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# SUPERINTENDENT OF BROKERS AND VANCOUVER STOCK EXCHANGE

019339



STATEMENT OF MATERIAL FACTS #49/89 EFFECTIVE DATE: SEPTEMBER 6, 1989

# MAPLE RESOURCE CORP.

<u>11th Floor, 808 West Hastings Street, Vancouver, British Columbia Telephone: 604-687-7463</u> NAME OF ISSUER, ADDRESS OF HEAD OFFICE AND TELEPHONE NUMBER

#100 - 200 Granville Street, Vancouver, B.C., V6C 1S4 ADDRESS OF REGISTERED AND RECORDS OFFICES OF ISSUER

Central Guaranty Trust Company, 800 West Pender Street, Vancouver, British Columbia NAME AND ADDRESS OF REGISTRAR & TRANSFER AGENT FOR ISSUER'S SECURITIES IN BRITISH COLUMBIA

The securities offered hereunder are speculative in nature. Information concerning the risks involved may be obtained by reference to this document; further clarification, if required, may be sought from a broker.

# OFFERING: 1,000,000 UNITS

Each Unit consists of one common share and two Series "A" Warrants, two such warrants will entitle the holder thereof who exercises such warrants to purchase one additional common share of the Issuer at any time up to the close of business within one year following the Offering Day at the Offering Price of the Units.

	Offering Price (estimated)*	Commission	Estimated Net Pro- ceeds to be Received by the Issuer	
Per Unit	\$0.90	\$0.0675	\$0.8325	
Total	\$900,000	\$67,500	\$832,500	

\* To be calculated in accordance with the Rules of the Vancouver Stock Exchange.

# ADDITIONAL OFFERING

The Agents have agreed to purchase (the "Guarantee") any of the Units offered hereby which have not been sold at the conclusion of the Offering (see "Consideration to Agents"). Any Units acquired by the Agents under the Guarantee will be distributed under this Statement of Material Facts through the facilities of the Vancouver Stock Exchange at the market price at the time of sale.

# AGENTS

Canarim Investment Corporation Ltd. Suite 2200, 609 Granville Street Vancouver, British Columbia V7Y 1H2 Continental Securities 10th Floor, 1055 Dunsmuir Street Vancouver, British Columbia V7X 1L4

Pacific International Securities Inc. Suite 1500, 700 West Georgia Street Vancouver, British Columbia V7Y 1G1

Neither the Superintendent of Brokers nor the Vancouver Stock Exchange has in any way passed upon the merits of the securities offered hereunder and any representation to the contrary is an offence.

Sept. 19/89

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# 1. PLAN OF DISTRIBUTION

# A. THE OFFERING

By an Agreement dated for reference August 29, 1989 (the "Agency Agreement"), Maple Resource Corp. (the "Issuer") appointed the following as its agents (the "Agents") to offer through the facilities of the Vancouver Stock Exchange (the "Exchange") 1,000,000 units (the "Units") of the Issuer (the "Offering") at a fixed price in the amounts set opposite the Agents' respective names:

Agents	No. of Units		
Canarim Investment Corporation Ltd.	500,000		
Continental Securities	250,000		
Pacific International Securities Inc.	250,000		

The Offering will take place on the "Offering Day" which will be not more than one hundred eighty (180) calendar days after the date this Statement of Material Facts is accepted for filing by the Exchange and the Superintendent of Brokers (the "Effective Date").

The offering price of the Units (the "Offering Price") will be determined in accordance with the rules of the Exchange, at a premium over the average trading price of the Issuer's shares as determined by the Exchange, subject to the agreement of the Issuer and the Agents; however, the Offering Price shall not be less than Forty Cents (\$0.40) per Unit. The purchasers of any Units under the Offering will be required to pay regular commission rates as specified by the by-laws and rules of the Exchange.

The Agents reserve the right to offer selling group participation in the normal course of the brokerage business to selling groups of other licenced dealers, brokers and investment dealers who may or may not be offered part of the commissions derived from the Offering.

The obligations of the Agents under the Agency Agreement may be terminated at any time at their discretion on the basis of their assessment of the state of the financial markets before the opening of the market on the Offering Day, and may also be terminated upon the occurrence of certain stated events.

The Issuer has agreed to notify the Agents of any further public equity financing that it may require or propose to obtain during the twelve month period following the Effective Date and the Agents shall have the right of first refusal to provide such financing. The Agents own no shares of the Issuer and have no shares under their control. a formula based upon the total exploration or development costs of all parties. In these circumstances, if a party's interest is reduced to 15% or less, that interest will be converted to a royalty interest equal to 15% of net profits from production.

The 4-J's Project is the subject of a report dated March 28, 1989 prepared by Orequest Consultants Ltd. (the "4-J's Report"), a copy of which is included in this Statement of Material Facts. The 4-J's Report states that the property is located approximately 40 kilometers northwest of Stewart, British Columbia near Bowser Creek, in the Skeena Mining Division. The property lies within the Iskut-Sulphurets Mining Camp, an area of currently intense exploration and development activity that has recently seen the reactivation of some old deposits and the discovery of several new precious metal deposits. The 4-J's Report states that previous work has included geological mapping and prospecting, sampling, and airborne and ground geophysical surveys. These programs have located two significant styles of mineralization on the property, a stratiform lead-zinc-copper-silver-gold target and a quartz-carbonate vein target, hosting lead-zincantimony-gold-silver mineralization. Values of up to 39.5 oz/t silver, 64.5% lead, 38.1% zinc and 0.098 oz/t gold have been received from rock samples containing massive sphalerite, galena and arsenopyrite.

The 4-J's Report states that the primary target on the property encompasses both the stratiform style and vein type mineralization within a highly altered zone marginal to the ice field on the property. This quartz-sericite-pyrite zone extends north northwesterly through the John and onto the Jonas claim. Airborne and ground geophysical surveys over the northern most zone have indicated four EM conductors, one of which is coincident with the banded massive sulphides in the main zone. The remaining three are beneath the ice; however, they would be accessible by drilling from the edge of the ice field.

The 4-J's Report recommends a Phase I exploration program of trenching and sampling of the John showing to test the continuity of this zone. In addition, the north-northwest trending quartzsericite-pyrite alteration zone should be prospected and mapped wherever exposed. Geophysical surveys should be conducted to help define mineralized horizons. The estimated cost of the Phase I work is \$150,000. Based on the receipt of positive results from this work, a Phase II drilling program is recommended to test the main zone and those conductors beneath the ice field, at an estimated cost of a further \$250,000. The Issuer intends to finance the Phase I exploration program from the net proceeds of this Offering. Contingent upon the Phase I results, the Issuer will further fund the Phase II exploration work from the net proceeds of this Offering.

THERE IS NO UNDERGROUND OR SURFACE PLANT OR EQUIPMENT ON THE 4-J'S PROJECT, NOR ANY KNOWN BODY OF COMMERCIAL ORE, AND THE PROPOSED PROGRAM IS AN EXPLORATORY SEARCH FOR ORE.

<u>Group II</u>: Presently held properties which are currently producing or being explored, or upon which exploration is planned within the next year:

None.

<u>Group III</u>: Other presently held properties upon which the Issuer's acquisition and exploration costs to date exceed \$100,000:

# Fountain Lake Property, Moss Township, Ontario

By an Agreement dated October 27, 1986, as amended January 7, 1987, and March 7, 1989 (the "Option Agreement") between John E. Ternowesky and Omer Leo Belisle both of 132 Robinson Drive, Thunder Bay, Ontario, P7A 6G5 (collectively the "Optionors"), and the Issuer and Tamavack Resources Inc. ("Tamavack") (collectively the "Optionees"), the Optionees have the right to acquire a one hundred percent (100%) interest in one hundred twenty-three (123) mineral claims located in Moss Township, Ontario (the "Fountain Lake Property"), the Issuer and Tamavack each being entitled to acquire a fifty percent (50%) undivided interest. By a separate Agreement dated October 27, 1986 (the "Joint Venture Agreement"), the Issuer and Tamavack have entered into a relationship of joint venture to carry out the exploration and development of the Fountain Lake Property. Tamavack is a reporting company whose shares are listed on the Vancouver Stock Exchange; Murray Pezim and Lawrence Page, directors of the Issuer, are also directors of Tamavack.

To date, the Issuer has expended \$836,701 for acquisition and exploration costs on the Fountain Lake Property, net of expense recoveries through government incentive payments. Pursuant to the Option Agreement, the Optionees have previously paid \$210,000 in total to the Optionors, and the Optionees have each issued two hundred thousand (200,000) pre-consolidated shares in their capital stock to the Optionors at a deemed value of \$53,500, which is included in the above figure for acquisition and exploration costs. The Optionees must pay in equal portions additional monies to the Optionors in order to keep the Option Agreement in good standing, as follows:

Date		Amount
January 1, 199 January 1, 199 January 1, 199	0 1 2	\$100,000 \$100,000 \$170,000
	TOTAL	<u>\$370,000</u>

The Fountain Lake Property is subject to a four percent (4%) net smelter returns royalty payable to the Optionors from production

# SUMMARY REPORT ON INTERNATIONAL MAPLE LEAF RESOURCE CORPORATION 4-J'S PROJECT

ISKUT-SULPHURETS AREA SKEENA MINING DIVISION BRITISH COLUMBIA

J. Chapman, F.G.A.C. March 28, 1989

OREQUEST



## SUMMARY

International Maple Leaf Resources Corp. has entered into an agreement with Teuton Resources Corp. to earn a 60% interest in the 4-J's property. These claims are located approximately 40 km northwest of Stewart B.C. near Bowser Creek, NTS 104B/8E, (Figure 1) in the Skeena Mining Division.

The property lies within the Iskut-Sulphurets mining camp, an area of currently intense exploration and development activity that has recently seen the reactivation of some old deposits and the discovery of several new precious metal deposits.

Volcanic and sedimentary units of the Jurassic Hazelton Group underlie the property. These are predominantly in the Unuk River Formation with a small area of Salmon River sediments, intruded by Eocene feldspar porphyry plugs. Significantly it is rocks of the Lower Unuk River Formation that host most of the new discoveries in the area such as at Calpine's Eskay Creek property and Catear's Goldwedge.

Previous work has included geological mapping and prospecting, sampling, airborne and ground gcophysical surveys. These programs have located two significant styles of mineralization on the property, a stratiform Pb-Zn-Cu-Ag-Au target and quartz-carbonate vein hosted Pb-Zn-Sb-Au-Ag mineralization. Values of up to 39.5 oz/t silver, 64.5% lead, 38.1% zinc and 0.098 oz/t gold have been received from rock samples containing massive sphalerite, galena and arsenopyrite.

The primary target on the 4-J's property encompasses both the stratiform style and vein type mineralization within a highly altered zone marginal to the icefield. This quartz-sericite-pyrite zone extends north northwesterly through the John and into the Jonas claim. An airborne EM conductor correlates with the argillite hosted massive sulphides in the one and similar conductors extend under the ice.

A Phase I program of \$150,000 involving mapping, sampling and trenching is recommended for the 4-J's project to define the style and extent of the mineralized zone. Based on the receipt of positive results additional drilling would be warranted.



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INTRODUCTION

This report presents a geological appraisal of the 4-J's project. which is under option to International Maple Leaf Resources Corp., and makes recommendations for further work.

The property is situated in the Iskut-Sulphurets area which has recently experienced a resurgence in exploration activity leading to the redevelopment of several existing gold deposits and the discovery of several new ones.

The information contained herein comes from the references cited and familiarity with the Iskut-Sulphurets area gained by OreQuest Consultants Ltd. through work conducted on behalf of various companies in 1987 and in 1988.

# LOCATION AND ACCESS

The 4-J's project is located about 40 km north-northwest of Stewart, British Columbia (Figure 1).

Access to the property is via helicopter from Stewart approximately 40 air kilometers to the south. An old mine road, to the East Gold Mine, runs within 2 km of the southeast corner of the claim block.

The airstrip at the Tide Lake Flats; situated at the terminus of the Granduc Mining road located 4 km southeast of the property could be utilized for mobilization, demobilization and crew support.

# PHYSIOGRAPHY AND VEGETATION

Elevations on the 4-J's project range from 600 m in the valley of the Bowser River at the east side of the property up to 2275 m on the peaks to the west. The claims are immediately to the south of the Frank Mackie Glacier which also covers much of the higher areas.

Low lying regions are vegetated by mature mountain hemlock and balsam. This changes to subalpine and alpine vegetation consisting of stunted shrubs and grasses. Outcrop is plentiful and, in those areas where the ice has receded, is virtually continuous.

Climate in the area is severe, particularly at the higher elevations. Heavy snowfalls in winter and rain in the short summer working season are typical of the Iskut-Sulphurets area. Inclement weather conditions and reliance on helicopter transport make this a high cost area to explore for minerals.

# **CLAIM STATUS**

The 4-J's project consists of 6 modified grid claims, totalling 90 units, the status of which is as follows:

Claim Name	No. of Units	Record No.	Date of Record	Anniversary Date
Lambda	20	5327	April 22, 1986	April 22, 1992
XI	20	5330	April 22, 1986	April 22, 1991
Jack	12	3626	November 1, 1982	November 1, 1989
Jim	12	3623	November 1, 1982	November 1, 1989
John	18	3624	November 1, 1982	November 1, 1990
Jonas	8	3625	November 1, 1982	November 1, 1990

# TABLE I - CLAIM STATUS



The property is in the Skeena Mining Division and the claims are located on map 104B/8E centered at approximately 56°18'N latitude and 130°07'W longitude (Figure 2).

# HISTORY AND PREVIOUS WORK

The earliest recorded work in the Stewart area occurred in the late 1890's with the discovery of gold-silver mineralization in the Bear River Valley. Active exploration over the next 35 years led to the discovery of the Premier, Big Missouri and Indian Mines. Due to the inaccessibility of much of the 4-J's area little work was done until the mid 1920's.

Exploration in the immediate area of the 4-J's property began around 1926 when free gold was discovered on the East Gold property (about 1 km southeast of the claims). In the early 1930's, prospecting uncovered a series of auriferous, crosscutting quartz-sulphide veins and shear zones on ground now controlled by the Haida claim (owned by Silver Standard Mines). This latter property, called the "Portland", originally consisted of 16 claims, and occupied portions of the present John and Jim claims (Figure 2).

A buoyant market for precious metals revived interest in this part of the Stewart area in 1980. Many former prospects along with proximal zones of favourable geology were subjected to reconnaissance surveys by exploration companies. The "4 J's" (Jim, John, Jonas and Jack claims) and parts of the surrounding Alphabet group (Gamma, Zeta, Eta, Kappa, Lambda and Xi) were examined during this period and a summary of this recent activity is presented below.

Catspaw and Jim claims were noted to carry gold colours when panned by

- 1983 The Catspaw claim was optioned to Teuton Resources Corp.; the property was enlarged by staking the 4-J's claims and the Gamma claim. A stratiform lead-zinc antimony (gold-silver) occurrence and a boulder train of argentiferous quartz sulphide mineralization was discovered on the John claim. This latter work was undertaken by Billikin Resources under option (the option was relinquished the following year).
- 1984 The 4-J's claims were optioned by Teuton to Canadian United Minerals Inc. An airborne EM and Mag survey disclosed two EM anomalies under ice cover proximate to the stratiform mineralization noted on the John claim.
- 1985 Noranda Exploration Company re-optioned the 4-J's from Canadian United. Prospecting, sampling and geophysical surveys were carried out identifying several types of mineralization prior to returning the property to Teuton (A lingering snowpack prevented examination of the stratiform occurrence).
- 1986 Work by Teuton prospectors on the Gamma claim discovered several argentiferous quartz sulphide veins and an auriferous, pyritic, quartz brecciated agglomerate. A small rock geochemical program on the Catspaw claim disclosed several gold anomalies.
- 1987 The claims were optioned by Teuton to Wedgewood Resources who carried out a field program supervised by Kruchkowski Consultants of Calgary. This concentrated on prospecting, trenching, sampling and geochemical surveys on the 4-J's claims and surrounding ground.
- 1988 Exploration on the 4-J property concentrated on the massive sulphide mineralization along the edge of the retreating ice cap. This zone consists of veins, stockworks and stratiform "sedex" style base metalprecious metal mineralization associated with a wide (up to 50 m) area of sericitic alteration. Values up to 0.098 oz/t Au, 39.5 oz/t Ag, 1.18% Cu, 64.5% Pb and 38.1% Zn were received.

1980-82

prospectors.

**REGIONAL GEOLOGY** 

The property lies in the Stewart area to the east of the Coast crystalline Complex and within the western boundary of the Bowser Basin. Rocks in the area belong to the Mesozoic Hazelton Group and have been intruded by plugs of both Cenozoic and Mesozoic age (Figure 3).

The oldest units in the Stewart Complex are Upper Triassic epiclastic volcanics, marbles, sandstones and siltstones. These, in turn, are overlain by sedimentary and volcanic rocks of the Jurassic Hazelton Group. The Hazelton Group has been subdivided (Grove, 1986) into the Early Jurassic Unuk River Formation, the Middle Jurassic Betty Creek and Salmon River Formations, and the Upper Jurassic Nass Formation.

The Unuk River Formation consists predominantly of volcanic rocks and sediments which include lithic tuffs, pillow lavas with carbonate lenses and some thin bedded siltstones. These outcrop along a broad north-northwesterly trend extending from Alice Arm to the Iskut River. It forms an angular unconformity with the underlying Late Triassic Rocks. Betty Creek rocks are characterized by bright red and green volcaniclastic agglomerates with sporadic intercalated andesitic flows, pillow lavas, chert and some carbonate lenses. They unconformably overlie the Unuk River Formation. The Salmon River Formation is a thick assemblage of intensely folded colour banded siltstones and lithic wackes with minor limestone, conglomerate and volcanic sediments, that form a conformable to disconformable contact with the underlying Betty Creek Formation.



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These volcanic and sedimentary successions were intruded by the Coast Plutonic Complex during the Jurassic, Cretaceous and Tertiary periods. A wide variety of intrusive phases are present including granodiorite, quartz monzonite, and diorite. Small satellite plugs as late phase offshoots from the main batholith and later Tertiary intrusives can be important for localizing mineralization.

According to Grove (1971), the majority of the rocks from the Hazelton Group were derived from the erosion of andesitic volcanoes subsequently deposited as overlapping lenticular beds varying laterally in grain size from breccia to siltstone. Regionally, submarine spreading-line basaltic lava platforms marked by massive sulphide "black smoker" features, gave way to resubduction-melt, violent, feldspathic volcanoes along or parallel to trough lines. Some of these were later intruded by gold-bearing, potassium-rich, subvolcanic stocks (Silbak, Skyline and Brucejack Lake areas). Violent caulderic collapse subsidence and self erosion separated the two major volcanic cycles (Unuk River, Betty Creek Formations) at steep angles. The episode settled to gentler tuff-distal sedex precipitate sulphide episodes and back-arc and continental sedimentation (Salmon River Formations) with occasional intercalated flows and minor fumarolic-hotspring activity.

Major structural features of the Stewart Complex include the western boundary contact with the Coast Intrusive Complex. The northern boundary is at the Iskut River where extensive deformation has thrust Paleozoic strata south across Middle Jurassic and older units. Younger faulting has also occurred around the Iskut. A line of Quaternary volcanic flows mark the southern limit of the complex and the Meziadin Hinge defines the eastern border.

Double plunging, northwesterly-trending synclinal folds of Salmon River and underlying Betty Creek Formations dominate the structural setting of the area. These folds are locally disrupted by small east-overthrusts (Tippy Lake, Knipple Lake) on strikes parallel to the major fold axes. Cross-axis, steep wrench faults and major northwest faults locally turn beds.

# Mineralization

The Stewart area has been mined actively since the early 1900's and is one of the most prolific mining districts in British Columbia (Grove, 1971).

Grove (1986) classifies the mineralization in the Stewart area into three categories: fissure veins and replacement veins, massive sulphide deposits and porphyrv deposits.

More recent exploration and development activity has focussed on vein and fissure vein gold mineralization in the northern part of the Stewart Complex, the Iskut River area, where several new discoveries have been made, namely the Skyline Johnny Mountain Mine, the Prime Resources Corporation/Cominco Ltd., Snip deposit, the various deposits under development by Newhawk and its partners in the Sulphurets area, the Magna Ventures Doc property and recent discoveries by Calpine and Inel.

Mineralization has been known and worked sporadically on Johnny Mountain since 1907. In 1980 Skyline Explorations staked the property. Since 1981 various exploration programs have been conducted for high grade gold and polymetallic massive sulphides. In 1986, drilling and underground work on the Stonehouse Zone outlined gold, silver and copper mineralization. Present reserves at Johnny

Mountain (in all categories) are 876,000 tons grading 0.54 oz/t gold and 1.00 oz/t silver.

Mineralization on the jointly held ground of Cominco Ltd. and Prime Resources Corporation (formerly Delaware Resources Corp.) was discovered in 1965 but was not developed until recently. Gold occurs in quartz veins within a shear zone. Proven and probable reserves at the Snip Deposit are 1.57 million tonnes grading 0.64 oz/t gold (Prime Resources, 1989). A production decision is expected in late 1989.

Massive sulphide float originating from the headwaters of Bronson Creek led to the staking of the Inel property in 1969. Since then Inel Resources Ltd. has driven an exploratory adit below the Main Sulphide Zone on their property. During 1988, underground drilling intersected 0.769 oz/t gold over 13.3 feet (U88-3) and surface drilling on the Ridge Zone, located 250 m east of the Center section workings, reported 0.868 oz/t gold over 7.4 feet (S88-12).

The Sulphurets Creek area about 25 km north of the 4-J claims incorporates a wide variety of gold mineralization. In the Brucejack Lake area, the West Zone is reported to contain 624,500 tons of proven and probable ore grading 0.506 oz/t gold and 25.47 oz/t silver (Alldrick et al, 1989) in a structurally controlled quartz vein stockwork.

The Magna Ventures Doc deposit located west of the 4-J's property hosts 470,000 tons grading 0.27 oz/t gold and 1.31 oz/t silver. This property has been recently optioned by Echo Bay Mines.

The most recently discovered gold mineralization occurs on the Calpine Resources Incorporated-Consolidated Stikine Silver Ltd. Eskay Creek property (Northern Miner, 1988). The current drilling program on the "21 zone" has outlined a mineralized body over 1100 ft long that is open along strike in both directions and at depth. Mineralization occurs at the contact between sulphide rich silicified felsic breccias and argillaceous sediments which are in turn overlain by intermediate volcanics. Drilling on the "21 zone" in 1958 and 1989 has returned intercepts of 34.5 ft of 1.284 oz/ton gold and 26.38 oz/ton silver, 242.1 ft of 0.136 oz/ton gold and 2.03 oz/ton silver, 96.5 ft of 0.752 oz/ton and 0.20 oz/ton silver, 273.9 ft of 0.172 oz/ton gold and 1.47 oz/ton silver, 181.4 ft 0.258 oz/ton gold and 4.79 oz/ton silver, and 132.9 ft of 0.229 oz/ton gold and 3.50 oz/ton silver.

The E & L Deposit is also situated in the area. This deposit was worked in the 1960's and early 1970's by trenching, drilling and 460 m of underground development and has proven reserves of 3.2 million tons of 0.8% nickel and 0.6% copper (MEMPRa). Mineralization consisting of disseminated pyrrhotite, chalcopyrite with minor pentlandite, pyrite and bornite occurs in a small stock of altered coarse grained gabbro.

Deposits closer to Stewart which might represent models for mineralization on the 4-J's property include the Silbak-Premier and Big Missouri deposits which are presently being reopened by Westmin Resources. During its operating life, the mine produced 4.2 million tonnes of ore containing 56.6 million grams gold and 1,281.4 million grams silver. The mineralization occurs in replacement quartz veins with the quartz enclosing or partially enclosing sulphide ore shoots. The average

sulphide content of the ore shoots is 20%. The vein system is associated with a cataclastic zone adjacent to the Texas Creek Pluton. Westmin reports 8,195,000 tons grading 0.070 oz/t gold and 2.09 oz/t silver in the Silbak-Premier deposit (Alldrick et al, 1989) and 1,806,760 tons grading 0.089 oz/t gold and 1.17 oz/t silver in the nearby Big Missouri deposit (Marshall, 1987).

Scottie Gold Mines, also in the Stewart area, which commenced operation in 1981 was one of the first new producers in the area. The mine experienced financial difficulties, in part exacerbated by erratic grades, and closed in 1985. The deposit occurs in a structurally controlled quartz vein and has reserves estimated at 138,000 tons grading 0.56 oz/t gold (McLeod, 1985).

# PROPERTY GEOLOGY

As mapped by Grove (Figure 4), the majority of the property area is underlain by rocks of the Lower Jurassic Unuk River Formation (Unit 12a), consisting of thick bedded volcanic conglomerates, breccias, flows, intercalated sandstone and banded siltstone and lenticular calcarenite members. Significantly, almost all of the major gold-silver deposits of the Stewart area have been localized in, or proximal to, volcanics and volcanic sediments of the Unuk River Formation.

In the center of the 4-J's claims, the Unuk River Formation is in fault contact with a structural remnant of the Salmon River Formation (Unit 16), consisting of dark color-banded siltstones, greywackes and intercalated calcarenite (limestone) and a variety of volcanic sediments and minor flow rocks. This unit has apparently been folded into a doubly plunging, east-west trending syncline overlying the more massive Unuk River members. According to Grove (1986), these canoe-fold structures



### LEGEND FOR FIGURE 4

#### SEDIMENTARY AND VOLCANIC ROCKS

#### QUATERNARY

RECENT

- UNCONSOLIDATED DEPOSITS, RIVER FLOODPLAIN, ESTUARINE, RIVER CHANNEL AND TERRACES, ALLUVIAL FANS, DELTAS AND BEACHES, OUTWASH, GLACIAL LAKE SEDIMENTS, TILL PEAT, LANDSLIDES, VOLCANIC ASH, HOTSPRING DEPOSITS 20
- BASALT FLOWS (a), CINDERS, ASH (b) - 10

PLEISTOCENE AND RECENT BASALT FLOWS

17

CENOZOIC

MESOZOIC

#### JURASSIC HAZELTON GROUP UPPER JURASSIC

NASE FORMATION SILTSTONE, GREYWACKE, SANDSTONE, SOME CALCARENITE ARGIL LITE, CONGLOMERATE, MINOR LIMESTONE, MINOR COAL IINCLU DING EQUIVALENT SHALE, PHYLLITE, AND SCHIST)



#### MIDDLE JURASSIC SALMON RIVER FORMATION

SILTSTONE, GREYWACKE, SANDSTONE, SOME CALCARENITE, MINOR LIMESTONE, ARGILLITE, CONLOMERATE, LITTORAL DEPOSITS 16

RHYOLITE, RHYOLITE BRECCIA, CRYSTAL AND LITHIC TUFF 14

BETTY CREEK FORMATION

PILLOW LAVA, BROKEN PILLOW BRECCIA (a) ANDESITIC AND BAS ALTIC FLOWS (b)

GREEN, RED, PURPLE, AND BLACK VOLCANIC BRECCIA, CONLOM GERATE, SANDSTONE, AND SILTSTONE (4), CRYSTAL AND LITHIC TUFF (6), SILTSTONE (6), MINOR CHERT AND LIMESTONE (1N) CLUDES SOLE LAVA (+14)) (6)

#### LOWER JURASSIC UNUK RIVER FORMATION

GREEN, RED. AND PURPLE VOLCANIC BRECCIA, CONGLOMERATE SANDSTONE, AND SILTSTONE (J), CRYSTAL AND LITHIC TUFF (G) SANDSTONE (c), CONGLOMERATE (d), LIMESTONE (a), CHERT (I) MINOR COAL (g)

PILLOW LAVA (0). VOLCANIC FLOWS (b)

#### TRIASSIC

UPPER TRIASSIC

TAKLA GROUP (?)

SILTSTONE, SANDSTONE, CONGLOMERATE (6), VOLCANIC SILT STONE, SANDSTONE, CONLOMGERATE (6), AND SOME BRECCIA (c) CRYSTAL AND LITHIC TUFF (6), LIMESTONE (e)

#### PLUTONIC ROCKS

#### OLIGOCENE AND YOUNGER

DYKES AND SILLS ISWARMS). DIORITE (a), QUARTZ DIORITE (b), GRANODIORITE (c), BASALT (d)

ECCENE (STOCKS, ETC.) AND OLDER

QUARTZ DIDRITE (a), GRANODIORITE (b), MONZONITE (c), QUARTZ MONZONITE (d), AUGITE DIORITE (a), FELDSAAR PORPHYRY (I)

COAST PLUTONIC COMPLEX GRANODIORITE (J. QUARTZ DIORITE (b): QUARTZ MONZONITE, SOME GRANITE (C), MIGMATITE - AGMA TITE (d)

JURASSIC

MIDDLE JURASSIC AND YOUNGER ? GRANODIORITE (a), DIORITE (b) SYENODIORITE (c) MONZONITE (d), ALASKITE (e)

#### LOWER JURASSIC AND YOUNGER ?

DIORITE (.). SYENOGABBRO (b) SYENITE (c)

TRIASSIC

#### UPPER TRIASSIC AND YOUNGER ? DIORITE (a), QUARTZ DIORITE (b), GRANODIORITE (c)

3

MESOZOI

CENOZOIC

8

7

# METAMORPHIC ROCKS TERTIARY

HORNFELS () PHYLLITE SCHIST ID SOME GNEISS ()

HORNBLENDE PREDOMINANT

#### JURASSIC

HORNFELS (a). PHYLLITE, SEMISCHIST, SCHIST (b). GNEISS (c). CATACLASITE MYLONITE (d), TACTITE (a) 2

#### TRIASSIC

1 AREA UNMAPPED

SCHIST (a), GNEISS (b), CATACLASITE, MYLONITE (c) 1 see rext page HORNBLENDE OR AMPHIBOLE DEVELOPED BIOTITE DEVELOPED POTASSIUM FELDSPAR DEVELOPED

#### SYMBOLS

			~
ANTICLINE INOR	MAL OVERTURNEDI	1	-11
BEDDING HORIZ	ONTAL INCLINED VERTICAL	CONTORTED	+
BOUNDARY MON	UMENT		3
CONTOURS INTE	RVAL 1000 FEETI	5.	
AULT OFFINED	APPROXIMATE		
AUL THRUST			**
FAULT MOVEMEN	T APPARENT	-	
FOLD AKES MIN	ERAL TINEATION HORIZON	TAL INCLINEDI	11
FOSSIL COCALITY	Ť		F
GEOLOGICAL CO	NTACT DEFINED APPROXIM	ATEI	
ALACIAL STRIAL			· 5
GRAVEL SAND	H MUD		
HEIGHT IN FEET	ABOVE MEAN SEA LEVEL		· 6234'
INTERNATIONAL	BOUNDARY		
JOINT SYSTEM I	NCLINED VERTICAL		+
MARSH			
MINING PROPERT	v		**
RIDGE TOP		1	
SCHISTOSITY (INC	LINED, VERTICALI		
SYNCLINE INORM	AL. OVERTURNED	-1	÷
TUNNEL .			

VOLCANIC CONE

ACUT

Compliation and yeulogy by E. W. Grove, 1964 to 1970, with essist, by N. H. Haimila and R. V. Kirkam, 1966 and James T. Fyles, 1967 Geology of the Alice Arit, area by N. C. Carter, 1964 to 1968

are common within the Stewart Complex and generally reflect half-graben development. The faults which give rive to these structures are generally normal high angle features.

Grove has also mapped a zone of alteration (Unit 2b-Jurassic age, phyllite, semi-schist or schist) trending from the East Gold mine west and west-northwest onto the Catspaw claim. Such sericite schist zones are common in and around area gold deposits like those at the Premier, Sulphurets and Gold Wedge properties.

Several, small. Eocene age, feldspar porphyry intrusives have also been noted during investigations of the property. These seem to lie along a regional, roughly north-northwest trending corridor and appear to be related to the mineralization in evidence on the Gamma and John claims.

# Mineralization

Extensive retreat of permanent snow on the John claim in 1983 disclosed a mineralized area approximately 50 m wide by 75 m in length. This area was reported as lying within a 10 to 50 m wide zone of sericite alteration running north-south for several hundred metres along the eastern edge of the icefield capping the height of land on the John, Jonas, Lambda and Xi claims (Kruchkowski, 1983). Two areas of mineralization are noted as shaded patches on Figure 5, the more northerly one being the one referred to above.

Mineralization observed in place consisted of veins, stockworks, and an unusual stratiform type of fine-grained massive sulphides. Large, angular quartz boulders were also noted, containing galena, bournonite, sphalerite, pyrite, and tetrahedrite. Grab and chip sampling of the mineralized zones, for Wedgewood Resources Ltd., indicated assay values ranging from 0.001-0.098 oz/ton gold, 0.06-39.50 oz/t in silver, 0.01-1.81% copper, 0.03-64.5% lead and 0.03-38.10% zinc for widths from 10 cm to 1.9 m.

The presence of the stratiform mineralization was not realized until a routine wallrock sample of what appeared to be barren, black argillite returned assay values of 21.4% lead, 30.2% zinc, 5.68 oz/ton silver and 0.038 oz/ton gold over a sample width of 0.28 m. Hand specimens were then cut in half with a diamond saw, revealing very fine-grained, laminar wisps of sphalerite and galena. Petrographic examination showed that antimony minerals such as bournonite were present along with galena.

The indicated potential for a "sedex-type" lead-zinc deposit ultimately led to an option of the 4-J's by Noranda. Unfortunately, the showing did not come out from under the snow the following year and Noranda's efforts were primarily confined to mapping and sampling the mineralized boulder trains extending downslope from the icefield.

Five types of mineralization sampled by Noranda during its limited 1985 field program over the John and Jonas claims were classed as "potentially economic" (Baerg, Bradish; 1986). These are described below:

- 1. Vuggy quartz vein boulders with abundant galena and bournonite.
- 2. Vuggy quartz vein boulders with bournonite and sphalerite.
- 3. Altered argillite cobbles with sphalerite, bournonite and antimony.
- 4. Altered argillite cobbles with native antimony.
- 5. Massive sphalerite-pyrite cobbles.





Average values for select samples from these mineralization types as reported by Noranda are listed below:

Mineral Type	CuZ	РЪ <b>Х</b>	ZnZ	Ag oz/t	Au oz/t	Sd <b>z</b>	<pre># of Samples</pre>
1	0.18	28.05	0.59	24.54	.047	1.45	6
2	0.20	2.72	2.33	0.86	.034	1.16	8
3	0.57	3.33	8.67	2.01	.001	1.35	6
4	tr	tr	tr	0.10	.001	7.20	2
5	tr	tr	+4%	0.20	.073	tr	1

Noranda concluded that the source for the mineralized boulders was probably under the icefield and that exploration for such a source would entail high costs.

# Geophysics

Airborne and ground electromagnetic surveys have been conducted over the mineralized area (Carter, 1985). The main zone is reflected by a pronounced northerly-trending VLF-EM conductor (Figure 5) which is open to the northeast. Three other subparallel conductors are also noted under the ice and trending northwesterly, which are situated west of the main zone. It is postulated that the difference in orientation between the main zone conductor and the others may be due to movement along the regional shear zone. Survey coverage did not extend far enough to include the southern mineral occurrence.

# CONCLUSIONS AND RECOMMENDATIONS

Exploration on the 4-J's project to date has located two zones of lead-zincsilver (gold-antimony) mineralization at the northern end of the John claim. This mineralization appears to be related to a 10 to 50 m wide quartz-sericite-pyrite

altered shear zone which trends north northwesterly from the East Gold and Haida prospects through the John and Jonas claims.

The zones are located approximately 1200 m apart, where they have been exposed by retreat of a small icefield, within and adjacent to the alteration zone. In the northernmost zone a 50 by 75 m area of quartz veining stockworks and brecciation contains three styles of mineralization. These include banded galena and sphalerite associated with black, argillite, quartz vein-hosted coarsely crystalline galena, sphalerite, tetrahedrite and pyrite, and pyrite-antimony-bearing quartz veins.

Samples of the first type are generally fine grained laminar galena and sphalerite with textural and structural features similar to stratiform lead-zincsilver deposits. Assay values from this style of mineralization have been reported in the range of 9% zinc, 5% lead, 2 oz/t silver with some gold values.

The coarse grained vein-hosted sulphides were noted predominantly as angular float within the mineralized and altered zones. Locally in areas with abundant tetrahedrite the silver content reaches 30-40 oz/t. Lead and zinc assays have reached as high as 64.5% and 38.1% respectively. Exposure of this type of mineralization is restricted to a distinct boulder train extending our from the ice edge.

Antimony bearing quartz pyrite veins occur within the sericite altered shear zone but appears to be later stage as they cross cut the other mineralization. Higher gold values are associated with this style of mineralization as is elevated arsenic which may indicate a similarity to the East Gold and Haida prospects.

Airborne and ground geophysical surveys over the northernmost zone have indicated four EM conductors, one of which is coincident with the banded massive sulphides in the Main Zone. The remaining three are beneath the ice, however they would be accessible by drilling from the edge of the ice field.

A Phase I program of trenching and sampling of the John Showing is warranted to test the continuity of this zone. In addition, the north-northwest trending quartzsericite-pyrite alteration zone should be prospected and mapped were ever exposed. Geophysical surveys should be conducted to help define mineralized horizons. Based on favourable results from this work a drilling program should be initiated to test the main zone and those conductors beneath the icefield. Costs for these programs are estimated as follows:

### COST ESTIMATES

Phase I:

Helicopter 35 hrs @ \$600/hr	\$ 21,000
Personnel 23 days @ \$1500/day	34,500
Trenching 8 days @ \$1000/day	8,000
Assays 1000 @ \$15/sample	15,000
Orthophoto Base	2,500
Geophysics 9 days @ \$500/day	4,500
IP 8 days @ \$1000/day	8,000
Support 150 mandays @ \$125/day	18,750
Report	6,450
Contingencies @ 10%	11,800
Subtotal	\$130,500
Management Fee @ 15%	19,500
Total Phase I	\$150,000
Phase II:	

\$218,750
32,250
\$250,000

# **CERTIFICATE of QUALIFICATIONS**

I, Jim Chapman, of 580 West 17th Avenue, Vancouver, British Columbia hereby certify:

- I am a graduate of the University of British Columbia (1976) and hold a BSc.
  degree in geology.
- 2. I am presently employed as a consulting geologist with OreQuest Consultants Ltd. of 404-595 Howe Street, Vancouver, British Columbia.
- 3. I have been employed in my profession by various mining companies since graduation.
- 4. I am a Professional Geologist with the Association of Professional Engineers, Geologists and Geophysicists of Alberta.
- 5. I am a Fellow of the Geological Association of Canada.
- 6. The information contained in this report was obtained from a review of data listed in the bibliography, a property examination and knowledge of the area.
- 7. I have no interest, direct or indirect or in the securities of International Maple Leaf Resources Corporation.
- 8. I consent to and authorize the use of the attached report and my name in the Company's Prospectus, Statement of Materia, Facts or other public document.

Jim Chapman Consulting Geologist ELLON

DATED at Vancouver, British Columbia, this 28th day of March, 1989.

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