87-578-16237

MPH

REPORT ON PHASE I
GEOLOGY AND GEOCHEMISTRY
ON THE

HILL 60 PROPERTY 7188
(COW 5, 6, 8, NAMIKO,
AND NAMIKO 1 AND 2 FR. CLAIMS)

VICTORIA MINING DIVISION, B.C.
NTS 92C/16E AND 92B/13W
48°51'N LATITUDE ~~124°01'~~ W LONGITUDE
FOR 123°58'12"

Owner/Operator: INTERNATIONAL CHEROKEE DEVELOPMENTS LTD.

JULY 21, 1987

G. ALLEN, P. Geol.

SUMMARY

A geological exploration program (Phase I) was conducted on the Hill 60 property (Cow 5, 6, 8 and Namiko claims; Namiko 1 and 2 fractions) in June of 1987 by MPH Consulting Limited on behalf of International Cherokee Developments Limited. The program consisted of geological mapping and stream sediment sampling in an area of approximately 1500 hectares.

The Hill 60 property is underlain by rocks of the Paleozoic Sicker Group, Triassic gabbroic and Jurassic quartz dioritic intrusives, and Cretaceous Nanaimo Group sediments. Sicker Group rocks are composed of a generally northwest trending sequence of basic pyroclastics, similar to rocks of the Nitinat Formation and interbedded cherty sediment (tuff?), siltstone and pyroclastic rocks of the Cameron River Formation (formerly mapped as the Myra Formation and/or Sediment Sill Unit).

Nitinat Formation basic rocks contain disseminated fine-grained pyrite southwest of and within a hundred metres of the quartz dioritic intrusion.

A rhodonite showing occurs within 100 m of the eastern boundary of the Cow 8 claim. Lenses of massive, pale pink rhodonite and black MnO_2 up to 1.5 m wide and 5.1 m long are exposed for 40 m within two closely spaced horizons. The manganese-rich beds are hosted in grey-brown cherty sediments of the Cameron River Formation. Samples of the lenses contained up to 31.90% Mn and 30 ppb Au.

One piece of hematitic, pyritic chert float (sample 2945) found in the rhodonite showing area contained 70 ppb Au. One silt sample collected from an area underlain by quartz diorite contained 80 ppb Au.

A Phase II exploration program consisting of detailed geological mapping, soil geochemistry and VLF-EM surveys is recommended at an estimated cost of $31,000.

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APPENDICES

LIST OF ILLUSTRATIONS

1.0 INTRODUCTION

This report on the Phase I exploration program on the Hill 60 property has been prepared by MPH Consulting Limited at the request of International Cherokee Developments Limited.

Fieldwork for the program was conducted between June 15 and June 26, 1987. Work consisted of geological mapping at a scale of 1:10,000, rock sampling and stream sediment sampling.

All work was performed by or under the supervision of MPH Consulting Limited staff.

2.0 PROPERTY LOCATION, ACCESS, AND TITLE

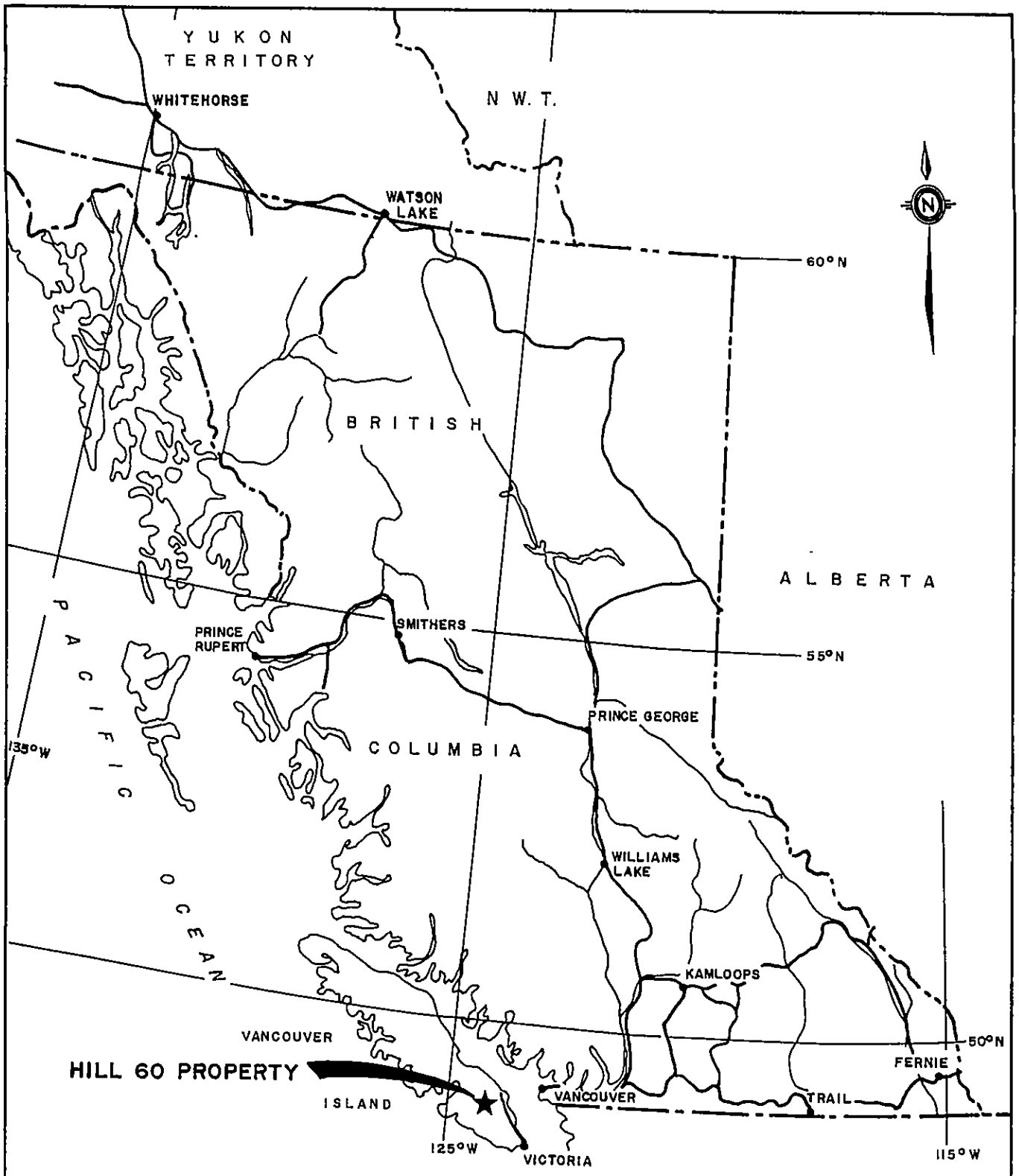
The Hill 60 property is located on Hill 60 Ridge approximately 20 km west-northwest of the city of Duncan, on Vancouver Island, British Columbia (Figure 1). The property is in the Victoria Mining Division, on NTS map sheets 92C/16E and 92B/13W and centred at approximately 48°51'N latitude, 124°01'W longitude (Figure 2).

Access to the property is via the Hill 60 Forest Service Road which intersects the Cowichan Valley Highway (Highway 18) approximately 13 km west of the Island Highway (Highway 1).

The Hill 60 property consists of 6 mineral claims as summarized below:

CLAIM	RECORD NUMBER	UNITS	ANNIVERSARY DATE	YEAR REGISTERED
Cow 5	1756 (7)	18	July 4, 1989	1986
6	1757 (7)	20	July 4, 1989	1986
8	1758 (7)	20	July 4, 1989	1986
Namiko		1	July 3, 1990	1987
Namiko 1 Fr		1	July 3, 1990	1987
Namiko 2 Fr		1	July 3, 1990	1987

All claims are owned by International Cherokee Developments Limited. The claims were grouped as the Hill 60 Group by a Notice to Group filed on July 3, 1987.



INTERNATIONAL CHEROKEE DEVELOPMENTS LIMITED

GENERAL LOCATION MAP
HILL 60 PROPERTY

VICTORIA MINING DIVISION

Project No:	V 199	By:	G.A.
Scale:	1 : 8 000 000	Drawn:	J.S.
Drawing No:	1	Date:	JULY 1987

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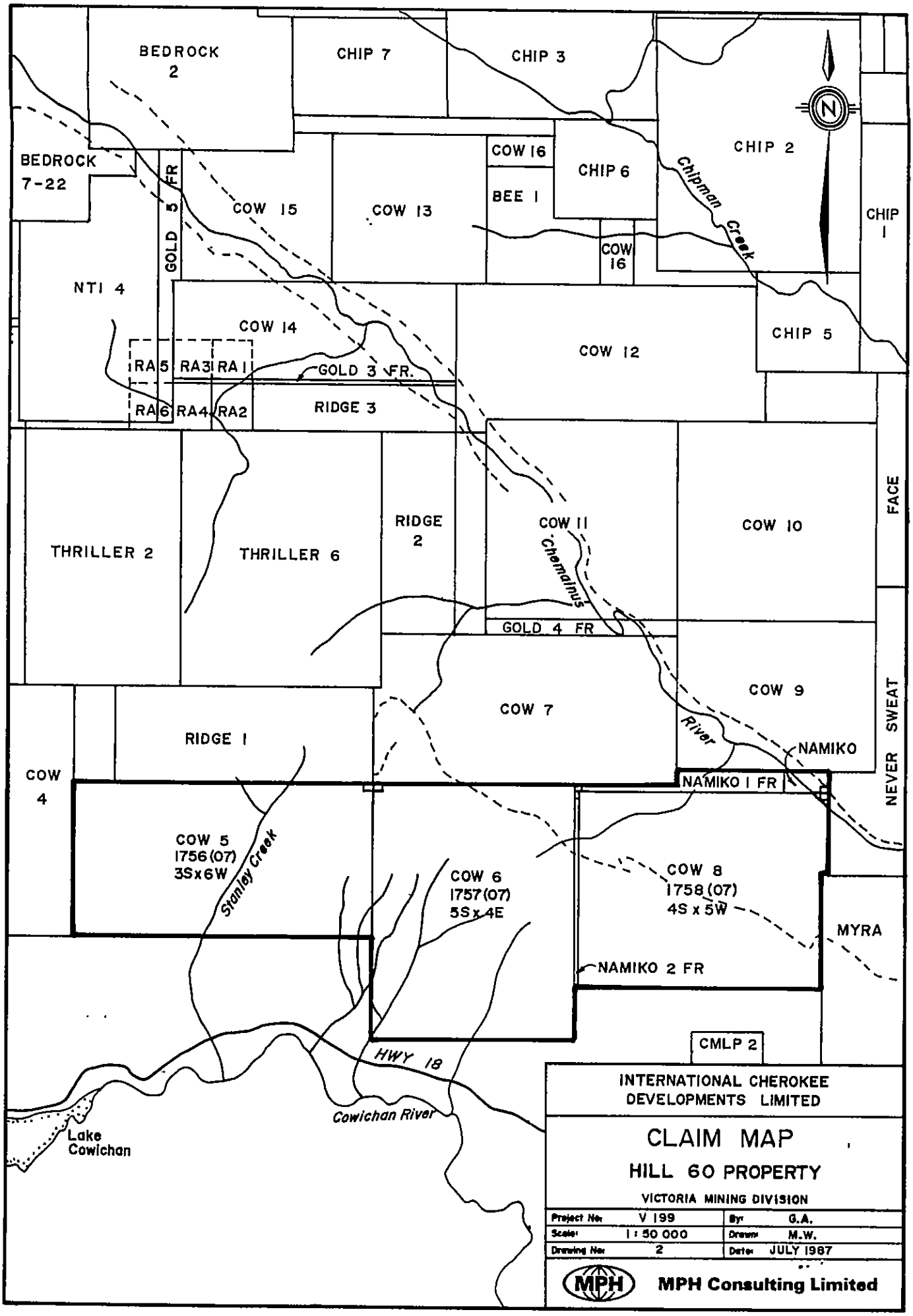

INTERNATIONAL CHEROKEE DEVELOPMENTS LIMITED

CLAIM MAP

HILL 60 PROPERTY

VICTORIA MINING DIVISION

Project No:	V 199	By:	G.A.
Scale:	1 : 50 000	Drawn:	M.W.
Drawing No:	2	Date:	JULY 1987

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3.0 HISTORY AND ECONOMIC SETTING

Government geological work is documented in BCMEMPR and GSC publications by J. T. Fyles (1955), J. E. Muller (1977, 1980a, 1980b, 1982), and N. Massey (1987).

The Hill 60 area was studied by J.T. Fyles in 1948 for a M.A.Sc. thesis, and by Cowley (1979) for a B.Sc. thesis.

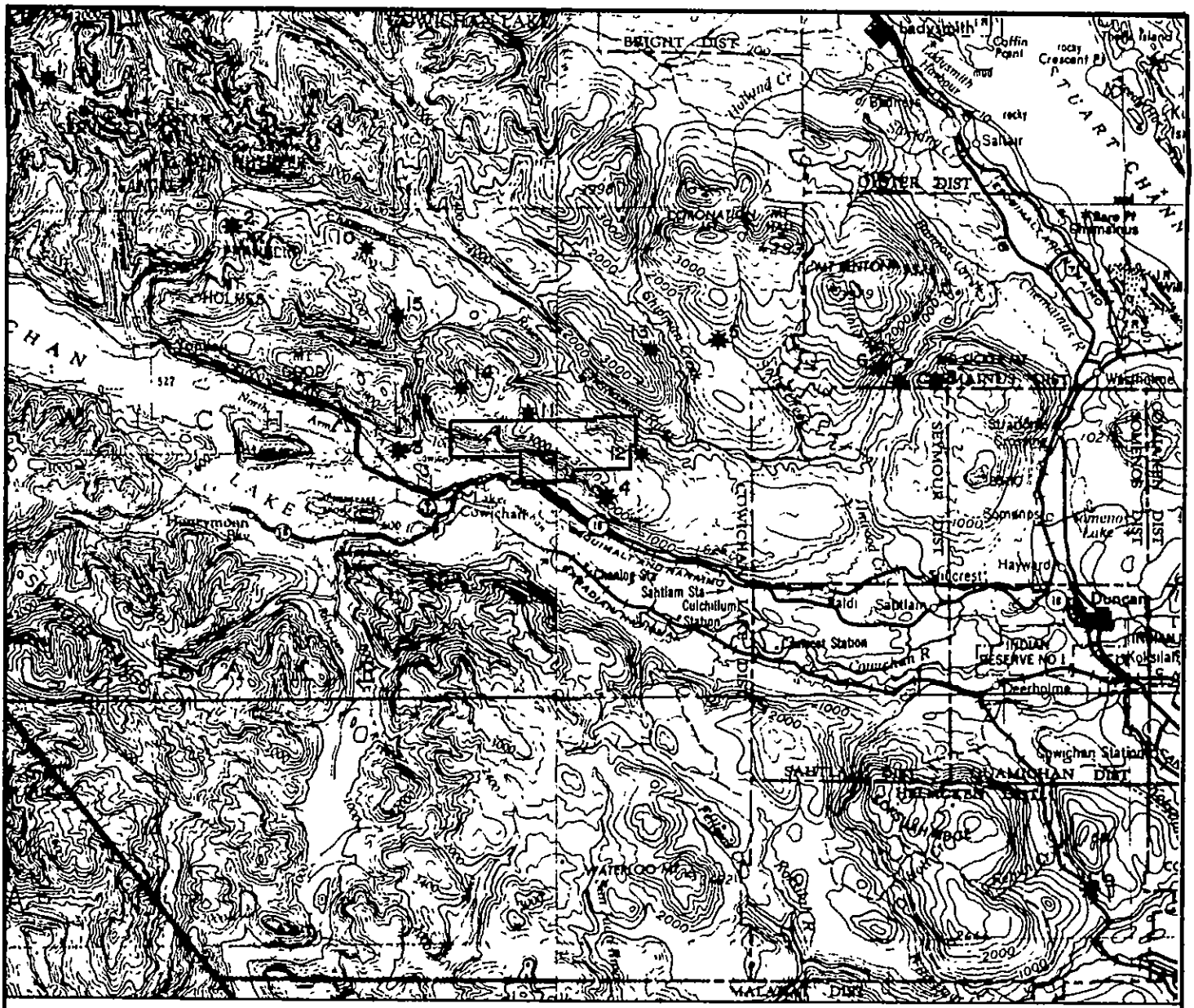
This area of Vancouver Island has several rhodonite, massive sulphide (base metal) and gold occurrences (Figure 3).

The striker 1 rhodonite deposit, located approximately 1.3 km south of the Cow B claim and adjacent to the old Hill 60 manganese mine (occurrence 4, Figure 3; Figure 6) is currently being mined for carving stone.

The Twin J mine (occurrence 8, Figure 3) on Mount Sicker, approximately 11 km east of the Hill 60 property, was in discontinuous production between 1898 and 1964. The total recorded production was 276,831 tonnes of ore containing: 1,244,555 g Au; 26,141,200 g Ag; 9,681,576 kg Cu; 20,803,748 kg Zn; 189,925 kg Pb; and 1179 kg Cd.

Approximately 6 km northeast of the Hill 60 property is the recently discovered Lara deposit (occurrence 5, Figure 3). It is a stratiform massive sulphide deposit between 1.5 and 8.2 m wide and over 1500 m long. Ore grade material from the zone averages 4.54% Zn, 4.11 g/t Au, 92.6 g/t Ag, 0.79% Cu and 0.83% Pb.

More details of the economic setting and mineral occurrences in the area are included in MPH Consulting Limited's assessment report on the adjacent MNS property (Getsinger, 1986).



GOLD OCCURRENCES

1. Amore
2. Comego
3. Meade Ck.
10. Mike

BASE METAL OCCURRENCES, DEPOSITS

5. Lara
6. Pauper
7. Copper Canyon
8. Twin J
9. King Solomon
15. Candy

OTHER OCCURRENCES

4. Hill 60
11. Stanley Creek (Rhodonite)
12. Myra (Rhodonite)
13. Never Sweat (Rhodonite)
14. Meade (Rhodonite)

N

INTERNATIONAL CHEROKEE DEVELOPMENTS LIMITED

MINERAL OCCURRENCES LOCATION MAP HILL 60 PROPERTY

VICTORIA MINING DIVISION

Project No.	V 199	By:	G.A.
Scale:	1 : 250 000	Drawn:	J. S.
Drawing No.	3	Date:	JULY 1987

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4.0 REGIONAL GEOLOGY

The area between Duncan and Port Alberni (including the Hill 60 property) is underlain by a west-northwest trending belt of Paleozoic rocks of the Sicker Group.

The Sicker Group has been divided into four formations. Historically these formations were named Nitinat, Myra, Sediment-Sill and Buttle Lake, by Fyles (1955) and Muller (1980) (Figure 4.) Type sections for these formations are in the Cowichan Lake and Buttle Lake areas. There are some problems, however, applying these divisions to the entire Sicker Group belt since geological environments appear to have varied dramatically within the complex volcanic terrane.

Massey (1987) has recently been mapping in the Cowichan Lake area, and has divided the Sicker Group in this area as follows:

UPPER SILURIAN TO LOWER PERMIAN SICKER GROUP

BUTTLE LAKE SUB-GROUP
- MOUNT MARK FORMATION (formerly Buttle Lake Formation)
- CAMERON RIVER FORMATION (formerly Sediment-Sill Unit and/or Myra Formation)

YOUBOU SUB-GROUP
- McLAUGHLIN RIDGE FORMATION (formerly Myra Formation and/or Nitinat Formation)
- NITINAT FORMATION

Nitinat Formation rocks are typically pyroxene-rich pyroclastics and flows.

The McLaughlin Ridge Formation is composed predominantly of pyroclastics of intermediate composition ranging from cherty tuffs to agglomerates.

The Cameron River Formation is predominantly sedimentary in nature, although many units have tuffaceous characteristics. Chert, argillite, siltstone, sandstone and conglomerate are the dominant rock types, with lesser amounts of limestone, pyroclastics and flows.

The Mount Mark Formation is composed of limestone (locally marble) with minor amounts of chert, argillite, siltstone and sandstone.

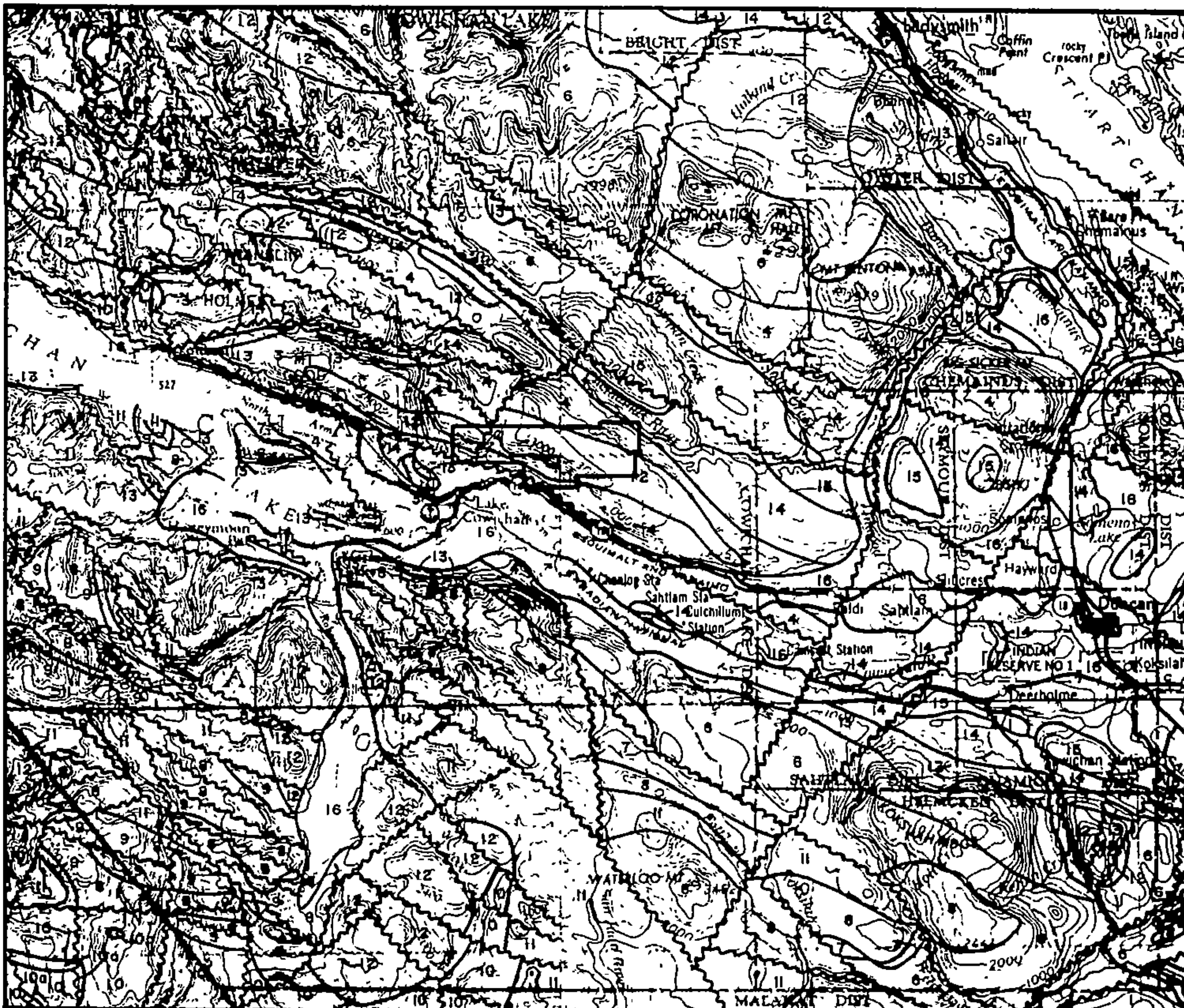
The Sicker Group is weakly regionally metamorphosed to lower greenschist facies and folded with northwest-trending fold axes.

Sicker Group rocks have been intruded by gabbroic sills and dykes which are thought by Muller (1980) to be coeval with Upper Triassic Karmutsen Formation basaltic rocks.

Lower to Middle Jurassic granodioritic and quartz dioritic Island Intrusions cut both the Sicker Group and gabbroic rocks. Sicker Group sediments and pyroclastics are commonly hornfelsed and silicified near these intrusions.

South and north of the main Sicker Group 'greenstone' belt (and presumably overlying it) are extensive exposures of Karmutsen Formation basalt and Quatsino Formation limestone of the Triassic Vancouver Group, and volcanic rocks of the Jurassic Bonanza Group.

Shale, sandstone and conglomerate of the Cretaceous Nanaimo Group unconformably overlie all formations mentioned above.



QUATERNARY

16	Glacial and alluvial deposits.

UPPER CRETACEOUS

Nanaimo Group

15	Extension-Protection Fm.: sandstone, conglomerate, minor siltstone, shale, coal.
14	Haslam Fm: shale, siltstone, minor sandstone.
13	Comox Fm.: sandstone, conglomerate, minor siltstone, shale, coal.

JURASSIC

Lower to Middle Jurassic

12	Island Intrusions: granodiorite, quartz diorite

Lower Jurassic

11	Bonanza Group: basaltic to rhyolitic tuff, breccia, flows, sills, and dykes; minor argillite, greywacke.

UPPER PALEOZOIC AND ? OR TRIASSIC AND JURASSIC

10	Westcoast Complex - quartz diorite, diorite, tonalite, amphibolite, agmatite, minor metavolcanic and metasedimentary rocks 10a: recrystallized limestone, skarn.

TRIASSIC

Middle ? and Upper Triassic

Vancouver Group

9	Quatsino Fm limestone
8	Karmutsen Fm - pillow basalt, breccia, tuff; minor flows.

PALEOZOIC

Sicker Group

PENNSYLVANIAN AND PERMIAN

7	Buttle Lake Fm.: limestone, chert, greywacke, argillite.

PENNSYLVANIAN AND MISSISSIPPIAN

6	Sediment - Sill Unit: argillite, greywacke, chert, diabase sills

REF.: GSC OPEN FILES 701 and 821.

LOWER DEVONIAN AND OLDER

5	Saltspring Intrusions: meta-granodiorite, meta-quartz porphyry, quartz-sericite schist
4	Myra Fm - well bedded felsic tuff and breccia, argillite, rhyodacite in flows and sills, minor basic tuff, quartz-sericite schist, phyllite, massive sulphides.
3	Nitinat Fm.: pillow lava and breccia of augite (uralite) porphyry, basic tuff; minor chlorite-actinolite schist

LOWER PALEOZOIC (OR YOUNGER ?)

2	Colquitz gneiss: quartz-feldspar gneiss
1	Wark gneiss - massive and gneissic metadiorite, metagabbro, amphibolite.

0 5 10 km

N

INTERNATIONAL CHEROKEE DEVELOPMENTS LIMITED

REGIONAL GEOLOGY MAP
HILL 60 PROPERTY

VICTORIA MINING DIVISION

Project No.	V 199	By:	G.A.
Scale:	1:250 000	Drawn:	J.S.
Drawing No.	4	Date:	JULY 1987

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A more detailed description of the regional geology is provided in MPH Consulting Limited's assessment report on the adjacent MNS property (Getsinger, 1986).

5.0 1987 PHASE I EXPLORATION PROGRAM

5.1 WORK COMPLETED

Fieldwork for the Phase I exploration program on the Hill 60 property was performed between June 15 and June 26, 1987. One geologist and one prospector spent a total of 8 mandays on the property during this phase of the program.

Geological mapping at a scale of 1:10,000 was conducted over the entire property (approximately 1500 hectares). A rhodonite showing near the eastern property boundary was mapped at a scale of 1:250. Thirty rock samples and thirty-seven silt samples were collected during the program.

The program was designed to assess the property for mineral potential and to identify areas warranting a more detailed investigation.

5.2 GEOLOGICAL MAPPING AND SAMPLING

5.2.1 Geology of the Hill 60 Property

The Hill 60 property is underlain by rocks of the Paleozoic Sicker Group, Triassic gabbroic and Jurassic quartz dioritic intrusions, and Cretaceous Nanaimo Group sediments (Figure 6).

Sicker Group rocks are composed of a generally northwest-trending sequence of basic pyroclastics similar to rocks of the Nitinat

Formation and interbedded cherty sediment (tuff?), siltstone and pyroclastics of the Cameron River Formation (formerly mapped as the Myra Formation and/or Sediment Sill Unit).

Nitinat Formation pyroxene-rich crystal tuff and agglomerate are exposed in a few hundred metre wide belt along the southwest side of the quartz dioritic intrusion, and in a small area on the northwest side of the quartz diorite on the Cow 5 claim. Bedding is not common in these pyroclastics but the stratigraphic trend appears to be west-northwest.

The northern exposure of Nitinat Formation rocks is in apparent unconformable contact with Cameron River Formation sediments to the northeast. These sediments are striking at approximately 109 degrees and dipping moderately to steeply to the southwest, suggesting that either the sequence has been overturned or that the rocks are tightly folded about an east-southeast trending axis near the contact.

The northeast corner of the property is also underlain by Cameron River Formation rocks. They are composed predominantly of chert, cherty siltstone, argillite, siltstone and at least one coarse-grained tuff horizon. In the eastern part of this exposure the sediments strike south-southeast and dip moderately to steeply to the southwest. In the western part of the exposure, sediments strike east-southeast and dip moderately to the northeast. These data suggest that the area is underlain by either a synform or an antiform with an overturned limb. Sicker Group rocks in this area, therefore, have undergone at least two phases of folding: folding on a regional scale about an east-southeast trending fold axis, and local folding about a northeast trending fold axis.

One small exposure of a fine-grained, seriate, porphyritic

gabbroic intrusive rock was located in the northeast part of the property. It is hosted in cherty siltstone of the Cameron River Formation.

Medium-grained Jurassic quartz diorite underlies the majority of the property. The intrusion is up to 3.5 km wide on the property and is part of an east-southeast trending body approximately 20 km long. On a regional scale the quartz diorite is sill-like (conformable to bedding) but locally it clearly crosscuts stratigraphy. To the west of Stanley Creek, the quartz diorite narrows abruptly to a body a few hundred metres wide. Previous regional mapping has attributed this narrowing to an offset along a major fault following Stanley Creek. The southwestern contact of the intrusion, however, does not appear to have a major offset.

It appears that the quartz diorite was intruded in two phases. East of Stanley Creek, biotite and hornblende are present in approximately equal amounts. West of Stanley Creek, hornblende is by far the predominant mafic mineral.

Cretaceous Nanaimo Group sediments unconformably overlies Nitinat Formation rocks in the Cowichan River valley and Cameron River Formation rocks in the Chemainus River valley. Nanaimo Group sediments strike east-southeast, parallel to regional structural trends.

5.2.2 Lithology of Formations of the Sicker Group

1 Nitinat Formation

1a - Pyroxene Crystal Tuff, Lapilli Tuff

On the Hill 60 property, tuffaceous rocks of the Nitinat Formation range from massive to poorly bedded and fine to coarse-grained. These tuffs generally have a medium to dark green epidote-chlorite rich fine-grained groundmass with 20-30% each of subangular to subrounded, greenish-grey feldspar crystal fragments up to 1 mm in diameter and dark green pyroxene crystal fragments up to 5 mm in length.

Pyroxene crystal tuff commonly grades into lapilli tuff and agglomerate with fragments of feldspar-pyroxene porphyry.

1b - Pyroxene Rich Volcanic Breccia, Agglomerate

Volcanic breccia or agglomerate on the property has a pyroxene-rich crystal tuff matrix (1a) with up to 70% rounded to subangular fragments of fine to coarse-grained feldspar pyroxene porphyry. Epidote-rich masses or nodules up to 5 cm in diameter are common. They appear to be a secondary feature with tuffaceous and agglomeratic textures preserved.

4 Cameron River Formation

The Cameron River Formation was formerly mapped as the Myra Formation and/or Sediment-Sill Unit. It is predominantly sedimentary in nature. In the Hill 60 area it has been divided into the following units:

4a - Argillite

Dark grey to black, thinly laminated to massive, soft to extremely hard argillite grades into both siltstone and cherty siltstone. It is commonly foliated, with slaty cleavage crosscutting bedding. Dark grey, subhedral, elongated chiastolite porphyroblasts commonly occur in the slate. They average 1 mm in length and can make up to 15% of the rock. The argillite generally contains $\leq$ 1% pyrite (fine-grained disseminated or as thin films on foliation surfaces).

Chiastolite porphyroblasts suggest that the rock has undergone contact metamorphism, probably from the intrusion of nearby quartz diorite.

4b - Chert, Cherty Siltstone, Cherty Tuff (locally containing rhodonite lenses)

Rocks in this unit are cryptocrystalline to very fine-grained granular, massive to thinly laminated, extremely siliceous, and range in colour from black to brown to light grey. These cherty rocks are interbedded with and commonly grade into siltstone or fine-grained tuff.

4c - Siltstone

This unit is dark grey to dark brown, massive to thinly laminated and generally very hard (silicified? hornfelsed?). The siltstone is commonly interbedded with and grades into both sandstone and chert.

4d - Sandstone

The sandstone is a coarse-grained equivalent of unit 4c - siltstone. It is generally dark grey to dark brown in colour and very fine to fine-grained.

4e - Crystal Tuff, Tuffaceous Sediment

Rocks in this unit are composed of subangular to subrounded dark greenish-grey feldspar crystal fragments up to 1 mm in diameter and dark greenish-grey to brown, hard, fine-grained sediment or felsic volcanic (rarely porphyritic) fragments up to 1.5 cm (average 1-2 mm) in diameter. These rocks are generally massive to poorly bedded and grade into cherty siltstone or tuff.

5.2.3 Lithology of Intrusive Rocks

6 Triassic Karmutsen Formation

6a - Gabbro

Only one occurrence of this rock type was found on the property (Cow 8). It has a dark grey, fine-grained crystalline groundmass with abundant chlorite and biotite(?). White to light grey, stubby subhedral feldspar phenocrysts are generally $\leq$1 mm in diameter and make up to 20% of the rock.

9 Jurassic Island Intrusions

9a - Quartz Diorite

Two phases of quartz diorite occur on the property.

East of Stanley Creek the intrusive rocks are medium-grained, equigranular and contain 75% (+) feldspar (mainly plagioclase), 5-8% each of biotite and hornblende, 10% quartz and traces of sphene.

West of Stanley Creek the intrusive rocks are slightly more mafic, containing up to 20% hornblende. Biotite is generally absent or makes up less than 2% of the rock. Quartz and feldspar contents are similar in both phases.

5.2.4 Lithology of the Nanaimo Group

10 Cretaceous Nanaimo Group

Nanaimo Group sediments were observed on the southwest part of the property in the Cowichan River Valley, and are presumed to occur in the northeast part of the property in the Chemainus River Valley.

In the southwest the Nanaimo Group is composed of thinly bedded to thinly laminated, dark grey, soft shale.

5.2.5 Mineralization

Two areas of mineralization were discovered on or near the property.

In the southwest part of the Cow 6 claim both the quartz diorite and the Nitinat Formation are mineralized with <1-2% fine-grained disseminated pyrite within 100 m of the intrusive contact. Neither samples of the quartz diorite (2928-2930) nor samples of the Nitinat Formation tuffs (2933, 2934) contained anomalous amounts of gold (Figure 6).

A southwest-trending quartz-carbonate vein is hosted in quartz diorite within 30 m of the Nitinat Formation contact in this area (SW part of the Cow 6 claim). The vein is up to 10 cm wide in a 20 cm wide shear zone and contains up to 10% fine-grained disseminated pyrite and traces of arsenopyrite.

Approximately 250 m southwest of the quartz diorite intrusion, Nitinat Formation tuff is sheared and altered to a pale brown carbonate-rich material with sporadic patches of blue-green mica (fuchsitic?) up to 5 mm in diameter. This material contains traces of fine-grained disseminated sulphides (arsenopyrite?). A sample of this material (2935) contained anomalous amounts of arsenic (72 ppm), zinc (109 ppm), manganese (2226 ppm) and strontium (169 ppm).

The other interesting area of mineralization is a rhodonite showing located approximately 80 m east of the Cow 8 claim (Figure 6).

The rhodonite-bearing horizon strikes at approximately 135 degrees, trending towards the Hill 60 property.

Several lenses of rhodonite and massive black MnO_2 up to 1.5 m wide and 5.2 m long occur in two distinct horizons separated by 1 to 2 m (Figure 5). They are exposed for 40 m within a sequence of poorly bedded cherty sediment approximately 20 m north of the quartz diorite contact (Figure 6).

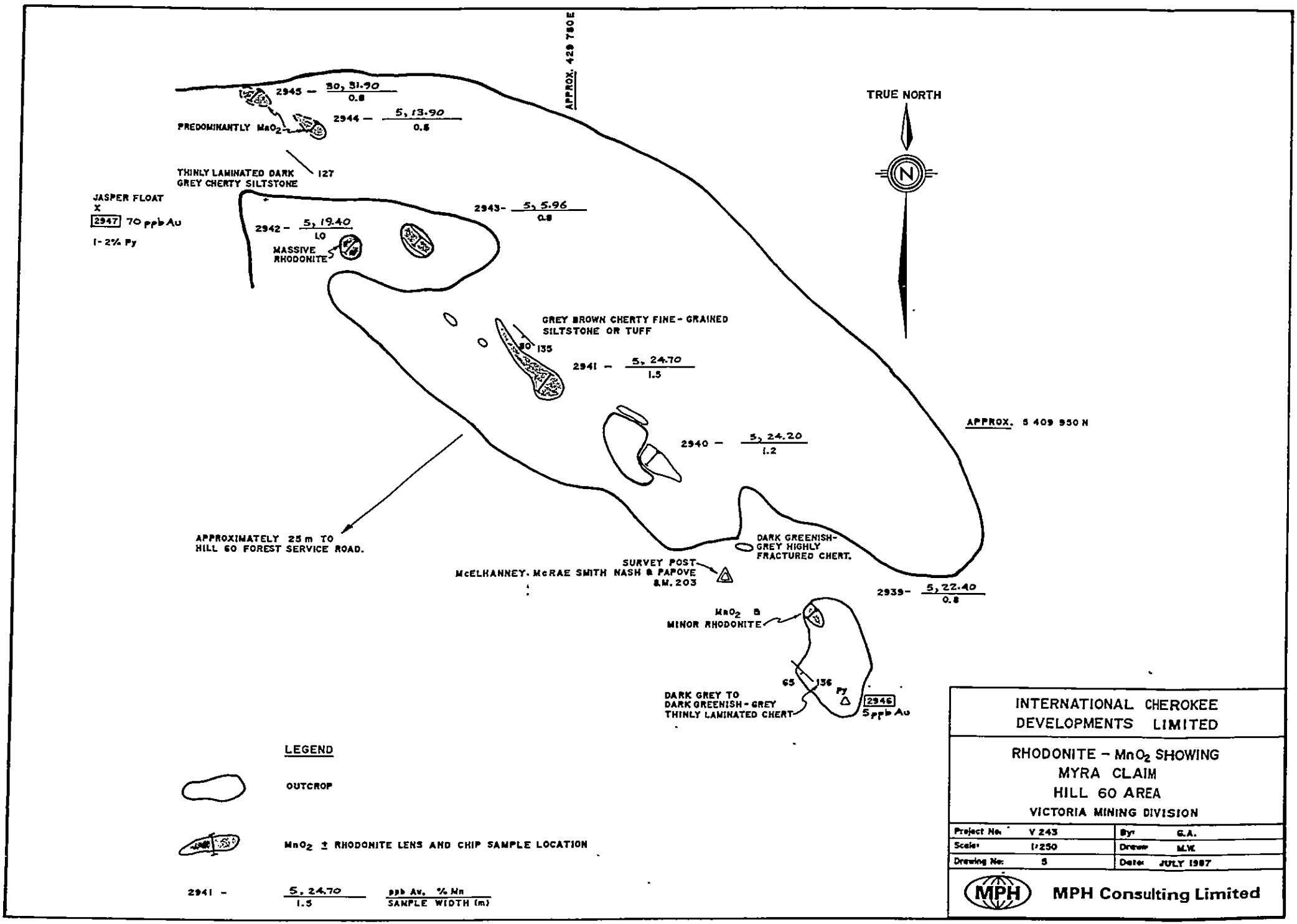
Massive, fine-grained crystalline intergrowths of pale to medium pink coloured rhodonite and grey quartz appear to be replacing the fractured grey chert host. The rhodonite generally contains $\leq$ 1% fine-grained disseminated pyrite.

Rhodonite in the lenses has been weathered to a blue-black submetallic manganese oxide over several tens of centimetres thick in some places. Manganese oxide also occurs along hairline fractures in the rhodonite and host chert.

Seven chip samples were collected from the showing. Sample locations, widths, and manganese and gold analyses are shown on Figure 5. Samples of the lenses contained up to 31.90% manganese and 30 ppb gold.

The manganese-rich lenses also commonly contain weakly elevated levels of copper, lead, barium and strontium with sporadically anomalous amounts of silver, zinc and bismuth.

A 5 cm wide piece of reddish-brown to maroon coloured chert float was found in the vicinity of the rhodonite occurrence. A sample (2947) of this material contained 1-2% fine-grained disseminated pyrite, 70 ppb gold and 4087 ppm manganese. The high manganese content suggests a local source.



INTERNATIONAL CHEROKEE DEVELOPMENTS LIMITED

RHODONITE – MnO_2 SHOWING
MYRA CLAIM
HILL 60 AREA
VICTORIA MINING DIVISION

Project No.	V 243	By:	G.A.
Scale:	1:250	Drawn	M.W.
Drawing No:	5	Date:	JULY 1987

MPH Consulting Limited

5.3 STREAM SEDIMENT GEOCHEMISTRY SURVEY

Thirty-seven stream sediment samples were collected on the Hill 60 property. Samples consisted of dark brown to black organic material, silt and fine to coarse-grained sand. Small amounts of sediment were collected from several locations along a few metres of stream bed in an attempt to get a representative sample at each site.

Selected analyses of stream sediment samples are given on Figure 7.

Only one sample contained anomalous amounts of gold. Sample "Silt-1" was collected from below Hill 60 road in an area underlain by quartz diorite. The sample contained 80 ppb Au. A reanalysis of this sample yielded a value of 30 ppb Au. No mineralization was observed in the area.

Many of the stream sediment samples collected from drainages underlain by quartz diorite are marginally anomalous in manganese, chromium, strontium and barium. These elements may be a constituent part of the quartz diorite.

A few samples from areas underlain by Nitinat Formation mafic pyroclastic rocks contain weakly anomalous amounts (200-300 ppm) of barium. The drainage from which these samples were collected are also underlain by quartz diorite. The barrium source is not known.

One sample (Silt-11) contained weakly anomalous amounts of arsenic (24 ppm). An occurrence of arsenopyrite-bearing carbonate-altered mafic tuff of the Nitinat Formation occurs 600 m east of sample Silt-11, and may strike into the drainage basin from which the sample was collected.

6.0 CONCLUSIONS

The property is predominantly underlain by Paleozoic Sicker Group pyroclastics and sediments, and Jurassic quartz diorite of the Island Intrusions.

Rhodonite occurs in a horizon within cherty sediments of the Cameron River Formation (Sicker Group) near the eastern boundary of the property. The showing is within 20 m of the quartz diorite and it may be a contact metamorphic phenomenon. This occurrence appears to be in the same general location in the stratigraphy as most other rhodonite deposits on Vancouver Island. Potential exists for the occurrence of a gem quality rhodonite deposit on the Hill 60 property along strike from the adjacent showing.

No significant gold (maximum 70 ppb)or base mineralization has been found on the property to date. Much of the area underlain by Sicker Group rocks has not, however, been investigated in detail and more work is needed to better assess the property.

7.0 RECOMMENDATIONS

7.1 RECOMMENDED WORK PLAN

1. Comprehensive geological mapping at a scale of 1:10,000 should be completed in the areas underlain by Sicker Group rocks.

2. Detailed geological mapping should be conducted along strike from the known rhodonite showing adjacent to the property.

3. A soil geochemistry survey covering the stratigraphic unit hosting the rhodonite showing could help to delineate the manganese-bearing horizon.

4. A VLF-EM survey would help to trace the stratigraphy in the rhodonite showing area.

5. Limited soil geochemistry and VLF-EM surveys are warranted in the area of the pyritic carbonate-altered Nitinat Formation pyroclastic in the southwest corner of the Cow 6 claim.

7.2 PROPOSED PHASE II BUDGET

Fieldwork

Personnel	No.	Days	Rate	Cost	
Geologist	1	14	425	5950	
Field Assistants	2	6	150	1800	
Field Technician	1	5	250	1250	
		Total Personnel Costs		9000	9,000

Equipment Rental	No.	Days	Rate	Cost	
4WD Truck	1	14	110	1540	
4WD Truck	1	6	110	660	
Rock Saw	1	10	15	150	
VLF-EM	1	5	35	175	
		Total Equipment Rental Costs		2525	2,525

Food and Accommodation

31 Persondays @ 45 — 1,395

Disbursements

	No.	Rate	Cost	
Analyses:				
Rock	100	14.50	1450	
Soil	400	12.00	4800	
Silt	20	13.50	270	
Mn Assay	15	7.15	107.25	
Au Assay	15	6.90	103.50	
Total Analytical Costs			6730.75	$ 6,730.75

Basemaps	200.00	
Miscellaneous	500.00	
Disbursements subtotal	7430.75	
Administration (15%)	1114.61	
Total Disbursements Cost	8545.36	8,545.36
Total Fieldwork Cost		$ 21,465.36

Consulting

Estimated Consulting Costs	$ 3,000

Report

Estimated Report Costs	$ 6,500

Approximate estimated total project cost	$ 31,000

7.3 SUMMARY OF RECOMMENDATIONS

On the basis of the mineralization discovered during Phase I activities; it is recommended that exploration work be continued with Phase II.

The proposed program would concentrate on the rhodonite-bearing horizon on the Cow 8 claim, and the pyritic carbonate-alteration zone in the southwest corner of the Cow 6 claim. Sicker Group rocks would also be more completely assessed for mineral-bearing potential.

The approximate estimated cost of this program is $31,000.

Respectfully submitted,
MPH CONSULTING LIMITED

Gordon J. Allen

Gordon J. Allen, P. Geol.

Duncan, B.C.
July 21, 1987

REFERENCES

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APPENDIX I

LIST OF PERSONNEL AND STATEMENT OF EXPENDITURES

MPH

LIST OF PERSONNEL AND STATEMENT OF EXPENDITURES

The following expenses have been incurred on the Hill 60 property as defined in this report for the purposes of mineral exploration between the dates of June 15 and July 21, 1987.

PERSONNEL

T. G. Hawkins, Geological Consultant, P.Geol.					
	1 1/2	Days	@	600	900.00
G. Allen, P.Geol. Project Manager					
	12 1/2	Days	@	425	5,312.50
J. Getsinger, Geologist, Ph.D.					
	1/2	Day	@	500	250.00
H. Chaudet, Field Technician					
	2	Days	@	250	500.00
G. Lorenzetti, Geologist					
	1	Day	@	150	150.00
Total Personnel Costs				7,112.50	$ 7,112.50

MPH

EQUIPMENT RENTAL

4x4 Truck	8 Days @ 90	720.00		
Rock Saw	2 Days @ 15	30.00		
Total Equipment Rental Costs		750.00		$ 750.00

ACCOMMODATION AND FOOD

10	Persondays @ 45		450.00

DISBURSEMENTS

Analyses			
30 Rock	@ 14.00	420.00	
37 Silt	@ 13.30	492.10	
10 Mn Assay	@ 7.00	70.00	
1 Au Reanalysis	@ 4.75	4.75	
Analyses Total		986.85	986.85
Basemap Preparation			1,270.00
Fieldmap Reproductions			84.41
Shipping and Courier			32.70
Gas			112.20
Typing			3.50
Report Preparation Cost			
Drafting Supplies		50.00	
Drafting		198.50	
Typing		275.00	
Map Reproduction (Estimate)		100.00	
Copying and Binding Reports (Estimate)		230.00	
Courier (Estimate)		25.00	
Report Preparation Total		923.50	923.50

Miscellaneous		12.27	
	Disbursements Subtotal	3,380.43	
	Administration (15%)	507.07	
	Total Disbursements	3,887.50	3,887.50
	Total Cost of Project		$ 12,200.00

APPENDIX II

ROCK SAMPLE DESCRIPTIONS AND LITHOGEOCHEMICAL RESULTS

ROCK SAMPLE DESCRIPTIONS AND LITHOGEOCHEMICAL RESULTS

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
2925	Location: Hill 60 Deposit Rock Type: Rhodonite Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 0.3 m x 3 m x ? Bands of pink rhodonite up to 30 cm thick interbedded with white to light brown, fine-grained crystalline, hard material (siliceous ?) with up to 5% disseminated chalcopyrite and traces of pyrrhotite.	30	1.8	21	762	336 Zn 99,999 Mn 5 Cd 31.10% Mn
2926	Location: Hill 60 Deposit Rock Type: Chert? Material Sampled and Sample Type: Float, Grab Occurrence Size: Grab sample of muck in main pit. Thinly laminated translucent grey to brownish-cream coloured chert with 2-3% fracture related chalcopyrite and rare lenses of rhodonite to 1 cm in diameter.	10	0.7	5	3062	8986 Mn 20 Bi 68 W 3.24% Mn
2927	Location: Hill 60 Deposit Rock Type: MnO_2, Rhodonite Material Sampled and Sample Type: Float, Grab Occurrence Size: Grab of muck on dump near collapsed portal. The material is black, extremely hard (siliceous ?) and has a submetallic lustre (probably silicified MnO). Pale rhodonite occurs as breccia filling (up to 10%).	5	3.2	40	140	40 Pb 99,999 Mn 136 Sn 30 Sb 60 Bi 2046 Ba 40 B 43.40% Mn

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
2928	Location: SW Part of Cow 6 Rock Type: Quartz Diorite Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Large Limonite-stained medium-grained quartz diorite and fine-grained feldspar porphyry. The quartz diorite contains 10-20% quartz, 10-15% chlorite after biotite and 60-70% plagioclase. The feldspar porphyry has 10% rounded quartz phenocrysts, and 25% stubby, subhedral plagioclase phenocrysts in a dark brown fine-grained hard groundmass. No sulphides were observed. The sample was taken approximately 100 m from the quartz diorite - Nitinat Formation contact.	5	0.1	2	73	
2929	Location: SW Part of Cow 6 Rock Type: Quartz Diorite Material Sampled and Sample Type: Float, Grab Occurrence Size: 10 cm x 20 cm x 20 cm boulder Limonitic stained, gneissic, fine-grained quartz diorite with 10-15% fine-grained biotite (?) and 3-4% fine-grained crystalline disseminated pyrite.	5	0.1	2	194	
2930	Location: SW Part of Cow 6 Rock Type: Quartz Diorite Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Large Limonite stained, medium-grained, equigranular granodiorite with 15-20% quartz, 15% biotite and chlorite, 65% plagioclase, and traces of fine-grained disseminated pyrite and pyrrhotite.	5	0.1	13	188	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
2931	Location: SW Part of Cow 6 Rock Type: Quartz Material Sampled and Sample Type: Float, Grab Occurrence Size: 5 cm wide vein float Strongly limonite-stained, fractured, white to grey quartz vein material with 1-2% fine-grained crystalline pyrite along fractures. Pyrite also rarely occurs as lenses up to 1 cm wide.	5	0.2	2	62	
2932	Location: SW Part of Cow 6 Rock Type: Quartz-Carbonate Vein Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: 10 cm wide shear-vein zone Quartz-carbonate flooded shear zone up to 10 cm wide at 135/90. The zone is composed of white quartz veins up to 5 cm wide and white to dark grey calcite as stringers and breccia filling. The dark grey carbonate commonly contains up to 10% fine-grained crystalline disseminated pyrite. Quartz also occurs as a cement in breccia carbonate vein material. Quartz diorite hosts the zone.	5	0.1	18	86	

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
2933	Location: SW Part of Cow 6 Rock Type: Lithic Tuff Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Large Fine-grained dark green to light epidote-green thinly bedded lithic tuff (Nitinat Formation). The coarser-grained parts contain angular, dark green lithic fragments less than 1 mm in diameter. Dark green parts contain 1% fine-grained disseminated pyrite. Light green beds contain up to 10% fine-grained disseminated pyrrhotite and 1-2% fracture related pyrite. Overall sulphide content is 2-3%.	5	0.1	6	132	
2934	Location: SW Part of Cow 6 Rock Type: Cherty Tuff Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Large Dark green, poorly bedded, moderately siliceous, fine-grained cherty groundmass with indistinct dark subangular fragments up to 2 mm in diameter. The rock contains up to 2% fine-grained disseminated pyrite.	5	0.1	13	52	114 Zn
2935	Location: SW Part of Cow 6 Rock Type: Carbonate Altered Tuff Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Few metre wide zone Limonite-stained dark green to light brownish-grey, sheared, carbonate-altered tuff with patches of blue-green fuchsitic material to 5 mm in diameter and traces of disseminated sulphides (arsenopyrite?).	5	0.1	72	79	109 Zn 2226 Mn

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
2936	Location: NE Part of Cow 8 Rock Type: Cherty Siltstone (Tuff?) Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Large Dark grey, interbedded chert, siltstone and fine-grained sandstone. Coarser-grained parts contain abundant feldspar crystal fragments and the rock is probably tuffaceous. Up to 3% fine-grained disseminated pyrite and pyrrhotite occurs in the coarser-grained beds.	5	0.5	55	84	284 Ba
2937	Location: NE Part of Cow 8 Rock Type: Cherty Argillite Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Large Limonite-stained, dark blue-grey cherty argillite with 1-2% fine-grained disseminated pyrite. The rock is fissile and contains up to 10% elongate porphyroblasts up to 1 mm in length (probably chiastolite).	5	0.1	2	48	
2938	Location: NE Part of Cow 8 Rock Type: Quartz Carbonate Vein Material Sampled and Sample Type: Float, Grab Occurrence Size: 5 cm wide vein Limonite-stained white quartz and yellowish-brown carbonate vein material. No sulphides observed.	5	0.3	15	44	607 Ba

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
	Note: Samples 2939 to 2947 were collected at or near to a rhodonite showing located at approximately 5 409 905N, 429 750 E.					
2939	Location: Approximately 30 m North of Hill 60 Road, 50 m East of Cow 8 Rock Type: MnO_2 and Chert Material Sampled and Sample Type: Outcrop, Chip Sample Width: 0.8 m Occurrence Size: 0.8 m x 1.0 m (MnO horizon exposed for 40 m) Dark blue-black MnO_2 - massive and as stain on grey-brown fractured chert. White quartz beds(?) up to 2 cm contained within the horizon.	5	0.1	89	11	99,999 Mn 38 Pb 289 Ba 22.40% Mn
2940	Location: As 2939 Rock Type: MnO_2, Rhodonite and Chert Material Sampled and Sample Type: Outcrop, Chip Sample Width: 1.2 m Occurrence Size: 1.2 m x 2.2 m lens in 40 m (+) long horizon Massive, blue-black MnO_2 occurs in a weathering cap up to several cm thick and along hairline fractures. MnO_2 appears to be an alteration product of fine-grained crystalline, massive, pale pink rhodonite. Grey cherty beds up to 1 cm thick contained within rhodonite.	5	0.1	132	3	33 Pb 99,999 Mn 1853 Ba 24.20% Mn

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
2941	Location: As 2939 Rock Type: MnO_2 + Material Sampled and Sample Type: Outcrop, Chip Sample Width: 1.5 m Occurrence Size: 1.5 m x 5.0 m lens in 40 m (+) long horizon Massive, blue-black MnO_2 to several cm thick with irregular patches of pale pink, massive, fine-grained crystalline rhodonite up to a few cm in diameter. MnO_2 also occurs along hairline fractures in a highly fractured grey chert. Rhodonite is competent and appears to have formed after the deformation causing fracturing in the adjacent chert.	5	0.1	52	8	99,999 Mn 8 Bi 2620 Ba 6 W 24.70% Mn
2942	Location: As 2939 Rock Type: Rhodonite and MnO_2 Material Sampled and Sample Type: Outcrop, Chip Sample Width: 1.0 m Occurrence Size: 1 m x 1m lens in a 40 m (+) horizon Massive, fine-grained crystalline pale pink rhodonite with few MnO_2 stained fractures and $\leq$1% medium-grained disseminated pyrite.	5	0.1	11	5	47 Pb 99,999 Mn 3080 Ba 19.40% Mn
2943	Location: As 2939 Rock Type: MnO_2, Chert Material Sampled and Sample Type: Outcrop, Chip Sample Width; 0.8 m Occurrence Size: 0.8 m x 2.0 m (+) lens in a 40 cm (+) horizon Massive MnO_2 and MnO_2 coated fractured chert.	5	0.1	46	11	76,148 Mn 5.96% Mn

Sample Number	Description		Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
2944	Location:	As 2939	5	0.1	2	4	99,999 Mn
	Rock Type:	MnO_2 + Chert					
	Material Sampled and Sample Type:	Outcrop, Chip					13.90% Mn
	Sample Width:	0.5 m					
	Occurrence Size:	0.5 m x 1.0 m (+) lens in a 40 m (+) horizon					
	MnO_2 in veinlets up to 2 mm wide and as fracture coatings in blue-grey chert. Similar to 2943.						
2945	Location:	As 2939	30	4.2	14	6	
	Rock Type:	MnO_2					202 Zn
	Material Sampled and Sample Type:	Outcrop, Chip					99,999 Mn
	Sample Width:	0.8 m					21 Th
	Occurrence Size:	0.8 m x 1.0 m lens in a 40 m (+) horizon					30 Sb
							76 Bi
							3848 Ba
	Dark blue-black, massive, metallic MnO_2 appears to be an alteration product of a brown siliceous material (Mn silicate?) with irregular patches of rhodonite.						31.90% Mn
2946	Location:	As 2939	5	0.1	2	24	36 Pb
	Rock Type:	Chert					2603 Mn
	Material Sampled and Sample Type:	Outcrop, Grab					
	Occurrence Size:	Few m wide zone					
	Dark grey thinly laminated chert with 1-2% medium-grained crystalline disseminated pyrite. This material occurs within approximately 2 m of the hangingwall side of the Mn horizon.						

Sample Number	Description		Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
2947	Location:	As 2939	70	0.2	18	72	4087 Mn
	Rock Type:	Hematitic Chert					
	Material Sampled and Sample Type:	Float, Grab					
	Occurrence Size:	5 cm wide cobble					
	Reddish-brown to maroon chert with 1-2% fine-grained disseminated pyrite.						
2948	Location:	100 m NW of Hill 60 Road Near East Side of Cow 8	5	0.1	4	34	314 Ba
	Rock Type:	Chert, Cherty Siltstone					
	Material Sampled and Sample Type:	Outcrop, Grab					
	Occurrence Size:	Large					
	Thinly laminated dark blue-grey cherty siltstone with 2% fine-grained disseminated and fracture filling pyrite.						
2949	Location:	North Part of Cow 5	5	0.1	2	115	
	Rock Type:	Cherty Siltstone (Tuff?)					
	Material Sampled and Sample Type:	Outcrop, Grab					
	Occurrence Size:	Large					
	Medium purplish to greenish-grey chert with indistinct fine-grained clasts <<1 mm, and traces of fine-grained disseminated pyrite.						
20251	Location:	NW Part of Cow 8	5	0.1	2	10	
	Rock Type:	Calcite Vein					
	Material Sampled and Sample Type:	Outcrop, Grab					
	Occurrence Size:	2-4 cm wide					
	Calcite flooded shear zone in quartz diorite. Tr Py.						

Sample Number	Description	Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20252	Location: NW Part of Cow 8 Rock Type: Chert Material Sampled and Sample Type: Float, Grab Occurrence Size: Highly fractured blue-grey chert with 3-5% fine-grained pyrite along fractures.	5	0.3	24	10	60 Pb 170 Zn
20253	Location: NW Part of Cow 8 Rock Type: Cherty Siltstone (Tuff) and Crystal Tuff Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Interbedded dark grey cherty siltstone or tuff and medium-grained dark green crystal tuff or sandstone. Traces of pyrite occur predominantly along fractures.	5	0.1	4	49	244 Ba
20254	Location: NW Part of Cow 8 Rock Type: Cherty Siltstone Material Sampled and Sample Type: Outcrop, Grab Occurrence Size: Large Dark grey thinly laminated cherty siltstone with 1-2% each of fine-grained disseminated pyrite and pyrrhotite.	5	0.5	5	115	108 Zn

Sample Number	Description		Au ppb	Ag ppm	As ppm	Cu ppm	Other ppm
20255	Location:	South-Central Cow 5	5	0.1	3	220	
	Rock Type:	Siltstone (?)					
	Material Sampled and Sample Type:	Float, Grab					
	Occurrence Size:						

Inhomogeneous material with fine-grained medium brown siltstone and dark green chloritic tuff (?). Could be Nitinat Formation. 5% fine-grained disseminated pyrrhotite.

APPENDIX III

CERTIFICATES OF ANALYSIS AND ASSAYS

LAB: RL BACHER

ANALYTICAL REQUEST & RECEIPT

SAMPLE SERIES	SOURCE	# SACKS	TYPE SHIPMENT	DATE OUT	WAY BILL ANALYTICAL REQUEST No.	AU DATE	AU CERT # INV #	ICP DATE	ICP CERT #, INV #	ASSAYS DATE	ASSAYS CERT # INV #	RECHECKS DATE	RECHECKS CERT #, INV #
2925-49	HILL 60	25	ROCK	JUNE 24	55927	JULY 10	87289	JULY 14	87289	JULY 10	(Mm) 87289.A	JULY 16	87289.A
20251-55	"	5	"	"	"	"	"	"	"			-	
S-101 To 120	"	20	SILT	"	"	"	"	"	"				
SILT 1 To 17	"	17	"	"	"	"	"	"	"				

ROSSBACHER LABORATORY LTD.

2225 S. SPRINGER AVENUE
BURNABY, B.C. V5B 3N1
TEL : (604) 299 - 6910

CERTIFICATE OF ANALYSIS

TO : MPH CONSULTING LTD.
#2406-555 W.HASTINGS ST. (BOX 12092)
VANCOUVER B.C.

PROJECT: V 199
TYPE OF ANALYSIS: GEOCHEMICAL

CERTIFICATE#: 87289
INVOICE#: 7727
DATE ENTERED: 87-07-10
FILE NAME: MPH87289
PAGE # : 1

PRE FIX	SAMPLE NAME	PPB Au
A	2925	30
A	2926	10
A	2927	5
A	2928	5
A	2929	5
A	2930	5
A	2931	5
A	2932	5
A	2933	5
A	2934	5
A	2935	5
A	2936	5
A	2937	5
A	2938	5
A	2939	5
A	2940	5
A	2941	5
A	2942	5
A	2943	5
A	2944	5
A	2945	30
A	2946	5
A	2947	70
A	2948	5
A	2949	5
A	20251	5
A	20252	5
A	20253	5
A	20254	5
A	20255	5
S	S-101	5
S	102	5
S	103	5
S	104	5
S	105	5
S	106	5
S	107	5
S	108	5
S	109	5
S	S-110	5

CERTIFIED BY : J. Rossbach

ROSSBACHER LABORATORY LTD.
2225 S. SPRINGER AVENUE
BURNABY, B.C. V5B 3N1
TEL : (604) 299 - 6910

CERTIFICATE OF ANALYSIS

TO : MPH CONSULTING LTD.
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CERTIFICATE#: 87289
INVOICE#: 7727
DATE ENTERED: 87-07-10
FILE NAME: MPH87289
PAGE # : 2

PRE FIX	SAMPLE NAME	PPB Au
S	S-111	5
S	112	5
S	113	5
S	114	5
S	115	5
S	116	5
S	117	5
S	118	5
S	119	5
S	S-120	5
S	SILT- 1	80
S	2	5
S	3	5
S	4	5
S	5	5
S	6	5
S	7	5
S	8	5
S	9	5
S	10	5
S	11	5
S	12	5
S	13	5
S	14	5
S	15	5
S	16	5
S	SILT-17	5

CERTIFIED BY : F. Rossbach

ROSSBACHER LABORATORY PROJECT - CERT#87289 FILE # 87-2365

SAMPLE#	MO PPM	CU PPM	PB PPM	ZN PPM	AG PPM	NI PPM	CO PPM	MN PPM	FE %	AS PPM	U PPM	AU PPM	TH PPM	SR PPM	CD PPM	SB PPM	BI PPM	V PPM	CA %	P %	LA PPM	CR PPM	MG %	BA PPM	TI %	B PPM	AL %	NA %	K %	W PPM
S&PUL S-111	1	27	4	83	.1	32	13	571	3.52	2	5	ND	3	46	1	2	2	73	.68	.053	13	573	.56	96	.11	11	1.64	.04	.11	1
S&PUL S-112	1	31	3	71	.1	19	13	689	4.42	8	5	ND	4	50	1	2	2	88	.76	.077	12	216	.66	115	.10	8	1.67	.03	.12	2
S&PUL S-113	1	14	4	78	.2	13	14	1432	2.22	2	5	ND	2	50	1	3	2	40	.75	.066	28	112	.34	143	.05	2	2.70	.02	.05	1
S&PUL S-114	1	19	4	114	.1	14	14	1512	2.69	2	5	ND	1	46	1	2	2	50	.59	.070	19	170	.46	128	.08	6	3.00	.03	.05	2
S&PUL S-115	1	50	9	100	.1	22	14	1023	3.58	8	5	ND	3	38	1	4	2	67	.53	.064	15	133	.82	173	.11	2	2.94	.04	.08	1
S&PUL S-116	1	41	2	94	.1	35	14	747	3.58	8	5	ND	2	29	1	2	2	66	.41	.053	13	369	.94	174	.09	2	2.17	.03	.11	1
S&PUL S-117	1	49	10	87	.1	19	15	864	3.79	13	5	ND	3	33	1	2	2	65	.49	.072	14	141	.84	255	.08	12	2.43	.02	.12	2
S&PUL S-118	1	47	2	82	.1	26	15	799	3.94	4	5	ND	4	28	1	2	2	70	.37	.055	13	147	.92	174	.08	6	2.65	.02	.10	1
S&PUL S-119	1	43	2	80	.2	29	15	735	3.30	6	5	ND	1	48	1	2	3	68	.70	.044	13	187	.82	278	.06	2	2.81	.03	.10	1
S&PUL S-120	1	36	8	76	.1	27	15	935	3.08	8	5	ND	1	51	1	2	2	58	.65	.039	14	266	.77	243	.03	2	2.31	.02	.09	1
S&PUL SILT-1	1	41	2	78	.1	24	11	968	3.34	4	5	ND	3	36	1	2	2	59	.42	.056	12	279	.66	118	.07	7	2.28	.02	.09	1
S&PUL SILT-2	1	28	2	60	.1	18	12	516	3.16	2	5	ND	2	25	1	2	3	58	.25	.043	12	227	.58	117	.08	2	1.66	.02	.06	2
S&PUL SILT-3	1	50	10	72	.1	34	18	652	4.01	2	5	ND	3	24	1	5	2	80	.25	.036	12	505	.93	131	.10	14	2.18	.03	.10	1
S&PUL SILT-4	1	42	2	68	.1	28	17	681	4.09	3	5	ND	2	22	1	2	2	78	.28	.041	11	366	.92	111	.10	2	1.99	.02	.06	3
S&PUL SILT-5	4	57	12	66	.2	18	14	843	3.89	6	5	ND	1	29	1	2	2	74	.45	.058	12	53	.89	172	.10	5	2.94	.02	.07	1
S&PUL SILT-6	1	19	2	35	.1	23	11	401	3.64	3	5	ND	2	37	1	2	2	75	.54	.039	13	397	.49	86	.07	7	1.22	.02	.05	2
S&PUL SILT-7	1	19	9	39	.1	18	12	381	4.90	2	5	ND	4	33	1	2	2	96	.44	.045	9	257	.48	73	.08	7	1.05	.02	.05	1
S&PUL SILT-8	1	15	5	38	.1	20	11	352	3.43	2	5	ND	3	33	1	2	2	71	.40	.038	8	283	.47	59	.07	4	1.08	.02	.05	2
S&PUL SILT-9	1	32	2	51	.2	44	17	413	4.32	3	5	ND	5	32	1	2	2	94	.46	.046	15	871	.53	77	.07	5	1.19	.04	.09	6
S&PUL SILT-10	1	30	2	57	.1	36	16	472	2.95	10	5	ND	3	32	1	2	2	65	.47	.042	10	634	.61	88	.07	6	1.45	.03	.11	2
S&PUL SILT-11	1	45	11	56	.2	36	17	529	3.71	24	5	ND	1	49	1	2	2	78	.50	.035	8	514	1.01	164	.08	13	1.70	.03	.07	1
S&PUL SILT-12	1	44	12	64	.1	36	16	554	3.52	10	5	ND	1	38	1	2	2	69	.44	.052	7	358	1.14	138	.07	6	1.74	.02	.08	2
S&PUL SILT-13	1	36	7	47	.1	20	12	615	2.74	3	5	ND	1	40	1	2	2	56	.62	.044	8	121	.87	191	.09	5	1.99	.02	.08	2
S&PUL SILT-14	1	41	11	55	.1	25	14	667	2.95	3	5	ND	1	39	1	2	2	64	.58	.043	6	170	.93	136	.14	2	2.01	.03	.08	1
S&PUL SILT-15	1	35	7	59	.2	20	12	478	2.63	2	5	ND	2	51	1	2	2	58	.77	.030	7	204	.90	175	.09	4	1.95	.03	.08	1
S&PUL SILT-16	1	77	11	72	.1	33	18	734	3.83	14	5	ND	3	32	1	2	2	69	.44	.053	8	371	1.18	184	.06	10	1.97	.02	.09	1
S&PUL SILT-17	1	56	12	77	.2	36	19	756	4.24	20	5	ND	2	25	1	2	2	74	.36	.058	8	299	1.31	205	.05	9	2.09	.02	.09	2
STD C	18	41	36	128	7.1	70	30	967	3.94	41	20	8	36	51	17	15	24	58	.47	.089	40	58	.86	184	.09	36	1.81	.07	.15	13

ACME ANALYTICAL LABORATORIES 852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6 PHONE 253-3158 DATA LINE 251-1011

GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG.C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN FE CA P LA CR MG BA TI B W AND LIMITED FOR NA AND K. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: SOLUTION

DATE RECEIVED: JULY 11 1987 DATE REPORT MAILED: July 14/87 ASSAYER: D. Toye. DEAN TOYE. CERTIFIED B.C. ASSAYER

ROSSBACHER LABORATORY PROJECT-CERT#87289 File # 87-2365 Page 1 MPH, V19

SAMPLE#	MO PPM	CU PPM	PB PPM	ZN PPM	AG PPM	NI PPM	CO PPM	MN PPM	FE %	AS PPM	U PPM	AU PPM	TH PPM	SR PPM	CD PPM	SB PPM	BI PPM	V PPM	CA %	P %	LA PPM	CR PPM	MG %	BA PPM	TI %	B PPM	AL %	NA %	K %	W PPM
AP 2925	25	762	24	336	1.8	97	15	99999	.23	21	5	6	5	41	5	2	2	26	1.54	.009	7	47	.09	57	.01	4	.07	.01	.01	1
AP 2926	2	3062	14	30	.7	21	8	8986	.87	5	5	ND	1	7	1	2	20	68	.14	.005	4	200	.06	45	.01	2	.21	.01	.01	68
AP 2927	24	140	40	51	3.2	52	11	99999	.39	40	5	ND	19	136	1	30	60	24	.90	.011	2	27	.09	2046	.01	40	.07	.01	.01	1
AP 2928	14	73	2	48	.1	1	2	1509	2.42	2	5	ND	7	7	1	2	2	35	.24	.027	17	72	.65	78	.14	2	1.00	.02	.15	1
AP 2929	42	194	7	58	.1	2	6	1807	2.52	3	5	ND	5	18	1	2	2	64	.46	.048	13	99	.83	67	.14	2	1.26	.07	.30	1
AP 2930	50	188	2	27	.1	1	5	717	2.39	13	5	ND	7	16	1	2	2	23	.50	.045	18	83	.51	38	.10	5	1.01	.04	.12	2
AP 2931	9	62	7	4	.2	3	1	422	.87	2	5	ND	1	3	1	2	2	1	.10	.002	2	143	.01	10	.01	2	.18	.01	.01	1
AP 2932	15	84	12	18	.1	8	7	447	2.24	18	5	ND	1	127	1	2	2	7	6.82	.028	9	85	.16	32	.01	5	.53	.01	.20	1
AP 2933	3	132	2	32	.1	40	13	393	2.42	6	5	ND	3	19	1	2	2	50	.90	.140	11	87	.72	25	.19	2	.81	.05	.16	2
AP 2934	1	52	15	114	.1	17	30	1208	7.85	13	5	ND	2	80	1	2	2	208	4.79	.062	6	49	3.27	31	.06	2	3.64	.02	.09	1
AP 2935	1	79	2	109	.1	73	23	2226	7.31	72	5	ND	2	169	1	2	2	93	8.02	.100	3	84	2.17	113	.01	10	1.91	.01	.25	1
AP 2936	1	84	4	136	.5	17	14	1089	4.72	55	5	ND	2	117	1	2	2	85	1.04	.053	3	91	.99	284	.20	2	2.58	.23	.30	1
AP 2937	1	48	2	88	.1	16	10	596	3.60	2	5	ND	1	24	1	2	2	56	.43	.020	2	71	1.45	52	.15	2	2.03	.07	.19	1
AP 2938	1	44	9	63	.3	2	4	1316	3.90	15	5	ND	1	90	1	4	2	16	5.84	.006	2	99	1.05	607	.01	3	.15	.01	.03	1
AP 2939	27	11	38	83	.1	57	10	99999	.88	89	5	ND	4	171	1	2	4	68	.13	.026	10	74	.09	289	.02	12	.39	.02	.20	1
AP 2940	16	3	33	83	.1	68	3	99999	.17	132	5	ND	2	157	1	2	2	34	.29	.005	5	75	.14	1853	.01	4	.19	.01	.13	1
AP 2941	19	8	31	82	.1	67	5	99999	.26	52	5	ND	6	128	1	2	8	37	.35	.014	7	54	.21	2620	.01	13	.20	.01	.08	6
AP 2942	13	5	47	92	.1	81	8	99999	.40	11	5	ND	4	286	1	2	2	59	.83	.004	8	66	.38	3080	.01	7	.50	.01	.06	1
AP 2943	7	11	21	58	.1	44	5	76148	.42	46	5	ND	2	52	1	2	2	10	.25	.001	6	139	.04	210	.01	4	.15	.01	.07	1
AP 2944	11	4	13	56	.1	30	2	99999	.12	2	5	ND	1	98	1	2	2	11	.21	.003	5	84	.13	333	.01	2	.11	.01	.10	1
AP 2945	27	6	56	202	4.2	87	15	99999	.80	14	5	ND	21	122	1	30	76	147	.29	.015	19	36	.24	3848	.01	8	.59	.02	.07	1
AP 2946	1	24	36	49	.1	19	4	2603	3.10	2	5	ND	1	4	1	2	2	34	.03	.015	9	119	.89	55	.01	3	1.32	.01	.04	1
AP 2947	1	72	17	18	.2	21	3	4087	2.76	18	5	ND	1	5	1	2	2	44	.01	.004	2	220	.01	182	.01	2	.08	.01	.01	1
AP 2948	2	34	14	40	.1	29	4	963	1.44	4	5	ND	1	4	1	2	2	16	.06	.017	6	138	.50	314	.01	2	.60	.01	.09	1
AP 2949	1	115	8	56	.1	26	8	1162	2.31	2	5	ND	2	5	1	2	4	8	.08	.039	6	69	.89	163	.01	2	1.13	.01	.16	2
AP 20251	1	10	13	21	.1	3	3	1253	1.57	2	5	ND	1	446	1	2	2	7	10.81	.030	8	39	.54	113	.01	5	.35	.01	.13	1
AP 20252	2	10	60	170	.3	12	2	451	1.49	24	5	ND	1	4	1	2	2	4	.09	.017	4	160	.14	23	.01	2	.25	.01	.05	1
AP 20253	1	49	14	63	.1	17	11	653	3.12	4	5	ND	3	75	1	2	2	69	2.33	.052	5	45	1.12	244	.17	3	1.68	.06	.09	3
AP 20254	4	115	6	108	.5	39	11	837	3.57	5	5	ND	1	36	1	2	2	50	1.58	.067	6	111	.50	71	.13	2	1.46	.03	.04	1
AP 20255	1	220	13	70	.1	52	29	487	3.14	3	5	ND	3	33	1	2	3	87	1.66	.069	7	114	.82	32	.21	9	1.40	.05	.10	1
S&PUL S-101	1	28	37	173	.2	13	12	2670	3.96	11	5	ND	3	55	1	2	2	65	.77	.068	13	119	.61	186	.08	7	3.20	.02	.08	1
S&PUL S-102	1	11	18	80	.2	11	4	1332	1.67	2	5	ND	2	161	1	2	2	30	1.42	.077	10	58	.34	127	.03	4	1.14	.02	.06	1
S&PUL S-103	1	18	17	91	.2	11	4	1142	1.25	2	5	ND	2	141	1	2	2	27	2.08	.072	13	76	.36	113	.04	6	1.23	.02	.07	1
S&PUL S-104	1	19	5	67	.1	42	15	729	1.79	3	5	ND	2	46	1	2	2	46	.49	.033	11	886	.39	100	.05	7	1.47	.04	.10	1
S&PUL S-105	1	17	18	104	.2	27	12	1557	2.60	5	5	ND	2	56	1	2	2	47	.67	.055	12	498	.35	138	.04	2	1.55	.03	.08	1
S&PUL S-106	1	19	13	66	.1	27	12	710	4.10	5	5	ND	3	60	1	2	2	79	1.00	.063	10	500	.46	237	.08	2	2.17	.05	.14	1
S&PUL S-107	1	19	9	74	.1	45	16	644	3.56	6	5	ND	4	52	1	2	2	80	.71	.042	19	1047	.41	98	.06	4	1.67	.05	.16	1
S&PUL S-108	1	26	11	79	.2	53	16	699	3.11	5	5	ND	4	61	1	2	2	73	.88	.051	14	1174	.51	123	.08	8	2.08	.03	.18	1
S&PUL S-109	1	23	3	64	.2	36	13	629	5.03	4	5	ND	6	68	1	2	2	107	.99	.068	12	898	.44	107	.10	4	1.93	.07	.17	1
S&PUL S-110	1	38	9	82	.2	57	17	586	4.16	4	5	ND	4	61	1	2	2	106	.87	.043	15	1170	.55	93	.16	6	1.64	.11	.21	1

ROSSBACHER LABORATORY LTD.

2225 S. SPRINGER AVENUE
BURNABY, B.C. V5B 3N1
TEL : (604) 299 - 6910

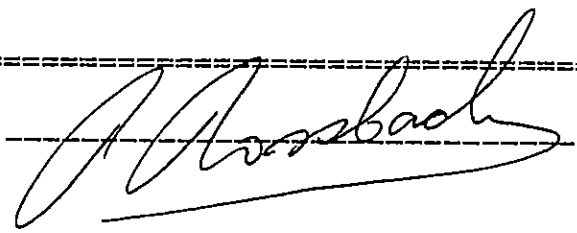
CERTIFICATE OF ANALYSIS

TO : MPH CONSULTING LTD.
#2406-555 W.HASTINGS ST. (BOX 12092)
VANCOUVER B.C.

PROJECT: V 199
TYPE OF ANALYSIS: ASSAY

CERTIFICATE#: 87289.A
INVOICE#: 7728
DATE ENTERED: 87-07-10
FILE NAME: MPH87289.A
PAGE # : 1

PREFIX	SAMPLE NAME	% Mn
A	2925	31.10
A	2926	3.24
A	2927	43.40
A	2939	22.40
A	2940	24.20
A	2941	24.70
A	2942	19.40
A	2943	5.96
A	2944	13.90
A	2945	31.90

CERTIFIED BY : 

ROSSBACHER LABORATORY LTD.

2225 S. SPRINGER AVENUE
BURNABY, B.C. V5B 3N1
TEL : (604) 299 - 6910

CERTIFICATE OF ANALYSIS

TO : MPH CONSULTING LTD.
#2406-555 W.HASTINGS ST. (BOX 12092)
VANCOUVER B.C.

PROJECT: V 199
TYPE OF ANALYSIS: GEOCHEMICAL

CERTIFICATE#: 87289.A
INVOICE#: 7766
DATE ENTERED: 87-07-16
FILE NAME: MPH87289.A
PAGE # : 1

PRE FIX	SAMPLE NAME	ORIG. PPB Au	RERUN PPB Au
L	SILT-1	80	30

CERTIFIED BY : F. Rossbach

APPENDIX IV

ANALYTICAL TECHNIQUES AND LABORATORIES USED

The 451 soil, 7 silt, and 25 rock samples collected during this phase of the program were analysed for Au using an atomic absorption technique and for 30 elements using inductively coupled plasma-atomic emission spectroscopy (ICP).

Four samples were assayed for Mn using a wet chemical extraction and atomic absorption technique.

Au geochemical analyses and assays were done by Rossbacher Laboratory Ltd. in Burnaby, B.C. The 30 element ICP analyses were done by Acme Analytical Laboratories in Vancouver, B.C.

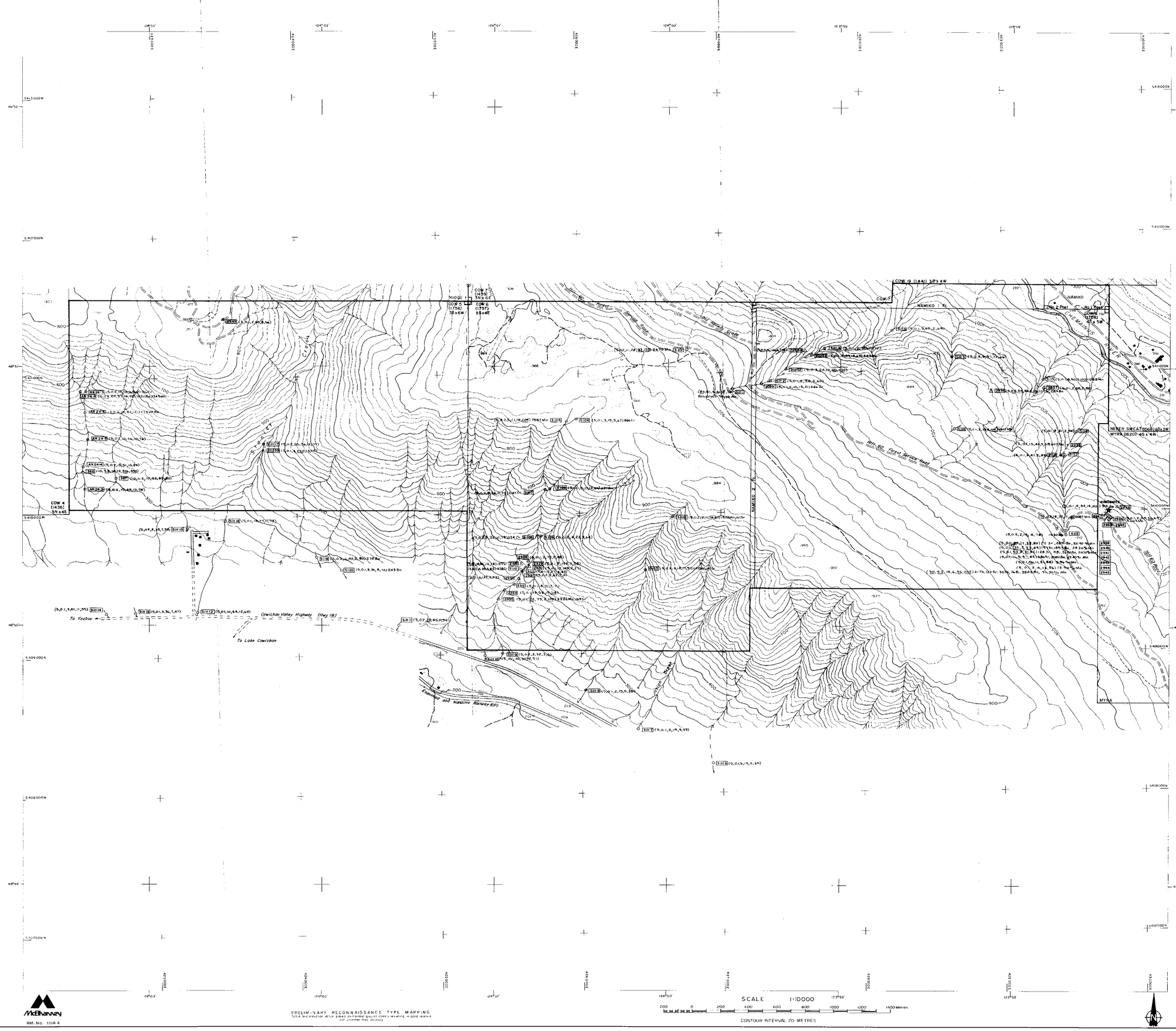
APPENDIX V

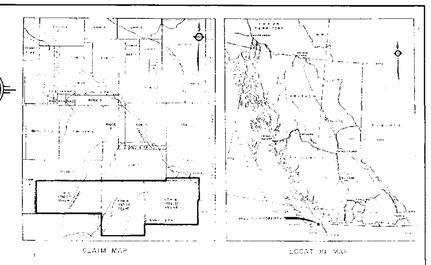
CONVERSION FACTORS FOR METRIC UNITS

Metric Conversion Factors

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	=	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)	=	0.90718474 tonne (0.9072)	(t)
1 tonne	=	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%	


LEGEND
CENOZOIC
QUATERNARY
12 Unconsolidated sediments: glacial outwash, till, and alluvium
MESOZOIC
CRETACEOUS
10 NANAIMO GROUP: conglomerate, sandstone, siltstone, shale, minor coal (undifferentiated)
JURASSIC
9 ISLAND INTRUSIONS:
9b mafic dykes
9d diorite
9f feldspar porphyry
9q quartz diorite to granodiorite
TRIASSIC
6 Karmutsen Formation (?): basaltic rocks
6b diabase
6d gabbro and flower porphyry
PALEOZOIC
UPPER SILURIAN TO LOWER PERMIAN
SICKER GROUP
4 Cameron River Formation (formerly mapped as Myra and/or Sediment Sill Formations)
4a argillite, slate ± chiastolite porphyroblasts
4b chert, cherty siltstone, cherty tuff, locally ferruginous, jasperoid
4c siltstone, locally hornfelsed
4d sandstone, locally hornfelsed
4e crystal tuff, tuffaceous sediment
4f heterolithic conglomerate and sedimentary breccia
4g green phyllite (protolith uncertain)
4h marble
2 McLaughlin Ridge Formation (formerly mapped as Nitinat and/or Myra Formations)
2a argillite
2b cherty tuff, cherty siltstone
2c tuffaceous siltstone, siltstone
2d tuffaceous sandstone, sandstone
2e crystal tuff, sandy tuff
2f lapilli tuff, tuff lapillistone, agglomerate
1 Nitinat Formation
1a pyroxene crystal tuff, lapilli tuff
1b pyroxene rich volcanic breccia, agglomerate
1f feldspar crystal tuff, lapilli tuff
1i laminated tuff, cherty tuff
1o massive aphyric mafic flows
1q pyroxene porphyry (flows and intrusions)
1s massive tuff, tuffaceous sandstone
NOTE: Legend based in part on Massey, BCMEMPR, O.F. 1987/2 and Muller, 1980 a, GSC Paper 79-30.
APPROXIMATE LOCATION OF STRIKER RHODONITE QUARRY
APPROXIMATE LOCATION OF HILL 60 MANGANESE DEPOSIT
To Youbou
Cowichan Valley Highway (Hwy 18)
To Lake Cowichan
GEOLOGICAL BRANCH ASSESSMENT REPORT
16,237
NOTE:
Claim boundaries from L.C.P.'s located in field.
20 metre topographic contour interval
INTERNATIONAL CHEROKEE DEVELOPMENTS LIMITED
GEOLOGY
HILL 60 PROPERTY
VICTORIA MINING DIVISION, B.C.
Project No: V 199
By: G.A.
Scale: 1:10 000
Drawn: M.W.
Drawing No: 6
Date: JULY 1987
MPH Consulting Limited
SCALE 1:10000
CONTOUR INTERVAL 20 METRES
PRELIMINARY RECONNAISSANCE TYPE MAPPING





LEGEND

14510	△	Rock sample location (outcrop) with sample number
14504	×	Rock sample location (float) with sample number
M-16	○	Silt sample location with sample number

Analyses : ppb | ppm
(11000,0.5,85,1207,6,54)- Au Ag, As, Cu, Pb, Zn (underlined values anomalous)
0.360oz/T Au - Gold assay

Values considered anomalous in rock

	Au	≥	30 ppb
	Ag	≥	0.4 ppm
All values plotted	As	≥	30 ppm
	Cu	≥	200 ppm
	Pb	≥	25 ppm
	Zn	≥	100 ppm
	Co	≥	50 ppm
	V	≥	250 ppm
	Sb	≥	6 ppm
Values plotted if anomalous	Ba	≥	200 ppm
	Mo	≥	10 ppm
	W	≥	10 ppm
	Mn	≥	2000 ppm
	Ni	≥	100 ppm

SYMBOLS

- Fault
- 552 — Outstanding mineralization with sample number 1240Au, 1766Ag and analyses (Au - ppb, others - ppm)
- Trench
- 1400ft — Grid line
- M86-1 — Diamond drill holes
- COWICHAN L.C.P. — Legal corner post with claim name and claim boundaries
- Boundary of overstaking claim
- Roads :
- 2 WD accessible, all weather
- 4 WD accessible
- Road presently inaccessible to vehicles
- Trail

GEOLOGICAL BRANCH
ASSESSMENT REPORT

16,237

NOTE :
Claim boundaries from L.C.P.'s located in field.
20 metre topographic contour interval.

INTERNATIONAL CHEROKEE DEVELOPMENTS LIMITED

ROCK AND SILT SAMPLE SITE LOCATIONS AND ANALYSES HILL 60 PROPERTY

VICTORIA MINING DIVISION, B.C.

Project No:	V 199	By:	G.A
Scale:	1 : 10 000	Drawn:	M.W
Drawing No:	7	Date:	JULY 1987

MPH Consulting Limited