87-366-16122

ASSESSMENT REPORT ON
GEOLOGICAL MAPPING, ROCK AND SILT SAMPLING
of the
MEADE PROPERTY 6|88
(Cow 1, 2, 3, 4 CLAIMS)

Victoria Mining Division, British Columbia
NTS 92C/16E 48°51.1'N Lat., 124°05.8'W Long.

for

Owner/Operator: **INTERNATIONAL CHEROKEE DEVELOPMENTS LTD.**

June 3, 1987

B.Y. Thomae, B.Sc. **G.J. Allen, P.Geol.**

GEOLOGICAL BRANCH
ASSESSMENT REPORT

16,122

SUMMARY

Geological assessment work on the Meade property, Cow 1 to Cow 4 claims for 1987 included geological mapping at (1:10,000), prospecting and stream sediment sampling.

The property is predominantly underlain by rocks of the Paleozoic Sicker Group. The Sicker Group in the property area is composed of a northwest striking sequence of mafic volcaniclastic and possible flow rocks of the Nitinat Formation, and cherty tuff of the McLaughlin Ridge Formation (McLaughlin Ridge Formation formerly mapped in this area as the Myra Formation). A large northwest trending sill-like body of Jurassic Island Intrusions tonalite to granodiorite intrudes the Sicker Group.

Mineralization on the property consists of local finely disseminated pyrite with with minor chalcopyrite and pyrrhotite mainly within 'hornfelsed' mafic volcanic rock near the Island Intrusions contact, minor local chalcopyrite and pyrrhotite. The best lithogeochemical results returned include: 457 ppm Cu from a mafic volcanic flow? unit (sample 14851), and 210 ppm Cu from a moderately siliceous tuff which also returned 0.4 ppm Ag, 4.5 ppm Cd and 156 ppm Zn (sample 15001). An iron-oxide stained tuff returned 70 ppm As and 217 ppm Cr from a 'hornfelsed volcanic' rock near the contact with Island Intrusions. Float samples yielded 21 ppm Pb from basalt in a stream bed, and 234 ppm Cr from quartz vein float.

Gold and silver concentrations above the detection limit were not returned from lithogeochemical results. Results from this year's samples indicate that barren white quartz veins and chert beds are not mineralized.

Silt samples collected from streams on the Meade property did not yield nor confirm Au anomalies in the area of interest. The highest results include: 1.0 ppm Ag, 168 ppm Cu, 27 ppm Pb, 146 ppm Zn, 40 ppm As, 1860 ppm Mn, 1020 ppm Ba, and 477 ppm Cr.

Although no significant mineralization has been observed on the property to date, several areas have not been thoroughly investigated and more exploration work is warranted. Anomalous Ba, Mn and Au (1986 program only) concentrations in stream sediment samples and the reported occurrence of placer gold in Meade Creek suggest that there is some potential for mineralization on the Cow 3 and Cow 4 claims.

A limited exploration program is recommended to investigate the area in the immediate vicinity of Meade Creek. This work is to include detailed geolgical mapping at a scale of 1:2500 and heavy mineral sampling (panning) up Meade Creek.

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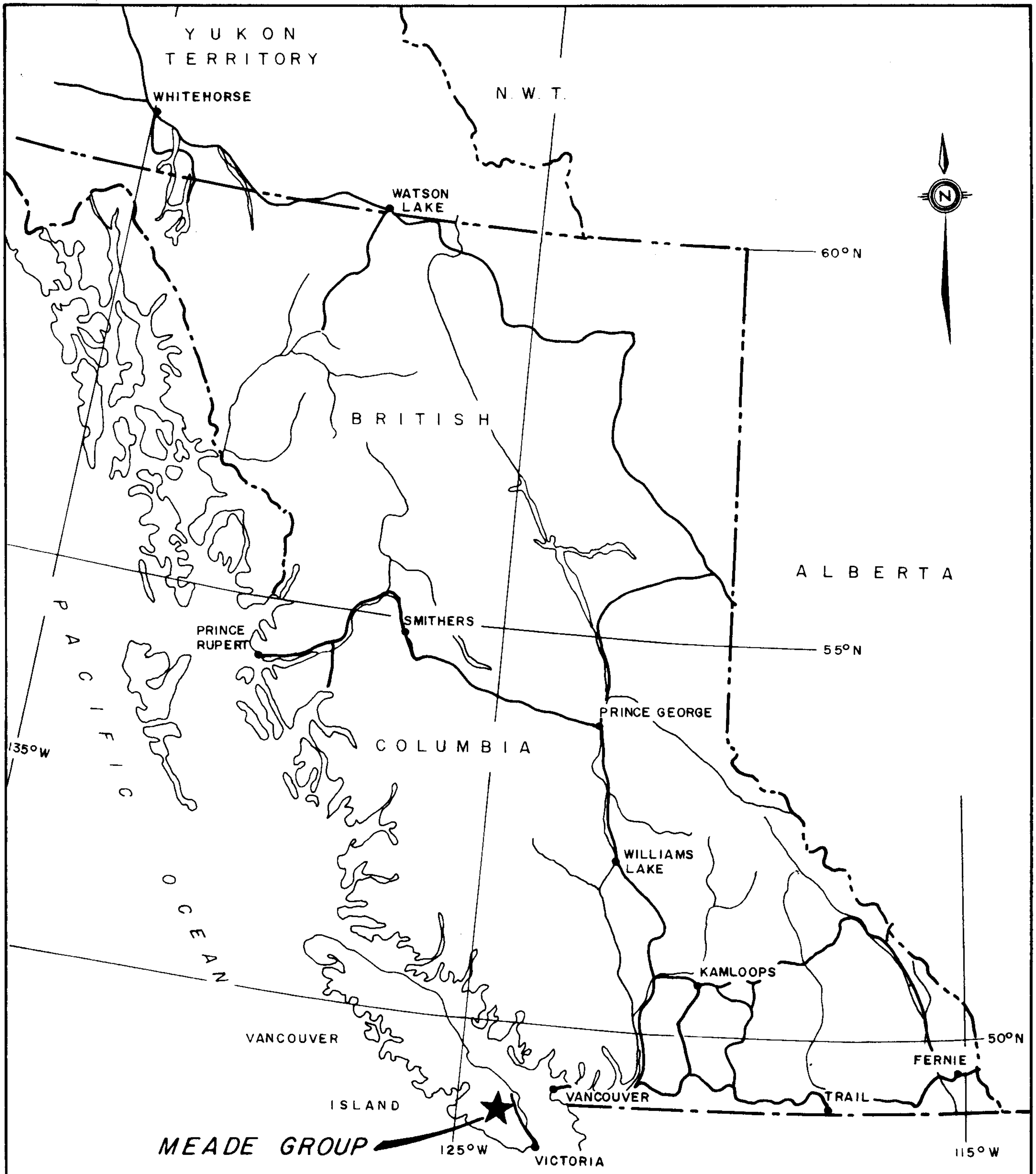


INTERNATIONAL CHEROKEE DEVELOPMENTS LTD.

GENERAL LOCATION MAP
MEADE GROUP

VICTORIA MINING DIVISION

Project No:	V 219	By:	T. N.
Scale:	1 : 8 000 000	Drawn:	J. S.
Drawing No:	1	Date:	FEBRUARY 1987.

MPH Consulting Limited

1.0 INTRODUCTION

This report provides an evaluation and discussion of results obtained from assessment work conducted during the months of November, 1986 intermittently through February, 1987 on the Cow 1 to Cow 4 claims (Meade Group). The work was carried out at the request of Mr. S.C. Steele of International Cherokee Developments Ltd. and supervised by Gordon Allen of MPH Consulting Limited.

The field program was designed to follow up and confirm anomalous results obtained from a rock and stream sediment sampling program conducted in March, 1986, as well as to fulfill assessment requirements.

Sixty-three silt samples were collected from streams within or near the boundaries of the property and thirty-one rock samples were collected from outcrop and float found on the property. Samples were analysed for Au using an atomic absorption (AA) technique and for 30 elements using inductively coupled plasma-atomic emission spectroscopy (ICP). Gold analyses were done by Rossbacher Laboratory Ltd. The ICP analyses were done by Chemex Ltd. and Acme Analytical Laboratories.

A description of the regional geology and brief account of the economic setting is included in addition to the evaluation of the property geology and geochemical results.

2.0 PROPERTY LOCATION, ACCESS, TITLE

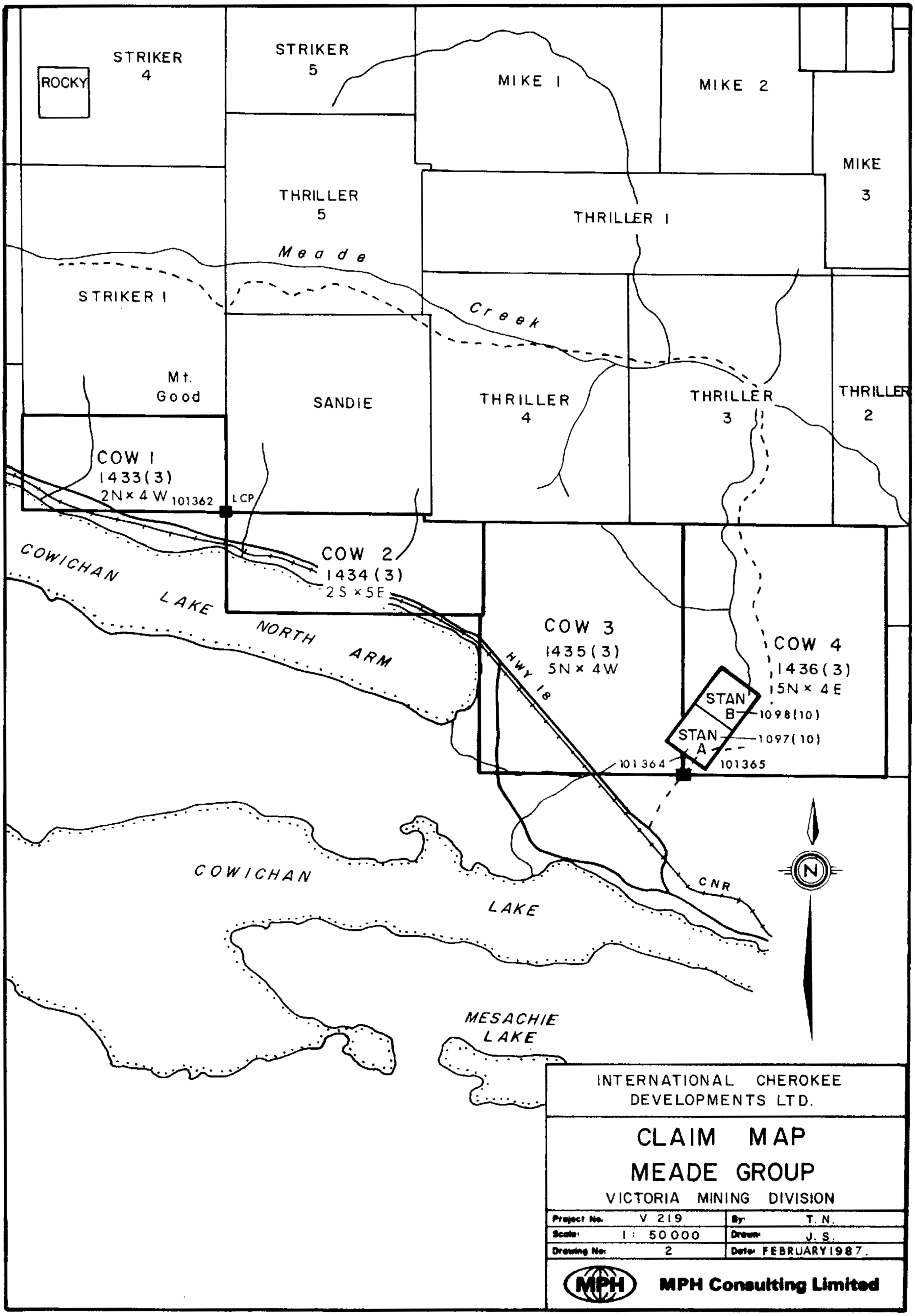
The International Cherokee Developments Ltd. Meade property is located 2 km northwest of the town of Lake Cowichan on mapsheet NTS 92C/16E, and centred at approximately 48°51'N latitude, 124°05'W longitude in the Victoria Mining Division of British Columbia (Figures 1, 2).

Access to the property is excellent, although steep terrain may hinder some survey methods. The southwest corners of the Cow 1, 2, and 3 claims all cover portions of the shore of the North Arm of Cowichan Lake, Highway 18, and the Canadian National Railway. Meade Creek and the Cow 4 claim are accessible by logging road from Highway 18.

The Meade Group comprises four claims containing a total of 58 units owned by International Cherokee Developments Ltd., as summarized below:

Claim	Record No.	Units	Anniversary Date	Year Recorded
Cow 1	1433(3)	8	March 6, 1989	1985
Cow 2	1434(3)	10	March 6, 1989	1985
Cow 3	1435(3)	20	March 6, 1989	1985
Cow 4	1436(3)	20	March 6, 1989	1985

The Stan A and Stan B one unit claims, which straddle the north-south claim line between Cow 3 and Cow 4 on lower Meade Creek, are not owned by International Cherokee Developments Ltd.


STRIKER 4
ROCKY
STRIKER 5
MIKE 1
MIKE 2
MIKE 3
THRILLER 5
THRILLER 1
Meade
Creek
STRIKER 1
Mt. Good
SANDIE
THRILLER 4
THRILLER 3
THRILLER 2
COW 1
1433(3)
2N × 4 W
101362
LCP
COW 2
1434(3)
2S × 5E
COWICHAN LAKE NORTH ARM
HWY 18
COW 3
1435(3)
5N × 4W
COW 4
1436(3)
5N × 4E
STAN B
1098(10)
STAN A
1097(10)
101364
101365
CNR
N
COWICHAN LAKE
MESACHIE LAKE
INTERNATIONAL CHEROKEE DEVELOPMENTS LTD.
CLAIM MAP
MEADE GROUP
VICTORIA MINING DIVISION
Project No. V 219
By: T. N.
Scale: 1 : 50000
Drawn: J. S.
Drawing No: 2
Date: FEBRUARY 1987.
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3.0 PREVIOUS WORK

Geological mapping in the area north of Lake Cowichan has been carried out by government geologists including J.T. Fyles (1955), J.E. Muller (1977, 1980a, 1980b, 1982), and A. Sutherland Brown (1986). N.W. Massey has recently conducted regional mapping and compiled previous mapping in the Lake Cowichan area (O/F, 1987) including the area of the Meade property. A B.Sc. thesis on rhodonite deposits on Vancouver Island (Cowley, 1979) also includes this area.

J.S. Ford and R.A. Nilson and Associates reported (1950) that fine gold (up to 40 colours in one pan) was recovered from between the bedrock surface to 6 metres above the high water level on the Meade Creek placer claim.

In 1985, the Meade Group comprising the Cow 1 to Cow 4 claims was staked by International Cherokee Developments Ltd. Assessment work was conducted on the property from March 1 to March 3, 1986, by MPH Consulting Limited. Work included rock sampling, prospecting, reconnaissance geological mapping, and stream sediment sampling. Various grab samples of outcrop and float returned up to 330 ppm Zn, 200 ppm Cu, 390 ppm As, and 310 ppm Ba. Silt geochemical analyses yielded concentrations of up to 100 ppb Au, 490 ppm As, 500 ppm Ba, 306 ppm Pb, 490 ppm Zn and 3.8 ppm Ag. Gold and arsenic anomalies in silt samples were located in the southern Cow 4 claim with the source thought to be located on the Cow 3 claim to the west. Results of this assessment work led to recommendations for further work designed to follow up and confirm these anomalies.

4.0 REGIONAL GEOLOGY

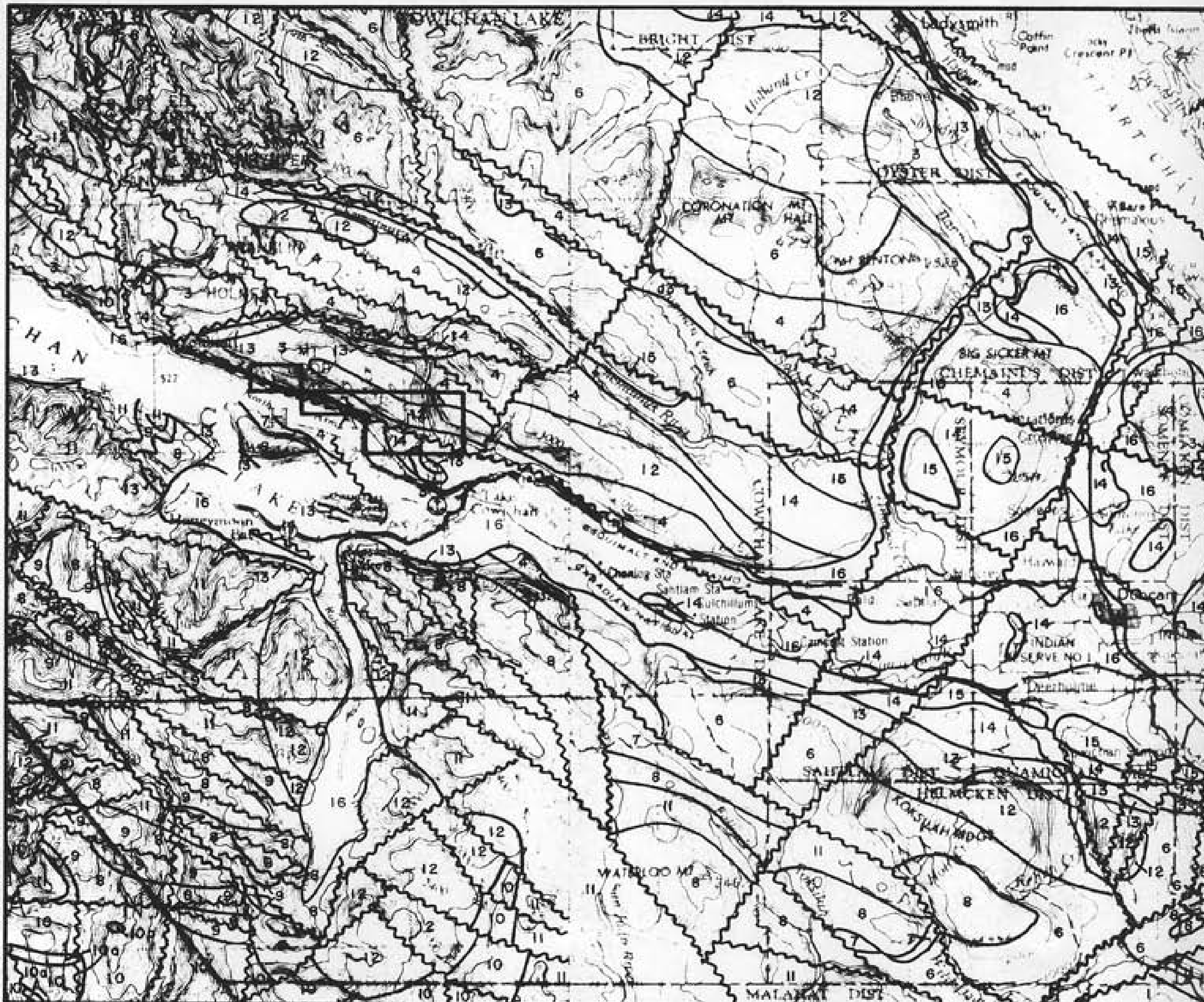
The Duncan - north Cowichan Lake area is underlain by a west-northwest trending belt of Paleozoic Sicker Group rocks, Triassic Karmutsen Formation basalts and Cretaceous Nanaimo Group sediments. The south Cowichan Lake area is underlain by the Karmutsen Formation, the Jurassic Quatsino Formation, and the Bonanza Group volcanics. Jurassic Island Intrusions occur in both areas (Figure 3). Recent government geological mapping has been carried out over the Cowichan Lake area by a number of geologists and compiled with previous work by J.T. Fyles, A. Sutherland Brown and P. Cowley (N.W. Massey, 1987).

4.1 Sicker Group

Muller (1980a) proposed the following subdivision of the Sicker Group, from oldest to youngest: Nitinat Formation, Myra Formation, Sediment-Sill Unit, and Buttle Lake Formation.

In the Lake Cowichan area, distinctive yet correlative lithologic units within the Sicker Group have been mapped by Massey (1987), who draws on Sutherland Brown's (1986) units. The Nitinat Formation and McLaughlin Ridge Formation are within the Youbou Subgroup, and the Cameron River Formation and Mount Mark Formation are within the Buttle Lake Subgroup.

SICKER GROUP	**Upper Silurian to Lower Permian**
Buttle Lake Subgroup (after Massey, 1987)	(after Muller)
Mount Mark Formation Cameron River Formation	Buttle Lake Formation Sediment-Sill Unit and/or Myra Formation
Youbou Subgroup	
McLaughlin Ridge Formation	Myra Formation and/or Nitinat Formation
Nitinat Formation	



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.

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	Work gneiss: massive and gneissic metadiorite, metagabbro, amphibolite.

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INTERNATIONAL CHEROKEE DEVELOPMENTS LTD.

REGIONAL GEOLOGY MAP
MEADE GROUP

VICTORIA MINING DIVISION

Project No.	V 219	By:	T. N.
Scale:	1 : 250 000	Drawn:	J. S.
Drawing No:	3	Date:	FEBRUARY 1987.

MPH Consulting Limited

The **Nitinat Formation** consists predominantly of mafic volcanic rocks, most commonly flow-breccias or agglomerates including some massive flows, and rare pillow basalts. Locally, medium-grained, generally massive basaltic tuff is interbedded with the flows. The flow-breccia is composed of fragments of basalt up to 30 cm in length containing phenocrysts of uralitized pyroxene as well as amygdules, both from 1 mm to more than 1 cm in size, in a matrix of finer grained, similar basalt(?). Thin sections show pale green amphibole (uralite) is replacing clinopyroxene. Uralitized gabbroic to dioritic rocks underlie and intrude the volcanics and are believed to represent feeder dykes, sills, and magma chambers to the volcanics. The Nitinat Formation may be distinguished from the similar Karmutsen Formation by the abundance of uralite phenocrysts, a usual lack of pillow basalts, lack of dallasite alteration between pillows (characteristic of the Karmutsen) locally pervasive foliation, and lower greenschist or higher metamorphic grade.

The **Myra Formation** (mapped as McLaughlin Ridge and/or Cameron River Formations) overlies the Nitinat Formation, possibly with minor unconformity. In the Nitinat-Cameron River area the Myra Formation is made up of a lower massive to widely banded basaltic tuff and breccia unit, a middle thinly banded albite-trachyte tuff and argillite unit, and an upper thick-bedded, medium-grained albite-trachyte tuff and breccia unit. In the lower unit, crudely layered mottled maroon and green volcaniclastic greywacke, grit and breccia are succeeded by beds of massive, medium-grained dark tuff up to 20 m thick interlayered with thin bands of alternating light and dark, fine-grained tuff with local fine to coarse breccias containing fragments of Nitinat Formation volcanics. The middle unit comprises a sequence of thinly interbedded, light feldspathic tuff (albite trachyte or keratophyre composition) and dark marine argillite which has the appearance of a graded greywacke argillite turbidite sequence. In the upper part of the middle unit, sections of thickly bedded to massive black argillite occur. The upper unit contains fine and coarse crystal tuffs in layers up to 10 m thick with local rip-up clasts and slabs of argillite up to 1 m in length as well as synsedimentary breccias of light coloured volcanic and chert fragments in a matrix of black argillite.

Mapping by Fyles (1955) in the area north of Cowichan Lake located a thick sequence of mainly massive green volcanics (Nitinat Formation), overlain by a 'marker' unit consisting of a sequence of thin-bedded, cherty tuffs with several metres of coarse breccia containing fragments of amygdaloidal volcanics between it and the Nitinat Formation. Overlying the marker unit are grey to black feldspathic tuffs and argillaceous sediments and minor breccias. Muller (1980a) considers the marker unit to correspond to the lower unit of the Myra Formation, while the overlying unit of tuffs and sediments is correlated with the middle unit "and probably contains the upper ... unit as well."

In the Mount Sicker area, the Myra Formation is more pervasively deformed and consists of well bedded, mainly felsic tuff and breccia interbedded with black agrillite and some greywacke. The rocks have been converted to quartz-chlorite-sericite schist in steep and overturned isoclinal folds. Breccia fragments are commonly epidotized. The "Tyee Quartz Porphyry" is a porphyritic rhyolite containing quartz eyes to 5 mm that occurs partly as cross cutting sills and partly as flows(?) within the Myra Formation. Tyee Quartz Porphyry is related to the Saltspring Intrusions.

The type locality of the Myra Formation is Myra Creek, at the south end of Buttle Lake, about 160 km northwest of Duncan. Volcaniclastic rocks consisting dominantly of rhyodacitic or rhyolitic tuff, lapilli tuff, breccia, and some quartz porphyry and minor mafic flows and argillite (Upper Myra Formation) are host to Westmin Resources Ltd.'s Myra, Lynx, Price, and H-W massive sulphide (Cu-Zn-Pb-Au-Ag- Cd) deposits.

Muller (1980a) estimated the thickness of the Nitinat Formation at about 2000 m and that of the Myra Formation at 750 to 1000 m. Fyles' (1955) work indicates a thickness of at least 1500 m for the Nitinat Formation, and at least 1000 m for the Myra Formation in the Cowichan Lake area. Both the Nitinat and Myra Formations were dated as Devonian and/or older by Muller (1980a).

The **Sediment-Sill Unit** (Cameron River Formation) is transitional between the Myra and Buttle Lake Formations. The upper and lower contacts are poorly defined. Thin-bedded, turbidite-like, much silicified or cherty massive argillite and siltstone are interlayered with diabasic sills. The sediments show conspicuous dark and light banding on joint surfaces. The sills consist of a fine-grained, greenish black matrix containing feldspar phenocrysts up to more than 1 cm, commonly clustered in rosettes up to a few centimetres in diameter, producing a very distinctive "flower porphyry" appearance. Subophitic texture may also be visible. The sediments are dated as Mississippian in age whereas the sills are believed to represent feeders to Triassic Karmutsen volcanics.

The **Buttle Lake Formation** (Mount Mark Formation) consists of a basal green and maroon tuff and/or breccia overlain by coarse-grained crinoidal and calcarenitic limestone, fine-grained limestone with chert nodules and some dolomitic limestone. Lesser amounts of argillite, siltstone, greywacke, or chert are present.

In the area southeast of Cowichan Lake, the Buttle Lake Formation consists of laminated, calcareous grey siltstone and black argillite containing lenses of coarse-grained calcarenite, minor massive beds or crinoidal limestone about 1 m thick, and lenses and nodules of chert. The section was described by an earlier worker as mainly interbedded chert and limestone (Yole in Muller, 1980a).

The Buttle Lake Formation is up to 466 m thick (approximately 300 m thick southeast of Cowichan Lake). The age of the formation, based on fossil evidence, appears to be Middle Pennsylvanian, but may be as young as Early Permian (Muller, 1980a) This has been confirmed by recent dating work by Brandon and others (1986), including isotopic as well as conodont ages, which indicate that rocks of the Buttle Lake Formation are early Middle Pennsylvanian through Early Permian in age.

4.2 Vancouver Group

The **Karmutsen Formation** volcanic rocks unconformably to paraconformably overlie the Buttle Lake Formation limestone to form the base of the Vancouver Group. They are the thickest and most widespread rocks on Vancouver Island. The formation consists mainly of dark grey to black, or dark green, tholeiitic pillow basalt, massive basalt, and pillow breccia. Flows are commonly aphanitic, feldspar porphyritic, and amygdaloidal. Pillow lavas generally occur toward the base of the section.

Conglomerate containing clasts of Sicker Group rocks and jasperoid tuff forms basal sections in the Nitinat-Horne Lake area to the northwest. Karmutsen Formation rocks are generally relatively undeformed compared to Sicker Group rocks and are dated Upper Triassic and older.

Massive to thick-bedded limestone of the **Quatsino Formation** is widespread in the area south of Cowichan Lake. The limestone is black to dark grey and fine-grained to microcrystalline. Coarse-grained marble occurs in the vicinity of intrusive rocks. The majority of known economic skarn deposits on Vancouver Island are hosted by Quatsino limestone. Thin-bedded limestone also occurs within the formation. Fossils indicate an age of Upper Triassic (Muller and Carson, 1969).

The **Parsons Bay Formation** overlies Quatsino limestone, or locally, Karmutsen Formation volcanics. It is composed of interbedded calcareous black argillite, calcareous greywacke and sandy to shaly limestone. It is included within the Quatsino Formation within the report map area. The Quatsino and Parsons Bay Formations are considered to represent near and offshore basin facies, respectively, in the quiescent Karmutsen rift archipelago (Muller, 1981).

4.3 Westcoast Complex

The **Westcoast Complex** comprises a variety of plutonic and metamorphic mafic crystalline rocks, including amphibolite, diorite, and quartz diorite with homogeneous, agmatitic or gneissic textures. Dioritic or agmatitic bodies underlying or intruding the Nitinat Formation are included. Metamorphosed Karmutsen Formation and/or Sicker Group rocks grade locally into the complex and are believed to be its protolith, having been migmatized in Early Jurassic time. The mobilized granitoid portion of the complex is believed to be the source of the Island intrusions and, indirectly, the Bonanza Group volcanics (Muller, 1981, 1982). Small bodies of recrystallized limestone found within the complex are believed to be derived mainly from the Quatsino Formation, and to a lesser extent from the Buttle Lake Formation.

4.4 Bonanza Group

Bonanza Group stratigraphy varies considerably in a horizontal and lateral sense as it represents parts of several different eruptive centres of a volcanic arc. Basaltic, rhyolitic, and lesser andesitic and dacitic lava, tuff, and breccia with intercalated beds and sequences of marine argillite and greywacke make up the Bonanza Group. In the area south of Cowichan Lake, the volcanics are described as dark brown, maroon, and yellow-grey massive tuff, volcanic breccia, and massive or plagiophyric flows (Muller, 1982). Bonanza Group volcanics are considered to be Early Jurassic extrusive equivalents of the Island intrusions.

4.5 Island Intrusions

Exposures of **Island Intrusions** consisting mainly of quartz diorite and lesser biotite-hornblende granodiorite occur throughout the area and are assigned an age of Middle to Upper Jurassic. Intrusive contacts with Sicker and Bonanza Group volcanic rocks are characterized by transitional zones of gneissic rocks and migmatite although contacts with Karmutsen Formation volcanic rocks are sharp and well defined. Skarn zones are reported at the contact of Island Intrusion rocks with Quatsino Formation limestone and less abundantly with Buttle Lake Formation limestone.

4.6 Nanaimo Group

Upper Cretaceous Nanaimo Group sedimentary rocks occur throughout the area, unconformably overlying Paleozoic Sicker Group rocks. Extensive exposures occur in the Chemainus and Cowichan River valleys. The formations present comprise the basal portions of the Nanaimo Group.

The **Comox Formation** consists mainly of quartzofeldspathic, cross-bedded beach facies sandstone and lesser conglomerate. Numerous intercalations of carbonaceous and fossiliferous shale and coal are characteristic.

The **Haslam Formation** is a nearshore littoral depositional facies unit characterized by massive bedded fossiliferous sandy shale, siltstone and shaly sandstone.

Interbedded coarse clastic conglomerate, pebbly sandstone and arkosic sandstone of the **Extension-Protection Formation** are beach and deltaic sands. Minor shale and coal are reported.

4.7 Structure

The Buttle Lake Arch, Cowichan-Horne Lake Arch and Nanoose Uplift are north-northwesterly trending axial uplifts and are believed to be among the oldest structural elements in south central Vancouver Island. Folding and uplift occurred before the late Cretaceous, and possibly before the Mesozoic (Muller and Carson, 1969), and additional tilting, folding, and uplift occurred after the late Cretaceous. Sicker Group volcanic and sedimentary rocks occur at the cores of these uplifts.

Asymmetric southwest-verging, northwest-trending antiformal fold structures characterized by subvertical southwest limbs and moderately dipping northeast limbs are reported at Buttle Lake, in the Cameron-Nitinat River area, and north of Cowichan Lake. Well-developed foliation developed during metamorphism to chlorite-actinolite and chlorite-sericite schist in steep and overturned limbs of folds. Folding may have occurred prior to intrusion of Triassic(?) mafic sills along axial planar surfaces in folded Sediment-Sill unit rocks. Evidence from K-Ar dating also suggests Jurassic folding. Buttle Lake Formation limestones are relatively undeformed in some places, although in others, as in the Chemainus River Canyon, they are highly deformed, along with other Sicker Group rocks (Brandon and others, 1986). Vancouver Group units are not as intensely folded; gentle monoclinal and domal structures have been mapped. However, Karmutsen Formation volcanic rocks locally conform to the attitude of underlying Myra and Buttle Lake Formations (Muller, 1980a).

Some early Mesozoic faulting occurred in the area prior to emplacement of Island Intrusions. Middle to Upper Jurassic intrusive activity (Island Intrusions) occurred along northwesterly trends.

Extensive west-northwest trending faulting occurred during the Tertiary and is best illustrated by large displacements of Nanaimo Group sediments in some areas, such as the north side of the Chemainus River valley, placing Sicker Group rocks above Nanaimo Group rocks. These faults have been traced for up to 100 km. Such structures may represent large scale underthrusting from the southwest, in a regime of long-term semi-continual northeast-southwest compression. Nanaimo Group sediments are tilted up to at least 60° from paleohorizontal where they are overlying folded Sicker Group rocks with angular unconformity such as on the south side of the Chemainus River Valley. Minor late northeasterly trending tear-faults and block faults offset northwest-trending faults in the Cowichan Valley and Saltspring Island areas.

4.8 Economic Setting

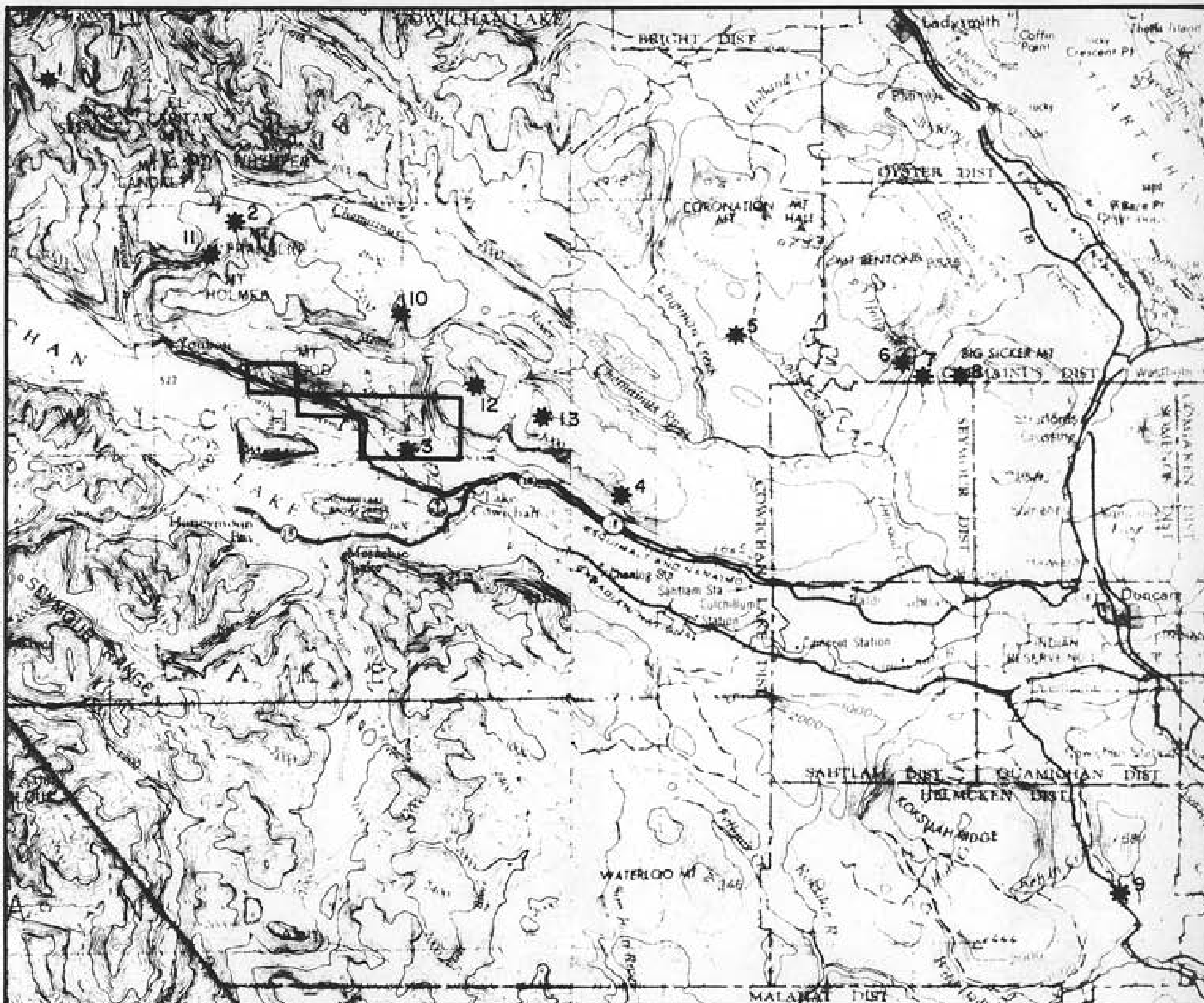
The Meade property is located on a northwest extension of Hill 60 Ridge, on the edge of a belt of Sicker Group cherty tuff which hosts various manganese deposits and showings. Locations for various mineral occurrences are shown in Figure 4. A summary of known gold, base metal, and other occurrences in the area may be referred to in the previous assessment report submitted by MPH Consulting Limited (Neale and Hawkins, 1986).

Known manganese occurrences include Hill 60, Rocky, Meade and Stanley Creek. Manganese deposits may represent distal depositions of manganese-rich volcanogenic exhalation, but more likely represent proximal deposits around a number of hot springs (Cowley, 1979).

Hill 60, discovered in 1918, located approximately 11 km southeast of the Meade property, occurs in cherty tuffs of the Sicker Group with local lenses of red jasper which hosts rhodonite lenses. The average manganese content is 43.09% over 1.2 m. Significant oxidization has occurred here, which is necessary to transform rhodonite into manganese ore.

The Rocky occurrence, known since 1920 and located approximately 8 km northwest of the Meade property, comprises lenses of rhodonite and rhodochrosite (up to 50% of Mn mineralization, locally) parallel to bedding in tightly folded cherty tuff and jasper of the Sicker Group. The manganese occurs in an area less than 30 m by 15 m with minor occurrences reported within 800 m.

The Meade manganese occurrence, known since 1939, is located approximately 1 km east of the northeast corner of the Meade property, consists of rhodonite lenses and manganese garnets in cherty tuffs of the Sicker Group. Lenses are up to 1 m wide and approximately continuous between the two exposures, in open cuts 60 m apart.



GOLD OCCURRENCES

1. Amore
2. Comego
3. Meade Ck.
5. Lara

BASE METAL OCCURRENCES, DEPOSITS

6. Pauper
7. Copper Canyon
8. Twin J
9. King Solomon
10. Candy

OTHER OCCURRENCES

4. Hill 60
11. Rocky
12. Meade
13. Stanley Creek

INTERNATIONAL CHEROKEE DEVELOPMENTS LTD.

MINERAL OCCURRENCES LOCATION MAP
MEADE GROUP

Project No.	V 219	By:	T. N.
Scale:	1 : 250 000	Drawn:	J. S.
Drawing No:	4	Date:	FEBRUARY 1987.

MPH Consulting Limited

The Stanley Creek occurrence also known since 1939 is located approximately 3 km east of the eastern Meade property boundary. Here, two lenticular masses of rhodonite several cm to 30 cm wide and about 6 m long lie parallel to bedding in Sicker Group cherty tuff.

The Comego and Meade Creek gold occurrences are located approximately 6 km north-northwest of the Meade property and within the Meade property respectively. The Comego occurrence consists of three types of mineralization including garnet-actinolite-quartz-calcite-epidote-chlorite skarn, which contains local magnetite, chalcopyrite, pyrite, pyrrhotite, local molybdenite, scheelite, sphalerite, tetrahedrite, minor bornite, and arsenopyrite. This skarn mineralization occurs in cherty tuff near its contact with a gabbro-diorite sill. Quartz-carbonate stringers within a shear zone contains finely disseminated molybdenite, pyrite, chalcopyrite tennantite with local bornite and magnetite. Skarn zones are associated with quartz veins which host masses of chalcopyrite, pyrite and molybdenite. Best assay results are from the main skarn zone, including 14.06 g/t (0.41 oz/ton) Au over 1.0 m, 27.4 g/t (0.8 oz/ton) Ag over 4.6^{2} m, 8.3% Cu over 6.1 m, 1.3% Mo over 4.6 m, and 0.32% WO_3 over 1 m.

The Meade Creek placer gold occurrence, discovered in 1950, is located within the boundaries of the Meade property in the southeast and southwest corners of the Cow 3 and Cow 4 claims, partly within the Stan A one unit claim. Reportedly, fine gold (up to 40 colours in one pan) was recovered from the bedrock surface to 6 m above the high water level on the Meade Creek placer claim.

The Candy copper deposit just north of the Meade Group property occurs within fractured and sheared Sicker Group andesite and basalt crosscut by chalcopyrite and pyrrhotite bearing quartz veins.

5.0 1987 ASSESSMENT WORK

During November 1986, and February 1987, MPH Consulting Limited personnel, under the supervision of Gordon Allen, completed 7.5 days of field work on the Meade property. This work was designed to follow-up anomalous Au ±, Ba, Pb, Zn and Ag in stream sediment samples collected in 1986, with emphasis on the Cow 4 claim.

The 1987 program included geological mapping at a scale of 1:10,000 over the entire claim group and the collection of 31 rock samples and 63 silt samples for geochemical analysis.

5.1 Property Geology

The Meade property (Cow 1-4 claims) is predominantly underlain by rocks of the Paleozoic Sicker Group (Figures 5 and 6). The Sicker Group in the property area is composed of a northwest striking sequence of mafic volcaniclastic and possible flow rocks of the Nitinat Formation, and cherty tuff of the McLaughlin Ridge Formation (McLaughlin Ridge Formation formerly mapped in this area as the Myra Formation). A large northwest trending sill-like body of Jurassic Island Intrusions tonalite to granodiorite intrudes the Sicker Group rocks.

The Nitinat Formation of the Lower Sicker Group underlies most of the property. It is composed mainly of pyroxene porphyry flows and possibly hypabyssal intrusives, massive aphyric flows and/or intrusives, pyroxene crystal tuffs and lapilli tuffs. Bedding generally strikes northwest and dips moderately to the northeast. Bedding strike on the Cow 1 claim ranges from northeast to northwest indicating that there is minor folding within the sequence. Foliation in these folded rocks strikes consistently northwest and dips moderately to the northeast.

McLaughlin Ridge Formation (formerly mapped in this area as Myra Formation) cherty tuff underlies a small part of the northeast corner of the Cow 4 claim. Bedding in this area strikes northwest to northeast and dips southwest to northwest suggesting that the rocks have been tightly folded about a northwest trending fold axis.

A northwest trending sill-like body of up to one kilometre wide of Island Intrusions tonalite to granodiorite intrudes Nitinat Formation rocks on the Cow 3 and 4 claims. Minor pyrite and chalcopyrite mineralization occurs along the flanks of this intrusive body.

The northwest trending, northeast dipping Cowichan Lake thrust fault parallels the north shore of Cowichan Lake and follows through southeast beyond the area covered in this report.

Descriptions of hand samples collected for observation and comparison are included in Appendix III.

5.1.1 Tuffaceous Units of the Nitinat Formation

Tuffaceous units of mainly mafic and locally andesitic(?) composition include massive to bedded and banded tuffs, crystal tuffs, 'sandy tuffs', lapilli tuffs, and minor agglomeratic tuffs (found in float). Rocks containing angular irregular fragments of mainly volcanic composition have been classified as pyroclastic and cataclastic breccias. Tuffs in general are fine-grained dark green to black with up to 30% mafic phenocrysts (up to 1 mm), 20% of which have been altered to chlorite. Felsic minerals recognized include feldspar and quartz (up to 30%). Local sericite alteration is evident. Basaltic tuffs are fine-grained, dark green with aphanitic groundmass and possible local evidence of flow banding. Trace amounts to 2% pyrite are locally found within tuffs.

Crystal tuffs, of the Nitinat Formation found on the Meade property, are dominantly mafic, with a dark green chloritic groundmass. There are commonly 15-60% dark green to black, subrounded to subangular, approximately 2 mm to 5 mm pyroxene crystal fragments and locally 30% subrounded to subhedral white to grey 1-3 mm feldspar crystal fragments. Pyroxene crystal fragments are somewhat smeared and aligned along foliation planes.

Lapilli Tuffs

Volcanic fragments, subangular to subhedral, somewhat indistinct from 6 mm to 1 cm, commonly dark grey-green, chlorite altered, locally vesicular, are found within a fine-grained, usually light coloured tuffaceous groundmass. Agglomeratic tuff found in float on the Meade property contains clasts with quartz-filled amygdules within a feldspar crystal tuff.

Thin-bedded and banded tuffs with light and dark grey bands are observed in outcrop on the Meade property.

5.1.2 Intrusive Rocks

Commonly medium-grained, tonalitic, granodioritic, minor gabbroic rocks and gradations between these, have been mapped in the Meade Group property. Colour varies with composition which is commonly felsic. Sericite and chlorite alteration are commonly observed. These intrusives have been mapped as part of the Jurassic Island Intrusions.

5.2 Lithogeochemistry

Samples of float, grab samples of outcrop, and a few chip samples were collected from the Meade Group property. Figure 5 shows rock sample locations (total of 32), for those which were analyzed geochemically for Au and 30 other elements (ICP). Rock sample descriptions and selected results are provided in Appendix II. Hand specimen locations are shown in Figure 6 along with traverse routes. Descriptions for hand specimens are included in Appendix III, and certificates of analysis are included in Appendix IV.

Lithologies sampled for analysis include volcaniclastic units, mafic volcanic rocks, quartz veins, chert, minor schistose rocks, 'skarn type' rocks, and intrusive rocks, mainly with some form of visible sulphide mineralization and/or alteration.

5.2.1. Volcaniclastic Rocks

Samples of cherty/siliceous tuff and crystal tuff, of predominantly mafic composition and dark grey-green colour, were collected from outcrop or float. Sulphides observed in hand specimen include finely disseminated pyrite, local pyrrhotite and trace amounts of chalcopyrite. Local epidote, sericite and chlorite alteration is observed mainly in association with shear zones.

Results returned range from 23 to 210 ppm Cu, 2 to 20 ppm Pb, 30 to 156 ppm Zn, and 2 to 95 ppm As. Silver concentrations up to 0.4 ppm were obtained from sample 14804 in addition to 158 ppm Cu and 70 ppm As from this sample of an Fe-oxide stained tuff collected from the north Cow 4 claim. Sample 15001, from the east central Cow 3 claim, is a chip sample over 2.5 m, of a siliceous tuff locally containing up to 2% pyrrhotite near its contact with a diabasic dyke. This sample returned 210 ppm Cu, 156 ppm Zn, 0.4 ppm Ag, 4.5 ppm Cd and 120 ppm Cr. Sample 15002 from the same area and unit, containing trace chalcopyrite returned values of 20 ppb Pb, 0.4 ppm Ag, and 2960 ppm P. Sample 15003, float of dark grey siliceous tuff, containing up to 2% pyrite returned 95 ppm As. In the northwest central Cow 3 claim area, float from a talus slope, of iron and manganese-oxide stained lapilli tuff with chlorite, epidote and sericite alteration returned 695 ppm Mn.

5.2.2. Volcanic Rocks

Dark grey-green to black, fine-grained, aphyric, locally vesicular and somewhat siliceous mafic volcanic rocks were sampled. Results range from 17 to 457 ppm Cu, 2 to 21 ppm Pb, 37 to 70 ppm Zn and 4 to 20 ppm As.

Sample 14851, of an augite, feldspar porphyry collected from the central to southeastern Cow 4 claim, returned 457 ppm Cu. A dark green to purple 'skarned' volcanic crosscut by calcite veinlets collected near the granodiorite contact, returned 217 ppm Cr. Chlorite-altered, fine-grained basalt from the central eastern Cow 3 area (sample 19904) returned 881 ppm Mn.

5.2.3 Quartz Veins

Massive, barren, white to milky white quartz veins and veinlets with local epidote (in selvages and cores) and hematite alteration were sampled mainly in the Cow 1 and Cow 3 claim areas. Grab samples of float and outcrop returned concentrations ranging from 5 to 56 ppm Cu, 2 to 5 ppm Pb, 3 to 28 ppm Zn, 2 ppm As, 0.1 to 0.3 ppm Ag. Anomalous Cr was returned from a white rust-stained piece of quartz float from the east central Cow 3 claim (sample 19901).

5.2.4 Chert

Grey, aphanitic, weathered chert float (sample 19902) from the central eastern Cow 3 claim, with minor iron and magnesium-oxide staining returned 0.1 ppm Ag, 49 ppm Cu, 3 ppm Pb, 46 ppm Zn and 5 ppm As.

5.2.5 Intrusive, 'Skarn' and Schistose Rocks

White and brown coarse-grained granodiorite collected near the contact with Sicker Group volcanic rocks returned 0.2 ppm Ag, 3 ppm Pb, 9 ppm Zn and 2 ppm As.

Weakly metamorphosed epidote, calcite, quartz, skarn float (sample 19903) from central-eastern Cow 3 returned 0.1 ppm Ag, 1 ppm Cu, 3 ppm Pb, 24 ppm Zn and 57 ppm As. A boron content of 12,522 ppm indicates the probable presence of accessory tourmaline. A concentration of 8 ppm W probably supports the contact metamorphic nature of this rock.

Float of an olive green to black, hematitic epidote schist collected from northwest-central Cow 3, on a talus slope returned 0.1 ppm Ag, 7 ppm Cu, 6 ppm Pb, 57 ppm Zn and 6 ppm As.

5.2.6 Lithogeochemistry Conclusions

Mineralization on the property consists of local finely disseminated pyrite and minor chalcopyrite and pyrrhotite mainly within 'hornfelsed' mafic volcanic rock near the Island Intrusions contact. The best lithogeochemical results returned include: 457 ppm Cu from a mafic volcanic flow(?) unit and 210 ppm Cu from a moderately siliceous tuff which also returned 0.4 ppm Ag, 4.5 ppm Cd and 156 ppm Zn. An iron-oxide stained tuff returned 70 ppm As and 217 ppm Cr from a 'hornfelsed volcanic' rock near the contact with Island Intrusions. Float samples yielded 21 ppm Pb from basalt in a stream bed, and 234 ppm Cr from quartz vein float.

5.3 Silt Sampling

Sixty-three silt samples in total were collected from streams over the Meade Group, mainly in the southeastern portion of the property. The fine sand to silt fraction with as little coarse and organic material as possible was collected in most cases. Silt samplers took note of texture, flow direction and velocity of the stream and type of rocks and boulders found nearby. Silt samples were analyzed for Au (AA) and 30-element (ICP); certificates of analysis are included in Appendix IV. Silt sample numbers for those collected in November 1986 correspond to the initials of the sampler, the date of the traverse and the sample number for that date. (e.g. A-N 24 SILT #1 represents the first sample collected on November 24 by Gordon Allen.) For silts collected in February 1987, numerical sample tags were used. The Figure 5 map shows the 1987 silt sample locations designated as an open circle with a dot and an arrow indicating direction of stream flow. Previous silt samples with anomalous results are designated by a solid circle.

Silt sampling was designed to confirm anomalous results obtained from 1986 assessment work, which outlined two major areas of interest. Nine of eleven samples collected in the southeast Cow 4 area returned barium concentrations in the 260 to 500 ppm range. The other two samples returned up to 3.8 ppm Ag, 306 ppm Pb and 490 ppm Zn. In the southwest corner of Cow 4, west of Meade Creek, two of the streams draining the northwest trending ridge in the Cow 3 and Cow 4 claims, returned gold concentrations of 50 and 100 ppb. Two silt samples collected from Meade Creek in the Cow 3 claim returned 80 ppb Au, 410 ppm As and 60 ppb Au, 210 ppm As. Downstream a 490 ppm As concentration was returned.

Silt samples collected and analyzed this year returned only background levels of 5 ppb Au. Ag, Cu, Pb and Zn concentrations are also fairly low with ranges as follows: 0.1 to 1.0 ppm Ag, 14 to 168 ppm Cu, 2 to 27 ppm Pb, 26 to 146 ppm Zn, and 2 to 40 ppm As. Generally high concentrations of Mn, Ba, and Cr were returned however, with ranges from 313 to 1860 ppm Mn, 39 to 1020 ppm Ba, and 74 to 477 ppm Cr.

Silt samples collected from a stream just east of the property boundary returned elevated Ba concentrations up to 1020 ppm which appear to generally increase upstream. Sample A-N-24-8 in addition to 1020 ppm Ba, returned 1345 ppm Mn. Sample A-N-24-7 about 100 m downstream, returned concentrations of 330 ppm Ba and 316 ppm Cr. The contact between Island Intrusive granodiorite and Nitinat Formation mafic volcaniclastic rocks has been mapped in this area. Downstream to the south, Ba concentrations of 520 ppm and 370 ppm were returned.

Two concentrations of 400 ppm Ba were returned from small streams approximately 100 m west of Oliver Creek in the southeast corner of the Cow 4 claim. Elevated Zn concentrations of 140 ppm and 146 ppm were returned from the next major creek to the west of Oliver Creek.

Samples from the next creek approximately 125 m to the west, returned up to 477 ppm Cr and 390 ppm Ba. All four silts collected from this creek returned anomalous Cr concentrations and two of the samples returned anomalous Ba concentrations. In general, these concentrations of Ba and Cr increase upstream, toward the contact area between intrusive and Nitinat Formation volcanics.

Southwest-flowing streams draining slopes underlain by intrusives in the western Cow 4 claim area previously returned elevated to anomalous Ba concentrations. These anomalous results were not confirmed by sampling done this year, however. Silt samples collected from a southeast-flowing creek draining intrusive rocks returned elevated to anomalous Mn up to 1685 ppm. The higher Ba concentrations may be due, at least in part, to the fact that intrusive rocks contain higher background concentrations of barium.

Creeks draining into Meade Creek resampled in the area of the Stan A and Stan B claims which had previously returned anomalous gold, returned only background concentrations this year. Manganese concentrations of 1460 ppm and 1860 ppm were returned from GRN-27-51 and GRN-27-S-5 respectively. Sample GRN-27-S2 from a creek to the northwest on the east Cow 3 claim returned concentrations of 40 ppm As, 370 ppm Cr, 1565 ppm Mn and 174 ppm Sr.

In the central to northwest Cow 3 and eastern Cow 2 claim, southwest flowing creeks draining the contact area between Island Intrusive rocks and Nitinat Formation volcanic rocks returned up to 421 ppm Cr, 335 ppm Ba, 1371 ppm Mn, 109 ppm Zn, and 47 ppm Ni.

Highlights from the Cow 1 claim area, which is underlain by volcaniclastic units and mafic flow(?) units of the Nitinat Formation, include samples from various south-flowing creeks which returned up to 1507 ppm Mn, 168 ppm Cu, and 1.0 ppm Ag.

Anomalous Mn, Ba, minor Cr and one anomalous Ag concentration has been returned from silt samples collected this year. Distinctive trends or associations are not discernable; however, generally elevated and anomalous Ba concentrations occur in streams in the southeastern Cow 4 claim area, and locally in the northwestern Cow 3 claim area. Manganese concentrations are generally high throughout the Meade property. Areas to be followed up are those with elevated Ba concentrations in the southeast Cow 4 claim area. Barium sulphate is commonly associated with massive-sulphide deposits forming on the modern ocean floor. Also the area of the southeast Cow 1 claim which returned the 1.0 ppm Ag concentration should be resampled and prospected.

Previously, anomalous gold has been found especially in the southern Cow 3 and Cow 4 claims. Minor amounts of gold have also been returned from placer mining operations along Meade Creek. We suggest that a sampling technique which involves panning a sample of coarser material will provide a more accurate picture of the amount and extent of gold in the Meade Creek area.

6.0 CONCLUSIONS

1. The Meade property is underlain by a northwest striking sequence of predominantly mafic volcaniclastics and possible flows of the Nitinat Formation of the Lower Sicker Group. These are intruded by a northwesterly elongate body of Jurassic Island Intrusions in the northern portions of the Cow 3 and Cow 4 claims.

2. Cherty tuff of the Myra Formation (McLaughlin Ridge Formation) has been mapped in the northeast corner of the property.

3. Mineralization on the property consists of local disseminated pyrite, and very minor local chalcopyrite. Rock samples collected this year did not return gold concentrations above the detection limit of 5 ppb. Best lithogeochemical results include 457 ppm Cu from a basaltic flow(?) unit; 21 ppm Pb, and 210 ppm Cu from a grey moderately siliceous tuff which also returned 156 ppm Zn, 0.4 ppm Ag, and 4.5 ppm Cd; 21 ppm Pb from basaltic float in a stream bed; 70 ppm As from an iron-oxide stained tuff, 234 ppm Cr from quartz float, and 217 ppm Cr from a 'hornfelsed' mafic volcanic rock near the contact with Island Intrusions. Silver concentrations exceeding 0.4 ppm were not returned.

4. Quartz veins described as 'barren white' as well as chert(?) beds sampled this year do not appear to contain significant mineralization.

5. From 63 silt samples collected from streams draining the Meade property, the highest concentrations returned are as follows: 1.0 ppm Ag, 168 ppm Cu, 27 ppm Pb, 146 ppm Zn, 40 ppm As, 1860 ppm Mn, 1020 ppm Ba and 477 ppm Cr. Gold concentrations exceeding the detection limit of 5 ppb were not returned.

6. The southern Cow 4 area is interesting due to anomalous gold returned from previous work, consistently high Ba concentrations, and elevated Mn concentrations.

7. Further work is recommended to fulfill assessment requirements and to follow up previous anomalous results.

7.0 RECOMMENDATIONS

1. Detailed geological mapping at a scale of 1:2500 over selected portions of the property to clearly define contact areas and structures. Specifically, mapping in the contact between the Myra Formation and the underlying Nitinat Formation in the Cow 3 and Cow 4 claims is warranted, as the lower Myra Formation can be a favourable host to massive sulphide deposits.

2. Stream sediment sampling (heavy mineral concentrate from panning) up Meade Creek and the two adjacent major southerly flowing creeks to determine the extent of anomalous gold values up these creeks. Samples are to be analyzed geochemically for Au and by 30-element ICP.

3. Soil sampling (B-horizon) grids to be set up on either side of Meade Creek adjacent to areas returning anomalous gold concentrations from the heavy mineral sampling.

4. Prospecting in conjunction with mapping and soil sampling for the source of anomalous gold, silver, barite and manganese found through silt and rock sampling during this and previous programs.

5. Phase I work is recommended upon completion of the following outlined preliminary program to include detailed geological mapping, soil sampling and possibly geophysical surveys, at an estimated cost of $25,000.

Respectfully submitted,

MPH Consulting Limited

B.Y. Thomae

B.Y. Thomae, B.Sc.

Gordon J. Allen

June 3, 1987

G.J. Allen, P.Geol.

8.0 RECOMMENDED WORK PROGRAM

The following exploration program is recommended to provide additional follow-up targets as well as to fulfill assessment requirements. Contingent upon favourable results from this work, Phases I and II outlined in the previous assessment report (Neale and Hawkins, 1986) are recommended.

8.1 Plan

In consideration of the fact that conventional silt sampling has been largely ineffective in confirming anomalous gold concentrations in an area of known placer gold, it is proposed that future sampling of the creeks involve panning of coarser samples. In particular, Meade Creek and other major south flowing creeks in the Cow 3 and Cow 4 claims should be sampled in this fashion at 50 m intervals.

Results of such a survey may outline areas anomalous in gold, which could then be followed up by soil sampling adjacent to the creek, in conjunction with mapping and prospecting, for structurally controlled gold and/or sedimentary exhalative mineralization.

Detailed geological mapping (1:2500) may reveal that some of the bedded tuffs are actually part of the lower McLaughlin Ridge (Myra) Formation. The contact between the McLaughlin Ridge (Myra) and Nitinat Formations is important as it can be a favourable host for stratiform massive sulphide deposition.

The presence of elevated Ba concentrations in the south and east parts of the Cow 4 claim, strongly suggest the possibility of volcanogenic activity, as barium sulphate is closely associated with massive sulphide deposits forming on the modern ocean floor.

8.2 Budget

Field Costs

Personnel:			
Geologist	7 days @ $350	$2,450.00	
Geological Assistant (Soil Sampler)	7 days @ 250	1,750.00	$ 4,200.00
Support Costs:			
Food and Accommodation	12 mandays @ 45	$ 540.00	
Four Wheel Drive Truck	7 days @ 110	770.00	
Miscellaneous		150.00	1,460.00
Analyses:			
25 rocks @ $12.75 (Au, ICP)		$ 318.75	
120 soils @ $10.60 (Au, ICP)		1,272.00	
50 silts @ $12.00		600.00	2,190.75
Field Work Subtotal			**7,850.75**
Consulting/Supervision	1.5 days @ $500		750.00
Report Costs:			
Geologist	4 days @ $350	$1,400.00	
Drafting	10 hours @ 20	200.00	
Materials, Typing, Copying		600.00	2,200.00
Administration @ 15% (on $3,850)			577.60
			11,378.35
Contingency @ 15%			1,706.75
			$13,085.10
		say	**$13,000.00**

8.3 Schedule

The outlined exploration program is estimated to require approximately two weeks to complete.

CERTIFICATE

I, Barbara Y. Thomae do hereby certify:

1. That I am a graduate in geology of the University of British Columbia (B.Sc., 1983).

2. That I have practised as a geologist in exploration for the past seven years.

3. That the opinions, conclusions, and recommendations contained herein are based on field work carried out by MPH Consulting Limited staff members and myself over this and previous years.

4. That I own no direct, indirect, or contingent interest in the area, the subject property, or shares or securities of International Cherokee Developments Limited or associated companies.

B.Y. Thomae

B.Y. Thomae, B.Sc.

Vancouver, B.C.
June 3, 1987

CERTIFICATE

I, Gordon J. Allen, do hereby certify that:

1. I am a graduate in geology of the University of British Columbia (B.Sc. 1975).

2. I have practised as a geologist in exploration for twelve years.

3. I am a member in good standing of the Association of Professional Engineers, Geologists and Geophysicists of Alberta.

4. Opinions, conclusions, and recommendations contained herein are based on field work carried out by myself and other MPH Consulting Limited personnel between November 1986 and February 1987 and in previous years.

5. I own no direct, indirect, or contingent interests in the subject property, or shares or securities of International Cherokee Developments Limited or associated companies.

Gordon J. Allen

Gordon J. Allen, P.Geol.

Vancouver, B.C.
June 3, 1987

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Appendix I

LIST OF PERSONNEL

and

STATEMENT OF EXPENDITURES

Appendix II

ROCK SAMPLE DESCRIPTIONS

and

LITHOGEOCHEMICAL RESULTS

MEADE PROPERTY
ROCK SAMPLE DESCRIPTIONS

Sample Number	Description	Cu ppm	Pb ppm	Zn ppm	As ppm	Other ppm
Sample:	14803	102	8	30	10	
Location:	North of Cow 4; outcrop (grab)					
Rock Name:	Tuff					
Description:	Feldspar, pyroxene crystal tuff. Dark grey with plagioclase? and augite crystals. Pyrite and possible chalcopyrite.					
Sample:	14804	158	6	64	70	0.4 Ag
Location:	North of Cow 4; outcrop (grab)					
Rock Name:	Tuff?					
Description:	Rusty brown. No visible sulphides but weathered surfaces are heavily iron-oxide stained.					
Sample:	14851	457	10	70	20	
Location:	Central southeastern Cow 4; outcrop (grab)					
Rock Name:	Basaltic flow?					
Description:	Augite, feldspar porphyry, brecciated, contains large phenocrysts of augite 2-6 mm, with smaller phenocrysts of plagioclase 1-3 mm, in a fine-grained dark grey-green groundmass. Weak epidote, sericite alteration. Fe-oxide staining.					
Sample:	15001	210	4	156	15	0.4 Ag
Location:	Eastern central Cow 3;					4.5 Cd
	chip sample over 2.5 m outcrop					120 Cr
Rock Name:	Tuff					
Description:	Grey, moderately siliceous, with approximately 2% pyrrhotite. Sample collected from along contact with diabasic dyke.					
Sample:	15002	88	20	60	20	0.4 Ag
Location:	Eastern central Cow 3; outcrop					2960 P
Rock Name:	Tuff??					
Description:	Light grey to dark grey, siliceous, trace (one speck) chalcopyrite observed.					

Sample Number	Description	Cu ppm	Pb ppm	Zn ppm	As ppm	Other ppm
Sample:	15003	73	6	34	95	
Location:	Eastern central Cow 3; float					
Rock Name:	Siliceous tuff					
Description:	Dark grey with approximately 2% pyrite.					
Sample:	19901	16	3	6	2	234 Cr
Location:	East central Cow 3; float					
Rock Name:	Quartz vein					
Description:	White, massive, slightly rust stained					
Sample:	19902	49	3	46	5	
Location:	Central eastern Cow 3; float					
Rock Name:	Chert					
Description:	Grey, aphanitic, weathered. Evidence of weathered-out carbonate, minor Fe-Mg oxide staining.					
Sample:	19903	1	3	24	57	12,522 B
Location:	Central eastern Cow 3; float					
Rock Name:	Epidote, Quartz, Calcite Skarn					
Description:	Weakly metamorphosed? olive green skarn. Results indicate the possible presence of accessory tourmaline.					
Sample:	19904	17	9	66	8	881 Mn
Location:	Central eastern Cow 3; outcrop (grab)					
Rock Name:	Volcanic					
Description:	Chlorite altered, fine-grained, moderately siliceous volcanic (olive to medium green).					
Sample:	19905	56	4	16	2	
Location:	Central eastern Cow 3; outcrop (grab)					
Rock Name:	Quartz vein					
Description:	In altered volcanic, 4 cm width. Volcanic is medium grey green, aphanitic, somewhat siliceous, slightly chlorite and epidote-altered.					
Sample:	19908	5	3	9	2	
Location:	Central to northwest Cow 3; outcrop (grab)					
Rock Name:	Granodiorite					
Description:	White-brown, coarse-grained (up to 3 mm) 'altered'? weathered with abundant iron-oxides. Taken near the contact with volcanic rocks (Nitinat Formation?)					

Sample Number	Description	Cu ppm	Pb ppm	Zn ppm	As ppm	Other ppm
Sample:	19909	35	2	65	4	217 Cr
Location:	Central to northwest Cow 3; outcrop (grab)					
Rock Name:	Volcanic					
Description:	Dark grey-green to purple (skarn-like rock) 1 mm calcite veins present. Slightly chlorite and hematite altered. Taken near granodiorite contact.					
Sample:	19911	32	21	37	15	
Location:	Central to western Cow 3; float in stream					
Rock Name:	Basalt					
Description:	Fine-grained, dark grey to black, slightly siliceous. Iron oxide staining on weathered surface.					
Sample:	19912	43	2	16	2	
Location:	North central and eastern central Cow 3; float - composite sample.					
Rock Name:	Quartz					
Description:	Probably from vein, white, massive.					
Sample:	19919	61	7	65	55	
Location:	East Cow 2					
Rock Name:	Cherty Siltstone (Tuff?)					
Description:	Dark grey to light brown, thinly laminated cherty siltstone (tuff?) cut by 2-3 mm limonitic, vuggy quartz stringers. Trace of pyrite on fractures and on slickensided shear surfaces. Fe-oxide staining abundant.					
Sample:	19953	23	5	28	2	
Location:	Southeastern Cow 1; float					
Rock Name:	Quartz-epidote vein					
Description:	Green/white, (veins to 10 cm width). Barren white "bull quartz" with coarse-grained epidote along vein selvages and in core.					
Sample:	19954	173	7	35	2	
Location:	Central eastern Cow 4; outcrop (grab)					
Rock Name:	Pyroxene-rich lapilli tuff					
Description:	Dark green with lapilli-sized fragments (to 4 cm), less than 1% disseminated pyrite.					

Sample Number	Description	Cu ppm	Pb ppm	Zn ppm	As ppm	Other ppm
Sample:	19955	9	2	21	2	
Location:	Central eastern Cow 1; float					
Rock Name:	Quartz-epidote vein					
Description:	White/green; (as 19953) 1% hematite.					
Sample:	19957	36	7	64	32	
Location:	West-north central Cow 3; float					
Rock Name:	Tuff					
Description:	Dark grey to black (basaltic?), very fine-grained with trace disseminated pyrite and moderate iron-oxide staining.					
Sample:	19960	28	2	3	2	0.3 Ag
Location:	Western-north central Cow 3; outcrop					
Rock Name:	Quartz vein					
Description:	White, barren, 15 cm wide, crosscuts siliceous, green fine-grained tuff. Vein trends approximately east-west with near vertical to northerly dip.					
Sample:	19963	146	2	73	2	
Location:	Western-north central Cow 3; float from talus of above outcrop.					
Rock Name:	Tuff					
Description:	Hematitic? dark grey-green, strongly chlorite-altered epidote and hematite alteration, weakly schistose fine-grained pyroclastic? possibly basalt.					
Sample:	19964	7	6	57	6	
Location:	West-north central Cow 3; float (from talus)					
Rock Name:	Hematitic epidote schist					
Description:	Olive-green and dark-grey to black, very altered, schist.					
Sample:	19965	33	5	56	2	695 Mn
Location:	West north central Cow 3; float (from talus)					
Rock Name:	Lapilli tuff					
Description:	Olive to medium green moderately epidote-altered, sericite and chlorite-altered, sheared. Iron and manganese-oxide staining on weathered surface.					

Sample Number	Description	Cu ppm	Pb ppm	Zn ppm	As ppm	Other ppm
Sample:	19966	33	10	95	7	
Location:	West north central Cow 3; float (from talus)					
Rock Name:	Mafic lapilli tuff					
Description:	Medium to dark green, moderately chlorite and epidote altered, siliceous lapilli tuff. Trace of fine-grained disseminated pyrite.					
Sample:	19967	40	3	104	5	
Location:	Northwestern Cow 3; float (from talus)					
Rock Name:	Mafic Tuff					
Description:	Medium to dark green-grey slightly hematitic and epidote-altered tuff.					
Sample:	19969	5	2	4	2	
Location:	East central Cow 1; float					
Rock Name:	Bull quartz/Epidote vein					
Description:	Milky white and olive green. Vein of pure white milky quartz with abundant olive green epidote. Minor local hematite.					
Sample:	19970	49	6	60	2	
Location:	East central Cow 1; outcrop					
Rock Name:	Cherty laminated tuff					
Description:	Rusty green grey, well bedded, within unit of light green to black cherty argillite. Evidence of slatey cleavage.					
Sample:	19971	55	7	69	5	
Location:	Northeast Cow 1					
Rock Name:	Basalt					
Description:	Aphyric, dark green, locally vesicular, slightly iron-stained, crosscut by local diabasic veinlets.					

Appendix III

HAND SPECIMEN DESCRIPTIONS

Sample Number	Description
Sample:	N-23-1
Rock Name:	Slightly altered tonalite
Description:	Medium-grained plutonic rock (Island Intrusion). Grain size is 2 to 5 mm. Quartz approximately 30%, plagioclase approximately 50%, chlorite approximately 10%. The original mafic minerals are altered to chlorite. Sericite is also visible.
Sample:	N-23-2
Rock Name:	Slightly altered tonalite
Description:	Light greyish-green, medium-grained plutonic (Island Intrusion). Grain size varies from 2 to 6 mm. Quartz approximately 20%, plagioclase approximately 40%, hornblende approximately 20%, biotite approximately 5%, muscovite approximately 5% (or sericite?), chlorite approximately 5%. Hornblende phenocrysts are generally larger than the other minerals.
Sample:	N-23-3
Rock Name:	Hornfelsic(?) rock
Description:	Grey-green colour. Fragments less than 1 mm long, frequently altered to chlorite. Bands of siliceous material 2 cm wide are common. Abundant sericite and/or muscovite visible.
Sample:	N-23-4
Rock Name:	Chert?
Description:	Pinkish-buff, fine-grained rock. Cherty appearance with very fine-grained sulphides which about 2% of rock. Remainder of constituents very difficult to identify due to fine-grain size. Minor iron and chlorite staining.
Sample:	N-23-5
Rock Name:	Chert?
Description:	Rock is very similar to N-23-3, though, slightly coarser grained.
Sample:	N-23-6
Rock Name:	Porphyritic volcanic; Flow breccia?
Description:	Porphyritic volcanic, dark green phenocrysts in a greyish-green groundmass. Phenocrysts range from 1 to 7 mm long and appear to be hornblende. Rock may be a flow breccia.

Sample Number	Description

Sample: N-23-7
Rock Name: Andesitic? tuff

Description: Very fine-grained greyish-green, vesicular?, up to 3% visible sulphides. Dark green clasts are common perhaps indicating a pyroclastic rock.

Sample: N-23-8
Rock Name: Tuff(?)

Description: Dark green to black, fine-grained, somewhat vesicular, sulphides locally abundant. Phenocrysts approximately 1 mm long, predominantly mafic phenocrysts (chlorite-altered).

Sample: N-23-9
Rock Name: Tuff?

Description: Grain size is uniform (1 to 2 mm). Apparently composed of approximately 30% mafic minerals, 50% feldspar (with quartz(?)) and 20% chlorite and sericite-altered minerals.

Sample: N-23-10
Rock Name: Andesite or basalt

Description: Fine-grained, dark green volcanic, amphibole and chlorite compose about 50% of rock. Grain size is 1 mm or less. Pyroxene may be present.

Sample: N-23-11
Rock Name: Lapilli tuff?

Description: Fragments of volcanic material in a green, fine-grained matrix. The fragments are 1 to 6 mm. Slightly vesicular.

Sample: N-23-12
Rock Name: Andesitic? Dyke

Description: Rock is greenish in colour and slightly amygdaloidal.

Sample: N-23-13
Rock Name: Chert

Description: Dark grey chert, very hard, aphanitic. May originally have been a siltstone and/or cherty tuff(?).

Sample: N-23-14
Rock Name: Chert?

Description: Very siliceous, grey bands of various tints.

Sample Number	Description

Sample: RN-24-1
Rock Name: Tonalite, (Island Intrusion)

Description: Massive granitic texture without foliation. Felsic with colour index 15-20. Quartz up to 20%, feldspars are probably plagioclase which classifies the rock as a tonalite. Hornblende is the dominant mafic mineral composing about 15%. Minor chlorite and trace sulphides. Rock is medium-grained (grain sizes range from 2 to 6 mm).

Sample: RN-24-3
Rock Name: Crystal tuff

Description: Fragments are embedded in a greyish-green crystalline matrix which appears to have a dacitic composition. Slightly chlorite-altered and siliceous. Most fragments are 1 mm or less, and quite angular. Evidence of flow banding.

Sample: RN-24-4
Rock Name: Crystal tuff

Description: Micro-vesicular? Matrix appears quite fragmental, and clasts are approximately 1 mm. Alteration is evident along fractures. Traces of malachite and chalcopyrite (fracture related?).

Sample: RN-24-5
Rock Name: Granodiorite? (Island Intrusion)

Description: Grain size and texture very similar to RN-24-1. Possible minor biotite and K-feldspar. Trace sulphides, quartz up to 25 to 30% of rock.

Sample: RN-24-6
Rock Name: Felsic granodiorite? (very similar to RN-24-5)

Description: Colour index of less than 15.

Sample: RN-24-7
Rock Name: Tuffaceous volcanic

Description: Slightly iron-stained and chlorite-altered.

Sample: RN-24-8
Rock Name: Lapilli tuff

Description: Lapilli-sized fragments clearly visible in a light greyish-green dacitic? matrix. Fragments range from 1 mm to 1 cm.

Sample Number	Description
Sample:	RN-27-1
Rock Name:	Basaltic tuff (Nitinat Formation?)
Description:	Dark green, fine-grained, aphanitic groundmass, with small fragments (1-2 mm). Trace sulphides.
Sample:	RN-27-2
Rock Name:	Basaltic tuff
Description:	Similar to RN-27-1. Fragments are a bit larger and more abundant. Minor flow-banding.
Sample:	RN-27-3
Rock Name:	Basaltic tuff
Description:	Virtually identical to RN-27-2.
Sample:	RN-27-4
Rock Name:	Altered igneous intrusive(?)
Description:	Contact between aphanitic dacite (judging by grey-green colour) and a moderately altered igneous intrusive(?). The latter contains abundant epidote and chlorite; augite and plagioclase compose the remainder of the groundmass.
Sample:	RN-27-5
Rock Name:	Augite-feldspar porphyry
Description:	Augite phenocrysts (2-5 mm) compose about 30% of rock. Slightly smaller plagioclase phenocrysts compose about 15%. Both phases are within a fine-grained greyish-green groundmass.
Sample:	RN-27-6
Rock Name:	Augite-feldspar porphyry
Description:	Very similar to RN-27-5 but phenocrysts are somewhat smaller. Minor epidote and secondary silica.
Sample:	RN-27-7
Rock Name:	Banded chert? (Myra Formation?)
Description:	Light to dark grey. Quite heavily fractured. Iron-oxides are contained within 'seams'.
Sample:	RN-27-8
Rock Name:	Porphyry
Description:	Contact between igneous intrusive, and felsic (light-coloured) feldspar porphyry. Porphyry is very light grey-green with feldspar phenocrysts (1 to 3 mm). Igneous intrusive is fine to medium-grained with minor visible garnet?

Sample Number	**Description**
Sample:	RN-28-1
Rock Name:	Augite porphyry
Description:	Augite phenocrysts measure approximately 2-7 mm and compose about 35% of rock. Epidote alteration prevalent. Rock is somewhat vesicular.
Sample:	RN-28-2
Rock Name:	Augite porphyry
Description:	Similar to RN-28-1. Phenocrysts are of similar size but judging by their light green colour, may be diopsidic or uralitic in composition.
Sample:	RN-28-3
Rock Name:	Lapilli tuff
Description:	Dark greyish-green. Fragments of volcanic material 1-5 mm.
Sample:	RN-28-4
Rock Name:	Tonalite?
Description:	Colour index approximately 20. Grain size 2-4 mm. (Island Intrusive)
Sample:	RN-28-5
Rock Name:	Island Intrusive Tonalite?
Description:	Virtually identical to RN-28-4.
Sample:	RN-28-6
Rock Name:	Banded tuff.
Description:	Abundant volcanic rock fragments, 1-2 mm, in a buff to light green coloured aphanitic matrix. Bands are quite irregular, approximately 1-3 cm wide. Up to 2% pyrite (specks).
Sample:	RN-28-7
Rock Name:	Pyroclastic breccia
Description:	Angular, irregular fragments of dark volcanic rock, 1-12 mm, in a greyish green aphanitic vesicular groundmass.
Sample:	RN-29-1
Rock Name:	Island Intrusive epidote
Description:	Slightly altered Island Intrusive. Epidote composes about 15%. Fine-grained, 1-4 mm phenocrysts. Colour index approximately 20.

Sample Number	**Description**
Sample:	RN-29-2
Rock Name:	Diorite
Description:	Relatively mafic Island Intrusive. Colour index approximately 40. Hornblende abundant, quartz rare, slightly chlorite-altered diorite.
Sample:	RN-29-3
Rock Name:	Pyroxene porphyry
Description:	Rock is somewhat vesicular with phenocrysts of light green pyroxene (enstatite?) 3-8 mm within aphanitic grey-green groundmass.
Sample:	RN-29-4
Rock Name:	Vesicular andesite
Description:	Except for lack of pyroxene phenocrysts, is almost identical to RN-29-3.
Sample:	RN-29-5
Rock Name:	Cataclastic breccia
Description:	Very large irregular fragments of mainly volcanic rock (1-30 cm) in a soft matrix.
Sample:	N-24-1(a)
Rock Name:	Gabbro/Tuff
Description:	Inhomogeneous. Part (rounded 4 cm+) fine-grained crystalline hornblende gabbro. Colour index approximately 50+. Other part has a fine-grained crystalline chloritic groundmass with approximately 20% anhedral green-grey feldspar crystal fragments(?). Could be a hornfelsed mafic tuff.
Sample:	N-24-1(b)
Rock Name:	Gabbro? Tuff? (recrystallized)
Description:	Much as second part of description above. Fine-grained dark green-grey groundmass with approximately 15-20% less than 1 to 1 mm anhedral chloritic mafic crystals (hornblende? pyroxene?) and approximately 20% clusters of white feldspar crystals to 3 mm. (Has a sub-intrusive texture).

Sample Number	Description

Sample: N-24-2
Rock Name: Mafic crystal tuff? Pyroxene porphyry?

Description: Highly siliceous fine-grained medium green-grey groundmass with approximately 15-20% anhedral mafic crystals (pyroxene?) to 1 mm. Rock is highly fractured. Could be mafic crystal tuff or fractured pyroxene porphyry.

Sample: N-24-3
Rock Name: Lapilli crystal tuff

Description: Inhomogeneous, fine-grained portions. Dark green-grey, fine-grained chloritic siliceous groundmass with irregular rounded to subangular, dark green, feldspar crystal fragments less than 0.5 mm (approximately 30%) fine-grained crystal tuff.

Sample: N-24-4
Rock Name: Diorite

Description: Coarse-grained plutonic hornblende crystals to 1 cm, average approximately 2 mm, colour index approximately 40. Rest of rock white feldspar. No quartz apparent.

Sample: N-24-5
Rock Name: Lapilli? tuff

Description: Fine-grained, epidotitic, siliceous light green-grey groundmass with approximately 20% fine-grained masses of epidote(?) epidote green to amber coloured. Approximately 15% fine-grained chloritic masses. Subangular, chlorite rich, fine-grained patches to 1 cm (could be lapilli fragments). One fine-grained green-grey siliceous band to 1 cm with fine-grained clastic texture. Fine-grained, sand-sized particles.

Sample: N-24-6
Rock Name: Recrystallized tuff?

Description: Banded. Several different textured layers.
- Fine-grained siliceous medium grey groundmass with approximately 30% very fine-grained chloritic specks. Dark grey-green overall colour.
- As above but coarser grained. Mafics as recognizable crystals.
- Medium-grained mafic crystals to 2 mm (stubby). Pyroxene? approximately 60%+ mafics across 3 mm width.
- Dark green-grey, moderately siliceous chloritic layer. Fine-grained black specks approximately 5-10%.

Sample Number	Description
Sample:	N-24-7(a)
Rock Name:	Gabbro? recrystallized tuff?
Description:	Inhomogeneous. Part appears to be medium-grained plutonic with intergrowth of lath-shaped subhedral chloritic mafic crystals (approximately 50%) and light green-grey feldspar. Other part is a fine-grained mass of chlorite and feldspar. Probably same composition throughout.
Sample:	N-24-7(b)
Rock Name:	Gabbro
Description:	Fresh gabbro. Medium-grained plutonic. Colour index approximately 50, chloritized hornblende 50%, blue-grey feldspar.
Sample:	N-24-8
Rock Name:	Granodiorite
Description:	Intergrowth of approximately 20% quartz and 70% feldspar (subhedral to 1.5 mm). Chloritic masses approximately 10%. (Near contact).
Sample:	N-24-9
Rock Name:	Granodiorite
Description:	Medium-grained granodiorite, quartz approximately 15%+. Subhedral white feldspar crystals to 2 mm, average approximately 1 mm. Chloritic masses after biotite(?) up to 5 mm, approximately 15%.
Sample:	N-24-10
Rock Name:	Recrystallized tuff
Description:	Fine-grained dark green, chloritic, siliceous groundmass with approximately 15% irregular patches of white feldspar to 2 mm. Few large mafic crystals in larger areas of feldspar suggesting recrystallization. Some subrounded mafic clasts to 2 mm suggesting tuffaceous protolith.
Sample:	F-24-1
Rock Name:	Agglomerate (float)
Description:	Light greenish-grey siliceous fine-grained groundmass with 25% rounded quartz amygdules to 4 mm in vague clast 5 cm+. Hosted in feldspar crystal tuff with chloritic groundmass.

Sample Number	Description

Sample: F-24-2
Rock Name: Pyroxene crystal tuff to lapilli tuff (outcrop)

Description:
- Dark green to black subrounded to subangular pyroxene crystal fragments to 3 mm in a white siliceous groundmass. Pyroxene approximately 60%.
- A second piece contains approximately 15% porphyritic lithic fragments to 7 mm, pyroxene and feldspar crystal fragments in a light green siliceous to sericitic groundmass.

Sample: F-24-3
Rock Name: Lapilli tuff (float)

Description: Dark greenish grey feldspar porphyry, fragments average approximately 4 mm. Fragments appear to be flattened and cemented with calcite (approximately 20%). Rare lithic fragments to 2 cm.

Sample: F-24-4
Rock Name: Pyroxene crystal tuff (porphyry?) (outcrop)

Description: Black pyroxene crystals to 5 mm smeared out parallel to foliation (140/54 NE).

Sample: F-24-5
Rock Name: Pyroxene crystal tuff (outcrop)

Description: Dark green chloritic groundmass with 15% subangular dark green pyroxene and white to grey 1-2 mm subrounded feldspar crystal fragments.

Sample: F-24-6
Rock Name: Lapilli-crystal tuff (outcrop)

Description: Dark green chloritic groundmass with vague lithic fragments and pyroxene crystal fragments to 5 mm (average much less than 1 mm). Fragments flattened parallel to foliation - 145/35 NE. Higher up in outcrop lapilli tuff is interlayered with fine to medium-grained sandy tuff. Graded beds to 20 cm indicate tops are up (toward northwest). Bedding 074^{o} with moderate northwest dip.

Sample: F-24-7
Rock Name: Sandy tuff (float)

Description: Thinly laminated, fine-grained, dark green sandy to cherty tuff.

Sample: F-24-8
Rock Name: Sandy tuff (outcrop)

Description: Medium grey massive to poorly bedded, (074^{o}/52 NW) very fine-grained sandy tuff. Vague feldspar crystal fragments to 0.5 mm.

Sample Number	**Description**
Sample:	F-24-9
Rock Name:	Sandy tuff (outcrop)
Description:	As F24-8. Pyroxene crystal fragments elongated at 128°.
Sample:	F-24-10
Rock Name:	Lapilli tuff (outcrop)
Description:	Dark greenish-grey, foliated, moderately soft sericitic(?) groundmass with 15% black, subhedral to subangular pyroxene; crystal fragments and lithic fragments to 5 mm, 15-20% calcite cement.
Sample:	F-24-11
Rock Name:	Pyroxene feldspar crystal tuff (outcrop)
Description:	Dark green pyroxene and light greenish-grey feldspar crystal fragments to 2 mm (approximately 60%) in a fine-grained light greenish grey groundmass.
Sample:	F-24-12
Rock Name:	Pyroxene feldspar crystal tuff (outcrop)
Description:	Dark green, fine-grained granular siliceous groundmass with 30% subrounded to subhedral feldspar crystal fragments to 3 mm (average approximately 1 mm), 15% black, subangular pyroxene crystal fragments to 2 mm (average approximately 1 mm).
Sample:	F-24-13
Rock Name:	Sandy tuff
Description:	Thinly bedded to massive, fine- to medium-grained sandy tuff with 15% black pyroxene crystal fragments to 1 mm. 20%(+) vague feldspar crystal fragments to 1 mm.
Sample:	F-24-14
Rock Name:	Laminated cherty tuff
Description:	Light to dark grey, bands to 2 mm. Cherty with vague, fine-grained greenish grey crystal fragments.

Appendix IV

CERTIFICATES OF ANALYSIS

ROSSBACHER LABORATORY LTD.

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

CERTIFICATE OF ANALYSIS

TO : MPH CONSULTING LTD.
301-409 GRANVILLE STREET
VANCOUVER B.C.
PROJECT: V 219
TYPE OF ANALYSIS: GEOCHEMICAL

CERTIFICATE#: 87093
INVOICE#: 7486
DATE ENTERED: 87-02-27
FILE NAME: MPH87093
PAGE # : 1

PRE FIX	SAMPLE NAME	PPB Au
A	19901	5
A	19902	5
A	19903	5
A	19904	5
A	19905	5
L	19906	5
L	19907	5
A	19908	5
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L	19962	5
A	19963	5
A	19964	5
A	19965	5
A	19966	5
A	19967	5
L	19968	5

CERTIFIED BY : ______________________________

RECEIVED MAR 4 1987

ROSSBACHER LABORATORY LTD.

2225 S. SPRINGER AVENUE
BURNABY, B.C. V5B 3N1
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PRE FIX	SAMPLE NAME	PPB Au
A	19969	5
A	19970	5
A	19971	5
L	19972	5
L	19973	5
L	19974	5

CERTIFIED BY : ______________________________

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

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TO : MPH CONSULTING LTD.
301-409 GRANVILLE STREET
VANCOUVER B.C.
PROJECT: V219
TYPE OF ANALYSIS: GEOCHEMICAL

CERTIFICATE#: 86699
INVOICE#: 7288
DATE ENTERED: 86-12-12
FILE NAME: MPH86699
PAGE # : 1

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L	#3	5
L	#4	5
L	#5	5
L	#6	5
L	#7	5
L	A-N24SILT #8	5
L	GN24SILT 1	5
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L	3	5
L	4	5
L	5	5
L	GN24SILT 6	5
L	GRN27SILT 1	5
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L	18	5
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L	20	5
L	GRS 21	5
L	RN-24-1	5
L	2	5
L	3	5
L	RN-24-4	5
L	RN-27-1	5

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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.
301-409 GRANVILLE STREET
VANCOUVER B.C.
PROJECT: V219
TYPE OF ANALYSIS: GEOCHEMICAL

CERTIFICATE#: 86699
INVOICE#: 7288
DATE ENTERED: 86-12-12
FILE NAME: MPH86699
PAGE # : 2

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L	RN-29-1	5
L	RN-29-2	5
A	14903	5
A	14804	5
A	14851	5
A	15001	5
A	15002	5
A	15003	5

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CERTIFIED BY : [signature]

Chemex Labs Ltd.
Analytical Chemists • Geochemists • Registered Assayers
212 BROOKSBANK AVE., NORTH VANCOUVER, BRITISH COLUMBIA, CANADA V7J-2C1
PHONE (604) 984-0221

CERTIFICATE OF ANALYSIS A8621812

To : ROSSBACHER LABORATORY LIMITED

2225 SOUTH SPRINGER AVENUE
BURNABY, B.C.
V5B 3N1

Project : V219 RACK Y
Comments: ATTN: PETER ROSSBACHER

Page No. : 1-A
Tot. Pages: 2
Date : 23-DEC-86
Invoice # : I-8621812
P.O. # : NONE

SAMPLE DESCRIPTION	PREP CODE		Al %	Ag ppm	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %
A-N 24 SILT #1	221	—	2.62	< 0.2	25	400	0.5	< 2	1.90	< 0.5	12	74	43	2.35	< 10	0.07	20	0.70	1235	< 1	0.01
A-N 24 SILT #2	221	—	2.46	< 0.2	15	400	< 0.5	< 2	1.14	< 0.5	13	105	31	2.83	< 10	0.06	10	0.78	1095	< 1	0.01
A-N 24 SILT #3	221	—	2.09	< 0.2	15	240	< 0.5	< 2	0.77	< 0.5	16	121	48	3.45	< 10	0.14	10	1.06	735	< 1	0.02
A-N 24 SILT #4	221	—	2.38	< 0.2	15	410	< 0.5	< 2	1.22	< 0.5	15	103	51	3.25	< 10	0.15	20	1.03	933	< 1	0.02
A-N 24 SILT #5	221	—	1.84	< 0.2	10	370	< 0.5	< 2	1.21	< 0.5	12	235	26	2.43	< 10	0.08	20	0.69	783	< 1	0.01
A-N 24 SILT #6	221	—	1.98	< 0.2	15	520	0.5	< 2	1.71	< 0.5	11	155	27	2.54	< 10	0.11	20	0.59	1005	< 1	0.01
A-N 24 SILT #7	221	—	1.54	< 0.2	10	330	< 0.5	< 2	1.19	< 0.5	11	316	18	2.18	< 10	0.09	20	0.54	681	< 1	0.01
A-N 24 SILT #8	221	—	2.88	0.4	20	1020	1.5	< 2	1.83	< 0.5	13	94	37	2.87	10	0.13	90	0.78	1345	< 1	0.01
GN 24 SILT 1	221	—	2.82	< 0.2	15	400	0.5	< 2	0.99	< 0.5	14	124	25	2.80	< 10	0.09	20	0.83	995	< 1	0.01
GN 24 SILT 2	221	—	1.81	< 0.2	5	250	< 0.5	< 2	1.02	< 0.5	12	293	21	2.21	< 10	0.07	10	0.68	673	< 1	0.01
GN 24 SILT 3	221	—	1.83	< 0.2	15	110	0.5	< 2	0.77	< 0.5	15	145	28	1.98	< 10	0.04	20	0.57	1040	< 1	0.01
GN 24 SILT 4	221	—	1.17	< 0.2	15	170	< 0.5	< 2	2.34	< 0.5	6	46	29	1.08	< 10	0.04	10	0.34	654	< 1	0.02
GN 24 SILT 5	221	—	1.70	0.2	15	260	0.5	< 2	2.04	< 0.5	7	184	41	1.56	< 10	0.03	10	0.38	313	< 1	0.02
GN 24 SILT 6	221	—	2.23	0.2	10	360	0.5	< 2	2.58	< 0.5	8	49	84	1.40	10	0.07	10	0.40	546	< 1	0.03
GRN 27 SILT 1	221	—	2.55	0.2	15	120	0.5	< 2	1.38	< 0.5	14	129	41	2.26	< 10	0.06	20	0.73	1460	< 1	0.02
GRN 27 SILT 2	221	—	2.89	0.2	40	30	< 0.5	< 2	1.82	< 0.5	22	370	52	3.20	< 10	< 0.01	< 10	1.83	635	< 1	0.02
GRN 28 SILT 3	221	—	2.49	0.2	15	80	0.5	< 2	0.57	< 0.5	27	132	31	2.41	< 10	0.05	10	0.57	1565	< 1	0.01
GRN 28 SILT 4	221	—	1.63	< 0.2	10	50	0.5	< 2	0.92	< 0.5	16	215	19	2.00	< 10	0.03	10	0.61	710	< 1	0.02
GRN 28 SILT 5	221	—	1.90	0.2	10	70	1.0	< 2	0.91	< 0.5	19	234	30	2.14	< 10	0.05	20	0.64	1860	< 1	0.02
GRN 28 SILT 6	221	—	2.30	< 0.2	15	80	0.5	< 2	0.99	< 0.5	18	163	55	3.13	< 10	0.07	10	0.98	540	< 1	0.02
GRN 28 SILT 7	221	—	1.19	< 0.2	5	60	0.5	< 2	0.93	< 0.5	10	155	28	1.71	< 10	0.04	10	0.58	759	< 1	0.01
GRN 28 SILT 8	221	—	2.08	0.2	20	80	< 0.5	< 2	0.56	< 0.5	14	113	66	2.86	< 10	0.05	10	0.99	424	< 1	0.01
GRN 28 SILT 9	221	—	1.95	0.2	15	60	< 0.5	< 2	0.83	< 0.5	16	255	41	2.71	< 10	0.06	10	0.82	476	< 1	0.02
GRN 28 SILT 10	221	—	2.73	< 0.2	20	120	< 0.5	< 2	0.84	< 0.5	17	154	61	3.85	< 10	0.11	10	1.23	662	< 1	0.02
GRN 28 SILT 11	221	—	2.41	< 0.2	15	80	< 0.5	< 2	1.04	< 0.5	18	200	55	3.31	< 10	0.08	10	1.24	633	< 1	0.02
GRN 28 SILT 12	221	—	2.43	0.2	15	170	0.5	< 2	0.96	< 0.5	14	141	32	3.14	< 10	0.08	20	0.82	1130	< 1	0.02
GRN 28 SILT 13	221	—	2.28	< 0.2	15	170	< 0.5	< 2	1.10	< 0.5	14	231	30	2.61	< 10	0.16	10	0.94	600	< 1	0.02
GRN 28 SILT 14	221	—	1.71	< 0.2	5	90	1.0	< 2	0.80	< 0.5	12	247	20	1.94	< 10	0.07	30	0.47	1300	< 1	0.02
GRN 28 SILT 15	221	—	2.37	0.2	10	140	1.0	< 2	0.73	< 0.5	17	86	33	2.38	< 10	0.07	40	0.55	1685	< 1	0.01
GRS 16	221	—	2.60	0.2	15	190	< 0.5	< 2	1.27	< 0.5	15	270	32	2.96	10	0.18	20	1.03	689	< 1	0.02
GRS 17	221	—	2.36	< 0.2	10	210	< 0.5	< 2	1.08	< 0.5	14	187	33	2.76	< 10	0.15	10	1.00	632	< 1	0.02
GRS 18	221	—	2.39	< 0.2	10	220	< 0.5	< 2	1.36	< 0.5	13	137	41	2.31	< 10	0.12	10	0.86	661	< 1	0.01
GRS 19	221	—	2.52	< 0.2	20	150	< 0.5	< 2	0.97	< 0.5	17	217	45	3.31	< 10	0.17	10	1.19	685	< 1	0.02
GRS 20	221	—	1.98	< 0.2	10	340	1.0	< 2	1.42	< 0.5	8	121	19	1.53	< 10	0.14	40	0.43	766	< 1	0.01
GRS 21	221	—	2.68	< 0.2	20	190	0.5	< 2	1.33	< 0.5	17	201	51	3.05	< 10	0.12	20	1.12	829	< 1	0.02
RN-24-1	221	—	1.64	< 0.2	10	150	< 0.5	< 2	0.84	< 0.5	12	345	18	2.37	< 10	0.07	10	0.74	458	< 1	0.02
RN-24-2	221	—	1.86	< 0.2	5	230	< 0.5	< 2	1.03	< 0.5	13	419	20	2.32	< 10	0.07	10	0.78	444	< 1	0.02
RN-24-3	221	—	1.73	< 0.2	10	320	< 0.5	< 2	1.17	< 0.5	11	284	21	2.27	< 10	0.08	10	0.65	497	< 1	0.02
RN-24-4	221	—	1.63	< 0.2	5	390	1.5	< 2	1.20	< 0.5	9	477	11	1.50	< 10	0.10	30	0.32	784	< 1	0.02
RN-27-1	221	—	3.37	0.2	25	250	1.0	< 2	1.22	< 0.5	22	171	62	3.94	10	0.09	10	0.78	1670	< 1	0.02

CERTIFICATION : Hart Bichler

Chemex Labs Ltd.
Analytical Chemists * Geochemists * Registered Assayers
212 BROOKSBANK AVE., NORTH VANCOUVER, BRITISH COLUMBIA, CANADA V7J-2C1
PHONE (604) 984-0221

CERTIFICATE OF ANALYSIS A8621812

To : ROSSBACHER LABORATORY LIMITED
2225 SOUTH SPRINGER AVENUE
BURNABY, B.C.
V5B 3N1

Project : V219 RACK Y
Comments: ATTN: PETER ROSSBACHER

Page No. : 1-B
Tot. Pages: 2
Date : 23-DEC-86
Invoice # : I-8621812
P.O. # : NONE

SAMPLE DESCRIPTION	PREP CODE	Ni ppm	P ppm	Pb ppm	Sb ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
A-N 24 SILT #1	221 —	15	1210	8	< 5	80	0.06	< 10	< 10	59	< 5	70
A-N 24 SILT #2	221 —	17	570	10	< 5	54	0.10	< 10	< 10	71	< 5	62
A-N 24 SILT #3	221 —	19	770	10	< 5	46	0.15	< 10	< 10	83	< 5	58
A-N 24 SILT #4	221 —	18	810	10	< 5	58	0.13	< 10	< 10	73	< 5	84
A-N 24 SILT #5	221 —	19	610	10	< 5	61	0.06	< 10	< 10	53	< 5	70
A-N 24 SILT #6	221 —	14	790	12	< 5	68	0.05	< 10	< 10	52	< 5	72
A-N 24 SILT #7	221 —	18	470	6	< 5	52	0.04	< 10	< 10	43	< 5	62
A-N 24 SILT #8	221 —	17	890	16	< 5	76	0.08	< 10	< 10	56	< 5	72
GN 24 SILT 1	221 —	17	490	6	< 5	68	0.11	< 10	< 10	59	< 5	62
GN 24 SILT 2	221 —	18	450	8	< 5	67	0.09	< 10	< 10	50	< 5	60
GN 24 SILT 3	221 —	14	570	10	< 5	41	0.06	< 10	< 10	50	< 5	66
GN 24 SILT 4	221 —	7	870	6	< 5	77	0.03	< 10	< 10	41	< 5	146
GN 24 SILT 5	221 —	13	530	6	< 5	81	0.05	< 10	< 10	44	< 5	70
GN 24 SILT 6	221 —	10	1010	6	< 5	86	0.05	< 10	< 10	55	< 5	140
GRN 27 SILT 1	221 —	21	880	12	< 5	69	0.13	< 10	< 10	66	< 5	66
GRN 27 SILT 2	221 —	52	410	6	< 5	174	0.24	< 10	< 10	115	< 5	58
GRN 28 SILT 3	221 —	20	850	14	< 5	63	0.14	< 10	< 10	74	< 5	68
GRN 28 SILT 4	221 —	18	440	10	< 5	85	0.15	< 10	< 10	79	< 5	42
GRN 28 SILT 5	221 —	21	830	12	< 5	66	0.12	< 10	< 10	69	< 5	66
GRN 28 SILT 6	221 —	24	650	8	< 5	75	0.22	< 10	< 10	105	< 5	62
GRN 28 SILT 7	221 —	18	540	10	< 5	47	0.09	< 10	< 10	53	< 5	68
GRN 28 SILT 8	221 —	23	380	2	< 5	43	0.20	< 10	< 10	89	< 5	52
GRN 28 SILT 9	221 —	27	420	4	< 5	66	0.16	< 10	< 10	85	< 5	60
GRN 28 SILT 10	221 —	28	770	6	< 5	64	0.22	< 10	< 10	113	< 5	76
GRN 28 SILT 11	221 —	29	610	4	< 5	79	0.23	< 10	< 10	102	< 5	90
GRN 28 SILT 12	221 —	16	760	8	< 5	75	0.18	< 10	< 10	86	< 5	80
GRN 28 SILT 13	221 —	17	620	6	< 5	107	0.15	< 10	< 10	64	< 5	54
GRN 28 SILT 14	221 —	14	570	8	< 5	66	0.09	< 10	< 10	53	< 5	60
GRN 28 SILT 15	221 —	13	800	10	< 5	59	0.09	< 10	< 10	61	< 5	66
GRS 16	221 —	21	710	8	< 5	122	0.16	< 10	< 10	74	< 5	62
GRS 17	221 —	17	750	6	< 5	85	0.13	< 10	< 10	62	< 5	62
GRS 18	221 —	17	760	8	< 5	79	0.11	< 10	< 10	57	< 5	76
GRS 19	221 —	22	860	6	< 5	86	0.18	< 10	< 10	87	< 5	64
GRS 20	221 —	13	830	6	< 5	78	0.05	< 10	< 10	33	< 5	94
GRS 21	221 —	23	730	10	< 5	94	0.16	< 10	< 10	82	< 5	94
RN-24-1	221 —	19	270	4	< 5	83	0.11	< 10	< 10	61	< 5	42
RN-24-2	221 —	23	300	4	< 5	84	0.11	< 10	< 10	60	< 5	52
RN-24-3	221 —	17	500	6	< 5	74	0.09	< 10	< 10	51	< 5	48
RN-24-4	221 —	18	420	6	< 5	59	0.03	< 10	< 10	36	< 5	26
RN-27-1	221 —	17	1080	8	< 5	67	0.23	< 10	< 10	135	< 5	84

CERTIFICATION : Hart Bichler

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BRITISH COLUMBIA, CANADA V7J-2C1
PHONE (604) 984-0221

CERTIFICATE OF ANALYSIS A8621812

To : ROSSBACHER LABORATORY LIMITED

2225 SOUTH SPRINGER AVENUE
BURNABY, B.C.
V5B 3N1

Page No. : 2-A
Tot. Pages: 2
Date : 23-DEC-86
Invoice # : I-8621812
P.O. # : NONE

Project : V219 RACK Y
Comments: ATTN: PETER ROSSBACHER

SAMPLE DESCRIPTION	PREP CODE		Al %	Ag ppm	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %
RN-27-2	221	—	1.98	< 0.2	10	280	< 0.5	< 2	1.05	< 0.5	10	138	28	2.34	< 10	0.09	20	0.65	590	< 1	0.01
RN-29-1	221	—	2.36	< 0.2	10	60	< 0.5	< 2	0.86	< 0.5	14	175	36	2.96	< 10	0.05	10	0.80	559	< 1	0.01
RN-29-2	221	—	1.61	< 0.2	5	80	< 0.5	< 2	0.86	< 0.5	11	205	14	2.01	< 10	0.04	10	0.73	462	< 1	0.02
14803	221	—	1.36	< 0.2	10	10	< 0.5	< 2	1.31	< 0.5	14	59	102	2.69	< 10	0.06	10	1.11	327	< 1	0.10
14804	221	—	6.97	0.4	70	50	3.0	< 2	5.22	< 0.5	26	59	158	5.52	20	0.05	< 10	1.90	833	< 1	0.03
14851	221	—	3.11	0.2	20	60	< 0.5	< 2	2.22	< 0.5	28	92	457	4.57	10	0.04	< 10	2.78	635	< 1	0.07
15001	221	—	1.56	0.4	15	20	< 0.5	< 2	1.15	4.5	8	120	210	2.60	10	0.06	10	0.45	220	2	0.07
15002	221	—	1.90	0.4	20	10	0.5	< 2	1.87	< 0.5	7	42	88	3.30	10	0.06	20	0.67	327	5	0.06
15003	221	—	0.86	< 0.2	95	< 10	< 0.5	< 2	0.78	< 0.5	11	83	73	2.63	< 10	0.02	10	0.32	162	1	0.06

CERTIFICATION : Hart Bichler

Chemex Labs Ltd.

Analytical Chemists • Geochemists • Registered Assayers

212 BROOKSBANK AVE., NORTH VANCOUVER,
BRITISH COLUMBIA, CANADA V7J-2C1

PHONE (604) 984-0221

CERTIFICATE OF ANALYSIS A8621812

To : ROSSBACHER LABORATORY LIMITED

2225 SOUTH SPRINGER AVENUE
BURNABY, B.C.
V5B 3N1

Project : V219 RACK Y
Comments: ATTN: PETER ROSSBACHER

Page No. : 2-B
Tot. Pages: 2
Date : 23-DEC-86
Invoice # : I-8621812
P.O. # : NONE

SAMPLE DESCRIPTION	PREP CODE		Ni ppm	P ppm	Pb ppm	Sb ppm	Sr ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
RN-27-2	221	—	14	620	12	< 5	59	0.11	< 10	< 10	57	< 5	62
RN-29-1	221	—	21	410	6	< 5	70	0.18	< 10	< 10	96	< 5	56
RN-29-2	221	—	17	270	6	< 5	81	0.12	< 10	< 10	68	< 5	40
14803	221	—	15	1330	8	< 5	25	0.19	< 10	< 10	120	< 5	30
14804	221	—	20	1550	6	< 5	67	0.35	< 10	< 10	276	< 5	64
14851	221	—	44	1070	10	< 5	44	0.22	< 10	< 10	158	< 5	70
15001	221	—	21	910	4	< 5	32	0.14	< 10	< 10	185	< 5	156
15002	221	—	6	2960	20	< 5	16	0.28	< 10	< 10	98	< 5	60
15003	221	—	25	1210	6	< 5	1	0.10	< 10	< 10	66	< 5	34

CERTIFICATION : Hart Bichler

ACME ANALYTICAL LABORATORIES LTD. 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.CR.MG.BA.TI.B.AL.NA.K.W.SI.ZR.CE.SN.Y.NB AND TA. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: SOLUTION

DATE RECEIVED: MAR 4 1987 DATE REPORT MAILED: Mar 10/87 ASSAYER. D. Toye .DEAN TOYE. CERTIFIED B.C. ASSAYER.

ROSSBACHER LABORATORY PROJECT - CERT#87093 FILE # 87-0574 PAGE 1

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
19906	2	22	14	49	.2	20	8	715	1.98	8	5	ND	5	78	1
19907	1	26	11	53	.1	11	7	755	2.40	3	5	ND	6	88	1
19910	2	79	13	92	.1	34	14	1099	2.84	2	5	ND	2	100	1
19913	1	81	16	63	.1	29	11	855	2.18	6	5	ND	1	100	1
19914	1	44	13	63	.1	18	10	1030	2.13	5	6	ND	3	118	1
19915	1	83	13	70	.2	37	19	1371	3.90	5	5	ND	3	122	1
19916	1	30	9	109	.1	22	10	674	2.60	7	5	ND	5	122	1
19917	2	96	15	81	.1	33	20	1236	4.29	20	5	ND	3	105	1
19918	1	81	13	123	.1	36	19	972	4.00	11	5	ND	3	98	1
19951	1	168	7	73	1.0	19	9	774	2.42	30	5	ND	2	125	1
19952	1	90	12	73	.3	24	14	765	3.44	21	5	ND	2	136	1
19956	1	74	13	71	.2	47	20	861	4.27	7	5	ND	2	126	1
19958	2	70	20	54	.1	19	10	851	2.60	6	7	ND	3	116	1
19959	2	117	27	101	.1	26	12	1598	2.69	17	5	ND	1	120	1
19961	4	104	18	72	.1	31	16	1274	3.65	10	5	ND	3	128	1
19962	3	49	10	63	.1	16	10	755	2.33	8	5	ND	4	126	1
19968	4	105	12	73	.1	31	17	777	3.64	15	5	ND	3	92	1
19972	1	64	12	64	.3	19	10	1171	2.39	27	5	ND	1	110	1
19973	1	131	8	78	.3	32	15	1507	3.48	39	5	ND	1	100	1
19974	1	64	12	74	.1	27	12	612	2.92	19	5	ND	1	109	1
STD C	21	57	40	133	7.2	69	28	1000	3.96	40	14	7	34	47	17

SAMPLE#	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM
19906	2	3	38	1.15	.044	39	421	.42	316	.05	11	2.08	.06	.18	2
19907	2	2	42	1.01	.060	33	136	.39	273	.06	4	2.44	.06	.10	1
19910	2	2	73	1.28	.069	38	240	1.29	221	.11	3	2.58	.07	.18	1
19913	2	2	70	3.46	.063	5	147	1.21	78	.14	23	1.70	.09	.07	1
19914	2	2	53	2.45	.074	36	75	.75	335	.09	6	2.19	.08	.12	2
19915	2	2	107	1.26	.046	19	211	1.55	170	.20	2	3.04	.08	.15	3
19916	2	2	58	1.17	.035	20	371	.84	170	.11	4	2.47	.07	.16	1
19917	2	2	97	1.33	.067	23	147	1.64	127	.14	2	3.18	.08	.17	1
19918	2	2	94	1.35	.057	21	215	1.76	111	.14	3	2.88	.08	.17	1
19951	2	2	103	3.60	.070	9	153	.68	67	.15	12	1.99	.10	.06	2
19952	2	2	118	1.71	.044	8	171	1.20	60	.23	4	2.50	.09	.06	1
19956	2	2	117	1.21	.052	12	270	2.15	98	.25	2	2.78	.09	.14	1
19958	2	2	56	2.21	.068	59	94	.95	188	.08	3	2.37	.08	.10	1
19959	2	2	72	2.48	.091	65	113	.97	273	.08	12	2.36	.09	.12	1
19961	2	2	93	1.40	.071	22	213	1.55	183	.12	5	2.95	.08	.16	1
19962	2	2	51	1.32	.049	21	252	.66	177	.08	11	2.07	.07	.12	1
19968	2	2	106	1.80	.079	32	175	2.81	315	.16	7	3.06	.09	.12	1
19972	2	2	96	2.58	.071	5	142	.77	46	.15	13	1.84	.09	.06	1
19973	2	2	118	1.72	.069	6	163	1.15	74	.17	3	3.10	.09	.07	1
19974	2	2	105	1.83	.041	6	171	1.15	39	.19	6	2.33	.10	.05	1
STD C	15	20	63	.48	.102	36	58	.88	176	.08	37	1.72	.10	.14	13

MAY 29 1987

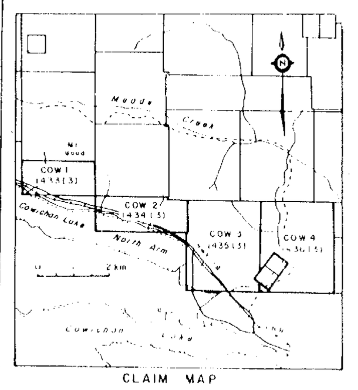
SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM
19901	1	16	3	6	.1	10	3	109	.58	2	5	ND	1	5	1	2	2	10	.09	.010	2	234	.22	7	.01	2	.25	.01	.01	1
19902	1	49	3	46	.1	7	3	436	1.44	5	6	ND	1	11	1	2	2	13	.18	.039	4	66	.58	25	.07	2	.76	.05	.11	1
19903	1	1	3	24	.1	21	11	223	1.05	57	8	ND	1	35	1	2	2	21	7.78	.089	2	63	.91	4	.03	12522	1.28	.10	.01	8
19904	1	17	9	66	.1	5	15	881	4.31	8	9	ND	1	137	1	2	2	68	1.29	.138	5	57	1.82	62	.16	35	2.29	.09	.05	1
19905	1	56	4	16	.2	6	3	162	.92	2	5	ND	1	18	1	2	2	10	.32	.023	3	149	.24	5	.02	72	.44	.03	.01	1
19908	1	5	3	9	.2	2	4	105	1.65	2	5	ND	2	10	1	2	2	4	.13	.065	8	22	.16	122	.01	16	.39	.04	.15	1
19909	1	35	2	65	.1	44	21	587	3.54	4	6	ND	1	19	1	2	3	94	1.54	.113	2	217	2.68	33	.10	11	1.82	.09	.04	1
19911	5	32	21	37	.2	5	3	267	3.92	15	5	ND	1	7	1	2	2	67	.10	.084	2	38	.72	73	.01	8	1.19	.04	.12	2
19912	1	43	2	16	.1	6	5	153	1.08	2	5	ND	1	15	1	2	2	16	.25	.036	2	103	.32	7	.02	11	.46	.03	.01	1
19919	2	61	7	65	.2	23	4	359	2.87	55	5	ND	1	7	1	2	2	61	.33	.081	2	111	1.26	37	.09	7	1.43	.05	.01	1
19920	2	57	22	91	.2	27	3	304	2.74	45	5	ND	1	10	1	2	2	76	.44	.101	3	121	.86	306	.07	7	1.27	.05	.01	2
19921	1	34	10	67	.1	36	10	239	5.49	13	5	ND	1	5	1	2	3	35	.08	.020	2	238	1.94	16	.16	2	1.77	.05	.09	1
19922	1	21	5	80	.1	51	16	246	3.87	2	5	ND	1	12	1	2	2	39	.39	.107	2	215	2.35	21	.11	2	1.57	.07	.07	1
19953	1	23	5	28	.1	4	6	201	1.66	2	5	ND	2	75	1	2	2	42	.63	.072	9	64	.40	8	.07	5	.83	.08	.02	1
19954	1	173	7	35	.1	30	15	323	2.04	2	5	ND	1	49	1	2	2	76	1.41	.132	2	116	1.51	24	.10	5	1.44	.16	.08	1
19955	1	9	2	21	.2	4	4	248	1.12	2	5	ND	1	57	1	2	2	30	.32	.050	3	87	.30	5	.04	4	.52	.05	.01	2
19957	1	36	7	64	.1	23	8	391	3.00	32	5	ND	1	8	1	2	2	74	.42	.062	2	66	1.21	38	.13	2	1.46	.06	.01	1
19960	1	28	2	3	.3	7	2	149	.40	2	5	ND	1	2	1	2	2	4	.03	.003	2	164	.11	3	.01	5	.12	.01	.01	1
19963	1	146	2	73	.1	23	13	682	1.67	2	5	ND	1	22	1	2	2	40	.47	.145	2	57	1.80	15	.08	3	1.17	.06	.10	1
19964	1	7	6	57	.1	20	15	413	1.91	6	5	ND	1	51	1	2	2	44	.69	.114	2	82	1.58	12	.07	2	1.06	.06	.04	2
19965	1	33	5	56	.1	17	17	695	3.42	2	6	ND	1	20	1	2	2	119	2.20	.152	2	44	2.02	15	.15	2	1.71	.10	.05	1
19966	1	38	10	95	.1	30	17	737	3.24	7	6	ND	1	39	1	2	2	37	.52	.170	2	72	2.02	16	.09	2	1.56	.06	.08	1
19967	1	40	3	104	.1	32	17	610	1.74	5	5	ND	2	11	1	2	3	43	.45	.156	2	31	1.72	25	.08	2	1.30	.07	.37	2
19969	1	5	2	4	.1	7	1	77	.47	2	5	ND	1	85	1	2	2	21	.43	.024	2	118	.05	2	.01	4	.30	.03	.01	1
19970	1	49	6	60	.2	40	19	525	3.58	2	5	ND	1	30	1	2	2	114	1.98	.117	2	116	1.10	29	.17	2	2.26	.09	.20	3
19971	1	55	7	69	.1	25	19	670	4.64	5	7	ND	1	35	1	2	2	180	1.73	.149	3	59	2.38	116	.24	2	3.09	.30	.80	2
STD C	22	59	40	137	7.1	63	29	1032	3.92	40	17	8	34	49	18	16	22	65	.47	.106	36	61	.87	182	.08	36	1.69	.11	.14	14

Appendix V

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 mile	
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	=	0.454 kilogram	(kg)
1 kg	=	2.20 lb	
1 ton (2000 lb)	=	0.907 tonne	(t)
1 tonne	=	1.102 ton = 2205 lb	
1 troy ounce/ton (oz/ton)	=	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

GEOLOGY

Mesozoic
Cretaceous

10 — Nanaimo Group: conglomerate, sandstone, siltstone, shale, minor coal (undifferentiated).

Jurassic

9 — Island Intrusions:
9q quartz diorite, to granodiorite

Triassic

5 — Karmutsen Formation: pillow basalt, breccia, tuff; minor mafic flows.

Paleozoic
Pennsylvanian and Permian
Sicker Group

5 — Mount Mark Formation (formerly mapped as Buttle Lake Fm) crinoidal limestone, bedded limestone, marble, chert, cherty argillite and siltstone

4 — Cameron River Formation (formerly Myra and/or Sediment-Sill Unit): Ribbon chert epiclastic cherty tuff, graphitic argillite, intercalated thinly bedded sandstone, siltstone and argillite, epiclastic sandstone, conglomerate.

2 — McLaughlin Ridge Formation (formerly mapped as Nitinat and/or Myra Fm)
2b cherty tuff, cherty siltstone.

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 on Massey, BCMEMPR, Open File 1987/2, and Muller, 1980 a GSC Paper 79-30.

SYMBOLS AND ABBREVIATION

	Geologic contact, inferred	cp	chalcopyrite
	Fault, approximate	qz	quartz
	Bedding	sdst	sandstone
	Foliation	stst	siltstone
	Joint	frcr	fracture
	Shear	xl	crystal
	Outcrop	abdt	abundant
	Sample location, number, anomalous analyses (Au ppb, others ppm):	mg	medium-grained
		fg	fine-grained
△ , ×	Rock - outcrop, float 1986	tr	trace
⊙	Silt 1986	ep	epidote
●	Rock, silt 1985	bdd	bedded
	Claim boundary, L.C.P.		

0 500 1000 metres

GEOLOGICAL BRANCH
ASSESSMENT REPORT

16,122

Gordon J. Allen

INTERNATIONAL CHEROKEE DEVELOPMENTS LTD.

GEOLOGY, SAMPLE LOCATIONS AND SELECTED RESULTS
MEADE GROUP

VICTORIA MINING DIVISION

Project No: V 219	By: G.A., B.T.
Scale: 1:10 000	Drawn: J.S.
Drawing No: 5	Date: FEBRUARY 1987.

MPH Consulting Limited

LOCATION MAP

CLAIM MAP

LEGEND

GEOLOGY

Mesozoic

Cretaceous

10 — Nanaimo Group: conglomerate, sandstone, siltstone, shale, minor coal (undifferentiated).

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1q pyroxene porphyry (flows and intrusions)
1s massive tuff, tuffaceous sandstone.

Note: Legend based on Massey, BCMEMPR, Open File 1987/2, and Muller, 1980 a GSC Paper 79-30.

SYMBOLS AND ABBREVIATION

Geologic contact, inferred
Fault, approximate
Bedding
Foliation
Joint
Shear
Outcrop
Sample location, number, anomalous analyses (Au ppb, others ppm):
Rock-outcrop, float 1986
Silt 1986
Rock, silt 1985
Claim boundary, L.C.P.
Traverse

cp	chalcopyrite
qz	quartz
sdst	sandstone
stst	siltstone
frcr	fracture
xl	crystal
abdt	abundant
mg	medium-grained
fg	fine-grained
tr	trace
ep	epidote
bdd	bedded

0 500 1000 metres

GEOLOGICAL BRANCH
ASSESSMENT REPORT
16,122

INTERNATIONAL CHEROKEE DEVELOPMENTS LTD.

HAND SPECIMEN LOCATIONS AND TRAVERSE MAP
MEADE GROUP
VICTORIA MINING DIVISION

Project No:	V 219	By:	G.A. / B.T.
Scale:	1:10 000	Drawn:	J.S.
Drawing No:	6	Date:	FEBRUARY 1987.

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