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### COMPILATION REPORT LIZARD CLAIM GROUP ALBERNI MINING DIVISION NTS 92F/2

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#### **INTRODUCTION**

As part of an acquisition of mineral assets from UMEX Inc., Major General Resources Ltd. recently acquired a joint venture interest in the Lizard Project. Subsequent negotiations with Noranda Exploration Company Limited has resulted in Major General successfully gaining control of the property.

This Compilation Report summarizes and combines pre-existing UMEX and Noranda exploration data and incorporates geological mapping released in May 1991 by the Ministry of Energy, Mines and Petroleum Resources ("MEMPR").

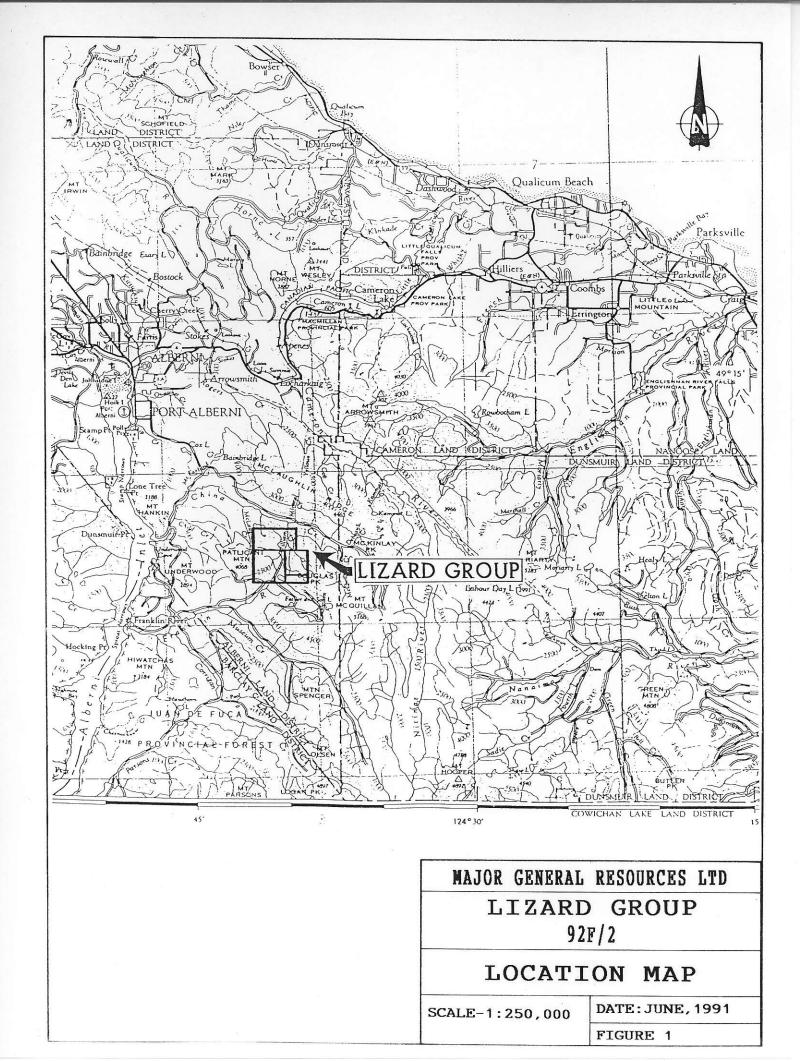
#### LOCATION AND ACCESS

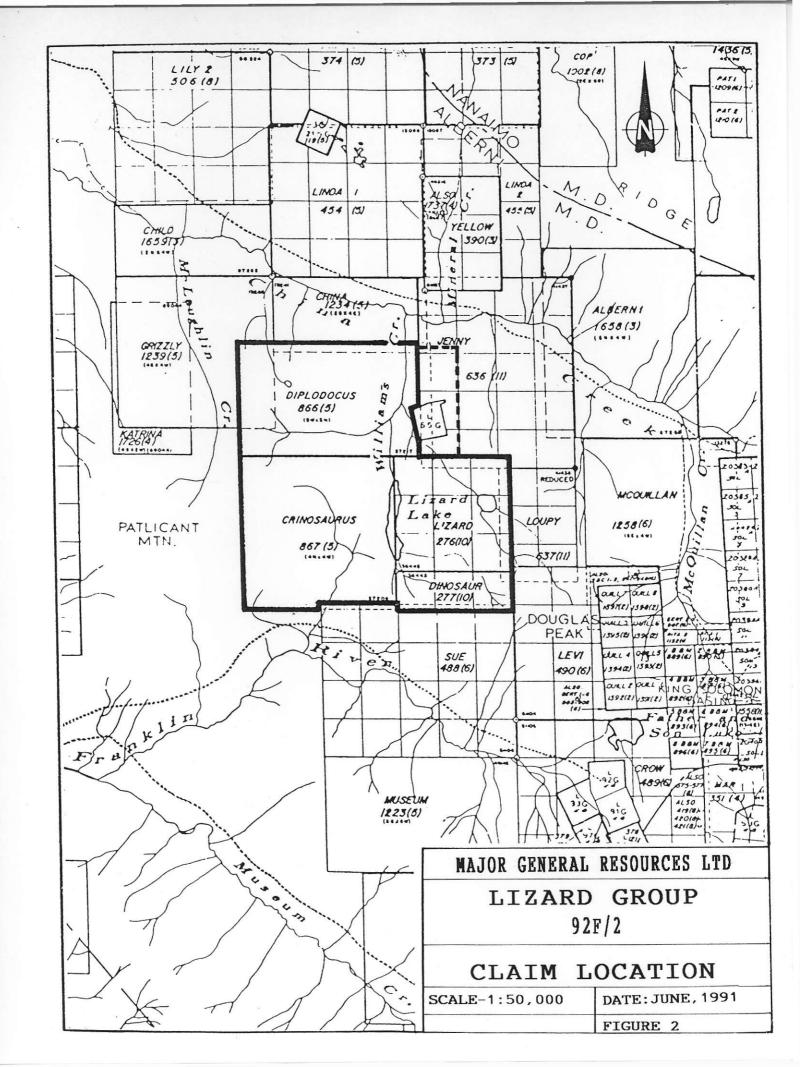
The property is located in NTS Map Sheet 92F2 (see Figure 1). It is situated 15 kilometers southeast of Port Alberni on north central Vancouver Island, British Colombia. Vehicle access is gained via China Creek or the Franklin River Branch logging road systems, approximately a 30 minutes drive from Port Alberni. Good logging spur roads provide excellent access throughout the property.

Lizard Lake, the alternate drinking water supply for the city of Port Alberni is located in the central portion of the Property. No significant restrictions have been encountered in the exploration work conducted to date.

#### TENURE

The Lizard claim group consists of 51 units in the Port Alberni Mining Division (see Figure 2). Claim descriptions, record and due dates are contained in Table 1.





#### Table 1 TENURE

Claim Name	Units	No.	Date Recorded	Due Date
Crinosaurus	16	867	May 20, 1980	May 20, 1994
Dinosaur	3	277	Oct. 16, 1978	Oct. 16, 1994
Diplodoeus	15	866	May 20, 1980	May 20, 1994
Lizard	9	276	Oct. 16, 1978	Oct. 16, 1994
Dylan Fr	5	3485	Mar. 1, 1988	Mar. 1, 1994
Frostbite Fr	3	3486	Mar. 1, 1988	Mar. 1, 1994

#### HISTORY

#### **Previous Work**

Exploration interest in the area dates back to 1898 when the Regina Crown Grant was established. Minor underground excavation took place in the 1930's.

The current exploration era began in 1976 when Western Mines Ltd. now Westmin Resources Ltd. undertook a regional program designed to evaluate Sicker Group volcanics for volcanogenic massive sulfide ("VMS") potential. Subsequent work by UMEX resulted in the staking of the first claims between 1978 and 1980. After UMEX encountered initial encouraging exploration results, Noranda optioned the property and carried out five field seasons of work between 1983 and 1988. Noranda's approach saw a heavy emphasis on detailed mapping and surface grid geochemistry and geophysics. Only limited drilling was conducted during two field seasons and holes appear to have been spotted primarily on geophysical targets.

Table 2 summarizes work completed to date on the property.

Table 2 HISTORY

Date	Operator	Work Conducted	Remarks
1988	Noranda	Geological mapping (structure), IP surveys, extensive soil pit geochemistry.	Focus of program looking for north- south fault controlled gold deposits. IP survey identified two priority one targets and five priority two targets which were not drilled due to a lack of target definition. Soil pit geochemistry concluded gold anomalies on the property are hydromorphic.
1987	Noranda	Geological mapping; soil and rock chip geochemistry.	Anomalous gold, silver, copper, arsenic soil and rock chip geochemistry located within cherty exhalitive precious metal zones.
1985	Noranda	Geological mapping, geochemical and geophysical surveys; two drill holes totalling 318.5 m.	VLF Mag HLEM and IP surveys conducted in the main grid area. Primary target is cherty tuff exhalitive precious metal horizons.
1984	Noranda	Geological mapping; diamond drilling of five holes for a total of 544.4 m.	Drill holes intersect 1 to 2 g/t gold over 1 to 2 m. Drilling does not adequately explain geochemical and geophysical anomalies.
1983	Noranda	Soil and rock chip geochemistry, IP and detailed magnetic surveys conducted	Four strong gold soil geochemical anomalies were developed on the property. Coincident geophysical anomalies were encountered.
1983	Noranda	Noranda options property.	
1981	UMEX	Geological mapping, rock chip sampling, EM 16 survey.	Results inconclusive.
1979-80	UMEX	Regional soil geochemistry and trenching followed by grid geochem.	Strong gold geochemical anomaly in soils and rock chips; 4,400 ppb gold rock chip sample taken over 2 m. in backhoe trench.
1978	UMEX	Staked Lizard claim group.	
1976	Westmin	Regional mapping.	Evaluated Sicker Group rocks for massive sulfide potential.
1930	Private owner	Five adits and one shaft and one open-cut working established on Regina Crown grant.	Gold and silver showings found; no production records available.
1898	Alberni Gold Development Syndicate	Regina Crown grant (L55G) established.	

#### **Observations on Historical Programs**

#### 1988 Noranda Program

Focus of the 1988 Noranda program was on locating the Mineral Creek Fault looking for structurally controlled (north-south) gold deposits similar to the zones on the Debbie and Yellow properties to the north. Geophysics located two priority one targets and five priority two targets which were not drilled because they were deemed not well enough defined.

Extensive soil pit geochemical profiles were taken in the areas of anomalous gold. Noranda concluded that anomalies were hydrotnorphic transported anomalies hecause subcropping mineralization was not encountered in the pit floors. However, geochemical values did not decrease and, in many cases, increased with depth through the C horizon, thus indicating that a detrital mechanical in-place anomaly exists.

Noranda recommended that if further exploration work is carried out in this area, it should be in the form of diamond drilling.

#### 1987 Noranda Program

In 1987, Noranda encountered anomalous gold/silver/copper/arsenic mineralization associated with hydrothermally altered faults. Major copper/gold/arsenic coincident geochemical anomalies were expanded on the east side of Lizard Lake. Noranda recommended additional detailed soil sampling.

#### 1985 Noranda Program

A high gold/copper soil anomaly with coincident geophysical anomalies was developed south east of Lizard Lake. Noranda drill targets appear spotted on the highest gold concentration rather than the upslope lower order anomalies. The best intersections encountered by drilling include 2 m of 1.83 g/t gold and 3.6 g/t silver. Of significance was the discovery of a pyritic jasper or iron formation anomalous in gold which appears to be similar to the 900 deposit and showings at the Thistle mine. Additional drilling was recommended by Noranda.

#### 1984 Noranda Program

Several geophysical geochemical anomalies were identified. Some drill targets were drill tested with "encouraging" results. Intersections were in the order of 1 to 2 g/t over 1 to 2 m. Noranda concluded both massive sulfide and gold/silver mineralization are associated with pyritic cherty exhalitive horizons in Sicker Group volcanics. Drilling did not adequately explain the geophysical and geochemical anomalies and additional drilling was recommended.

#### **UMEX** Exploration

UMEX conducted exploration on the Lizard property between 1978, when the property was staked, and 1981. Regional soil geochemistry and trenching with follow-up rock chip sampling and EM16 surveys located a strong geophysical and geochemical anomaly and rock chip geochem values of 4,400 ppb gold were reported over 2 m. in a backhoe trench on the south east side on Lizard Lake. The bulk of the work conducted by UMEX was on the claims west of the Mineral Creek fault on a portion of the property underlain by Karmutsen volcanics.

#### **REGIONAL GEOLOGY**

The geological history of north central Vancouver Island can be simplified into five major episodes:

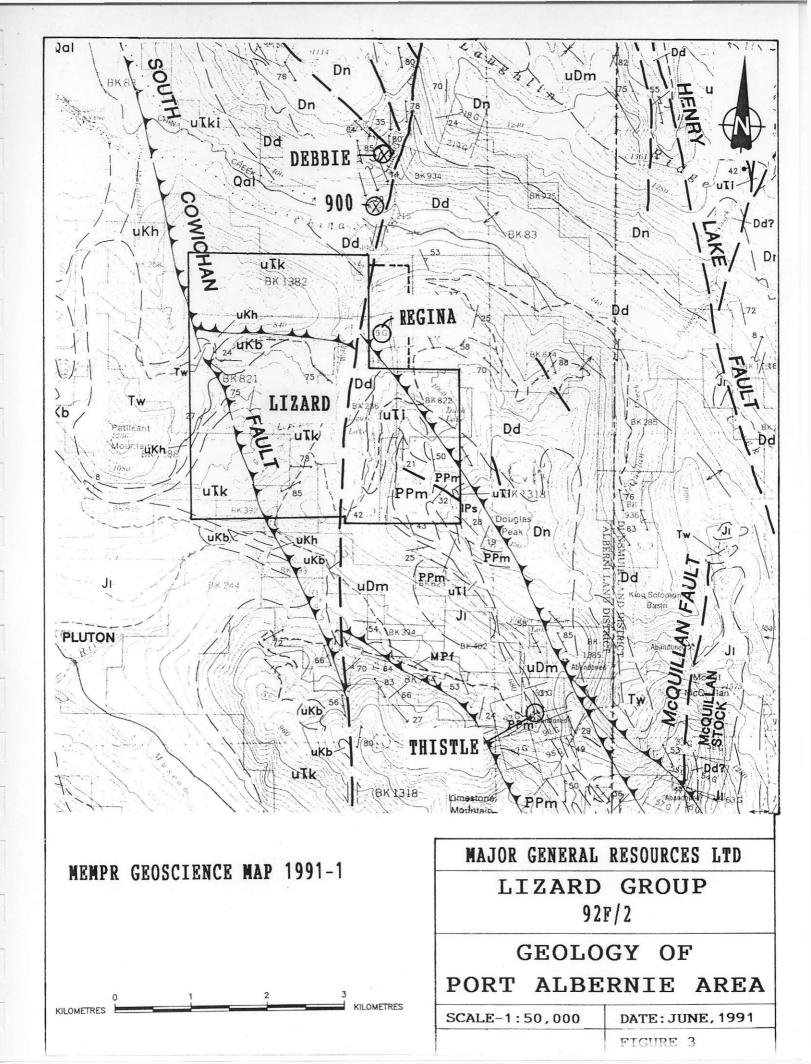
- 1. Formation of the Paleozoic Volcanic Arc of the Sicker Group;
- 2. Extrusion of the Triassic Tholeiitic Flood Basalts of the Karmutsen Formation;
- 3. Development of the Jurassic Volcanic Arc of the Bonanza Group and related island intrusions;
- 4. Nanaimo Group Sedimentation; and
- 5. Tertiary volcanic and plutonic activity, including emplacement of the Tertiary Catface and Mount Washington intrusion.

The Lizard claim group area lies within the Cowichan uplift which is one of a series of geanticlinal structures within Wrangellia Terrane on Vancouver Island (see Figure 3, Table 3).

The oldest rocks belong to the Paleozoic Sicker and Buttle Lake Groups which contain volcanic and sedimentary units ranging from middle Devonian to early Permian in age. Unconformably overlying the Paleozoic rocks are basaltic volcanics of the upper Karmutsen Formation overlain by limestones and argillites of the Quatisno and Parsons Bay Formation (the Vancouver group). Vancouver group rocks are conformably to disconformably overlain by marine sediments and marine to subaerial volcanics of the lower Jurassic Bonanza Group. All sequences have beeth intruded by granodioritic stocks of the early to middle Jurassic island plutonic suite. Late Cretaceous sediments of the Nanaimo Group unconformably overlie the older sequences. Tertiary dacite porphyry intrusions and dyke swarms intrude all older rocks.

The Cowichan uplift is cut into several slices by large scale northwesterly trending thrust faults which dip moderately to steeply to the northeast and place older rocks over younger rocks. Late stage Tertiary faulting oriented in both north-south and east-west complimentary attitudes crosscut all earlier structure and stratigraphy.

Within the Cowichan Lake uplift the Sicker Group has been subdivided into three formations. The lower Duck Lake Formation comprises pillowed and massive basalt flows and breccias with minor chert, jasper and felsic tuff interbeds. The overlying Nitinat Formation is characterized by basalts typically occurring as massive and pillowed flows, breccias and tuffs. The Nitinat Formation passes transitionally upwards into the McLaughlin Ridge Formation, a more heterogeneous sequence of intermediate to felsic volcanics and volcaniclastic sediments. This unit has been correlated by Massey, Sutherland Brown and others to correlate with the Myra Formation with hosts the Mine Sequence rocks at Myra Falls. Within the Cowichan uplift there is a general trend from a proximal volcanic dominated sequence in the Duncan area



## GEOLOGY OF THE PORT ALBERNIE AREA 92F/2E

## LEGEND

#### MIDDLE(?) TO UPPER DEVONIAN SICKER GROUP

uDm

MCLAUGHLIN RIDGE FORMATION: thickly bedded tuffite and lithic tuffite, feldspar--crystal tuff, heterolithic lapilli tuff and breccia, rhyolite, dacite, laminated tuff, and chert

Dn

NITINAT FORMATION: pyroxene—feldspar phyric agglomerate, breccia and lapilli tuff, massive and pillowed flows, massive tuffite and lithic tuffite, laminated tuff, and chert

Dd

DUCK LAKE FORMATION: pillowed and massive basaltic flows, monolithic basalt breccia and pillow breccias, chert, jasper and cherty tuff, felsic tuffs and lapilli tuff, massive dacite and rhyolite

#### SYMBOLS

Geological contact (defined, approximate, assumed, transitional)
Limit of drift covered area
Bedrock outcrops within drift covered area $\times$
Bedding (horizontal, inclined, overturned)
Bedding estimated from pillows (inclined)
Schistosity and cleavage (inclined, vertical)
Lineation (plunge indicated)
Axis of minor folds (plunge indicated)
Fault; downthrown side and dip indicated (defined, approximate, assumed)
Reverse and thrust faults with dip indicated; teeth indicate upthrust side (defined, approximate,assumed)
Anticline (with plunge indicated)
Overturned anticline
Syncline (with plunge indicated)
Overturned syncline

**GEOSCIENCE MAP 1991-1** 

## GEOLOGY OF THE PORT ALBERNIE AREA 92F/2E LEGEND

INTRUSIVE ROCKS

#### LATE EOCENE

MOUNT WASHINGTON INTRUSIVE SUITE

Tw

A

Hornblende-feldspar dacite porphyries

#### JURASSIC(?)

MINOR INTRUSIONS

**F H** Pyroxene—feldspar diabase (A), feldspar, quartz—feldspar porphyry (F), hornblende—feldspar porphyry (H)

#### EARLY TO MIDDLE JURASSIC

ISLAND PLUTONIC SUITE.

JI

Diorite, granodiorite, quartz diorite often with abundant xenoliths, gabbro, aplite

#### LATE TRIASSIC

MOUNT HALL GABBRO

uTi

Sills and dikes coeval with Karmutsen Formation: diabase and gabbro

## VOLCANIC AND SEDIMENTARY ROCKS

#### QUATERNARY



Unconsolidated glacial till and poorly sorted alluvium

#### UPPER CRETACEOUS

NANAIMO GROUP



HASLAM FORMATION: argillite, siltstone, shale and minor sandstone

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BENSON FORMATION: boulder and pebble conglomerate, sandstone and minor siltstone

#### LOWER JURASSIC

BONANZA GROUP

JB

Feldspar basalt, andesite, dacite, tuff, sandy tuff, crystal tuff, lapilli tuff and breccia, with minor argillite and sandstone

#### UPPER TRIASSIC

VANCOUVER GROUP

uTs

QUATSINO AND PARSON BAY FORMATIONS (UNDIFFERENTIATED): massive micrite, flaggy limestone, argillite, siltstone

**uTk** KARMUTSEN FORMATION: pillowed and massive basaltic flows, hyaloclastite and hyaloclastite breccia

#### MISSISSIPPIAN TO LOWER PERMAIN

BUTTLE LAKE GROUP LOWER PERMIAN

IPs

ST. MARY'S LAKE FÜRMATION: volcanic sandstone and pebble conglomerate, graded sandstone and argillite, cherty argillite, chert and minor jasper

UPPER PENNSYLVANIAN TO LOWER PERMIAN

**PPm** MOUNT MARK FORMATION: massive crinoidal limestone, bedded limestone, marble, chert, cherty argillite and siltstone

MISSISSIPPIAN TO PENNSYLVANIAN

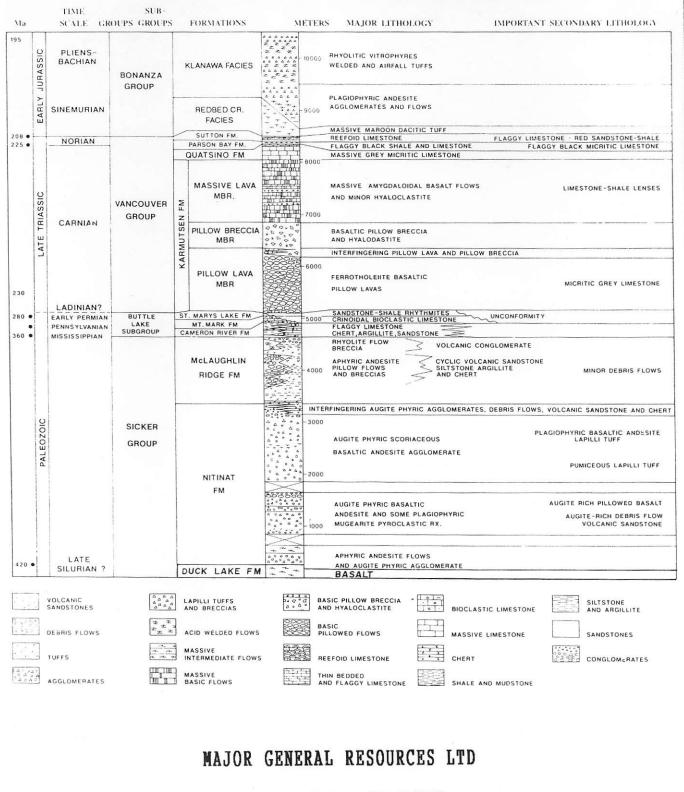
MPf

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FOURTH LAKE FORMATION: ribbon chert, argilite, criticidal limestone, internalisted

## TABLE 3

#### COMPOSITE WRANGELLIAN STRATIGRAPHIC COLUMN, ALBERNI AREA AND PROPOSED NOMENCLATURE



LIZARD GROUP 92F/2E

FROM: MEMPR OPEN FILE 1988-24

(hosting proximal deposits) to a more distal volcaniclastic sedimentary dominated sequence in the Alberni area. The overlying sedimentary Buttle Lake Group consists of the Fourth Lake, Mount Mark and St. Mary's Lake Formation, a dominantly epiclastic sedimentary sequence of cherts, turbidites and argillites.

Unconformably overlying the Paleozoic terrain is the upper Triassic Karmutsen tholeiitic basaltic volcanic sequence. Massive pillow basalts at the base of the unit give way to massive flows and flow breccias towards the top of this plus 3,000 m. thick unit.

The Karmutsen formation is overlain by the Bonanza Super Group volcanic rocks primarily marine at the base grading to subaerial in the upper portion of the island arc volcanic assemblage. Coeval gabbroic masses forming extensive dyke and sill complexes intrude older rocks.

Intrusions within the Cowichan Lake uplift include the lower Jurassic island intrusions, predominantly of diorite to granite diorite composition and Tertiary Eocene dacite feldspar porphyry sills and dykes.

#### ECONOMIC GEOLOGY

#### Regional

Sicker Group rocks host several VMS deposits which are currently mined by Westmin Resources at a rate of 4,000 tons per day at the Myra Falls operation. The mine is located approximately 50 km south of Campbell River or approximately 140 km northwest of the Lizard property. Reserves (January 1989) in all categories for the combined Linx/Myra/Price/H-W deposits are 12.5 million tons grading 2.4% copper, 5.28% zinc, 0.36% lead, 2.4 g/t gold and 37.7 g/t silver. It is estimated (from 1988 figures) that since the start of operations in 1966 approximately 12 million tons of ore has been milled producing 20 million grams of gold, 700 million grams of silver, 200,000 tons of copper, 600,000 tons of zinc, 70,000 tons of lead and 200,000 pounds of cadmium.

Several volcanogenic massive sulfide deposits are clustered along a 6 km. northwest trending zone within Myra Formation rocks in the Buttle Lake uplift (see Figure 4). The Lynx, Myra and Price deposits lie within a rhyolite tuff and minor chert unit at the same stratigraphic horizon; the H-W deposit lies at the base of the Myra Formation. Recent announcements by Westmin of a new discovery of a VMS deposit of +30 m. of thickness has been made. Two recent drill holes are reputed to be the best drill intersections ever encountered on the property. Renewed interest is expected in Sicker Group rocks on Vancouver Island for similar environments.

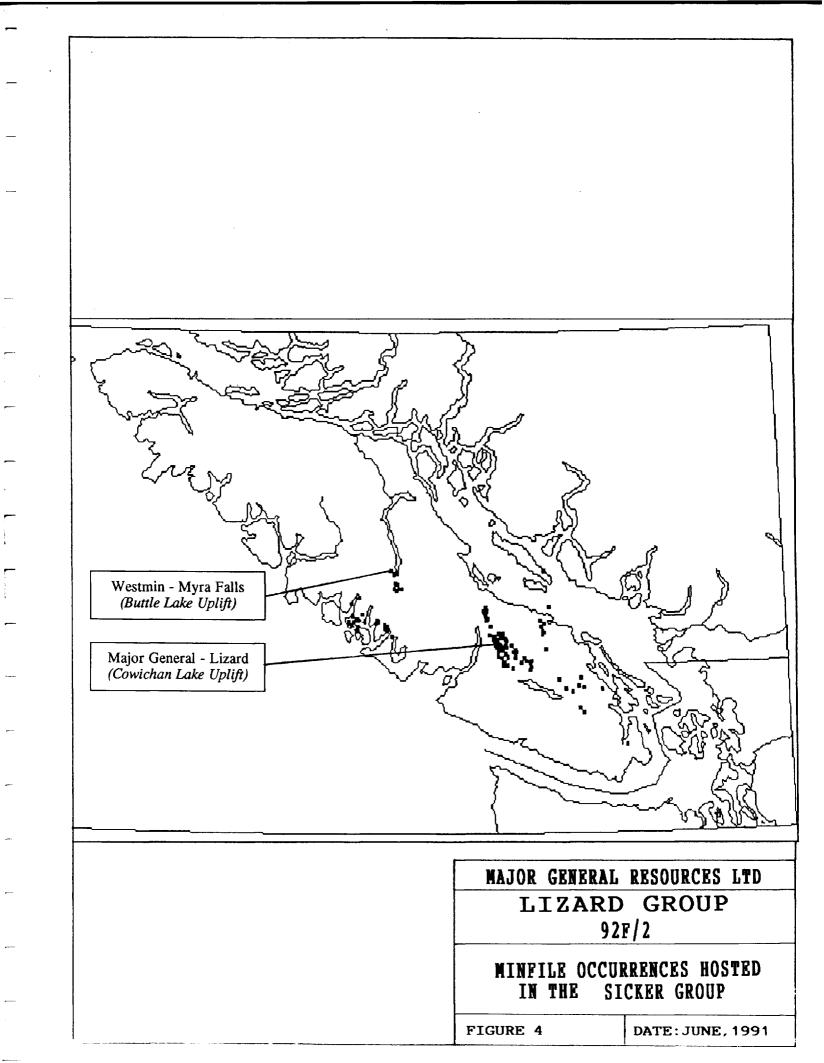
#### Local

Associated with the Mineral Creek Fault system and adjacent to the north of the Lizard property are the Debbie (Yellow) and 900 Zone properties owned by Westmin (Nexus/Pacific Gold). A third prospect is the former producing Thistle Mine, south east of the Lizard group.

Summary descriptions of these "developed prospects" (Minfile classification) is as follows:

#### Debbie (Yellow)

Two gold zones occur on the Debbie property hosted in the hanging wall of an east dipping fault hosted in the Duck Lake, Nitinat and Myra Formation rocks. Gold occurs in quartz ankerite pyrite alteration in bedded volcaniclastic and basaltic flow rocks adjacent to the Mineral Creek fault. Gold also occurs in late Tertiary gold quartz sulfide veins which cross cut all lithologies and structures.



#### 900 Zone

The 900 Zone contains gold in a magnetite-pyrite rich jasper bearing bedded chert in quartz veins and in stockworks hosted within basalts at the contact between the Duck Lake and Nitinat Formations. The 900 Zone is hosted in a cherty iron formation within an area 180 m. in strike length, 150 m. in width and over 120 m. in depth. Most of the mineralization is hosted in the exhalative cherty iron formation, however, gold is also contained in quartz stockworks and at the intersections of a number of moderately altered faults which underlie the cherty iron formation. Reserves in the 900 Zone are estimated at 28,285 tons grading 11.65 g/t gold (Mineral Inventory, December 1989).

#### **Thistle**

The Thistle Mine is located approximately 16 km southeast of Port Alberni or approximately 5 km south of the Lizard property. Disseminated and massive sulfide mineralization is hosted within chloritized mafic volcanic flows of the McLaughlin Ridge Formation. The property saw limited production between 1938 and 1942. Approximately 85,000 g of gold and 66,000 g silver and 310,000 pounds of copper were reportedly produced from 6,300 tons ore. At the Panther showing, precious metal hosted in pyritic jasper has been described by Westmin geologists as similar to the cherty iron formation hosting precious metal at the 900 deposit. Property is presently owned by Nexus/Pacific Gold.

#### LIZARD PROPERTY GEOLOGY

#### Geology

The Lizard claim group is underlain by Paleozoic Sicker Group rocks predominantly to the east of the Mineral Creek Fault which lies along the topographic depression formed by Lizard Lake (and Williams Creek) and Karmutsen basaltic volcanic rocks to the west (see Figure 5, in pocket; NOTE: Figure 5 Property Geology shows both mapping by Noranda and recently released MEMPR mapping by Massey. Both Legends are contained on the geology map and the appropriate correlations are readily evident).

The southeastern portion of the Lizard claim block is underlain by bimodal basaltic and siliceous intermediate to rhyolitic volcanic flows and tuffs of the McLaughlin Ridge Formation (equivalent to the Myra Formation Mine Series of rocks at Buttle Lake; after Massey et al). The rhyolitic volcanics of the McLaughlin Ridge are overlain to the east by the Buttle Lake series of limestones and argillites. Contained within both of these units and with uncertain contact relations with the Duck Lake Formation are gabbro sill and dyke complexes which are heavily chloritized and difficult to recognize (may account for the mapping discrepancy between Massey and Noranda). The gabbro masses may be coeval with Karmutsen volcanic rocks to the west.

The contact between the Duck Lake mafic volcanics and Nitinat Formation has been mapped by Massey as occurring along the drainage (controlled by the northwest trending Cowichan Thrust Fault zone) containing Duck Lake. Extensively silicified volcanics have been mapped by Noranda in this area. Of particular interest is the occurrence of "red jasper blobs containing 20% pyrite" at Duck Lake and a similar large boulder located in Williams Creek. It appears that a precious metal ironstone formation, which lies relatively close to the Nitinat Duck Lake fault contact, may be present on the property and is similar in nature to zones reported at the 900 Zone and at the Thistle Mine. Little work appears to have been done by Noranda in this area.

Rocks west of Williams Creek and Lizard Lake are predominantly Karmutsen Formation. These massive pillow flows and flow breccia units form a thick undifferentiated tholeiitic basaltic pile.

Two small feldspar porphyry intrusions have been mapped on the property to the east of Lizard Lake. These may be equivalent to Tertiary Catface or Mount Washington type feldspar porphyry dykes.

#### Structure

Rocks underlying the Lizard property are primarily contained within an easterly dipping imbricate fault block bounded by the North and South Cowichan (thrust) Faults. Northwest trending, easterly dipping thrust faults have been mapped by Massey along the Duck Lake drainage (North Cowichan Fault).

Thrust faults are cross cut by north trending structures which lie within Williams Creek and underlie Lizard Lake (Mineral Creek Fault system). A subparallel splay of this fault lies along Red Head Creek.

The age of the northwest trending thrust faults appears to be pre-Karmutsen while the age of the north-south trending Mineral Creek fault and east-west cross faults cut all structure and stratigraphy and are probably Tertiary (Eocene) in age.

#### Mineralization

The best mineralization in surface outcrop located on the property was in the UMEX backhoe trench peripheral to the south end of the small gabbro body located in the southeast portion of the claim group. Massive sulfides and cherty tuff breccia are contained within McLauchlin Ridge Formation rhyolitic rocks. The best intersection over 2 m. assayed 4,400 ppb gold (0.13 oz/ton), 24 g/t silver and 0.13% copper. Minor disseminated and massive sulfide mineralization appears related to cherty tuffs hosted within the McLaughlin Ridge Formation giving scattered values in the order of magnitude of 1,000 ppb gold over a zone approximately 1 km in strike length.

Of significant importance is the occurrence of precious metals in pyritiferous jasper located at Duck Lake. Assays up to 2,390 ppb gold have been found within the jasper and adjacent siliceous rocks.

Along the northwesterly trending thrust fault forming the contact between the Nitinat and Duck Lake Formation, rock chip samples of up to 1,000 ppb gold have been taken within the vicinity of the Regina Crown grant. In this area most gold appears to be related to cherty exhalative sulfide rich horizons hosted within the Nitinat and Duck Lake Formations. Massive sulfide mineralization is reported at the Regina Crown grant in relatively close spatial relationship with this horizon.

Structurally controlled quartz ankerite sulfide veins occur in the northern portion of the property at Williams Creek and in the diverging northerly trending Red Head Creek splay fault in the south western area of the property. Values are generally less than 1,000 ppb gold and over a few centimetres in width.

#### GEOCHEMISTRY

Several generations of soil grid geochemistry have been conducted on the property in the approximately 60 line km of geochemistry that has been completed on the property to date.

Anomalous values in gold, silver, copper and arsenic have been encountered.

A "bulls-eye" geochemical map for gold is contained in pocket as Figure 6. In the southern portion of the property, Anomaly A constitutes a high copper, high gold anomaly with weak to moderate arsenic association. Area 1 (and adjacent Area 4) may represent the subcropping mineralized source for the strong down-slope gold/copper anomaly. Anomaly B in the central eastern portion of the property consists of spot highs of copper, gold and arsenic. Anomaly C constitutes high gold/arsenic with weak copper values. Area 2 and Area 5 are interpreted to be potential drill target areas. These areas are located adjacent to the Nitinat-Duck Lake contact where both early thrust and late normal faults intersect. The geochemical response at Area 3 at Duck Lake associated with the gold rich jasper is also of major interest.

Minor spot gold and copper highs occur scattered throughout Karmutsen Group rocks as well.

The +120 ppb gold contour has been incorporated on Figure 7, in pocket, IP Survey and Soil Geochemistry. Correlation between (upslope) gold concentrations and IP anomalies is readily evident and indicates potential drill targets remain untested.

During the 1988 program, Noranda conducted extensive soil pit geochem profiles to determine the nature and extent of some of the gold anomalies on the property. Although the Noranda geologists concluded that anomalies may be hydromorphic/transported in nature because of the lack of mineralized outcrop in the bottom of the pits, it is the author's observation that geochemically anomalous values continued or increased within the C horizon in many cases and for that reason many of the anomalies can be interpreted as being insitu/mechanical/detrital in nature.

Mineralization encountered in surface rock chip sampling and diamond drilling conducted to date does not adequately explain the extensive nature of the soil geochemical anomalies that occur on the property.

#### GEOPHYSICS

Over 20 km of ground magnetics and IP surveys have been conducted to date (see Figures 7 and 8, in pocket). The geophysical grid covers a portion of the McLaughlin Ridge Formation and Duck Lake Formation in the vicinity immediately east and adjacent to Lizard Lake.

Magnetometer surveys have been carried out in several successive stages on the Lizard property since 1983. Approximately 20 line km of magmatic and IP have now been conducted.

#### **Magnetometer Survey**

The magnetometer survey shows sharp narrow linear features oriented in a north-south direction with an order of magnitude of 2,000 gammas of relief on a 55,000 gamma datum (see Figure 8, in pocket). Several magnetic features of a similar nature were also recorded to the north and east of the main grid area. These features may reflect iron rich tuffaceous cherty exhalative horizons with relatively complex internal structure. Some of the highest magnetic values appear associated with margins of the U Trts

Mount Hall Gabbro body and can be explained by the presence of magnetite contained within the sill and dyke complexes.

#### **Induced Polarization Survey**

The IP survey recorded wide areas of high background throughout the survey grid with good line to line correlation within anomalous zones (see Figure 7, in pocket). Several definite strong to moderate IP responses are indicated. Resistivity lows are interpreted as reflecting the position of the Mineral Creek Fault.

#### **DIAMOND DRILLING**

Diamond drilling was conducted by Noranda in two periods: during 1984 when five holes totalling 544.4 m. were completed; in 1985 when two holes totalling 318.5 m. were drilled. (A third hole was lost due to caving.)

Five of the eight diamond drill holes completed in 1984 and 1985 intersected a brecciated altered pyritic cherty tuff horizon which has returned assays from 4.53 to 1.83 g/t gold across

0.3 to 1.5 m. A 0.3 m. wide massive sulfide horizon associated with one of the cherty tuff horizons returned the best values of 4.53 g/t gold, 22 g/t silver and 2% copper.

Drill holes LIZ84-1 to 84-5 were drilled primarily to test the cherty tuff horizon where coincident magnetics, IP and gold geochemical anomalies occurred. Most of this drilling appears to have been centered on high concentrations of high absolute values which may be interpreted as being down-slope from the mineralized source.

Drilling in 1985 was designed primarily to test pyritic cherty tuff exhalite gold horizons within the north east portion of the grid where anomalous gold/arsenic geochemistry is associated with high IP PFE background. Two of the anomalies were tested by drilling with the best intersections generally in the order of 1 to 2 g gold and up to 13 g/t silver over 1.5 to 2 m.

#### **EXPLORATION POTENTIAL**

The McLaughlin Ridge Formation underlies the southeast property southeast of Lizard Lake and correlates with the Myra Formation in the Buttle Lake uplift which hosts VMS deposits at Westmin's Myra Falls operation. McLaughlin Formation is host to numerous VMS prospects and developed properties in the Cowichan uplift, most notably in the Mount Sicker area (see Figure 4).

On the property, the silicious cherty rhyolite flows, breccias and tuffs are coincident with geophysical/geochemical anomalies which remain untested by drilling or surface sampling.

Area 1 (see Figure 6, in pocket) may be the upslope source of the large gold Anomaly A which was originally tested by drill holes 84-1 and 84-2. Coincident magnetic/PFE and moderate gold geochemical responses provide a target area for drilling. On strike with the mineralized target at Area 1, target Area 4, in the vicinity of the UMEX backhoe trench (never drill tested), also

has coincident PFE, high magnetics and high gold/copper geochemical targets which have not been explained by surface sampling or (downslope) drilling.

A strong IP/magnetic and gold (point source) anomaly at Area 2 is located along the North splay of the Cowichan fault. The anomaly has a well-defined strike towards fault intersections and other geochemical responses one km to the northwest at Area 5. The Nitinat/Duck Lake contact, thought to be a regional control for VMS deposition, has recently been mapped by Massey in this area (see Figure 5, in pocket). Several fault intersections and geochemical/geophysical anomalies are present, portions of which have seen relatively little exploration work to date. Careful mapping of the thrust faults and contacts in the vicinity of IP and gold geochemical anomalies will provide targets in these areas.

Of significant importance is the occurrence of a cherty iron formation with up to 2390 ppb gold located within broad silicified zones in Duck Lake volcanics outcropping north of Duck Lake (Area 3). A second large float occurrence of similar cherty iron formation 1.5 km to the northwest in Williams Creek indicates strike potential for this zone. Detailed IP, magnetics and additional geochemistry are required to identify drill targets similar to the Debbie and Thistle Mine properties.

A northeast trending anomalous fault zone on Red Head Creek (hosted in Karmutsen volcanics) has been described as being similar in alteration style and structural setting (west of the Mineral Creek Fault) as the 900 Zone on the Debbie property immediately to the north. Additional detailed geophysics, geochemistry and drilling may be warranted.

In the northern portion of the property, additional geophysics and geochemistry in the vicinity of the Mineral Creek Fault system may provide drill targets for deposits similar in nature to those hosted in north south structural zones at the Debbie and Yellow properties to the north.

#### CONCLUSIONS AND RECOMMENDATIONS

- 1. Strong gold and copper geochemical anomalies and coincident geophysical anomalies occur in Sicker Group Myra equivalent rocks in the main grid area on the southeast portion of the property. Surface sampling and drilling to date has not encountered a source adequate to account for these anomalies. Additional drilling should be conducted on upslope targets for exhalitive precious metal distal VMS type deposits.
- 2. A northwest trending zone along the Duck Lake drainage system has only been partially covered by detailed grid exploration. This zone contains a number of favorable indicating potential for ore formation listed as follows:
  - contains the intersection of several regional thrust and late Tertiary faults.
  - contains the Duck Lake/Nitinat contact thought to be a regional VMS stratigraphic horizon. Exhalitive tuff and chert horizons containing anomalous gold, silver and arsenic have been encountered in surface sampling and drilling.
  - contains precious metal mineralization (iron formation hosted) where coincident IP and geochemical targets have not been drill tested.

It is recommended that grid geophysics and geochemistry should be expanded in this area and the best anomalies drilled on a follow up program. Drill targets on Area 5 could be spotted on available data. 3. Detailed geological mapping and sampling and geophysical/geochemical surveys of the main Mineral Creek fault zone along Williams Creek and the subparallel splay along Red Head Creek for Debbie type structurally hosted stockwork vein deposits is recommended. Follow-up drilling would be contingent upon results.

Respectfully submitted, AND 0 A. O. Birkeland, P.Eng.,

President Arnex Resources Ltd.

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
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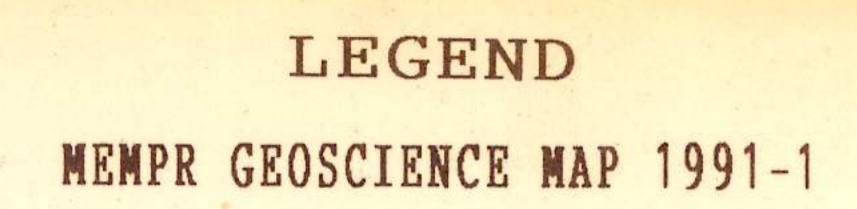
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49'09'39' ------

Renter to the

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Tw	MOUNT WASHINGTON INTRUSIVES
	Hornblende feldspar porphyry.
uTi	Mt.HALL GABBRO
	Diabase and gabbro; sills and dykes.
	V & D M II III C D M
uTk	<u>KARMUTSEN</u>
	Pillowed and massive basalts.
IPS	St.MARY'S
	Argillite
PPm	MOUNT MARK
	Limestone
uDm	MCLAUGHLIN RIDGE
	Dacite, rhyolite, chert; massive flows and breccias.
Dn	NITINAT
	Massive flows, tuffs, breccia, chert.
	nussive riows, currs, precera, cherc.
Dd	DUCK LAKE

Basalt to rhyolite; flows, breccias, tuffs. and the second s

# LEGEND NORANDA

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Cherty Tuff 1h Gabbro 1b Pebble Conglomerate 11 Limestone 1bg Greywacke Argillite and Siltstone 1c Siliceous - Intermediate Volcanic 2a Mafic Volcanic 1d Intermediate Volcanic 2ap Pillowed Mafic Volcanic Idl Intermediate Volcanic Agglomerate 2ag Mafic Volcanic Agglomerate 1f Feldspar Hornblende Porphyry Intrusive 2b Intermediate to Mafic Volcanic 1g Silicified Volcanic 2c Intermediate Volcanic

770 Rock sample -Au >500ppb

Anomalous rock sample-Au Outcrop ---- Geological Contact ; Known , Assumed 20° \_\_\_\_\_ Bedding; Strike & Dip 70° 110° Vein; Strike & Dip 65° 090° Alteration Zone ; Strike & Dip 80° 080° Joint Planes ; Strike & Dip

35°-098° Foliation ; Strike & Dip 49"00"09"----\*\*\* Fault Zone ; Strike & Dip

inches scale at the same rate as the image, therefore it can be used as a reference for the original size. 100

METERS

LEGEND 132 MBIO2 0 132-7

Photo Centre Photo Point

Dam · Falls

Swamp / Treed Swamp

Secondary Haul Road

anding / Pullout

Rock Outcrop

Lone Snog Lone Tree

Lone Windfall


Index Contour Intermediate Contour Boot Elevation

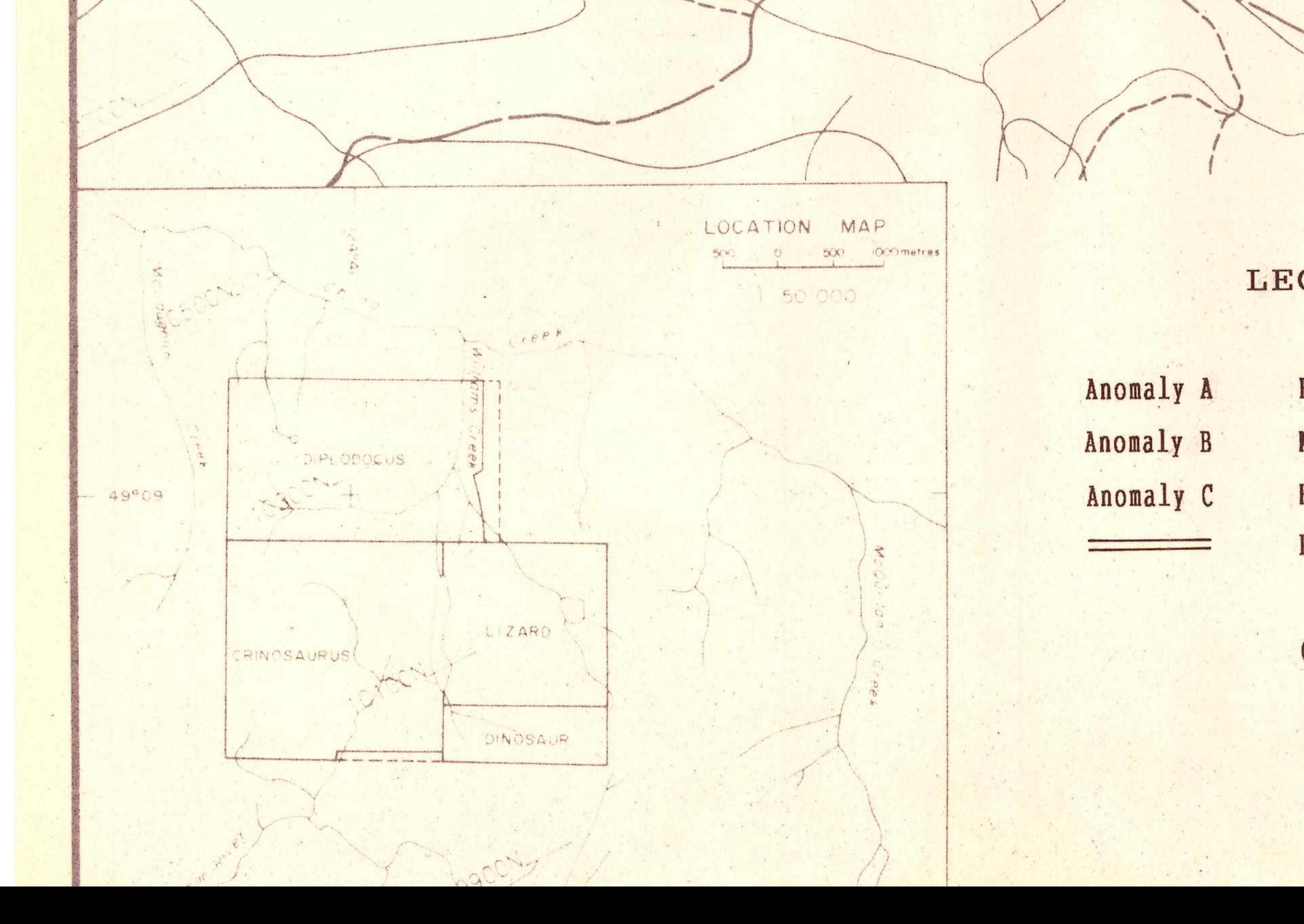
Canopy Opening (Brush / Clear)

322 7 \_\_\_\_\_ 322 7

500

Mein Heut Rood





EGEND		
	0 50 100 200 300 400 500	
High Cu, Au; moderate As	METERS	
Mixed spots high;Cu,Au,As		
High Au, As; weak Cu		I
Potential mineralized source	LEGEND (ppb Au)	
Contour interval in meters		
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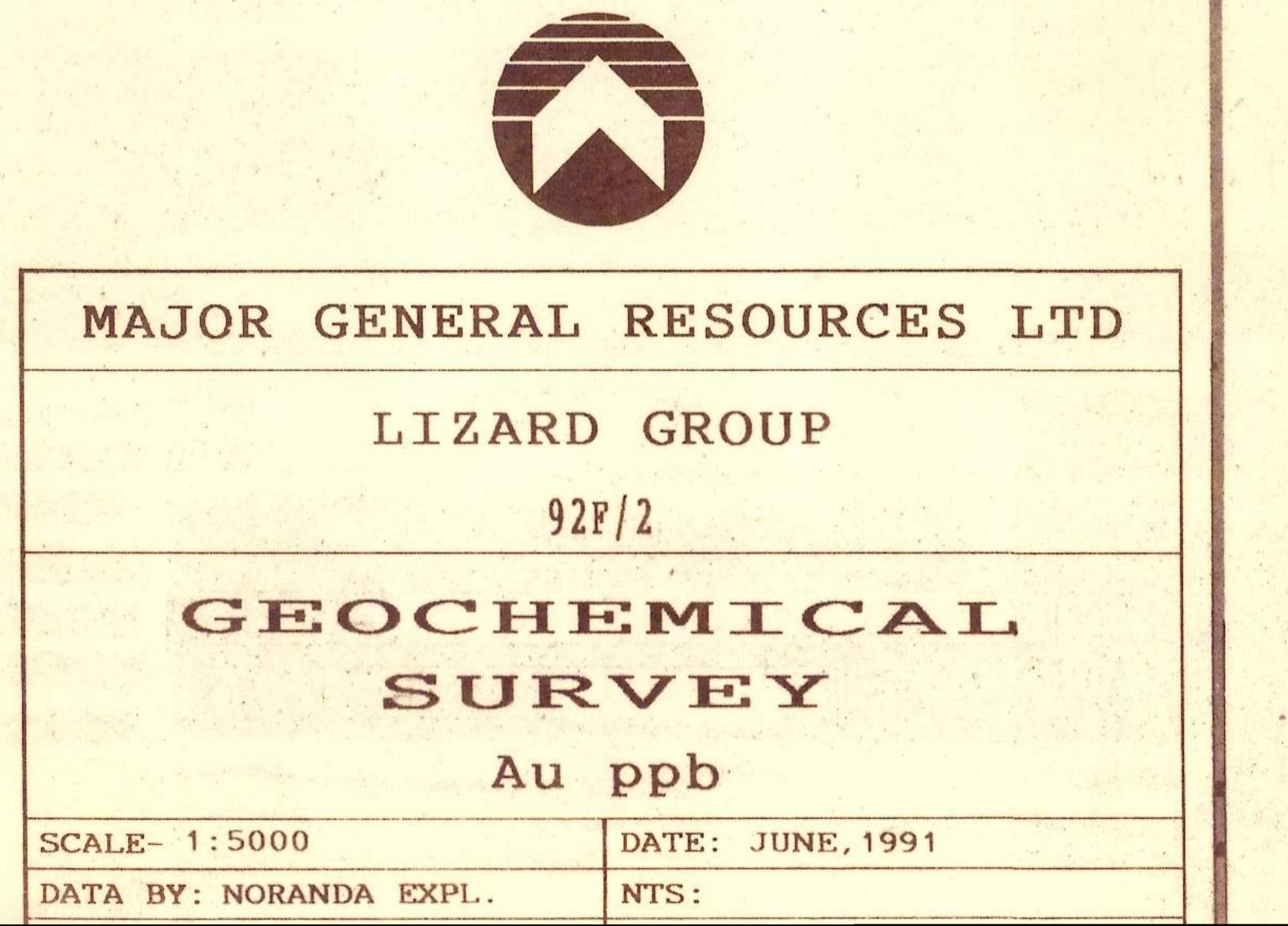
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>=100 >=200 >=500

1 Time + Marine

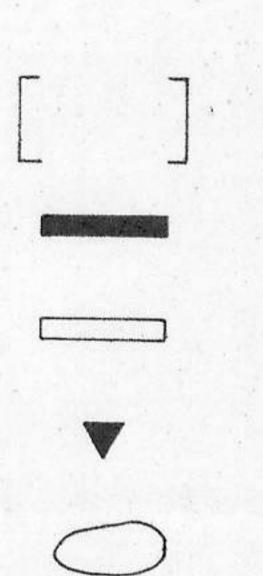
4

This reference scale bar has been added to the original image. It will scale at the same rate





## LEGEND



0.00.00

--- 49°08'39''

Survey limits Strong increase in polarization Moderate increase in polarization Pronounced resistivity decrease Geochemical contour +120 ppb Au

