizz with acid on scratched surfaces.	5	0.8	80	53	
20021	Location: M6 Road Felsic Intrusive Material Sampled and Sample Type: Float Occurrence Size: A light grey-blue aphanitic groundmass hosts bright green fuchsitic(?) clots to 1.5 mm and up to 10% of aggregates of fine-grained pyrite cubes to 2 mm. Source outcrop not located but the boulder is angular.	30	0.6	353	169	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20022	Location: M5 Road Rock Type: Quartz-Calcite Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 3 cm exposed over 0.5 m Trace pyrite and a manganese stain occur in a crystalline quartz-calcite vein. Open voids account for approximately 25% of the sample. The vein is 3 cm thick and shallow dipping to the NW.	5	0.5	22	14	
20023	Location: M5 Road Rock Type: Felsic Intrusive Material Sampled and Sample Type: Float Occurrence Size: Cobble approx. 15 cm. in diameter Up to 15% medium-grained pyrrhotite (in aggregates) and 15% pyrite occur in a pale grey-blue felsic intrusive groundmass. Enrichment is generally along hairline fractures. The cobble is subrounded and likely fell from the overlying till during road construction.	5	1.9	2	5532	
20024	Location: M5 Road Rock Type: Felsic Intrusive Dyke Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Dyke approx. 70 cm thick 3 parallel felsic dykes occur within 6 m of each other; crosscutting argillaceous bioclastic limestone. The sample has an aphanitic medium grey homogeneous groundmass with up to 5% fine-grained disseminated and fracture filling pyrite. The limestone between the dykes shows no alteration.	5	0.2	13	185	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20025	Location: 15-20 m from lower skid trail/M3 Jnctn. (W of skid trail) Rock Type: Silicified Hornblende-Feldspar Porphyritic Intrusive Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: o/c covered by dirt. When sampled, approx. 0.5 m exposed. A medium grey quartz-calcite vein, up to 4 cm thick and carrying trace fine-grained disseminated pyrite crosscuts a medium to dark green-grey hornblende-feldspar porphyritic intrusive. Both feldspar and hornblende phenocrysts are up to 2.5 mm and have indistinct boundaries. Pyrite and pyrrhotite occurs as fine-grained disseminates (2-4% pyrite, 3-6% pyrrhotite). Due to road construction a full o/c exposure was not seen.	4300 (N.F.P.)	1.5	73	294	
20026	Location: B 23+50S Rock Type: Pyritic Quartz Vein Material Sampled and Sample Type: Float Occurrence Size: Largest sample approx. 15 x 3 x 15 cm White quartz vein carries 50% nodular pyrite (aggregates to 3 cm) generally filling vugs.	8	46.2	1230	1060	
20027	Location: B 23+50S Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 3-7 cm vein exposed over 3 m 50% pyrite, 20% sphalerite, and 2-4% galena occur within a vuggy quartz vein. This is a very impressive sample of sulphide enrichment found in Buttle Lake Formation rocks on the property. Its moderate dip and strike are very similar to the orientations of similarly enriched veins found on M6 Creek.	88	248.4	1052	4691	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20028	Location: 108 m S on Museum Main from M4 junction Rock Type: Laminated Tuff Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Mineralization is along micro-fractures/ shears exposed over 4 m. Medium green cherty tuff lies conformably next to interlaminated fine-, very fine-, and cherty tuffs. Laminae are up to 8 mm thick. Very fine-grained tuffs (up to 3%) and as 1 mm cubes along small fractures. Local samples show aggregates of pyrite 1 cm x 3 cm.	80	0.5	66	200	
20029	Location: 152 m S on Museum Main from M4 junction Rock Type: Hematitic Tuff Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 6 cm x 2 m exposed A dark green fine-grained tuff shows approximately 50-75% hematitic alteration (unaltered tuff clasts occur within the hematitic areas). Fine-grained pyrite occurs along quartz veinlets (<2 mm wide) and disseminate through the hematitic areas (total pyrite ≤5%). Trace fine-grained pyrrhotite also occurs.	5	0.1	2	262	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20030	Location: Ck S of M6 Road @ 420 m elev. Rock Type: Pyritic interbedded crystalline bioclastic limestone and argillaceous limestone Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 0.5 m by 2 m Dark grey sedimentary breccia clasts (4 mm by interlaminated with medium grey crystalline limestone (with sparse crinoid clasts). Discontinuous calcite veinlets (up to 5 mm thick) crosscut the rock. Fine-grained disseminated pyrite accounts for up to 4% of the sample.	5	0.1	3	23	
20031	Location: Approx. 23+90S, 0+10W (1987 Grid) Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop, Chip Sample Width: 0.06-0.10 m Occurrence Size: Sample is 6-10 cm over 2 m. Entire exposure is 15 cm. Large crystal aggregates (up to 3 cm) of pyrite (to 40% of rock) occur with up to 5% arsenopyrite (fine-grained and associated with the pyrite) and 2-5% chalcopyrite (disseminated crystals up to 5 mm). These are hosted in a white vuggy crystalline quartz vein. Samples 20033 and 20035 are stringers off this vein.	20600	132.8	917	18146	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20032	Location: Approx. 23+90S, 0+10W (1987 Grid) Rock Type: Wall Rock Material Sampled and Sample Type: Outcrop, Chip Occurrence Size: Chip approx. 1 m above vein (HW) and 1.4 m below vein (FW) Interbedded crystalline limestone and limy argillite occur above and below a mineralized quartz vein (20031). Bedding thicknesses are up to 20 cm and the local orienttion is 169/32E. Disseminated pyrite cubes up to 1 mm occur within 0.5 m of the vein.	170	2.1	22	307	
20033	Location: Approx. 23+90S, 0+10W (1987 Grid) Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop, Chip Sample Width: 0.04-0.05 cm Occurrence Size: 4-5 cm over 0.5 m. Stringer length is 2.3 m 60% pyrite, up to 5% sphalerite, and a trace of azurite are hosted in a locally vuggy, crystalline quartz vein. This is a stringer vein related to sample #20031 and #20035.	6200	184.3	616	21621	
20034	Location: Approx. 23+90S, 0+10W (1987 Grid) Rock Type: Outcrop, Chip Material Sampled and Sample Type: Wall Rock Sample Width: 2.5 m Occurrence Size: Chip approx. 1 m above and 1.5 m below Interbedded bioclastic, crystalline, and argillaceous limestone occur above and below veins sampled with 20035 and 20036. Bedding thicknesses are up to 30 cm. Disseminated pyrite cubes up to 1 mm occur within 60 cm of the vein.	10	212	9	161	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20035	Location: Approx. 23+90S, 0+10W (1987 Grid) Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop, Chip Sample Width: 0.02-0.05 m Occurrence Size: 2-5 cm along a 1.7 m length. Entire exposure is . 30-40% pyrite, 5-7% chalcopyrite, <5% arsenopyrite, and <5% sphalerite occur in a white crystalline quartz stringer related to sample #20031 (main vein) and sample 20033 (same stringer).	560	19.6	764	8042	
20036	Location: Approx. 23+90S, 0+10W (1987 Grid) Rock Type: Quartz Vein (Main) Material Sampled and Sample Type: Outcrop, Chip Sample Width: 0.04-0.08 m Occurrence Size: 4-8 cm along a 2 m length. Entire exposure is 15 m long. 40-50% pyrite, 5-7% sphalerite, <5% arsenopyrite, and 3-6% chalcopyrite occur in a white crystalline locally vuggy quartz vein.	23200	106.1	685	18117	
20037	Location: Approx. 23+90S, 0+10W (1987 Grid) Rock Type: Wall Rock Material Sampled and Sample Type: Outcrop, Chip Sample Width: 2.0 m Occurrence Size: Chip approx. 1 m above and below main vein. Interbedded bioclastic, crystalline, and argillaceous limestone occur above and below a mineralized vein (20038). Bedding thicknesses are up to 30 cm. Disseminated pyrite cubes up to 1 mm occur within 50 cm of the vein.	110	1.6	14	230	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20038	Location: Approx. 23+90S, 0+10W (1987 Grid) Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop, Chip Sample Width: 0.10 m Occurrence Size: 10 cm vein along a 2.0 m length. Entire exposure is 15 cm. 40-45% pyrite, 5-10% sphalerite, and trace arsenopyrite, cuprite(?) and azurite occur in a locally vuggy crystalline white quartz vein.	50000	142.4	2540	14302	
20039	Location: Approx. 23+90S, 0+10W (1987 Grid) Rock Type: Wall Rock Material Sampled and Sample Type: Outcrop, Chip Occurrence Size: Chip approx. 1 m above and below main vein. Interbedded bioclastic, argillaceous, and crystalline limestone occur above and below a mineralized vein (20040). Bedding thicknesses are up to 30 cm. Disseminated fine-grained pyrite cubes occur within 50 cm of the vein.	30	0.8	22	94	
20040	Location: Approx. 23.90S, 0+10W (1987 Grid) Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop, Chip Sample Width: 0.05-0.08 m Occurrence Size: 5-8 cm vein along a 2.0 m length. Entire exposure is 15 m. 25-30% pyrite, trace sphalerite, and trace arsenopyrite occur in a white, locally vuggy, crystalline quartz vein.	12200	107.0	2383	5513	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20041	Location: L23+50S at Baseline Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 6-10 cm thick x 40 cm exposure 25-35% pyrite, trace sphalerite, trace chalcopyrite, and 2-4% arsenopyrite occur in a white, crystalline, locally vuggy quartz vein. Possibly the same vein as #20027.	7500	89.6	773	2613	
20042	Location: L23+50S at Baseline Rock Type: Quartz Vein Material Sampled and Sample Type: Float, Grab Occurrence Size: Angular sample 25 x 6 x 15 cm 20-25% pyrite and trace arsenopyrite occur in a white crystalline vuggy quartz vein.	7700	98.1	1045	7141	
20043	Location: L23+50S at Baseline Rock Type: Quartz Vein Material Sampled and Sample Type: Float, Grab Occurrence Size: Angular sample 35 x 4-6 x 20 cm 20-25% disseminated medium-grained pyrite and trace arsenopyrite occur in a white vuggy quartz vein.	5800	33.3	4990	2721	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20044	Location: On M6 ck. at the junction with 23+50S Creek, Starboard Claim Rock Type: Quartz-Calcite Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 10 cm wide vein, not traceable with confidence. Light blue-grey quartz occurs within a brecciated bioclastic, locally crystalline, limestone. The vein hosts traces of chalcopyrite and arsenopyrite.	5	0.6	5	26	
20045	Location: 29 m up 23+50 Creek from M6 Creek Rock Type: Laminated Crystalline Limestone Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 30 cm x 2 m exposed. Crystalline limestone occurs interlaminated with slightly argillaceous limestone. Laminations are up to 3 mm thick. Minor oxidation has occurred along argilllaceous laminae. Traces of disseminated pyrite occurs as cubes up to 1.5 mm in diameter.	5	1.5	20	11	
20046	Location: 29 m up 23+50 Creek from M6 Creek, Starboard Claim Rock Type: Quartz Vein Material Sampled and Sample Type Float, Grab Occurrence Size: Float clast 30 x 6 x 30 cm, angular 30% pyrite, 5% chalcopyrite, 20% sphalerite, and traces of arsenopyrite occur in medium grey-blue locally vuggy crystalline quartz vein.	500	33.7	709	2064	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20047	Location: 38 m up 23+50 Creek from M6 Creek, Starboard Claim Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop, Chip Sample Width: 2 m Occurrence Size: Vein is 4-6 cm thick. White quartz vein, crystalline and locally vuggy, carries 20% pyrite in the 4 mm nearest the footwall side of the vein. Trace pyrrhotite also occurs.	220	2.6	41	88	
20048	Location: 38 m up 23+50S Creek from M6 Creek, Starboard Claim Rock Type: Bioclastic Limestone Material Sampled and Sample Type: Outcrop, Chip Sample Width: 1 m Occurrence Size: Sample is light to medium blue-grey silicified bioclastic limestone. Slightly pyritic argillaceous uits occur along shears. Trace fine-grained pyrite is associated with these shears. This chip is of wall rock on either side of vein sample 20047.	5	0.6	22	38	
20049	Location: 23+50S Creek, 65 m up from M6 Creek, Starboard Claim Rock Type: Quartz Vein Material Sampled and Sample Type: Ourcrop, Grab Occurrence Size: 2-5 cm, traceable over 1.5 m. Grey-glue quartz with traces of very fine-grained disseminated pyrite in a brecciated silicified bioclastic limestone host. Breccia fragments are up to 1.5 cm long. Sample 22751 is from a mineralized pad stemming from an altered zone hosting this vein. The vein's orientation is 4/85W.	5	0.6	21	19	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20050	Location: 85 m S of M6 Ck., 22 m NE of L25+00S, 275W Rock Type: Altered Basaltic Tuff Material Sampled and Sample Type: Float, Grab Occurrence Size: Float boulder approx. 7 x 30 x 15 cm Mottled medium and dark green coarse-grained tuff, with green-light grey speckled clasts up to 5 mm (indistinct outlines) host 2-4% chalcopyrite and trace pyrite. A dark brown mineral, possibly oxidized pyrrhotite, occurs in stockwork form and accounts for approx. 40% of the rock. The float is angular.	5	5.2	2	4661	
20051	Location: M6 Creek, NE Starboard Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 30 cm wide vein White quartz vein with 40-50% coarse-grained disseminated pyrite. The vein is generally 5 cm wide, but at the sample site the vein has swollen to 30 cm wide. Vein orientation: 13/40SE.	10400	23.1	1979	719	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20052	Location: M6 Creek NE Starboard Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 5 cm wide vein White coarse-grained quartz vein up to 10 cm wide (average 5 cm) hosted in coarse-grained bioclastic limestone. Pyrite makes up to 50% of the vein (average 30%) occurring as coarse-grained disseminated crystals. Trace malachite. Structures 20051 and 20052 are subparallel, approximately 6 m apart.	10200	97.3	6863	7779	
20053	Location: M6 Creek, NE Starboard Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 5-10 cm wide vein The sample is a composite grab from several places along approximately 4 m of strike length. The vein is heavily mineralized with: 50% coarse-grained pyrite, 20% medium-grained light grey arsenopyrite and traces of sphalerite and chalcopyrite.	13600	33.8	49238	2681	
20054	Location: M6 Creek, NE Starboard claim Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 15-20 cm wide vein Quartz vein with lenses of massive pyrite up to 5 cm x 1 cm. Minor chalcopyrite and arsenopyrite(/). Vein orientation = 15/23SE.	23400	54.2	11670	3134	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20055	Location: M6 Creek, NE Starboard Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 10-15 cm wide White coarse-grained quartz with masses of coarse-grained pyrite up to 5 cm in diameter, averaging 5-10% pyrite and <17% chalcopyrite. The vein is conformable to bedding at 74/27 SE.	2980	53.6	1564	3279	
20056	Location: M6 Creek, NE Starboard Rock Type: Pyrite Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 5-15 cm Massive coarse-grained pyrite with 10-15% quartz. Vein attitude: 20/40 SE.	1440	256.8	1029	6222	
20057	Location: M6 Creek, NE Starboard Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 5-15 cm wide Vuggy white quartz vein with 15% chalcopyrite in masses to 0.5 cm, and 5% pyrite. This vein appears to be the same structure sampled in 20056. Vein attitude: 160/70 NE.	2820	40.6	413	13567	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20058	Location: M6 Creek, NE Starboard Rock Type: Skarn (?) Material Sampled and Sample Type: Float, Grab Occurrence Size: 20 cm diameter boulder Similar material to 20059. Translucent grey quartz groundmass (approximately 40%) with 25% amber to light greenish coloured garnets to 3 mm in diameter, and 10% each of pyrrhotite and chalcopyrite.	80	15.1	48	8505	
20059	Location: M6 Creek, NE Starboard Rock Type: Bedded Tuff (?) Material Sampled and Sample Type: Float, Grab Occurrence Size: 60 cm diameter boulder The rock predominantly has a fine-grained groundmass of quartz, epidote and chlorite with 25% pyrrhotite and 10% chalcopyrite. Pyrrhotite occurs as discontinuous bands up to 2 mm wide. Chalcopyrite is crosscutting the pyrrhotite bands. Fine-grained tuffaceous beds up to 5 cm thick contain up to 5% fine-grained disseminated pyrrhotite. The material could be a skarn. See 20058.	30	1.6	20	9716	
20060	Location: M6 Creek, NE Starboard claim Rock Type: Tuff (?), Basalt (?) Material Sampled and Sample Type: Float, Grab Occurrence Size: 1 m (+) subrounded boulder Dark greenish-grey aggregate of medium-grained dark green chlorite and feldspar cut by white quartz stringers. Chalcopyrite occurs as fracture fillings up to 2 mm wide and disseminated in quartz stringers, making up 5% of the rock.	40	4.5	2	13840	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20061	Location: M6 Creek, NE Starboard claim Rock Type: Silicified Tuff (?) Material Sampled and Sample Type: Float, Grab Occurrence Size: 20 cm diameter boulder Light greenish-grey silicified tuff(?) with indistinct feldspar crystal fragments to 0.5 mm in diameter with 10% disseminated sulphides (pyrrhotite 8%, chalcopyrite 5%, pyrite 1-2%.	30	5.3	2	4126	
20062	Location: M6 Creek, NE Starboard claim Rock Type: Silicified Clastic (?) Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 0.5 m diameter boulder Translucent, medium greenish-grey clasts up to 1 mm in diameter, masses of chlorite to 2 mm in diameter, 40% disseminated pyrrhotite in masses to 2 mm and 10% disseminated chalcopyrite. Sulphides enclose siliceous grains suggesting epigenetic mineralization (skarn?, contact metasomatic?).	70	15.5	2	11163	
20063	Location: M6 Creek, NE Starboard claim Rock Type: Skarn (?) Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 20 cm diameter boulder Irregularly banded. Light to dark grey bands to 0.5 cm of fine-grained sericite(?) and quartz with dark greenish-grey grains(?) to 1 mm. Chalcopyrite makes up 20% of the rock, occurring in bands to 1 cm wide with quartz and a black submetallic mineral (manganese oxide?).	1120	119.4	2	54295	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20064	Location: M6 Creek, NE Starboard claim Rock Type: Tuff (?), Siltstone (?) Material Sampled and Sample Type: Outcrop, Chip Sample Width: 40 cm Occurrence Size: 2 m (+) wide horizon Dark grey thinly laminated to massive siliceous siltstone or tuff with 5% very fine-grained disseminated pyrrhotite. The rock is strongly limonitic on weathered surfaces.	5	0.8	13	457	
20065	Location: SW Port claim, 500 m elev. Rock Type: Sheared Diorite Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 10 cm wide zone Dark green chloritic sheared diorite with quartz stringers up to 1 cm wide. Pyrite occurs along fractures and in masses up to 1 cm in diameter, comprising approximately 7% of the zone. Shear orientation: 116/90.	10	016	17	623	
20066	Location: M2 Road, Near North Boundary of Lat claim Rock Type: Pyroxene Phyric Basalt Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Large The rock is fresh in appearance and was sampled to determine the background gold content in unaltered basalt. It has a medium greenish-grey fine-grained crystalline groundmass of feldspar and sericite(?) with approximately 10% black stubby anhedral pyroxene phenocrysts or chloritic pseudomorphs.	5	0.3	4	222	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20067	Location: 1005 m elev., Cup claim Rock Type: Carbonate Altered Basalt Material Sampled and Sample Type: Old Core Occurrence Size: 1 m wide zone The sample is a 5 cm long grab from a 1 m wide zone of grey to orange weathering ankeriic basalt around a narrow fracture. Trace pyrite. Hole no DDH-H7-1966.	10	0.3	22	99	
20068	Location: 1005 m elev. in creek adjacent drill pad, Cup claim Rock Type: Silicified Basalt Material Sampled and Sample Type: Float, Grab Occurrence Size: 20 cm diameter boulder Dark greenish-grey silicified basalt(?). The rock appears to be predominantly fine-grained crystalline quartz with small masses of dark green material (altered mafics?). Parts of the rock are brecciated. Sulphides occur as disseminated masses up to 5 mm in diameter and along fractures. Pyrrhotite 20%, chalcopyrite 5%, black submetallic mineral with good cleavage 10%, pyrite 2-3%.	5	2.8	7	3847	
20069	Location: 1030 m elev., Cup claim Rock Type: Sheared Basalt Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 3 m wide zone Sample was taken from the 1 m wide core of a 3 m side gossanous zone. The rock is sheared (170/80NE) and altered to a light greenish-grey carbonate rich material with traces of pyrite. The sheared rock weathers to a bright orange colour.	5	016	31	1462	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20070	Location: 1080 m elev., Cup claim Rock Type: Altered Basalt (?) Material Samped and Sample Type: Float, Grab Occurrence Size: 20 cm diameter cobble Fine-grained crystalline aggregate of calcite, feldspar and chloritic masses, probably an altered fine-grained basalt or diabase. Some parts appear to be silicified. Chalcopyrite is disseminated, in masses to 1 cm in diameter and makes up to 20% of the rock.	580	3414	2	54681	
20071	Location: 1100 m elev., Cup claim Rock Type: Quartz Vein in Ankerite Alteration Zone Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 30 cm zone 5 cm quartz vein with up to 5% disseminated pyrite, in a 30 cm wide zone of orange weathering ankeritic altered basalt.	40	2.8	414	3200	
20072	Location: 0+90E, 38+25S; B Grid; Water claim Rock Type: Quartz Stringers in Limestone Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 20 cm (+) wide zone Quartz stringers up to 1 cm wide in brownish crystalline marble. Trace pyrite. Sample was taken 10 m uphill from the site of an anomalous soil sample at 1+00E, 38+25S (430 ppb Au).	5	0.2	6	132	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20073	Location: 1+00E, 38+05S; B Grid, Water claim Rock Type: Quartz Stringers in Limestone Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 10 cm zone White quartz stringers up to 1 cm occur in a 10 cm zone at 150/25 cm. Sample was taken a few metres above site of anomalous soil sample (70 ppb Au) at 1+00E, 38+00S	5	0.3	12	33	
20074	Location: B Grid, 0+87E, 38+60S Rock Type: Quartz Flooded Breccia Zone in Limestone Material Sampled and Sample Type: Float, Grab Occurrence Size: 30 cm (+) wide Sample of float material probably near source. Fine grained crystalline white quartz occurs as fracture filling in limonitic limestone. The quartz is vuggy, has 5% limonite pseudomorphs up to 4 mm (after pyrite) and 1-2% pyrite cubes up to 4 mm in diameter.	20	0.5	28	6.0	
20075	Location: M3 road near 11+00S Rock Type: Felsic Dyke + Limestone Host Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 2 m wide. The dyke is composed of a light blue-grey aggregate of fine-grained crystalline feldspar(+?) with vague greenish subhedral feldspar phenocrysts to 1 mm in diameter. The dyke and the adjacent limestone host contains up to 5% disseminated fine-grained crystalline pyrite and traces of chalcopyrite.	30	0.5	41	30	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20076	Location: M3 road, 10+75S, Water claim Rock Type: Sheared Limestone Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 30 cm wide zone A 30 cm wide shear (110/31SW) hosted in limestone contains 2-3% fracture filling pyrite.	40	0.5	24	161	
20077	Location: 11+48S, 0+87E; Water claim Rock Type: Quartz Stringers Material Sampled and Sample Type: Float, Grab Occurrence Size: Abundant float of 1-5 mm intersecting quartz stringers, presumably weathering out of a limestone host. Barren.	5	0.1	3	8.0	
20078	Location: M2C road, 164 m north of M2 road, Water claim Rock Type: Ankerite Vein-Breccia Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 30 cm wide zone Orange weathering light brown ankerite forms stringers up to 1 cm wide in a 30 cm wide breccia zone hosted in dark greenish-grey weathering chloritic agglomerate. The structure is oriented 172/67NE. The host is cut by a pervasive foliation at 165/71SW.	5	0.1	5	21	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20079	Location: M2C road, 166 m north of M2 road, water claim Rock Type: Ankerite Vein-Breccia Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 20-30 cm wide zone This vein is located approximately 2 m north of the vein sampled with 20078. It is oriented at 156/60NE. The character of the vein is similar to that of 20078.	5	0.2	10	7	
20080	Location: 11+16S, 0+48E; Water claim Rock Type: Quartz Stringer Zone Material Sampled and Sample Type: Float, Grab Occurrence Size: 20 cm (+) The sample was taken from an area with abundant float of quartz stringers in limestone. <1 to 4 mm wide, spaced 5-20 mm apart and intersect at angles of 30' to 90'. They appear to be barren.	5	0.2	6	24	
20081	Location: 20+16S, 0+00E, (M3 Road); Starboard claim Rock Type: Sphalerite-Pyrite Stringer in Limestone Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 2 m thick 1-2 mm thick calcite stringer with masses of dark brown coarse-grained sphalerite up to 5 mm wide, and traces of medium-grained crystalline pyrite. Fracture at: 44/75SE.	5000	19.0	57	1863	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm
20082	Location: 20+39S, 0+00E (M3 Road); Starboard Claim Rock Type: Calcite Stringer in Limestone Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 3-5 mm wide White calcite stringer with 20% dark brown coarse-grained rosettes of sphalerite and 10% medium-grained crystalline pyrite.	1280	1.1	31	99
20083	Location: 9+12S, 0+00E (M3 Road); Water Claim Rock Type: Felsic Dyke Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 2 m wide Medium grey, fine-grained crystalline groundmass with 10% lath-shaped dark greenish-grey phenocrysts (feldspar? hornblende?) to 2 mm in length and up to 4% fine-grained crystalline disseminated pyrite.	143	0.4	132	75
20084	Location: 15+70S, M4 Road Rock Type: Quartz Stringers in Limestone(?) Material Sampled and Sample Type: Float, Grab Occurrence Size: Abundant float of 2-5 mm quartz stringers in a soft, limonitic altered limestone(?) host. Barren. The source of the quartz stringers is at least 10 cm wide.	80	0.7	49	38

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20085	Location: 23+50S, 30+00E; Starboard Claim Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop, Float, Grab Occurrence Size: 10-30 cm wide vein The sample is a composite from several 20-30 cm wide pieces of float and a 10-20 cm vein which appears to be in place. The float is probably from the same vein located in place, and it may be the same vein sampled with 20026 and 20027. White coarse-grained buggy quartz with up to 50% coarse-grained pyrite, 5% arsenopyrite, and 1-2% each of sphalerite and galena.	11000	114.3	7873	7579	
20086	Location: M6 Creek, 550 m elev. Rock Type: Quartz Vein and Limestone Host Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 10-20 cm wide vein White limonite stained coarse-grained quartz with masses of coarse-grained pyrite up to 2 cm in diameter (20%) and 1-2% chalcopyrite. The host limestone is altered to a dull brown for 20 cm on each side of the vein and contains 2-4% each of chalcopyrite, galena and sphalerite in masses up to 5 mm in diameter.	3140	27.3	856	2070	
20087	Location: Museum Main Road, 19+95S; Starboard Claim Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 1 cm wide Vuggy white quartz vein or stringer up to 1 cm wide with traces of pyrite. The vein is hosted in fine-grained crystalline limestone. Vein orientation: 143/70SW.	110	2.6	106	267	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20088	Location: 3+00W, 34+50S (B Grid); Water Claim Rock Type: Quartz Vein Material Sampled and Sample Type: Float, Grab Occurrence Size: Vein material up to 5 cm wide Composite grab of white, vuggy quartz vein float. Vein material contains chloritic and epidotic breccia fragments of altered Karmutsen Formation basalt. Barren. The sample was collected at the site of a 350 ppb Au-in-soil anomaly.	50	0.5	17	44	
20089	Location: 3+00W, 34+50S (B Grid); Water Claim Rock Type: Hornblende Feldspar Porphyry (9a) Material Sampled and Sample Type: Float, Grab Occurrence Size: Composite sample of abundant float at site of 350 ppb Au-in-soil anomaly. The groundmass is a fine-grained crystalline aggregate of feldspar and dark green chloritic masses, probably often hornblende. Hornblende also occurs as aligned acicular phenocrysts up to 5 mm long (5-8%). Stubby blue-grey feldspar phenocrysts up to 5 mm in diameter make up 20% of the rock. Traces of pyrite occur in small vugs and along fracture surfaces.	40	0.1	8	42	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20090	Location: Approx. 23+90S, 0+10W (1987); Starboard Claim Rock Type: Bioclastic Limestone Material Sampled and Sample Type: Outcrop, Chip Sample Width: 1.0 m Occurrence Size: Large Light grey fine-grained crystalline limestone matrix with 60% randomly oriented crinoid fragments to 5 mm in diameter. The rock has a limonitic stain on weathered surfaces, but no sulphides are apparent. This limestone is on the footwall side of a heavily mineralized quartz vein.	160	8.8	4322	941	
20091	Location: Approx. 23+90S, 0+10W (1987); Starboard Claim Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop, Chip Sample Width: 0.1 m Occurrence Size: 10 cm wide White coarse-grained quartz with up to 50% pyrite in pods up to 5 cm in diameter, 20% fine to coarse-grained disseminated arsenopyrite, and traces of sphalerite. The vein was sampled along 2 m of exposure.	33000	55.3	29033	1135	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20092	Location: Approx. 23+90S, 0+10W (1987); Starboard Claim Rock Type: Bioclastic Limestone Material Sampled and Sample Type: Outcrop, Chip Sample Width: 1.0 m Brownish-grey fine-grained crystalline limestone matrix with 60% crinoid fragments up to 3 mm in diameter. The rock is the hangingwall host of a heavily mineralized quartz vein (20091).	560	1.2	405	18	
20093	Location: Approx. 23+90S, 0+10W (1987); Starboard Claim Rock Type: Bioclastic Limestone Material Sampled and Sample Type: Outcrop, Chip Sample Width: 1.0 m This rock forms the footwall host to a heavily mineralized quartz vein (20094). A fine-grained crystalline buff to grey limestone hosts approximately 60% dark grey crinoid fragments up to 5 mm in diameter. No sulphides are apparent.	190	0.8	258	60	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20094	Location: Approx. 23+90S, 0+10W (1987); Starboard Claim Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop, Chip Sample Width: 0.1 m Occurrence Size: 0.1 m wide Coarse-grained white quartz contains pods of massive pyrite up to 5 cm x 20 cm x ? on the hangingwall side of the vein and coarse-grained disseminated pyrite and arsenopyrite on the footwall side. Overall, pyrite makes up 30% and arsenopyrite 5-8% of the vein.	33000	44.2	13258	2697	
20095	Location: Approx. 23+90S, 0+10W (1987); Starboard Claim Rock Type: Bioclastic Limestone Material Sampled and Sample Type: Outcrop, Chip Sample Width: 1.0 m The sample was taken on the hangingwall side of a well mineralized quartz vein (20094). Dark grey crinoid clasts up to 5 mm in diameter are contained within a light grey to buff-coloured fine-grained limestone matrix. The rock possibly contains traces of very fine-grained pyrite and sphalerite.	140	1.1	164	72	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20096	Location: Approx. 23+90S, 0+10W (1987); Starboard Claim Rock Type: Bioclastic Limestone Material Sampled and Sample Type: Outcrop, Chip Sample Width: 1.0 m Coarse-grained bioclastic limestone occurs on the footwall of a heavily mineralized vein 20097. Dark grey crinoid fragments up to 6 mm are contained within a light grey fine-grained limestone matrix.	110	0.6	157	208	
20097	Location: Approx. 23+90S, 0+10W (1987); Starboard Claim Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop, Chip Sample Width: 0.1 m White, vuggy quartz contains up to 30% pyrite in masses up to 5 cm x 20 cm x ?, and traces of arsenopyrite, chalcopyrite and sphalerite.	11600	39.6	7387	742	
20098	Location: Approx. 23+90S, 0+10W (1987); Starboard Claim Rock Type: Bioclastic Limestone Material Sampled and Sample Type: Outcrop, Chip Sample Width: 1.0 m Light grey bioclastic limestone occurs on the hangingwall of the quartz vein sampled with 20097.	40	0.4	52	11	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm
20099	Location: Approx. 23+90S, 0+10W (1987); Starboard Claim Rock Type: Limestone Material Sampled and Sample Type: Outcrop, Chip Sample Width: 1.0 m Light blueish-grey sheared, foliated limestone hosts a heavily mineralized quartz vein (20100). This sample was taken on the footwall side of the vein. The limestone contains up to 5% medium-grained disseminated crystalline pyrite and moderate malachite staining on fracture surfaces.	130	1.1	180	1763
20100	Location: Approx. 23+90S, 0+10W (1987); Starboard Claim Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop, Chip Sample Width: 0.1 m Coarse-grained white quartz contains approximately 10% each of pyrite and chalcopyrite which occur as masses up to 5 mm in diameter interstitially to the quartz crystals.	26000	83.6	11843	4520

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20101	Location: M3 Road, NE part Starboard Claim Rock Type: Crinoidal Limestone Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 20 m x 30 m exposure Medium to coarse-grained crinoidal limestone. Medium to dark grey. Fragments 3-4 mm, not sorted. Several crosscutting hairline fractures (<1 mm); up to 5% of rock. Contains <3% pyrite and trace sphalerite.	70	0.6	12	11	
20102	Location: M3 road, Starboard Claim Rock Type: Quartz-Calcite Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 2-5 cm wide (traceable over approx. 2 m) Approximately 80% quartz, 15% calcite, less than 5% clay minerals, less than 3% pyrite, trace chalcopyrite. Quartz is crystalline, to 4 mm long. Calcite occurs as fracture fill material.	110	2.2	73	11	
20103	Location: Starboard Claim near end of M3 road Rock Type: Intermediate Intrusive (Felsic Dyke) Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 1.5 m wide Light green-grey aphanitic groundmass. Occurs as dyke intruding limestones. Contains 3-5% disseminated pyrite and trace chalcopyrite (chalcopyrite along calcite filled hairline fractures).	10	0.2	34	128	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20104	Location: On M3 road, NE part Starboard Claim Rock Type: Intermediate Intrusive (Felsic Dyke) Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 1.5 m wide dyke Light grey-green. Very fine-grained to aphanitic groundmass (generally homogenous). Cleaves well on joint surfaces. Includes 1 pyrite vein on joint surface, fine-grained, 2 mm wide and coarse-grained (up to 5 mm) disseminated pyrite (total up to 5% of rock).	330	0.9	255	129	
20105	Location: C Grid, 0+25W, 42+00S; NE Starboard Claim Rock Type: Intermediate Volcanic Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Approximately 40 cm wide Rock is in contact with crinoidal limestones. Contact irregular. Volcanic has a light green-grey, aphanitic homogenous groundmass, and contains 3-5% disseminated and fracture filling fine-grained pyrite.	5	0.3	16	78	
20106	Location: Quarry on Museum Main; Water Claim Rock Type: Carbonate Altered Schist (lapilli protolith) Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Altered zone about 1 m wide Composition: Carbonate (ankerite approx. 20%), sericite 15-20%, quartz 15-20%, talc(?; greasy feel and very soft) 15-20%, pyrite <3%. Description: Light mottled green-red-white, massive but slightly foliated. Calcite is wavy, discontinuous vein form. Pyrite is along hairline fractures within calcite. Other similar samples in area have bright green, possibly fuchsitic, clots.	10	0.1	9	9.0	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20107	Location: NE Lat Claim, M2 road Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 2-4 cm Massive and vuggy quartz between (thrust?) fault slabs of pyroxene porphyry (strike SE to NW; dip NE). The vein pinches and swells from 2-4 cm and contains trace pyrite and possible trace sphalerite.	5	0.1	2	12	
20108	Location: Below M2G 35 m NE Lat Claim Rock Type: Pyroxene Porphyritic Basalt Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 5 m of outcrop similar to sample Medium green-grey basalt with a fine-grained matrix. Porphyries up to 20%. Matrix epidote-altered. Contains up to 3% pyrite in crystals up to 0.5 cm, some possibly pseudomorphing pyroxene.	5	0.1	2	65	
20109	Location: RR Grade M2B NE Lat Claim Rock Type: Jasper Material Sampled and Sample Type: Float, Grab Occurrence Size: Float up to 20 cm Sample is the typical burnt to bright red jasper colour. It's crosscut (parallel to bedding?) by hairline quartz-carbonate veinlets (<1 mm). Trace pyrite is occurs disseminated form. Outcrop source was not located.	5	0.1	7	10	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20110	Location: M2B RR Grade, NE Lat Claim Rock Type: Epidote altered Hematitic Basalt Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: across 5 cm Sample is of hematitic, possibly jasperoidal, interstitial pillow basalt material. Much of the basaltic material has been epidote altered. The hematitic component occurs as clots and indistinct bands (less than 4 cm long) within the epidote and basaltic constituents. Pyrite crystals up to 3 mm are present. The sample is also slightly magnetic.	5	0.1	10	81	
20111	Location: M2B RR Grade, NE Lat Claim Rock Type: Banded Iron Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 2 m Interlaminated burnt red hematitic magnetitic and dark green grey siltstone. Locally magnetic laminae are up to 5 mm wide (modal 2-3 mm). The unit is relatively massive and is juxtaposed against a pillow basalt. Pyrite occurs in both disseminated and fracture fill forms.	5	0.1	7.0	98	
20112	Location: N Lat Claim W of Rift Ck. Rock Type: Massive Pyrite Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 0.04 m x 1 m Rift Creek Showing: Occurrence consists of massive pyrite in the Mine Flow Unit - correlative with the Thistle Mine. The enrichment is in a section of basaltic flows occurring in a shear zone. Orientations of the zone were not taken because of a lack of suitably traceable horizon.	1960	0.4	23	47	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20113	Location: N Lat Claim Rock Type: Quartz Vein Material Sampled and Sample Type: Float Occurrence Size: Sample is from a sheared, possible flow breccia with elongate clasts up to 30 cm long. The quartz vein fills one of the larger shears (up to 4 cm), most other shears are less than 2 cm wide. Ankeritic and sericitic alteration occur adjacent to the shears.	5	0.1	6	31	
20114	Location: N Lat Claim E of Rift Ck. Rock Type: Calcite-Quartz Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 10 cm Sample is of milky grey carbonate-quartz vein found within a quartz-carbonate shear zone. The rock is calcitic with fine laminations (<1 mm) of chloritic material. Trace pyrite is seen in disseminated form.	20	0.1	6	6.0	
20115	Location: 60 m N of Rift Ck. bridge, Lat Claim Rock Type: Silicified Basalt Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Unit is approximately 1 m thick exposed for 10 m Sample is of silicified basalt within the "Mine Flow Unit". It is dark green, chloritic, and calcitic. Disseminated pyrite occurs in amounts up to 4%.	700	0.3	21	90	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20116	Location: 64 m N of the Rift Ck. bridge Rock Type: Agglomerate Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 10 cm by 20 cm (certain) Sample is of basaltic agglomerate clasts within a silicified intermediate matrix. Quartz carbonate veining is abundant. Within the sample is a pyrite aggregate 2 cm by 4 cm, possibly replacing one of the agglomerate clasts. (From the "Mine Flow Unit".)	60	0.3	21	92	
20117	Location: 90 m N of Rift Ck. bridge, N Lat Rock Type: Quartz-Carbonate Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 2-3 cm wide shear zone Sample is of a quartz-carbonate vein with minor amounts (<10%0 of sericite and chlorite. The vein fills a shear which has an orientation (25/81SE), roughly coincident with the Rift Creek fault structure. Mineralization includes hematite (specular; 1-3%), chalcopyrite 1-3%, and pyrite (<2%); all in disseminated forms.	10	0.3	12	259	
20118	Location: 120 m N of Rift Ck. bridge Rock Type: Quartz-Carbonate Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 5 cm over 3 m Sample is of quartz-carbonate material hosted in a chlorite schist (basaltic flow protolith?). This vein has an orientation similar to that of the Mineral Creek fault zone. Trace pyrite and chalcopyrite occur in disseminated forms.	40	0.2	6	186	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20119	Location: M4B road, NE Starboard Claim Rock Type: Sheared Limestone Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Zone approximately 5 m wide Several shears and coarse-grained white calcite stringers occur across a width of approximately 5 m in coarse-grained bioclastic limestone. The stringers are oriented from 177/53SE to 14/90 and contain coarse-grained pyrite in masses to 1 cm x 2 cm. pyrite - up to 50% along a few cm of vein. chalcopyrite - 1-2% specular hematite - <1%	2280	17.6	134	642	
20120	Location: M4B Road, N Starboard Claim Rock Type: Limy Siltstone Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Vein-hosted (<1 cm) over approx. 2 m. Sample is dark grey-black, has sugary texture, and is crosscut by narrow (<2 mm) pyritic calcite veins. The weathered surface is spottily covered by a Fe-oxide pyritic crust. Total pyrite content is less than 3%.	5	0.2	11	81	
20121	Location: M4B Road, NE Starboard Claim Rock Type: Intermediate to Felsic Dyke Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 3 m wide dyke Greenish-grey dyke with an aphanitic homogeneous groundmass and 5% dark green indistinctly bounded feldspar phenocrysts up to 1 mm. Contains 2-4% fine-grained disseminated and fracture filling pyrite. The dyke is hosted in siltstone.	30	0.8	34	247	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20122	Location: M4B, N Starboard Rock Type: Limy Siltstone Material Sampled and Sample Type: Float, Grab Occurrence Size: In veins over approx. 2 m. Rock is calcareous, black, slightly micaceous siltstone with stockwork quartz-carbonate veins throughout. No orientation was possible for the veining. Aggregate (up to 7 mm) and disseminated pyrite cubes (up to 2.5 mm) occur in the quartz-carbonate veins. Sample is float but it's assumed the source is within 2 m.	10	0.5	37	80	
20123	Location: M4B Road, Starboard Claim Rock Type: Limy Siltstone Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Approx. 5 m Disseminated pyrite (up to 3 mm) and trace chalcopyrite (<1 mm) are found in several quartz-carbonate shears and disseminated through the host siltstone, located adjacent to an intermediate intrusive dyke. Bedding orientations were not apparent.	80	2.3	31	53	
20124	Location: M4B Road, NE Starboard Claim Rock Type: Intermediate Dyke Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 40 cm wide dyke Aphanitic, medium greenish-grey coloured groundmass, 20% stubby lath shaped light greenish-grey feldspar phenocrysts and 2-5% fine-grained disseminated pyrite.	5	0.1	44	64	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20125	Location: M4B Road Rock Type: Quartz-Carbonate Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 1-3 cm width Sample is of quartz-calcite occurring adjacent to an intermediate intrusive dyke (with a similar orientation). The sample carries <3% pyrite and trace chalcopyrite disseminated throughout.	5	0.1	158	33	
20126	Location: M4B Road Rock Type: Quartz-Carbonate Stringers in Limestone Material Sampled and Sample Type: Float, Grab Occurrence Size: Quartz carbonate stringers up to 5 mm wide in grey limestone contain up to 20% coarse-grained pyrite (2-4 mm) and 10% medium-grained dark brown sphalerite.	3260	24.7	221	496	
20127	Location: M4 Main Rock Type: Limy Siltstone Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Outcrop is massive, >3 m Sample is black, pyritic, micaceous limy siltstone with minor (<1 mm) crosscutting calcite veinlets. The outcrop is moderately foliated in the regional direction (roughly NNW-SSE). Disseminated pyrite (to 5%) occurs throughout.	60	0.1	101	9.0	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20128	Location: M4 Road, NE Starboard Claim Rock Type: Intermediate Dyke Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 0.5 m wide dyke Medium greenish-grey aphanitic groundmass with 15-20% dark greenish grey stubby subhedral feldspar phenocrysts and 5% fine-grained disseminated pyrite. The dyke is sheared, foliated and has a quartz-carbonate stringer developed along its margin.	100	0.7	216	133	
20129	Location: M4 Road, NE Starboard Claim Rock Type: Pyritic Intermediate Dyke Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Zone is 3 m wide Green-grey dyke with an aphanitic homogeneous groundmass and 5% medium pale green indistinctly bounded feldspar phenocrysts up to 2 mm. Contains 2-4% fine-grained disseminated pyrite. The dyke is hosted in siltstone and has an approximate orientation of 147/80SW.	300	0.3	506	29	
20130	Location: M4 Road, NE Starboard Claim Rock Type: Silty Limestone Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Approx. 2 m Dark grey silty limestone, possibly bioclastic, with abundant pyritic quartz-carbonate veinlets. Pyrite is up to 15% within the 1-3 mm veinlets.	5	0.1	84	6.0	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20131	Location: M4 Road, NE Starboard Claim Rock Type: Intermediate Intrusive Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 1.5 m Green-grey dyke with an aphanitic homogeneous groundmass and 5% medium pale green indistinctly bounded feldspar phenocrysts up to 2 mm. Contains <2% pyrite (disseminated).	5	0.1	78	106	
20132	Location: NE Starboard, M4A Rock Type: Quartz-Carbonate Vein Material Sampled and Sample Type: Float, Grab Occurrence Size: 15 cm thick vein White crystalline quartz-carbonate vein with minor boxwork structure in contact with calcareous siltstone. The sample contains trace pyrite, chalcopyrite, and specular hematite in crystals up to 4 mm (disseminated). The size and freshness of the boulder suggests a very proximal source location.	80	0.1	34	16	
20133	Location: NE Starboard, M4A Rock Type: Quartz-Carbonate Vein Material Sampled and Sample Type: Float, Grab Occurrence Size: Float approx. 40 cm x 10 cm x 15 cm Same as #20132. Pyrite 2-4%, trace chalcopyrite, specular hematite 1-3%; crystals are up to 1 cm in disseminated form. Sample may have spalled off #20132.	3900	1.6	259	108	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20134	Location: NE Starboard Rock Type: Quartz-Carbonate Vein Material Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 1 m thickness traceable for 7 m Grey-blue quartz-carbonate vein material with trace pyrite occurs within a shear which bisects silicified siltstones. Locally sugary texture is present. Adjacent to this shear is a 30 cm unit of mylonitic material within the fault zone.	5	0.1	3	1.0	
20135	Location: NE Starboard, Traverse 7 Rock Type: Bioclastic Limestone Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Approx. 3 m exposed Outlines of crinoid stems (with colla), up to 3 mm, occur within a black calcareous matrix. Calcite veins with trace pyrite up to 1 mm crosscut the rock in a stockwork pattern. Bedding in this area is 136/28SW.	5	0.2	15	7.0	
20136	Location: NE Starboard Rock Type: Quartz-Carbonate Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 3 m Banded white/light grey quartz-carbonate occurs crosscutting siltstones at 150/46SW. The veins were traceable over 3 m but the sample was taken over 0.5 m. Cubic pyrite in aggregates makes up to 25% of the sample (taken over a 3-4 cm width).	370	2.3	401	73	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20137	Location: NE Starboard Rock Type: Quartz-Carbonate Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 1-6 cm thick over 4.5 m Sample is from a quartz-carbonate vein filling a shear crosscutting an intermediate intrusive. The shear orientation is 40/40SE. The vein pinches and swells from 1-6 cm. Mineralization includes up to 40% pyrite, 1-3% chalcopyrite, and trace azurite.	1720	14.7	591	1513	
20138	Location: NE Starboard Rock Type: Quartz-Carbonate Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 4-7 cm over 4.5 m Quartz-carbonate material crosscuts an intermediate intrusive at 0/40SE. 2-4% cubic pyrite mineralization occurs disseminated in the intrusive material and along the contact with the quartz-carbonate vein material. This sample underlies #20137.	30	0.1	41	31	
20139	Location: NE Starboard Rock Type: Quartz-Carbonate Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 7 cm wide Quartz-carbonate veining, carrying 10% pyrite and trace chalcopyrite occurs within shears oriented at 27/79NW, crosscutting bioclastic limestone. The veins are up to 7 cm wide.	40	0.9	90	76	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20140	Location: SE Starboard Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 50 x 40 cm pod related to a 3-4 cm vein traceable over 4 m Sulphide enrichment occurs in large aggregate crystals (weathered samples are boxwork pattern) within the widened section of a quartz vein. Enrichment includes up to 15% pyrite, 10% specular hematite, and 10% sphalerite. One other vein similar to this occurs 1 m about it. The zone's orientation is 155/47SE.	12800	21.3	450	2240	
20141	Location: NE Starboard Rock Type: Quartz-Canate Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Mineralization occurs over at least 4 m Sample is of a dark grey quartz-carbonate vein within shears crosscutting an interbedded clastic limestone/siltstone sequence. Smaller quartz-carbonate veins, to 4 mm, carry up to 50% nodular pyrite and 5% chalcopyrite.	780	9.3	2980	209	
20142	Location: NE Starboard Rock Type: Pyritic Quartz-Carbonate Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Traceable up to 5 cm wide, for over 15 m The sample was taken from several mineralized shears ranging in width from <1 to 5 cm thickness and traceable over 15 m. The veins are stockwork-type and roughly parallel bedding. All shears in the area are mineralized. Mineralization is 15-20% pyrite, 2-4% chalcopyrite, trace sphalerite.	1200	48.4	12568	763	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20143	Location: 580 m elev., Nicki Ck. Rock Type: Felsic Dyke Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 1 m thick exposed over 6 m 1-3 mm feldspars with distinct outlines (up to 40%) and <1 mm hornblende crystals (up to 10%) lie in a homogeneous pale grey groundmass. The dyke is hosted in bioclastic limestone and has an orientation of 56/60SE. The sample also carries 2-4% very fine-grained disseminated pyrite.	5	0.1	6	27	
20144	Location: 580 m elev., Nicki Ck. Rock Type: Basalt Material Sampled and Sample Type: Float, Grab Occurrence Size: 20 cm x 4 cm x 10 cm Sample has a homogeneous dark green groundmass with 5% plagioclase laths up to 5 mm long. The rock contains approx. 10% vugs left from weathered sulphides (up to 8 mm). Limonitic stain is present on random fresh surfaces. The sample contains 1-3% disseminated pyrite and 2-4% disseminated chalcopyrite.	5	6.5	2	1821	
20145	Location: 608 m elev., Nicki Ck. Rock Type: Marble Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Grab is from 20 m zone traceable approx. 7 m across the creek Sample is of sheared altered limestone (marble); pale grey-yellow with dark grey stylolites. The alteration contact with the host bioclastic limestones is approximately 150/63SW. Trace pyrite was observed.	5	0.2	11	22	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20146	Location: 640 m elev., Nicki Creek Rock Type: Quartz-Carbonate Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: The sample is from a 10 cm vein within a 3-4 m altered zone. Rock is dominantly white quartz-carbonate with a small amount of pale green-grey epidote-and sericite-altered host (protolith unknown). The sample carries <3% pyrite and trace arsenopyrite.	5	0.3	5	121	
20147	Location: 665 m elev., Nicki Creek Rock Type: Quartz-Carbonate Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 10 cm vein exposed over 3 m Blue-grey massive quartz-carbonate material with trace ankerite occurs in association with a moderate shear zone which generally separates Buttle Lake and Karmutsen Formations. Main shear orientation is 121/44S but at least two others occur. 2-4% disseminated pyrite is observed.	5	0.3	11	17	
20148	Location: 775 m elev., Nicki Creek Rock Type: Basalt (Tuffaceous) Material Sampled and Sample Type: Float Occurrence Size: 20 x 35 x 20 cm Mottled light grey-dark green texture, possibly reflecting coarse-grained tuff fragments, occur in an aphanitic dark green groundmass. A crosscutting 1 cm dioritic vein also occurs. Mineralization consists of up to 5% pyrite along calcitic shears (<2 mm thick). The float is subangular; no source was found.	5	2.6	5	989	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20149 Flag # 8-2	Location: 650 m elev., Nicki Creek Rock Type: Quartz Vein in Basalt Material Sampled and Sample Type: Float Occurrence Size: 10 cm x 5 cm x 5 cm 1 cm quartz vein with 40% chalcopyrite (disseminated, with crystals up to 4 mm) found in association with basalt. Source not located. Float piece subrounded.	5	0.7	2	2362	
20150 Flag # 8-3	Location: 650 m elev., Nicki Creek Road Rock Type: Diorite(?) or Feldspar Porphyry Material Sampled and Sample Type: Float Occurrence Size: Cobble, 10 cm x 20 cm x 10 cm The sample is too weathered to determine rock type, however, the matrix appears crystalline, felsic, quartz-rich so a diorite or feldspar porphyry is proposed. Mineralization includes 4-6% pyrite, 1-3% chalcopyrite, and trace sphalerite.	5	2.9	2	6338	
20151	Location: Near South Boundary of Water Claim, 70 m below M3 Road Rock Type: Quartz Flooded Breccia Material Sampled and Sample Type: Float, Grab Occurrence Size: Boulder 30 cm x 30 cm x 20 cm Siliceous greenish-grey to brown or green fine-grained chloritic groundmass with 70% angular cryptocrystalline quartz fragments up to 3 cm in diameter. The rock could be from a brecciated quartz-flooded shear zone in Karmutsen volcanics.	5	1.1	8	180	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20152	Location: Near South Boundary of Water Claim, 90 m East of M3 Road Rock Type: Feldspar Porphyry Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Few Meter Wide Dyke Stubby to prismatic subhedral grey feldspar phenocrysts up to 4 mm (5-10%) in a fine-grained groundmass of quartz and orange-brown altered feldspar (ankerite?). The rock is weakly calcareous. Fine-grained disseminated pyrite approximately 2%.	5	0.7	8	4	
20153	Location: M3 Road, NE Part of Starboard Claim Rock Type: Calcite Stringer in Limestone Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 1-4 mm thick mineralized fractures Coarse-grained crinoidal bioclastic limestone hosts several calcite filled fractures up to 4 mm thick (average 1-2 mm) with 50% coarse-grained rosettes of black sphalerite and pyrite up to 1 cm in diameter. Sphalerite generally surrounds the pyrite. Fractures are spaced 10-20 cm apart.	520	1.0	40	64	
20154	Location: On M3 Road in NE part of Starboard Claim Rock Type: Limonitic Weathering Gouge(?) Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 2 m wide zone Limonitic clay-rich material (gouge?) with angular fragments of fine-grained intermediate dyke material hosting some barren quartz stringers a few mm wide.	5	1.2	11	71	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20155	Location: On M3 Road in NE part of Starboard Claim Rock Type: Calcite Stringer in Limestone Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 2 mm wide Coarse-grained bioclastic limestone hosting a 2 mm wide stringer of white calcite with 30% coarse-grained dark brown sphalerite and 20% coarse-grained pyrite in masses to 1 cm in diameter.	4900	417	190	520	
20156	Location: Rock Type: Carbonate Altered Lapilli Tuff Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Large Limonitic weathering foliated (schistose) carbonate (ankerite?) altered lapilli tuff with 10% angular porphyritic lithic clasts to 1 cm; white, rounded feldspar crystal fragments to 2 mm, and 5% chloritic patches up to 2 mm (probably altered mafic crystal fragments). No sulphides.	5	0.6	8	7	
20157	Location: M6-A Road, NE Part of Starboard Claim Rock Type: Intermediate Dyke Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 0.5 m wide dyke Light greenish grey aphanitic groundmass with 5-10% dark greenish-grey lath-shaped plagioclase phenocrysts to 1 mm (average 0.5 mm) and 5%-7% fine to medium-grained disseminated pyrite and 1-2% medium-grained arsenopyrite.	30	0.3	1153	18	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20158	Location: M6-A Road, NE part of Starboard Claim Rock Type: Sheared Dyke Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 5 cm wide zone. Dyke material as described in 20157. 5 cm wide shear zone on hangingwall (west) side with 10-15% pyrite in seams to 5 mm wide and vuggy quartz stringers to a few mm wide.		0.6	747	17	
20170	Location: M3 Road, NE Part of Starboard Claim Rock Type: Quartz Vein in Limestone Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 2 cm wide 1-2 cm wide vuggy white quartz vein with 10% pyrite in masses to 0.5 mm, 1-2% chalcopyrite in masses to 0.5 mm and traces of galena. Host coarse-grained crinoidal limestone contains 2-3% disseminated sporadic sphalerite within a few cm of the vein. Vein at 40/30NW. This sample is from the main M3 road showing structure, 3 m north of the discovery location.	14600	21.0	284	1765	
20171	Location: Rock Type: Pyritic Silicified Limestone Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 0.5-0.1 m vein Rock is a resample of 2969. Sample is 5-10% sphalerite, 2-3% galena, 1-2% chalcopyrite and 5-10% pyrite in locally vuggy crystalline silicified limestone. The zone appears shear-related and is hosted in coarse-grained crinoidal limestone.	17000	132.5	532	3282	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20172	Location: M3 Road, NE part of Starboard Claim Rock Type: Sheared Limestone/Quartz-Carbonate Vein Material Sampled and Sample Type: Outcrop, Chip Sample Width: 0.5 m Occurrence Size: 0.5 m wide zone 1-3 cm wide vuggy white quartz-carbonate vein with up to 50% massive pyrite, 20% fine-grained greenish-grey sphalerite, 3-5% galena and 3-5% chalcopyrite. The limestone approximately 25 cm each side of the structure is mineralized with up to 10% medium-grained dark brown sphalerite and 2-3% each of galena and chalcopyrite. Structure at approximately 140/15SW.	4120	32.83	84	849	
20173	Location: M3 Road, NE part of Starboard Claim Rock Type: Limestone Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 2 mm shear within limestone Sample is of light grey limestone (proximal to contact with intermediate volcanic) with crosscutting calcite veinlets to 2 mm wide. One hairline fracture present with trace very fine-grained pyrite and sphalerite(?).	160	019	71	30	
20174	Location: L0+00, 42+25S, Grid B Rock Type: Limonitic "Soil" Material Sampled and Sample Type: Float, Grab Occurrence Size: Float, less than 20 cm Rock very rusty and weathered almost to soil. It has up to 20% boxwork voids of weathered sulphides. No similar outcrops occur in the area.	10	0.3	14	23	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20175	Location: L0+00, 34+50S, Grid B Rock Type: Vuggy Limonitic Quartz Material Sampled and Sample Type: Float Occurrence Size: Float size greater than 20 cm Sample is of quartz vein material with up to 20% limonite in boxwork-style masses to 5 mm. 5% pyrite in coarse-grained pyritohedrons to 5 mm. Trace chalcopyrite in anhedral crystals to 2 mm.	38000	6.7	27	959	
20176	Location: Rock Type: Quartz-Carbonate Veins Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 5 cm wide veins Veins of coarse-grained white calcite, grey quartz and traces of chalcopyrite hosted in strongly foliated greenish-grey tuff and lapilli tuff. The sample is a grab from 2 veins at 108/70SW, approximately 2 m apart.	60	0.3	9	78	
20177	Location: M4 Road, South part of Water Claim Rock Type: Carbonate Stringers in Argillite Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 1 cm wide zone White carbonate stringers to 1 cm in a 10 cm wide zone parallel to bedding in black graphitic argillite (140/43NE). Up to 5% pyrite occurs in a 1 cm wide carbonate stringer.	70	0.7	43	25	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20178	Location: M2 Road, East part of Water Claim Rock Type: Carbonate Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 5 cm wide vein Several orange weathering ankerite veins cut a carbonate altered basalt flow? tuff? with feldspar and hornblende phenocrysts to 1 mm in diameter. The sample was taken from a 5 cm wide carbonate vein paralleling foliation at 150/54NE. Trace of chalcopyrite.	5	0.2	10	88	
20179	Location: M2E Road, extreme east Water Claim Rock Type: Quartz-Carbonate Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 3 cm vein within basalts Quartz-carbonate vein within basaltic flows. Orientation if 160/47NE. Vein can be traced for 10 m along outcrop. It carries trace chalcopyrite, pyrite, and galena. Carbonate alteration is associated locally with this vein.	5	0.6	12	71	
20180	Location: M2 Road, East of Water Claim Rock Type: Basalt Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Large Massive basalt with a fine-grained crystalline greenish-grey crystalline matrix and 10% stubby black pyroxene(?) phenocrysts averaging 0.5 mm in diameter. The sample was taken to determine Au background in unaltered basalt flows.	5	0.1	5	56	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20181	Location: M2 Road, East of Water Claim Rock Type: Sheared Basalt Material Sampled and Sample Type: Outcrop, Chip Sample Width: 1.0 m Occurrence Size: 1 m wide zone Chip sample across a 1 m zone of two intersecting shears at: 120/70SW, 135/80NE. The host pyroxene phyric basalt is fractured and flooded with orange weathering ankerite.	5	0.1	9	90	
20182	Location: M2 Road, East ofater Claim Rock Type: Calcite-Quartz Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 10 cm wide zone Quartz-calcite vein (bed?) developed between two basaltic flows. The basal flow is a fine to medium-grained crystalline pyroxene phyric basalt. Overlying the calcite is a sporadically amygdaloidal flow breccia. The quartz-calcite horizon contains siliceous spheres up to 2 mm in diameter suggesting that the material is a silicified oolitic limestone bed. The quartz contains up to 5% coarse-grained pyrite and 1-2% chalcopyrite across 1-2 mm.	110	0.1	12	214	
20183	Location: M2 Road, East of Water Claim Rock Type: Amygdaloidal Basalt Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Large Fine-grained crystalline medium greenish-grey aggregate of feldspar, chlorite (+?) with 10-15% black, stubby, pyroxene(?) phenocrysts up to 0.5 mm in diameter, and 5% calcite amygdules to 3 mm in diameter.	5	0.1	2	28	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20184	Location: M2 Road, West of Water Claim Rock Type: Sheared Basalt Material Sampled and Sample Type: Outcrop, Chip Sample Width: 1.0 m Occurrence Size: 1 m wide zone Massive pyroxne phyric amygdaloidal basalt is sheared at 116/77NE. A few cm of gouge has been developed in the shear. Some fractures are flooded with orange weathering ankerite.	5	0.1	11	35	
20185	Location: M2 Road, East of Water Claim Rock Type: Sheared, Carbonate Altered Basalt Material Sampled and Sample Type: Outcrop, Chip Sample Width: 1.0 m Occurrence Size: Several m wide shear zone Orange weathering sheared basalt occurs in a few m wide zone at 146/62NE. The zone hosts barren carbonate veins up to 3 cm wide.	5	0.1	10	111	
20186	Location: M2 Road, East of Water Claim Rock Type: Carbonate Altered Basalt Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Several m wide zone Massive pyroxene phyric flow basalt grades into intensely altered pale orange-brown to pale green carbonate-sericite material with 1-2 mm clots of blue-green fine-grained mica (fuchsite?). Less than 1% disseminated pyrite and traces of chalcopyrite.	5	0.3	6	73	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	[illegible] ppm
20187	Location: M2 Road, East of Water Claim Rock Type: Ankerite/Carbonate Vein Material Sampled and Sample Type: Outcrop, Chip Sample Width: 5 cm Occurrence Size: 5 cm wide vein A 5 cm wide orange weathering carbonate vein in carbonate altered basalt. Vein material contains 2-5% fine-grained disseminated pyrite. Vein orientation 56/43NW.	5	0.1	9	19	
20188	Location: M2 Road, East of Water Claim Rock Type: Carbonate Altered Basalt Material Sampled and Sample Type: Outcrop, Chip Sample Width: 1.0 m Occurrence Size: Several metre wide zone Original textures are totally obliterated. The rock is mottled green, brown and grey and appears to be composed of fine-grained sericite, carbonate, chlorite and remnant feldspar(?).	5	0.3	5	75	
20189	Location: M2 Road, East of Water Claim Rock Type: Sheared, Carbonate Altered Lapilli Material Sampled and Sample Type: Outcrop, Chip Sample Width: 1.5m Occurrence Size: Several metre wide zone Fine-grained groundmass of blue-green quartz, sericite +(?) with dark chloritic patches up to 2 mm in diameter (altered mafic crystal fragments). Original volcaniclastic textures largely obscure. Rock is weakly foliated and contains up to 10% orange weathering carbonate in layers up to 2 mm thick.	5	0.1	2	20	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20190	Location: M2 Road, East of Water Claim Rock Type: Sheared Tuff Material Sampled and Sample Type: Outcrop, Chip Sample Width: 0.5 m Occurrence Size: 0.5 m wide shear zone Silicified light greenish-grey fine grained groundmass (quartz, chlorite +?) with vague white feldspar crystal fragments up to 1 mm. The rock is highly fractured and sheared, with 10 cm of limonitic gouge (90/71S).	5	0.1	9	21	
20191	Location: M2 Road, East of Water Claim Rock Type: Silicified Tuff, Lapilli Material Sampled and Sample Type: Outcrop, Chip Sample Width: 0.3 m Occurrence Size: 0.3 m wide zone Dark blue-green fine-grained silicified tuff adjacent a shear at 105/05SW. The rock has the appearance of a siliceous siltstone. Fine-grained crystalline disseminated pyrite to 1%.	5	0.3	6	43	
20192	Location: Rift Cr., 56 m N of M2 Road, Water Claim Rock Type: Sheared Chloritic Agglomerate(?) Material Sampled and Sample Type: Outcrop, Chip Sample Width: 20 cm Occurrence Size: 0.2 m x 2.0 m Lens of chloritic sheared agglomerate up to 20 cm wide between two shears at: 168/85NE + 5/85NW. The zone has been flooded by minor amounts of quartz and calcite with associated pyrite in masses to 1 cm. Pyrite makes up 10% of the zone in masses to 1 cm x 3 cm.	350	1.0	33	328	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20193	Location: Rift Cr., 56 m N of M2 Road, Water Claim Rock Type: Agglomerate Material Sampled and Sample Type: Outcrop, Chip Sample Width: 1.5 m Occurrence Size: 1.5 m wide horizon Sample of host to shear zone sampled with 20192. Chloritic siliceous groundmass with rounded porphyritic fragments up to 5 cm in diameter. Up to 5% fine-grained pyrite occurs in the groundmass.	5	0.1	22	36	
20194	Location: On Creek, 206 m West of Museum Road, Lat Claim Rock Type: Argillite and Limestone Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Few Metre Interbedded argillite and limestone in beds up to 20 cm thick. The argillite is black, slightly fissile, moderately siliceous and contains up to 5% pyrite in cubes up to 3 mm.	5	0.4	6	17	
20195	Location: On Creek, 267 m West of Museum Road, Lat Claim Rock Type: Calcite Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 50 cm wide vein White calcite and orange weathering carbonate in two intersecting shear zones at: 156/37NE and 125/32NE. The zones are 20 cm thick, and 50 cm thick at their intersection.	5	0.1	50	11	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20196	Location: M6 Creek, NE Starboard Claim Rock Type: Sheared Limestone and Calcite Stringers Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 10 cm wide shear Shear zone in limestone at 124/90 with calcite stringers to 1 cm and a trace of pyrite.	5	0.1	10	1	
20197	Location: M6 Creek, NE Starboard Claim Rock Type: Calcite Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 40 cm wide White weathering calcite vein up to 40 cm wide in sheared limestone. Shear at: 005/84NW. The vein material is coarse-grained and contains angular breccia fragments up to 2 cm in diameter. No apparent mineralization.	5	0.1	7	3	
20198	Location: M6 Creek, NE Starboard Claim Rock Type: Sheared Limestone and Quartz-Carbonate Stringers Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 30 cm wide zone Grey quartz and brownish carbonate stringers up to 1 cm wide contain 1-2% fine-grained disseminated pyrite. Shear zone at: 114/74NE.	5	0.2	15	32	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20199	Location: M6 Creek, NE Starboard Claim Rock Type: Quartz-Carbonate Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 15 cm wide zone Dark greenish-grey fine-grained quartz and coarse-grained grey calcite flooding a 15 cm wide shear zone. Trace fine-grained disseminated pyrite.	5	0.1	4	6	
20200	Location: M6 Creek, NE Starboard Claim Rock Type: Quartz-Calcite Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 5 cm wide White, coarse-grained vuggy quartz and grey coarse-grained crystalline calcite with up to 50% (average 10%) coarse grained pyrite in lenses up to 5 cm in diameter. Calcite parts of vein contain 1-2% chalcopyrite. Vein attitude: 31/60SE.	9800	17.4	827	2565	
22651	Location: Approx. 23+90S, 0+10W (1987); Starboard Claim Rock Type: Limestone Material Sampled and Sample Type: Outcrop, Chip Sample Width: 1.0 m The sample was taken on the hangingwall side of 20100. The material is a fine-grained grey to brown foliated limestone with 3-4% fine-grained disseminated crystalline pyrite.	5	0.1	26	32	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
22652	Location: Approx. 24+05S, 0+05E (1987); Starboard Claim Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop, Chip Sample Width: 0.12 White, vuggy limonite stained coarse-grained quartz contains 20-30% disseminated pyrite in masses up to 5 mm, 3-7% chalcopyrite and 4-7% arsenopyrite(?).	15400	47.9	1942	3373	
22653	Location: Approx. 24+05S, 0+05E (1987); Starboard Claim Rock Type: Bioclastic Limestone Material Sampled and Sample Type: Outcrop, Chip Sample Width: 2.0 m Light grey bioclastic limestone hosts the quartz vein sampled with 22652. The limestone was sampled across 1 m on each side of the quartz vein. A light buff coloured fine-grained limestone matrix contains 60% dark grey crinoid fragments up to 4 mm in diameter. No sulphides are apparent.	5	0.1	8	9	
22654	Location: Approx. 24+05S, 0+05E (1987); Starboard Claim Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop, Chip Sample Width: 15 cm Coarse-grained, white, vuggy, limonite stained quartz contains up to 30% disseminated pyrite interstitial to the quartz crystals.	30000	64.9	2361	4517	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
22655	Location: Approx. 24+05S, 0+05E (1987); Starboard Claim Rock Type: Bioclastic Limestone Material Sampled and Sample Type: Outcrop, Chip Sample Width: 1.0 m Bioclastic limestone hosting a well-mineralized quartz vein (22654) was sampled across 1 m on the hangingwall side of the vein. The limestone is similar to that described in 22653, except that it contains traces of pyrite.	150	0.8	27	48	
22656	Location: Approx. 23+05S, 0+05E (1987); Starboard Claim Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop, Chip Sample Width: 0.15 m White coarse-grained vuggy quartz contains 20% coarse-grained disseminated pyrite, 2-3% medium to fine-grained disseminated arsenopyrite and traces of chalcopyrite and sphalerite.	5000	25.2	3287	2105	
22657	Location: Approx. 24+05S, 0+05E (1987); Starboard Claim Rock Type: Bioclastic Limestone Material Sampled and Sample Type: Outcrop, Chip Sample Width: Dark grey crinoid fragments up to 5 mm in diameter form 70% of the rock. The matrix is a light grey fine-grained limestone.	20	0.4	18	22	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
22658	Location: Approx. 24+05S, 0+05E (1987); Starboard Claim Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop, Chip Sample Width: 0.15 White quartz with 10% coarse-grained disseminated pyrite.	5900	39.4	2059	2687	
22659	Location: Approx. 24+05S, 0+05E (1987); Starboard Claim Rock Type: Bioclastic Limestone Material Sampled and Sample Type: Outcrop, Chip Sample Width: 1.0 m Light grey fine-grained limestone matrix with 60% dark grey crinoid fragments to 5 mm. No sulphides apparent. Sample taken on hangingwall of vein (22658).	30	0.4	15	22	
22660	Location: Approx. 24+05S, 0+05E (1987); Starboard Claim Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop, Chip Sample Width: 0.12 m Occurrence Size: 12 cm wide vein White coarse-grained quartz with 5-10% disseminated coarse-grained pyrite and 1-2% fine-grained dark brown sphalerite.	11200	31.0	1621	1157	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
22661	Location: Approx. 24+05S, 0+05E (1987); Starboard Claim Rock Type: Bioclastic Limestone Material Sampled and Sample Type: Outcrop, Chip Sample Width: 1.0 m Sample was taken from the hangingwall of a quartz vein (22660). The limestone is similar to 22659.	20	0.3	17	11	
22662	Location: Approx. 24+05S, 0+05E (1987); Starboard Claim Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop, Chip Sample Width: White, coarse-grained, vuggy quartz with 15% coarse-grained pyrite in masses to 1 cm in diameter and 2-3% fine-grained disseminated arsenopyrite.	12600	27.4	5165	1484	
22663	Location: Approx. 24+05S, 0+05E (1987); Starboard Claim Rock Type: Limestone Material Sampled and Sample Type: Outcrop, Chip Sample Width: 1.0 Light grey fine-grained limestone matrix with 60% dark grey crinoid fragments up to 0.5 cm in diameter. Trace pyrite. The sample was taken from the hanging wall of a mineralized quartz vein (22662).	50	0.3	39	17	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
22664	Location: Approx. 26+05S, 2+54W (1987); Starboard Claim Rock Type: Cherty Sediment and Calcite Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 15 cm wide zone A light greenish-grey cherty fine-grained clastic has been brecciated and flooded with calcite. Breccia fragments up to 2 cm in diameter have 2-3 mm jasper rims. Coarse-grained crystalline pyrite (approx. 7-8%) occurs around the edges of breccia fragments.	20	0.1	16	7	
22665	Location: Approx. 25+80S, 1+25W (1987); Starboard Claim Rock Type: Altered Basalt(?), Skarn(?) Material Sampled and Sample Type: Float, Grab Occurrence Size: 30 cm x 20 cm x 15 cm Dark green fine to medium-grained crystalline intergrowth of actinolite(?) (altered to chlorite) hosts 10% pyrrhotite and 20% chalcopyrite in disseminated masses to 3 mm in diameter. Sulphides occur intersystalline mafic host.	540	109.7	5	50331	
22666	Location: 20+50S, 0+80E (1987); Starboard Claim Rock Type: Crinoidal Limestone Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Large Light grey fine-grained limestone with 60% dark grey crinoid fragments up to 8 mm in diameter. approximately 1% pyrite and traces of sphalerite occur interstitially to the crinoid fragments. The sample was taken in a broad, anomalous gold-in-soil zone to see if the source for the gold could be in the underlying limestone.	5	0.3	8	17	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
22667	Location: 19+75S, 0+70E; Starboard Claim Rock Type: Felsic Dyke Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 2-3 m wide (?) Approximately 50% fine-grained lath shaped feldspar phenocrysts and 15% dark greenish-grey stubby feldspar phenocrysts up to 1 mm occur in a light greenish-grey hard (siliceous?) groundmass. Fine-grained disseminated pyrite makes up 1-2% of the rock.	5	1.0	100	98	
22668	Location: 19+47S, 0+80E; Starboard Claim Rock Type: Crinoidal Limestone Material Sampled and Sample Type: Float, Grab Occurrence Size: 1 mm wide fracture coating The sample was taken from an angular boulder at the base of an outcrop of crinoidal limestone. One surface of the boulder was coated with medium-grained crystalline pyrite and possibly sphalerite. Mineralized fractures such as this may be the source of the gold creating a broad gold-in-soil anomaly in this area.	220	0.5	4	12	
22669	Location: 20+60S, 1+80E; Starboard Claim Rock Type: Quartz Stringers in Limestone Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Several metre wide zone Closely spaced (1-3/cm) then (1/4 mm) white quartz stringers cut dark grey fine-grained crystalline limestone. Quartz stringers weather out in positive relief creating a light, delicate 'boxwork' of veins. No sulphides are apparent. The sample was taken because it is close to a 190 ppb Au-in-soil sample taken at 20+50S, 1+75E.	5	0.2	7	20	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
22670	Location: 18+75S, 0+25E; Starboard Claim Rock Type: Quartz Vein and Limestone Material Sampled and Sample Type: Float, Grab Occurrence Size: 10 cm x 30 cm x 30 cm boulders. Vuggy, limonite, stained medium-grained, crystalline quartz stringers and veins up to 5 cm in width are hosted in limonite stained, bioclastic limestone. Quartz contains up to 15% coarse-grained pyrite and sphalerite, 1-2% galena and traces of chalcopyrite. This may be float from the M3 showing structure.	32500	43.3	307	1524	Mo 5 Pb 1910 Zn 7714
22671	Location: 18+75S, 0+80W; Starboard Claim Rock Type: Quartz Stringers in Limestone Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Several metre wide zone. Closely spaced (up to several per centimetres) sets of 1-3 mm wide vuggy quartz stringers are hosted in a fine-grained crystalline limestone (5a). The rock appears to be barren.	100	0.4	17	19	
22672	Location: 18+50S, 0+87E; Starboard Claim Rock Type: Limestone Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Large Light grey, fine-grained, crystalline limestone with traces of disseminated crystalline pyrite.	5	0.3	3	3	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
22673	Location: 18+50S, 2+00E; Starboard Claim Rock Type: Quartz Stringers in Limestone Material Sampled and Sample Type: Float, Grab Occurrence Size: Medium grey, fine-grained, crystalline limestone (5a) hosts white quartz stringers up to 5 mm wide. Barren. The sample was taken because a soil sample at this site contained 130 ppb Au.	5	0.1	2	4	
22674	Location: 19+50S, 4+25E; Starboard Claim Rock Type: Quartz Vein in Limestone Material Sampled and Sample Type: Float, Grab Occurrence Size: 3 cm (+) wide vein Light grey, fine-grained, crystalline limestone hosts a 3 cm (+?) wide white, vuggy quartz vein with 10% @ coarse-grained pyrite and sphalerite, and 5% galena. Several mineralized fracture surfaces and stringers occur in road fill in this area and it appears to have come from the adjacent road cut.	820	104	98	340	Mo 11 Pb 22576 Zn 43537
22675	Location: 18+83S, west side of M4 road; Starboard Claim Rock Type: Quartz Stringers in Limestone Material Sampled and Sample Type: Float, Grab Occurrence Size: Strongly weathered, medium greenish-grey, banded, limonitic limestone hosts at least 2 sets of closely spaced quartz stringers up to 3 mm in width. Quartz stringers are vuggy, make up to 15% of the rock, intersect at 45' to 70' and contain galena and chalcopyrite (volume percent of rock; galena 2%, chalcopyrite <1%). A 10 m wide alteration-stringer zone occurs adjacent to the sample and is likely the source of the material.	5800	18.3	32	1543	Pb 4447 Zn 1468

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
22676	Location: 18+60S, west side of M4 road; Starboard Claim Rock Type: Quartz Stringer Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 1 cm wide A 1 cm wide quartz stringer occurs within a several metre wide zone of quartz stringers. Several sets of quartz stringers intersect at 45 to 70 . The dominant set is oriented at 045 /70 SE, and spaced a few tens of centimetres apart. These stringers range in width from 1 to 5 cm and are sporadically mineralized with coarse-grained pyrite and sphalerite.	940	2.1	103	61	Pb 166 Zn 4984
22677	Location: 18+83S, west side of M4 road, Starboard Claim Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 3-10 cm wide White, vuggy quartz vein at 41/63SE contains 2-3% fine to medium-grained disseminated crystalline pyrite.	460	0.1	39	21	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm	
22678	Location: 18+85S, west side of M4 road, Starboard Claim Rock Type: Quartz Stringers in Altered Limestone Material Sampled and Sample Type: Outcrop, Chip Sample Width: 4.0 m Occurrence Size: 10 m wide zone The sample is a discontinuous chip across a zone of quartz stringers in a heavily weathered limestone host. The 'limestone' has been altered to a soft, brownish earthy material. Quartz stringers are up to 2 mm in width and make up to 10% of the rock. No mineralization was observed but the zone is likely the source for material sampled in 22675.	3020	6.4	248	225	Pb Zn	1044 1028
22679	Location: 19+00S (7 m N of 19+50S), west side of M4 road; Starboard Claim Rock Type: Quartz Stringers in Limestone Material Sampled and Sample Type: Outcrop, Chip Sample Width: 0.3 m Occurrence Size: 2-3 m wide stringer zone Quartz stringers up to 3 cm wide parallel bedding at: 074/37SE, 085/20SE. The stringers are spaced a few centimetres apart and are sporadically mineralized with coarse-grained pyrte and sphalerite in lenses to 2 cm in length. This zone may have been the source for 22674.	800	1.1	211	49	Zn	1175
22680	Location: 19+47S, 1+00E; Starboard Claim Rock Type: Crinoidal Limestone Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Large Coarse to medium-grained, crinoidal limestone with a fine-grained brownish-grey limestone matrix. Barren.	100	17.7	18	27	Pb ZN	1129 325

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
22681	Location: 23+15S, 0+35E; Starboard Claim Rock Type: Quartz-Calcite Stringer in Limestone Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 1 cm Coarse-grained bioclastic limestone hosts a quartz-carbonate stringer up to 1 cm wide at 20/33SE. Pyrite occurs as cubes up to 1 cm in diameter.	220	2.9	630	101	
22682	Location: 17+50S, 1+00E; Starboard Claim Rock Type: Limestone Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Several metre (+) wide zone Fine-grained cyrstalline limestone cut by hairline fractures with minor amounts of pyrite and possibly chalcopyrite. 17+50S, 1+00E is the site of a 420 ppb gold-in-soil anomaly.	130	0.7	6	19	
22683	Location: 17+56S, 0+93E; Starboard Claim Rock Type: Limestone and Quartz Stringers Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Several metres (+) wide zone Fine-grained crystalline limestone cut by abundant (1-2/cm) 1-5 mm vuggy quartz stringers. Three sets of stringers intersect at 70-90'. Some irregular silicified pods of limestone up to 5 cm in width also occur. Barren.	20	0.1	8	3	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
22684	Location: 17+56S, 1+25E; Starboard Claim Rock Type: Limestone and Quartz Stringers Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Several metre wide zone Closely spaced (1/cm) white, vuggy quartz stringers 1-50 mm in width are hosted in medium grey fine-grained limestone. Barren.	5	0.6	8	2	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
22701	Location: Approx. 19+50S, 2+83W (1987); Starboard Claim Rock Type: Granodiorite Porphyry Material Sampled and Sample Type: Float, Grab Occurrence Size: Medium-grained crystalline aggregate of 5-10% quartz, 60% white feldspar (some crystals up to 6 mm in diameter), 15% chloritic hornblende, 15-20% biotite, and 3-4% each of pyrite and chalcopyrite. Sulphides occur disseminated throughout as well as in 1-2 mm wide quartz stringers.	140	21.7	78	4993	
22751	Location: 65 m up 23+50S Showing Creek from M6 Creek, Starboard Claim Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 1 to 15 cm x 80 cm is visible. This sample is from a mineralized pod splaying from an altered shear zone which also hosts sample 20049. It contains 50% pyrite in a locally vuggy, medium blue-grey quartz. The splay has no consistent orientation.	5100	95.4	13916	1673	
22752	Location: 65 m up 23+50S Creek from M6 Creek, Starboard Claim Rock Type: Quartz Vein Material Sampled and Sample Type: Float, Grab Occurrence Size: Float clast 10 x 20 x 5 cm, angular. 50% pyrite, 3-5% chalcopyrite, and 5-7% arsenopyrite occur along fractures in a white crystalline quartz vein.	27000	104.8	20574	10218	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
22753	Location: M6 Creek, Starboard Claim Rock Type: Bioclastic Limestone Material Sampled and Sample Type: Float, Grab Occurrence Size: 40 cm x 3 m exposed. Crinoid sections up to 4 mm across occur in an altered olive green carbonate matrix. Sparse bright green clost also occur. Sample is from a 20 m carbonate altered zone and some of the color therefore, may be from sericite introduced by altering fluids. Traces of very fine-grained pyrite occur along clast edges.	120	1.3	693	89	
22754	Location: NE Starboard, 10 m SE of L19+50S, 1+00E Rock Type: Bioclastic Limestone Material Sampled and Sample Type: Float, Grab Occurrence Size: 1-3 mm veinlet The host rock is a light grey bioclastic, locally crystalline, limedstone. Crinoid clasts are up to 7 mm in diameter. Mineralization consists of traces of pyrite, ± galena, ± sphalerite within a 1 to 3 mm quartz veinlet. The sample is from a large (>2 m) boulder which is likely proximal to source.	120	0.3	6	9	
22755	Location: NE Starboard Claim Rock Type: Argillite Material Sampled and Sample Type: Outcrop, Chip Sample Width: 2 m Occurrence Size: Dark grey to black argillite with 2-4% disseminated pyrite (crystals up to 2 mm) occurs on either side of a well mineralized (py, cp, sp, ± po) quartz vein. Adjacent to the vein are 2 felsic dykes (see sample) with disseminated pyrite as above.	10	1.2	19	216	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
22756	Location: NE Starboard, M6 Creek, in vein zone (at approx. 525 m elev.) Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 35 cm wide exposed over 10 m. Sample is from a possible feeder to overlying quartz veins. Vein is adjacent to a 40 cm felsic intrusive. The white quartz has a brecciated appearance, with "clasts" up to 1 cm in diameter. Fine-grained disseminated pyrite (trace) occurs along hairline fractures.	5	0.1	7	33	
22757	Location: NE Starboard, 23+50 Creek Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop?, Grab Occurrence Size: 10-15 cm wide Light blue-grey brecciated(?) quartz hosts disseminated pyrite (20%), spalerite (5-10%) and chalcopyrite (5%). Sulphides tend to form rims around quartz breccia fragments (clasts up to 5 mm). In some cases pyrite forms rims up to 1 mm around sphalerite. Nature of exposure and abundance of float similar to sample render outcrop determination dubious. Same location as 20049, 22751 and 22752.	70	34.4	46	2032	
22758	Location: NE Starboard, 23+50S Creek Rock Type: Altered Crystalline Limestone Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Altered zone approx. 20 m wide. Homogeneous medium blue-grey limestone clasts(?) occur with homogeneous creamy yellow material. "Clasts" appear to be up to 3.5 cm in size. Ankeritic microfractures also occur. Traces of chalcopyrite occur on weathered surfaces.	5	1.3	37	212	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
22759	Location: M4 Rd. near 1st landing, Starboard Claim Rock Type: Weathered Limestone Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Uncertain Outcrop is deeply weathered and occurrence extent is uncertain. Limestone appears to be completely altered. Host is approx. 50% limonite and Fe-oxide. Quartz-calcite stringer veins, up to 2 cm wide, binds rock together. Sample contains traces of galena and chalcopyrite. Sample is from veins in 22678 (4 m chip running 0.092 oz/T Au).	3500	31.7	84	1218	
22760	Location: Starboard Claim, Nicki Creek Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 2-6 cm exposed over 10 m. White quartz 2-6 cm wide occurs within bioclastic and dark crystalline limestone. The vein lies parallel to that of sample 20140 (both orientations approx. 130/45NE). Sample contains approximately 15% disseminated pyrite in aggregates and cubes up to 5 mm across. Sample also contains 5-7% disseminated arsenopyrite.	3060	37.8	19571	1083	
22761	Location: Starboard Claim, Nicki Creek Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 2-4 cm exposed over approx. 10 m. White to light blue-grey quartz-vein, 2-4 cm wide, locally contains traces of ankerite along fractures and up to 50% vein and disseminated pyrite, and traces of chalcopyrite. Sample is from same vein 4 m east of 22760.	1400	60.5	1124	11047	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
22762	Location: Starboard Claim, Nicki Creek Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 2-7 cm vein exposed for 7 m. Sample is of a white to medium blue-grey quartz vein taken approximately 1 m east of and on the same vein as sample 20141 (0.039 oz/T Au). Vein is hosted in locally cherty, crystalline crinoidal limestone. Sample contains 5-10% disseminated pyrite cubes up to 6 mm.	2320	5.6	271	289	
22763	Location: Starboard Claim, Nicki Creek Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 2-7 m vein exposed approx. 7 m. Sample is of a white to medium blue-grey quartz vein taken approximately 3 m west of and on the same vein as sample 20141. Vein is hosted in locally cherty, crystalline crinoidal limestone. Sample contains 10-15% pyrite along fractures and trace arsenopyrite, also along fractures.	4120	31.0	969	1248	
22764	Location: Starboard Claim, Nicki Creek Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 40 cm x 25 cm pod along a 3 cm wide vein. Sample is of white to light grey-blue quartz hosted in crystalline, crinoidal limestone. Sample contains 5% disseminated and aggregate pyrite as well as traces of arsenopyrite. Sample was collected approximately 20 cm upstream from 20141.	6900	9.1	1675	227	

Sample Number	Description	Au ppb	Ag ppm	As ppm	CuCu ppm	Other ppm
22765	Location: Starboard Claim, Nicki Creek Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Vein 3-7 cm exposed over 6 m. White quartz hosted in bioclastic, locally crystalline limestone contains 25-30% arsenopyrite and 30-35% pyrite. Sample is approximately 25 m upstream of 20141.	22400	26.8	17350	1601	
M4 Formerly 22765	Location: M4 Road, NE Starboard Rock Type: Material Sampled and Sample Type: Outcrop, Chip Sample Width: 4 m Occurrence Size: 4 m continuous chip sample through 30 cm mineralized zone and into host limestone at least 1.5 m on either side. Sample M4A is from a mineralized section at the centre of the chip sample.	500	1.5	25	79	
M4A Formerly 22765A	Location: M4 Road, NE Starboard Rock Type: Limonitic Limestone Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Vein 7-12 cm thick Limestone, extremely weathered, contains a network of crosscutting quartz shears. Interstices between shears are filled with weathered limonitic material (30% of rock volume). Sample also contains 2-4% disseminated galena, <3% disseminated pyrite, trace malachite, and trace chalcopyrite. Sample is part of a 30 cm mineralized zone including a zone of boxwork structure quartz too friable to sample.	500	27.0	42	1958	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
22766	Location: Nicki Ck, NE Starboard Rock Type: Crystalline Limestone Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 1 m x 2.5 m exposed Up to 15% pyrite (total rock volume) occurs in fractures crosscutting laminated crystalline limestone. Laminations are up to 1 cm thick. Sample also includes a 1-2 cm thick quartz vein carrying 5% pyrite. The sample location is overlain by a 2.5 m thick felsic intrusive.	2080	8.8	1164	754	
22767	Location: Nicki Ck, NE Starboard Claim Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Approx. 4 cm traceable over 1.0 m White quartz vein, with a 120/40N orientation, is hosted in locally crystalline bioclastic limestone. It contains 2-4% disseminated pyrite and trace chalcopyrite.	100	1.3	208	67	
22768	Location: Nicki Ck, NE Starboard Claim Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 2-3 cm exposed over 3.5 - 4.0 m A narrow (2-3 cm) quartz vein, hosted in locally crystalline bioclastic limestone carries 35-40% pyrite and 5% arsenopyrite. The vein is oriented 97/34S.	11600	22.7	1324	684	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
22769	Location: Nicki Ck, Starboard Claim Rock Type: Quartz Veins in Silicified Limestone Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 1-3 cm, not traceable Several 1-3 cm stockwork quartz veins occur in a limestone which has been silicified by a proximal felsic intrusive. Pyrite and arsenopyrite, 4-6% of total rock volume occur along fractures, in disseminated form, and within the quartz stockwork.	560	2.3	4568	77	
22770	Location: Nicki Ck, NE Starboard Claim Rock Type: Crystalline Limestone Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 2-4 m exposed Well-mineralized crystalline limestone occurs underlying a felsic intrusive. Bedding has a 29/35SE orientation. Disseminated pyrite occurs throughout the host; pyrite, arsenopyrite and galena are seen concentrated along quartz veinlets (<1 cm) and along micro-fractures.	2000	6.9	20342	65	
22771	Location: Nicki Ck, NE Starboard Claim Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 0.5 to 1.0 m wide exposed over 4-5 m Stockwork quartz veins occur exposed along the strike of a fault (orientation: 45/50SE). Individual veins are up to 3 cm thick though the stockwork zone is 0.5 to 1.0 m wide. Veins carry up to 10-15% disseminated pyrite, <5% sphalerite, trace chalcopyrite and trace galena.	2700	24.1	9994	321	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
22772	Location: Nicki Ck, NE Starboard Claim Rock Type: Outcrop, Grab Material Sampled and Sample Type: Pyritic Altered Limestone (?) Occurrence Size: 40 cm exposed over 3-4 m Mottled orange-green-brown ankerite-altered limestone occurs within a shear or fault zone. All shears and fractures within the sample are mineralized with pyrite and trace arsenopyrite. Total sulphides are approximately 30%. Fault zone orientation is approximately 59/47SE.	8000	15.3	1497	475	
22773	Location: Nicki Ck, NE Starboard Claim Rock Type: Outcrop, Chip Material Sampled and Sample Type: Sample Width: 35 cm Occurrence Size: Chip is centered on a 5-8 cm quartz vein carrying up to 40% pyrite locally. The host is locally crystalline bioclastic limestone with a proximal (<3 m) felsic intrusive.	6300	9.7	1515	314	
22774	Location: Nicki Ck, NE Starboard Claim Rock Type: Bioclastic Limestone Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Approx. 1 m x 4 m Bioclastic limestone, locally silicified, contains bedding parallel quartz veins (most appear barren). Bedding is approximately 161/30NE. Sample appears silicified and ankerite-altered. Pyrite and arsenopyrite occurs disseminated along fractures and in quartz veinlets. Sulphide content is 3-5% total rock volume.	1320	1.1	17944	31	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
22775	Location: M3 Road, NE Starboard Claim Rock Type: Altered Felsic Intrusive Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 0.5 m x 1.5 m exposed Sericitic and ankeritic alteration of a felsic intrusive has resulted in a mottled olive green-brown-white product. The brown-white sections are likely altered limestone. The olive green areas are likely altered intrusive. The altered intrusive carries 4-6% fine-grained disseminated pyrite and trace arsenopyrite.	40	0.5	276	68	
22776	Location: M3 Road, NE Starboard Claim Rock Type: Felsic Intrusive Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 1 m x 3 m exposed Medium grey felsic intrusive, slightly altered (sample is spotted with green sericitic clots) carries 1-3% fine-grained disseminated pyrite. Sample is 0.5 m west of #22775.	40	0.8	227	167	
22777	Location: M3 (upper site), NE Starboard Claim Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop, Chip Sample Width: 10 cm Occurrence Size: 2-3 cm vein exposed <1.0 m A narrow (2-3 cm) quartz vein containing 3-5% pyrite, 4-6% sphalerite, and trace chalcopyrite is hosted in crinoidal bioclastic limestone. Sphalerite aggregates are up to 1.5 cm across.	1140	1.7	64	421	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
22778	Location: M3 Road, S Water Claim Rock Type: Pyritic Argillaceous Limestone Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Approx. 4 m x 3 m exposed Pyritic laminations of argillite occur within more massive beds of dark crystalline limestone. Sample is crosscut by 1-6 mm quartz-calcite veinlets. Very fine-grained disseminated pyrite occurs disseminated throughout.	30	1.0	30	27	
22779	Location: Nicki Ck, Starboard Claim Rock Type: Argillaceous Crystalline Limestone Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 1 m exposed Dark grey homogenous limestone contains up to 5 sets of crosscutting quartz veinlets. May be precursor to boxwork style weathering. Trace pyrite occurs along 2 sets of veinlets.	5	0.2	21	10	
22780	Location: M4 Road, NE Starboard Claim Rock Type: Quartz Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 20-30 cm exposed in road cut Vuggy quartz vein (unknown orientation) occurs within dark crystalline bioclastic limestones. Earthy limonitic material occurs in half of the vugs. Trace pyrite occurs disseminated throughout. Sample has Mn-stain on weathered surface.	30	0.1	40	38	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
22781	Lation: M4 Road, NE Starboard Claim Rock Type: Quartz Veinlet Material Sampled and Sample Type: Float, Grab Occurrence Size: 4 mm shear Quartz veinlet within a shear (<5 mm wide) contains 50% pyrite. The shear is hosted in bioclastic limestone. Size and angularity of source boulder suggest a proximal sample source.	1180	1.2	57	30	
22782	Location: M4 Road, NE Starboard Claim Rock Type: Quartz Vein Material Sampled and Sample Type: Float, Grab Occurrence Size: 3 cm vein Vuggy quartz hosts 5-10% disseminated pyrite and 10-15% disseminated sphalerite. The vein is hosted in dark crystalline limestone. Angularity and size of host boulder suggests a proximal source.	9200	13.0	114	4759	
22783	Location: End of M4 Road, Starboard Claim Rock Type: Quartz-Carbonate Vein Material Sampled and Sample Type: Outcrop, Chip Sample Width: 40 cm Occurrence Size: 20 cm Barren milky grey quartz-carbonate vein (up to 20 cm wide) is sampled with 10 cm (either side) host bioclastic argillaceous limestone. Chip A	5	0.1	4	1	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
22784	Location: End of M4 Road, Starboard Claim Rock Type: Quartz Veinlets Material Sampled and Sample Type: Outcrop, Chip Sample Width: 1.0 m Occurrence Size: Quartz veinlets up to 1.5 cm width, in argillaceous bioclastic limestone, carry up to 50% disseminated and aggregate pyrite. 2-4% sphalerite occurs locally. Chip B	140	1.6	176	212	
22785	Location: End of M4 Road, Starboard Claim Rock Type: Quartz-Carbonate Veins Material Sampled and Sample Type: Outcrop, Chip Sample Width: 0.75 m Occurrence Size: Slightly argillaceous bioclastic limestone hosts narrow (<0.5 cm) quartz-carbonate vein-filled shears. Up to 7% pyrite (total rock volume) trace sphalerite, and trace arsenopyrite occurs in the veins and in 1 cm of host on either side of the veins.	580	6.7	1113	480	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
22786	Location: Approx. 14 m SSW of L23+00S, 0+50E: Starboard Claim Rock Type: Quartz vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 1.0 m exposed 50 to 60% pyrite and trace sphalerite (?) occurs in a 2 to 3 cm white crystalline quartz vein. Vein is hosted in light grey bioclastic limestone. Vein orientation of 324/22 NE suggests a probable source for the anomalous (15,000 ppb) soil sample collected at L23+00S, 0+50E.					
22787	Location: 2350 Ck, Starboard Claim Rock Type: Quartz vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 0.60 m exposed Trace disseminated pyrite and 2-4% disseminated chalcopyrite occur within a 3 to 4 cm vuggy crystalline quartz vein. The vein is likely a displaced equivalent to that sampled in numbers 20026 and 20027. Orientation is approximately 357/31E.					
22788	Location: M6 Creek Starboard Claim Rock Type: Quartz vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 1.0 m exposed Up to 25% pyrite, 15% chalcopyrite, and 10% arsenopyrite occur within a 4-6 cm white crystalline quartz vein. The quartz vein's orientation is 358/46E. It is located in the M6 Zone, approximately 20 m SW of the M6 drillsite.					

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm	
22789	Location: Museum Main, N of M4 Road, Water Claim Rock Type: Chlorite schist Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Exposed in quarry over 20 metres Highly foliated chlorite schist (unknown volcanic protolith) occurs within a larger zone of relatively unaltered flows and tuffs. Quartz-carbonate veinlets to 2 mm occur parallel to foliation. Trace disseminated pyrite and chalcopyrite occur throughout.	30	6.3	9	195	Zn Pb	71 32
35157	Location: North of Rift Ck (M2 Road area) Rock Type: Flow basalt Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Outcrop exposure greater than 75 m Pyroxene phyric basalt. Relatively unaltered. Medium green-grey, fine-grained crystalline groundmass of feldspar and sericite(?) with approximately 10% black, stubby anhedral pyroxene phenocrysts or chloritic pseudomorphs.						
35158	Location: South of M6 Road on Museum Main Rock Type: Fine-grained tuff(?) Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Exposure greater than 15 m Clasts rounded to subangular. Sample is chlorite altered and weakly foliated. Fizzes slightly. Homogenous, dark green appearance. Composition approximately: 20-25% amphiboles 5-10% pyroxenes 10-15% phyllas (chlorite) 10% carbonate minerals 10-15% quartz 20-25% feldspar 3- 5% other (epidote, trace pyrite, etc.)						

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm

35159 Location: M4/Museum Main Junction
Rock Type: Fine-grained tuff.
Material Sampled and Sample Type: Outcrop, Grab
Occurrence Size:

Dark green, fine-grained, subrounded, homogenous tuff. Sample is moderatly chloritized and foliated. Bedding 2-5 cm (slightly undulatory). Due to displaced nature of joint blocks (massive, blocky) orientation at this location not possible. Composition approximately:

25-30%	Feldspar
5-10%	Quartz
15-20%	Chlorite
5-10%	Amphiboles
15-20%	Carbonate minerals
10-15%	Other

35160 Location: Lower M3 Road Quarry
Rock Type: Fine-grained tuff
Material Sampled and Sample Type: Outcrop, Grab
Occurrence Size: Outcrop exposure at least 30 m

Medium to dark green tuff. Grains generally have diffuse outlines however model size appears to be 1 mm (subangular). Composition approximately:

20%	Amphiboles	
15%	Pyroxenes	
15%	Chlorite	
15%	Carbonate minerals	
10%	Quartz	
20%	Feldspar	
5%	Other: Pyrite	1-3%
	Epidote	3-5%

APPENDIX II

CONVERSION FACTORS FOR METRIC UNITS

CONVERSION FACTORS FOR METRIC UNITS

1 inch	=	25.4 millimetres	(mm)
		or 2.54 centimetres	(cm)
1 cm	=	0.394 inch	
1 foot	=	0.3048 metre	(m)
1 m	=	3.281 feet	
1 mile	=	1.609 kilometres	(km)
1 km	=	0.621 miles	
1 acre	=	0.4047 hectares	(ha)
1 ha	=	2.471 acres	
1 ha	=	100 m x 100 m = 10,000 m^2	
1 km^2	=	100 ha	
1 troy ounce (oz)	=	31.103 grams	(g)
1 g	=	0.032 troy oz	
1 pound (lb)	=	0.4536 kilogram	(kg)
1 kg	=	2.2046 lb	
1 ton (2000 lb) (T)	=	0.9072 tonne	(t)
1 tonne (t)	=	1.1023 ton = 2205 lb	
1 troy ounce/ton (oz/T)	=	34.286 grams/tonne	(g/t)
1 g/t	=	0.0292 oz/ton	
1 g/t	=	1 part per million	(ppm)
1 ppm	=	1000 parts per billion	(ppb)
10,000 g/t	=	1%	

APPENDIX III

ANALYTICAL TECHNIQUES

Rossbacher Laboratory Ltd.
GEOCHEMICAL ANALYSTS & ASSAYERS

2225 S. SPRINGER AVE.,
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TELEPHONE: 299-6910
AREA CODE: 604

METHODS OF ANALYSIS, 1987

(Short description of selected methods.)

GEOCHEMICAL:

Gold: 10 Grams of -80 mesh soil, or -100 mesh pulverized silt or rock sample is roasted at 550 deg.C, and digested with Aqua Regia. The dissolved Gold is then extracted with Methyl Isobutyl Ketone, and the resulting solution analysed using Atomic Absorption spectroscopy.

Multi Element ICP : 0.5 Grams of sample is digested with a 3-1-2 dilute Aqua Regia mixture, and analysed using Inductively Coupled Plasma Spectroscopy.

ASSAY:

Gold (A.A.): 30 gram -100 mesh sample is roasted at 550 deg C and digested with Nitric Acid, followed by a double digestion with Aqua Regia. The resulting solution is extracted using Methyl Isobutyl Ketone, and analysed using Atomic Absorption Spectroscopy.

Gold (F.A.): 15 or 30 gram -100 mesh sample is fused using standard Fire Assay fluxes, the resulting Au/Ag/Lead button is cupelled, and the Au/Ag bead analysed using Atomic Absorption, or a Gravimetric finish.

Silver, Lead, Zinc, or Copper: a 0.5 to 5.0 gram sample is digested with the appropriate acid, or acid combination and analysed by Atomic Absorption Spectroscopy.

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Jan. 1985

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GEOCHEMICAL ANALYTICAL METHODS CURRENTLY IN USE AT ROSSBACHER LABORATORY LTD.

A. SAMPLE PREPARATION

1. *Geochem. Soil and Silt:* Samples are dried, and sifted to minus 80 Mesh, through stainless steel, or nylon screens.

2. *Geochem. Rock:* Samples are dried, crushed to minus $\frac{1}{4}$ inch, split, and pulverized to minus 100 mesh.

B. METHODS OF ANALYSIS

1. *Multi element:* (Mo, Cu, Ni, Co, Mn, Fe, Ag, Zn, Pb, Cd):
0.5 Gram sample is digested for four hours with a 15:85 mixture of Nitric-Perchloric acid.
The resulting extract is analyzed by Atomic Absorption spectroscopy, using Background Correction where appropriate.

2. *Antimony:* 0.50 Gram sample is fused with Ammonium Iodide and dissolved.
The resulting solution is extracted into TOPO/MIBK and analyzed by Atomic Absorption spectroscopy.

3. *Arsenic:* 0.25 Gram sample is digested with Nitric-Perchloric acid.
Arsenic from the solution is converted to arsine, which in turn reacts with silver D.D.C. The resulting solution is analyzed by colorimetry.

4. *Barium:* 0.50 Gram sample is repeatedly digested with $HClO_4$-HNO_3 and HF.
The solution is analyzed by Atomic Absorption spectroscopy.

5. *Biogeochemical:* Samples are dried, and ashed at 550°C. and the resulting ash analyzed as in *1, multielement analysis.

6. *Bismuth:* 0.50 Gram sample is digested with Nitric acid. The solution is analyzed by Atomic Absorption spectroscopy.

7. *Chromium:* 0.25 Gram sample is fused with Sodium Peroxide. The solution is analyzed by Atomic Absorption spectroscopy.

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METHOD OF ANALYSIS (CONT.)

8.	Fluorine:	0.50 Gram sample is fused with a Carbonate Flux, and dissolved. The resulting solution is analyzed for Fluorine by use of an Ion Selective Electrode.
9.	Gold:	10.0 Gram sample is roasted at 550°C. and dissolved in Aqua Regia. The resulting solution is subjected to a Methylisobutyl Ketone extraction, which extract is analyzed for Gold using Atomic Absorption spectroscopy.
10.	Mercury:	1.00 Gram sample is digested with Nitric and Sulfuric acids. The solution is analyzed by Atomic Absorption spectroscopy, using a cold vapor generation technique.
11.	Partial Extraction and Fe/Mn oxides:	0.50 Gram sample is extracted using one of the following: Hot or cold 0.5 N. HCL, 2.5% E.D.T.A., Ammonium Citrate, or other selected organic acids. The solution is analyzed by use of Atomic Absorption spectroscopy.
12.	pH:	An aqueous suspension of soil, or silt is prepared, and its pH is measured by use of a pH meter.
13.	Rapid Silicate Analysis:	0.10 Gram sample is fused with Lithium Metaborate, and dissolved in HNO_3. The solution is analyzed by Atomic Absorption for SiO_2, Al_2O_3, Fe_2O_3, MgO, CaO, Na_2O, K_2O, TiO_2, P_2O_5, and MnO.
14.	Tin:	0.50 Gram sample is sublimated by fusion with Ammonium Iodide, and dissolved. The resulting solution is extracted into TOPO/MIBK and analyzed by Atomic Absorption spectroscopy.
15.	Tungsten:	1.00 Gram sample is sintered with a carbonate flux, and dissolved. The resulting extract is analyzed colorimetrically, after reduction with Stannous Chloride, by use of Potassium Thiocyanate.