

**TELEGRAPH CREEK PROJECT**

**EXECUTIVE SUMMARY**

861437

**EQUITY SILVER MINES LIMITED**

**#13 - 1155 MELVILLE STREET**

**VANCOUVER, BRITISH COLUMBIA**

**V6E 4C4**

**February 1989**

## EXPLORATION PARAMETERS

Equity's participation in this project area is the direct result of several spectacular gold and precious metal discoveries in the Northwestern Cordillerian region of British Columbia. Present reserves from these discoveries total 5 million ounces of gold contained in various types of deposits.

Land acquisition in the area is extremely competitive with all major mining companies and juniors vying for land positions. The area is expected to be very active this coming field season.

The Telegraph Project represents several key positions that Equity has acquired during the last year. The claims cover a variety of geological environments and the enclosed project summaries and budgets are considered to be the minimum amount of effort that should be expended on the project area. This will allow us to thoroughly evaluate the prospects, at the same time keeping our holding and option payments to a minimum. We are asking that a minimum budget of \$428,357 be approved to carry out the program.

## INTRODUCTION

The following Report summarizes the geology and mineral potential of ten precious metal prospects located in Northwestern British Columbia. The claim groups have been acquired by staking and option since 1987. Equity holds a 100% interest in all these properties. Pertinent information for all claim groups is summarized as follows:

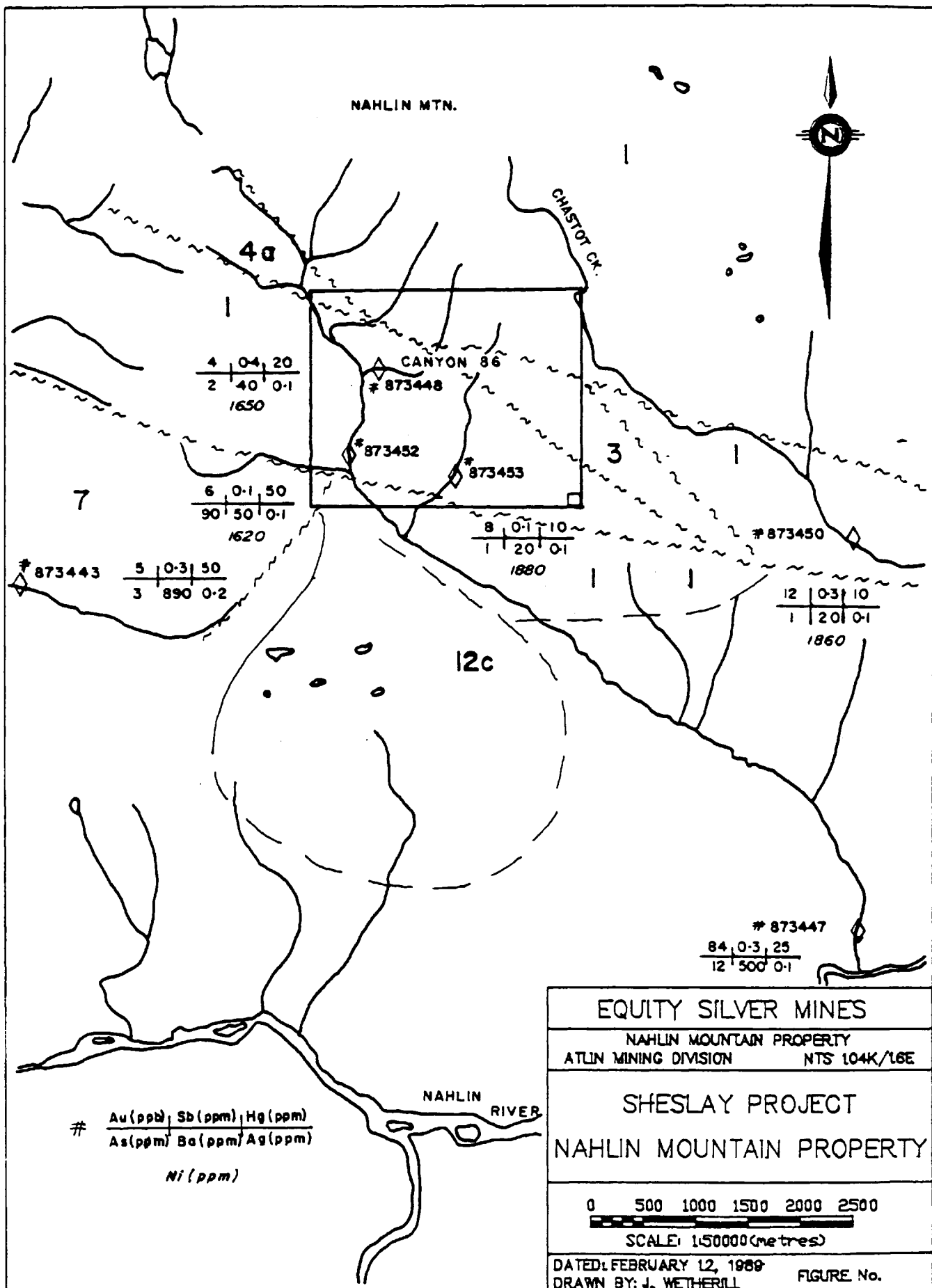
<u>Prospect Name</u>	<u># of Units</u>	<u>1989 Option Payments</u>	<u>*1989 Asses. Required</u>	<u>\$ Requested</u>
Nahlin Mountain	20	0	\$4,000	\$24,860
Opal Lake	160	\$10,000	32,000	73,645
Camp Island	20	0	4,000	59,950
Sutlahine River	20	0	4,000	14,740
Horn Mountain	116	10,000	23,200	21,780
Whiting Lake	60	0	12,000	50,600
Sun	10	10,000	2,000	10,000
Gnat Pass	144	10,000	28,800	150,012
Sheslay River	82	10,000	16,400	22,770
Thibert Creek (1)	217	0	0	0
	=====	=====	=====	=====
TOTALS:	849	\$50,000	\$126,400	\$428,357

(1) Thibert Creek has a 1989 work commitment of \$200,000. This would be dependent upon a forthcoming engineering report.

\* Equity is contractually obligated to conduct two years assessment work.

NAHLIN MOUNTAIN PROPERTY - Mapsheet 104K/16E

<u>Claim Name</u>	<u>Units</u>	<u>Expiry Date</u>
Canyon 86	20	August 4, 1989



Prepared by: STETSON RESOURCE MGMT CORP.

# LEGEND

## LATE TERTIARY

### PLEISTOCENE AND RECENT

- 18 LEVEL MOUNTAIN GROUP - Basalt
- 17 HEART PEAKS FM  
Trachyte, rhyolite

### CRETACEOUS and TERTIARY

SLOKO GROUP - Felsic volcanic flows  
intrusives and pyroclastic

- 16 Quartz monzonite
- 15 Felsite
- 14 Rhyolite

### UPPER JURASSIC

- 12 Diorite granodiorite

### JURASSIC

#### LABERGE GROUP

- 11 TAKWAHONI FORMATION - Conglomerate, sandstone
- 10 INKLIN FORMATION - Clastic sediments, limestone

### UPPER TRIASSIC

- 9 SINWA FORMATION - Limestone, clastics, chert
- 7&8 STUHINI GROUP - Volcanic and sedimentary rocks

### TRIASSIC

- 8 Granodiorite, quartz diorite, foliated diorite


### PRE - UPPER - TRIASSIC


- 4 Sedimentary and volcanic rocks


### PERMIAN

- 3 Limestone, dolomitic limestone, chert
- 1&2 1) Serpentinite, peridotite 2) Gabbro
- A Diorite gneiss, age unknown


 Geological boundary

 Bedding

 Fault

 Thrust fault

 Dykes

 Zone of hydrothermal alteration

 Mineral property / occurrence

 Legal Corner Post

### 1.1 Property Geology

According to Souther (1971) the Nahlin Mountain Property is underlain predominantly by Permian Nahlin ultramafics comprising dark green to black peridotite.

The southern portion of the claim covers a section of the Nahlin fault and a contact between Jurassic or Cretaceous hornblende diorite stock and the ultramafics. A fault block of Permian limestone outcrops in the northern claim area.

### 1.2 Mineralization/Alteration

The principal alteration in the peridotites of the Nahlin ultramafic body is serpentinization which occurs in both sheared and unsheared peridotite. Magnetite lenses are common adjacent to sheared or brecciated zones in the ultramafics, which have been carbonitized near the Nahlin fault zone. The zones are riddled with chalcedony or opal stockwork and often contain nickeliferous chlorite.

### 1.3 Property History

No previous work history on the property has been recorded, but, two kilometres to the east, Canadian John-Manville explored a property for its asbestos potential. Some gold assays were taken but not included in the report as they were deemed too low to be of interest.

The RGS (1987) returned an anomalous Au (84 ppb) value from the main drainage of the property. Highly anomalous Ni values of up to 1880 ppm were returned from several drainages of the property.

### 1.4 Capsule Comment

Tributaries of the main property drainage returned RGS Ni values in the 95th and 99th percentile. An RGS sample from the main drainage returned a gold value in the 95th percentile.

Regional mapping suggests the property covers several converging fault zones which could host structurally controlled mineralization.



1.5 Recommendations

- 1) Follow-up bulk heavy mineral sampling should be implemented to locate the source drainage of the RGS gold anomaly (#873447) and to test the mineral potential of the ground surrounding the claim. Structural mapping should be conducted on the property, with shear zones and faults channel sampled for platinum group elements.

1.6 References

Aspinall, C.

1966      Untitled Assessment Report.   BCDM Assessment  
          Report, # 1030.

Souther, G.

1971      Geology and Mineral Deposits of Tulsequah Map  
          Area, British Columbia.   Geological Survey  
          Canada, Mem. 362.

NAHLIN MOUNTAIN PROPERTY

PRELIMINARY BUDGET

**Personnel:**

Reconnaissance Bulk H.M.C. Survey

4 crew/days \$2,400

Geological

4 crew/days 2,400

**Analytical:**

Rock Samples 160 Samples @ \$ 25 each 4,000

Heavy Mineral Samples 30 Samples @ \$110 each 3,300

**Transportation:**

Helicopter 16 hours 10,500

SUBTOTAL 22,600

Plus 10% Contingency 2,260

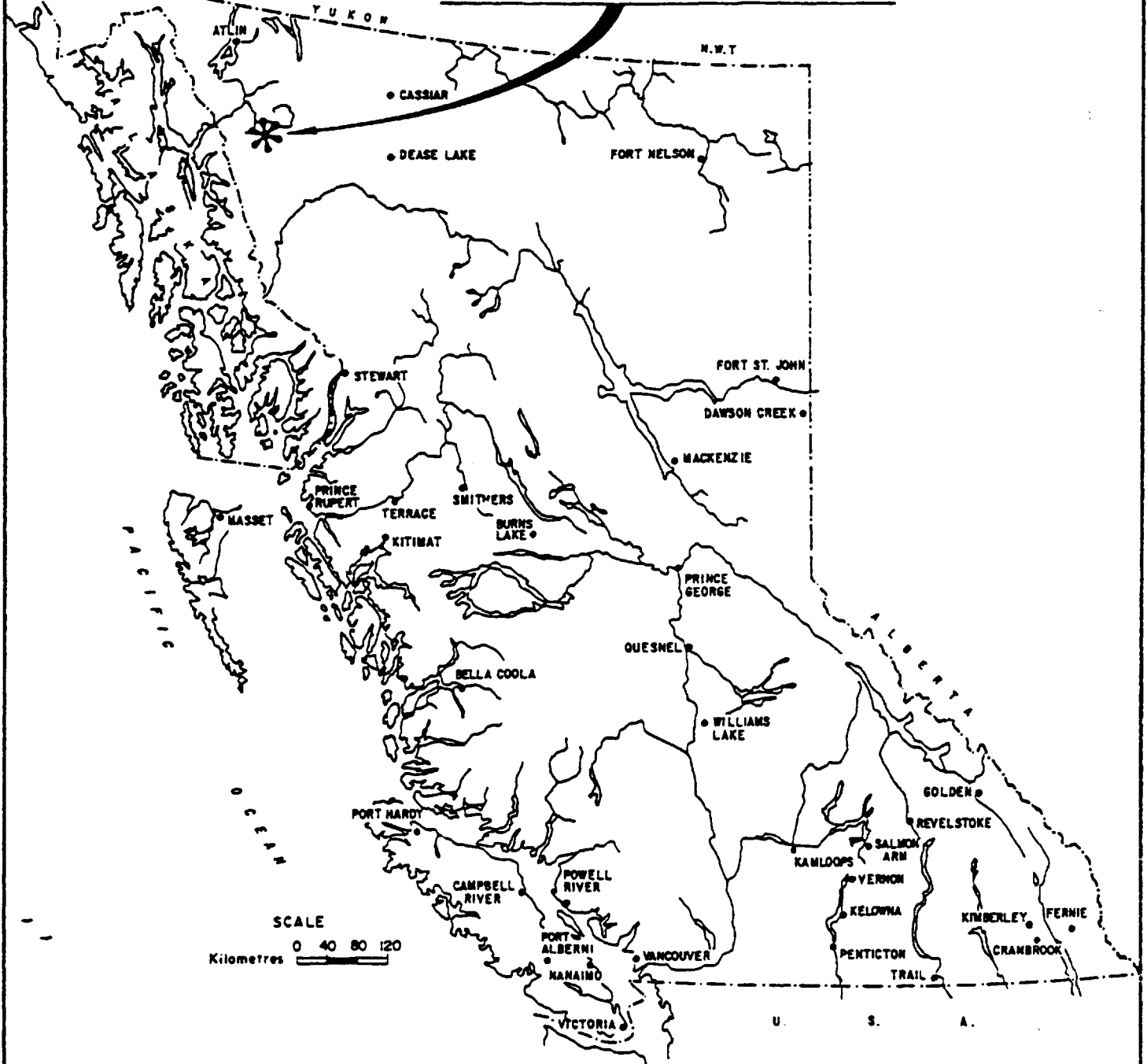
**TOTAL 24,860**

**NAME OF PROJECT:** Opal Lake  
**MAPSHEET:** N.T.S. 104J/13W

<u>Claim Name</u>	<u>Units</u>	<u>Expiry Date</u>
Nik #71	20	April 11th/90
#72	20	"
#73	20	"
#74	20	"
#75	20	"
#76	20	"
Ted #10	20	April 26th/90
Hank #57	20	July 6th/90
Total	160	

# PROPERTY

106 kilometers N.W. of Dease Lake



**EQUITY SILVER MINES LIMITED**

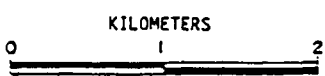
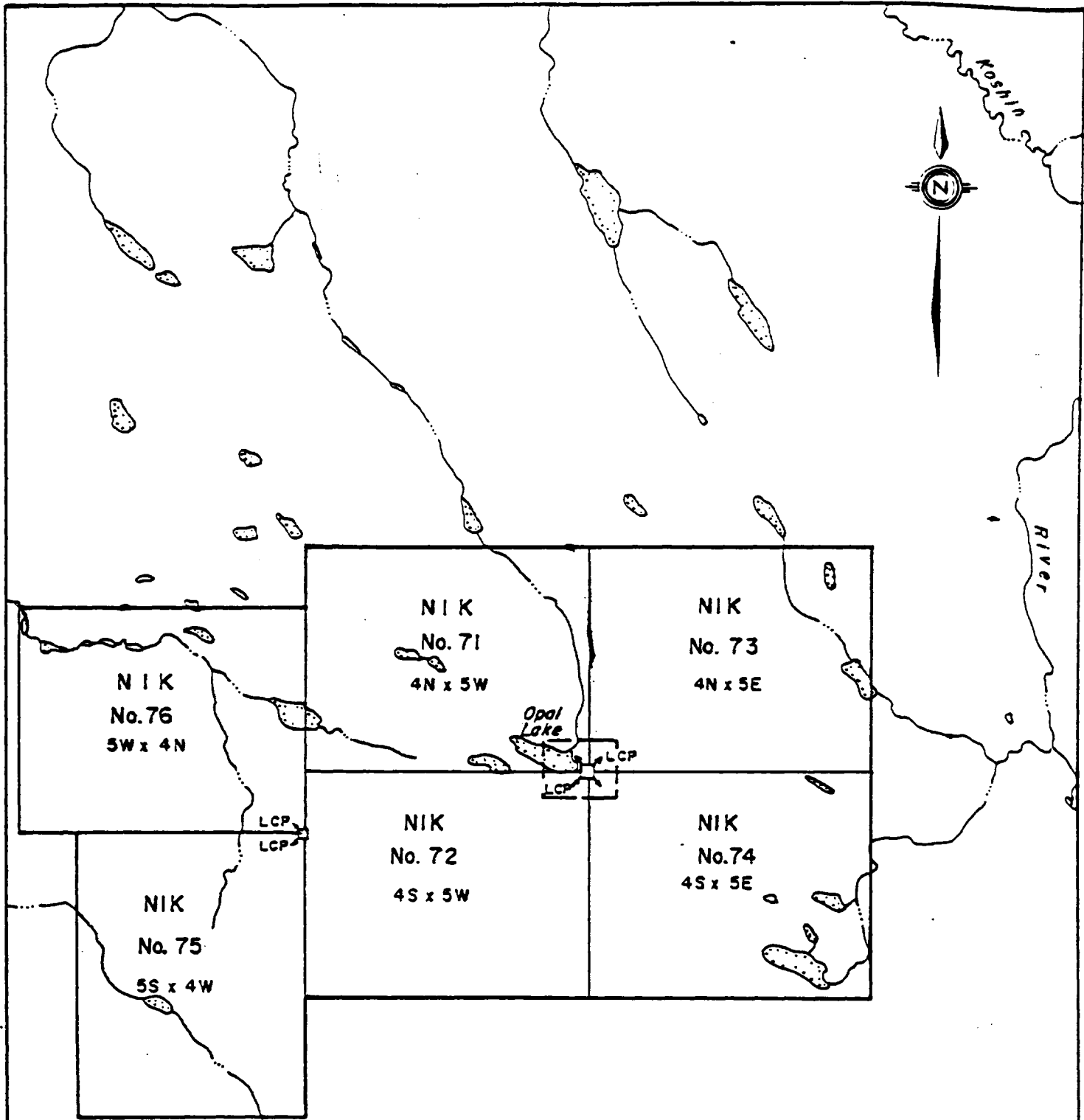
**OPAL LAKE PROJECT**

ATLIN MINING DIVISION, B. C.

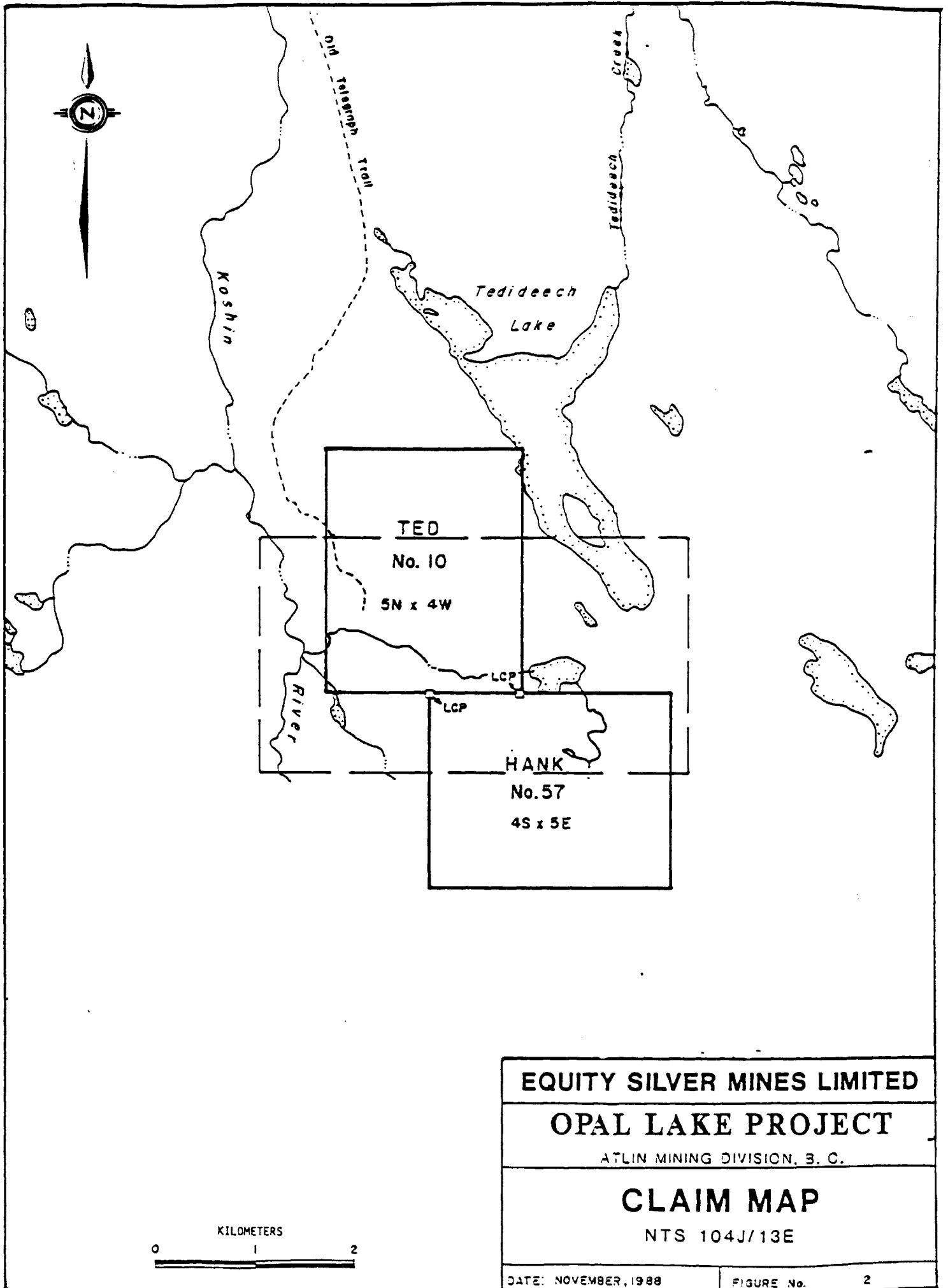
**LOCATION MAP**

DATE NOVEMBER, 1988

FIGURE No. 1



<b>EQUITY SILVER MINES LIMITED</b>	
<b>OPAL LAKE PROJECT</b>	
ATLIN MINING DIVISION, B. C.	
<b>CLAIM MAP</b>	
NTS 104J/13W	
DATE: NOVEMBER, 1988	FIGURE No. 2



<b>EQUITY SILVER MINES LIMITED</b>	
<b>OPAL LAKE PROJECT</b>	
ATLIN MINING DIVISION, B. C.	
<b>CLAIM MAP</b>	
NTS 104J/13E	
DATE: NOVEMBER, 1988	FIGURE No. 2

### 1.1 Property Geology

The claims are underlain by Mississippian to Permian age argillites and limestones of the Cache Creek group in the north, and Jurassic slate-greywacke Inklin formation in the south. The two contrasting age groups of rocks are juxtaposed on the property by some 20,000 feet of vertical displacement along the Nahlin fault, a deep seated crustal rift.

The Nahlin fault forms the southern boundary of the Atlin horst. The property covers a complex flexure in this fault. The Nahlin ultramafic bodies that are stretched out along the fault and occur on the Opal Lake property, have large wedges and slivers of peridotite-serpentinite.

Locally, Early Tertiary Sloko felsite plugs intrude the Nahlin fault and occur on the property as light coloured acid rocks with feldspar phenocrysts and isolated specks of pyrite and chalcopyrite.



## 1.2 Mineralization/Alteration

Two occurrences of nickel mineralization are located on the Opal Lake property (BCDM Minfile). Diamond drilling and trenching of these occurrences is reported but not well documented (ie., no assesment reports). The B.C. Department of Mines' Minfile describes the showings as follows:

Minfile Occurence 104J001 - Small fractures and faults in NW trending fault zone are opalized, pyritized and locally contain concentrations of millerite. Breccia fragments in ore are largely magnesite and opal.

Minfile Occurence 104J017 - Small amounts of millerite occur with chalcedony in sheared serpentine and greenstone. Similar nickeliferous rocks were noted in a parallel fault zone 4 km to the SW.

These showings are hosted by sheared, serpentized and carbonatized ultramafic rocks cut by opaline chalcedony veins.

1.2 Mineralization/Alteration (continued)

Within the area of the Ted claim, Hodgson (1957) describes a carbonate zone that probably represents a listwanitic type of alteration. " A buff to brown coloured rock contains inter-mixed carbonate and siliceous phases with patches of fuchsite, a chrome-rich mica. Exposed in the bank of the Koshin river, the zone is indicated to be the locus of considerable alteration." A similar zone is described in the vicinity of the Opal Lake mineral occurrence 4 km to the west and is reported to contain elevated nickel values.

Listwanitically altered ultramafics host significant gold mineralization in the Atlin area. Opalization was noted in hand specimens from this area.

### 1.2 Mineralization/Alteration (continued)

The presence of Sloko Group felsites on the property is encouraging, as this rock type hosts, and is spatially related to both gold and porphyry type copper mineralization on a regional scale.

### 1.3 Property History

Very little work has been done in the area of Opal Lake in recent years. The only work done in the area other than reconnaissance for asbestos, dates back to 1957 when nickel mineralization was discovered near Opal Lake. Canadian Explorers Limited investigated the mineralization with 1,000 feet of trenching and 1,290 feet of diamond drilling. The results of this survey are not available in assessment reports. In the same year Consolidated Northland Mines Ltd. explored adjoining claims for nickel as well (Hodgson 1957). Geological reconnaissance was combined with a field test for nickel using dimethylxene. No significant nickel mineralization was found.

### 1.3 Property History (continued)

The Nahlin fault area has been explored for asbestos deposits. Several showings are located in the area of Opal Lake but none are of economic significance.

In 1956 the area was preliminarily mapped as part of Operation Stikine. Parts of the map are marked "unmapped" including the northeastern part of the Opal Lake claim group. The area is relatively unexplored.

### 1.4 Capsule Comment

The Opal Lake claim group is located in an interesting geological environment. The Nahlin fault is a strong, deep seated fault zone that not only brought deep crustal material to the surface in Pre-Jurassic, but later acted as a conduit to Early Tertiary intrusives and associated hydrothermal fluids.

1.4 Capsule Comment (continued)

In the Motherlode district of California, gold deposits are spatially related to serpentinites eg. Plumbago (>100,000 oz. Au). Listwanitic alteration is characteristic of these deposits and its presence in the Opal Lake area supports this exploration model. The Early Tertiary Sloko felsites that intrude the Opal Lake area would have driven hydrothermal convection cells within the deep, open channels provided by the Nahlin fault. The presence of trace element rich ultramafics along the fault add to the model providing excellent enrichment environments for the caustic high pressure-temperature hydrothermal fluids.

As the fluids rise to surface, the drop in pressure allows boiling of the metal rich brines and subsequent "dumping" of mineralization. In ultramafic environments a characteristic halo of listwanitic alteration envelopes the upper reaches of these hydrothermal systems.

### Platinum Potential

The Opal Lake claim group lies in a belt of ultrabasic rocks that are associated with platinum group metals. The rocks are spread out along a deep seated fault system that can be traced the length of British Columbia.

Numerous platinum - group element occurrences are localized by the fault system and hosted in the associated ultramafics, eg., Turnagain, Polaris, and Tulameen ultramafic complexes (McTaggart). Souther (1956) describes the fault bounded ultramafics to the west of Opal Lake as follows:

Peridotite in the central part of larger fault blocks is a coarse grained layered rock with widely spaced zones enriched in pyroxene and olivine.

This layering may be magmatic and could have platinum in sulphide rich layers. Pan Ocean Minerals Ltd. is reported to be exploring for platinum in the Nahlin fault-ultramafic area 100 km to the northwest. Platinum occurs in placer gravels on Thibart Creek 100 km to the east.

### 1.5 Recommendations

Exploration in the area should not be limited to the confines of the Opal lake claims themselves, as virtually the whole northwest trending Nahlin fault ultramafic belt is open and offers excellent potential for gold and platinum exploration. The fault represents a major "break" that acts as a magma and fluid conduit connecting lower crustal sites of ore-fluid generation with upper crustal sites of possible ore deposition (Hodgson, 1989).

The Opal Lake claim group is located in the relatively subdued topography of the Stikine Plateau. Outcrop in the area, is reported to be poor (+- 5%) and drainages poorly developed. To delineate structure, alteration and zones of mineralization, the following program is recommended.

1.5 Recommendations (continued)

- 1) A camp should be established on Opal Lake for two weeks.
- 2) A 60 km grid should be established in the immediate area of Opal Lake's showing and trenches. Baseline will be 3 km with 2 km crosslines every 100 meters.
- 3) A geophysical survey consisting of VLF - EM and magnetometer should be conducted over the grid at 12.5 meter spacing.
- 4) A soil survey consisting of B horizon samples every 50 m along the Opal lake grid should be completed.
- 5) Prospect, map and selectively sample all outcrop areas of the grid.
- 6) Prospect the rest of the claim area.
- 7) All drainages in area should be sampled using bulk H.M.C. sample techniques.

This program should supply the necessary data to delineate structure, mineralization and favorable host rocks in the Opal Lake prospect area.



**OPAL LAKE  
PRELIMINARY BUDGET**

**Personnel**

Grid Preparation

60 kms or 30 crew days \$18,000.00

Sample Collection

1200 soils or 15 crew days 9,000.00

Geophysical (VLF-Mag EDA)

15 operator days 3,750.00

Trenching/Blasting

7 crew days 4,200.00

Geological (mapping and prospecting)

15 crew days 3,750.00

**Supplies and Equipment**

Heavy Minerals 4,000.00

Rock Samples 3,000.00

**Plotting**

10 mandays 2,000.00

**Supervision**

15 mandays 3,750.00

**Transportation**

Mob & Demob (3 otter loads) 2,500.00

Helicopter (10 hours) 6,500.00

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Subtotal \$66,950.00

10% Contingency 6,695.00

=====  
**\$73,645.00**

**1.6 References**

Hodgson, A.G.

1957        Geological Report on the Ace Group of Mineral  
             Claims.    Ass. Rpt. #220.

             Geological Report on the NW Group of Mineral  
             Claims.    Ass. Rpt. #221.

Gabrielse, H., Souther, J.G., and Roots, E.F.

1962        Geology Dease Lake Map 21 - 1962.

BCDM MinFile:

1984        Occurences #104J001, 104J002, 104J017.

Rublee, V.J.

1986        Compilation of Platinum Group Element  
             Occurences in British Columbia.    Open File,  
             1986-87.

McTaggart, K.C.

1971        On the Origin of Ultramafic Rocks.    Geological  
             Society of America, Bulletin 82, Pages 23-42.

1.6 References

Hodgson, J.C.

1989      Recent Advances in the Archean Gold Model, with  
            Implications for Exploration for "Mesothermal-  
            type" Gold Deposits in the Cordillera. G.A.C.  
            short course, #14.

CAMP ISLAND PROPERTY - Mapsheet 104J/5W

<u>Claim Names</u>	<u>Units</u>	<u>Expiry Dates</u>
Hank 60	20	July 18, 1989

EQUITY SILVER MINES

CAMP ISLAND PROJECT

LOCATION

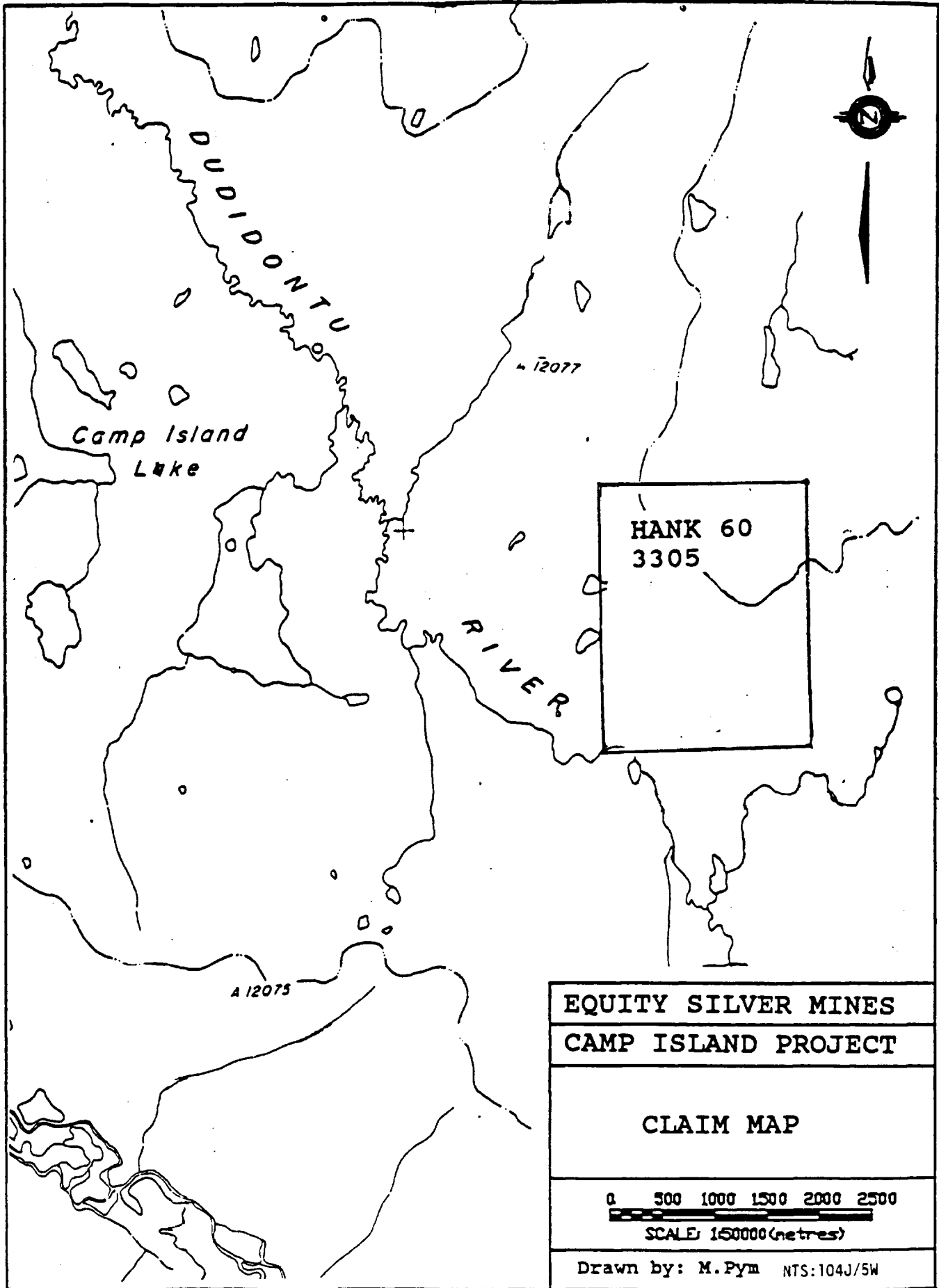
MAP

0 100 200 300 400 500

SCALE: 1:1,000,000 (kilometres)

Drawn by: M. Pym NTS:104J/5W





<b>EQUITY SILVER MINES</b>
<b>CAMP ISLAND PROJECT</b>
<b>CLAIM MAP</b>
0 500 1000 1500 2000 2500 SCALE: 150000 (metres)
Drawn by: M. Pym NTS:104J/5W

### 1.1 Property Geology

Gabrielse (1963) indicates the property is underlain by volcanic rocks of Upper Triassic age and part of a Triassic or younger stock ranging in composition from granodiorite to syenite. These units are overlain by late Tertiary basalts and rhyolite flows of the Heart Peaks formation.

Intrusive rocks which outcrop on the property are predominantly syenitic in composition and are relatively fresh. North and northeasterly trending shear zones in this unit are often characterized by intense chloritization and epidotization.

The Upper Triassic volcanics are usually exposed on the property as variably textured porphyritic andesites. Some outcrops of diorite were reported and appear to be genetically related to the andesites.

### 1.2 Mineralization/Alteration

Ankerite, epidote, chlorite and potash feldspar alteration occurs across the property enveloping shear zones in the



## 1.2 Mineralization/Alteration

syenites. In the center of the claim area syenite breccia with a hematite matrix hosts copper and precious metal mineralization. Values of up to 1.55% Cu, 0.03 oz/ton Au and 0.07 oz/ton Ag were returned from the breccia.

## 1.3 Property History

The Texas Gulf Sulphur Company conducted preliminary geological mapping and soil sampling on the property, staked in 1971, to cover copper mineralization in brecciated syenite. Trenching, mapping and sampling of the property was completed in 1973. An area roughly 300 feet by 800 feet on the western portion of the property was found to contain significant but sub-economic copper mineralization, and the property was allowed to lapse.

## 1.4 Capsule Comment

Brecciated syenite hosts copper and precious metal mineralization.

1.5 Recommendations

- 1) Mapping and sampling of the large fault systems delineated on the property during the reconnaissance mapping program in 1971 should be continued.
- 2) A Mag-VLF-EM survey should be conducted on the property to help delineate structure.
- 3) The syenite breccia should be drilled to test the precious metal mineralization at depth.

1.6 References

Panteleyev, A.

1972        GEM in British Columbia; BCDM 1972,  
              pages 549 - 551.

Newel, J. M., et al.

1973        Geological and Geophysical Report on the  
              PET Mineral Claims; BCDM Assessment Report,  
              #4095.

Newell, J. M., Delancey, P.R.

1972        Geological and Geochemical Report on the  
              PET Mineral Claims; BCDM Assessment Report,  
              # 3695.

Gabrielse, H., et al.

1962        Map 21 - 1962; Geological Survey Canada,  
              Sheet 104J.

1.5 Recommendations

- 1) Bulk heavy mineral sampling should be conducted on all property drainages.
- 2) Mag/VLF-EM surveys should be conducted on the property to delineate shear and fault zone extensions covered by overburden.
- 3) Mapping and channel sampling on the property should be undertaken, with special attention paid to alteration and structure similar to the main showing.
- 4) Previously mapped shear zones of significant size and intense alteration should be trenched to enable channel sampling of less weathered material.

CAMP ISLAND PROJECT  
PRELIMINARY BUDGET

**Personnel:**

Grid Preparation - 25 km	12 crew/days	\$ 7,200
Geophysical	6 oper/days	1,500
Sample Collection	12 crew/days	7,200
Geological (mapping-pros.)	12 crew/days	7,200

**Supplies and Equipment:**

Grid Preparation		1,000
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**Analytical Expenses:**

Heavy Mineral	20 samples	2,000
Soils	1000 samples	15,000
Rocks	480 samples	7,200

**Plotting:**

5 days		1,000
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**Transportation:**

Mobilization & Demobilization		5,200
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<b>SUBTOTAL</b>		54,500
Plus 10%		5,450
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<b>TOTAL</b>		59,950
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1.6 References (continued)

Ball, C.W., Ashton, J.M.

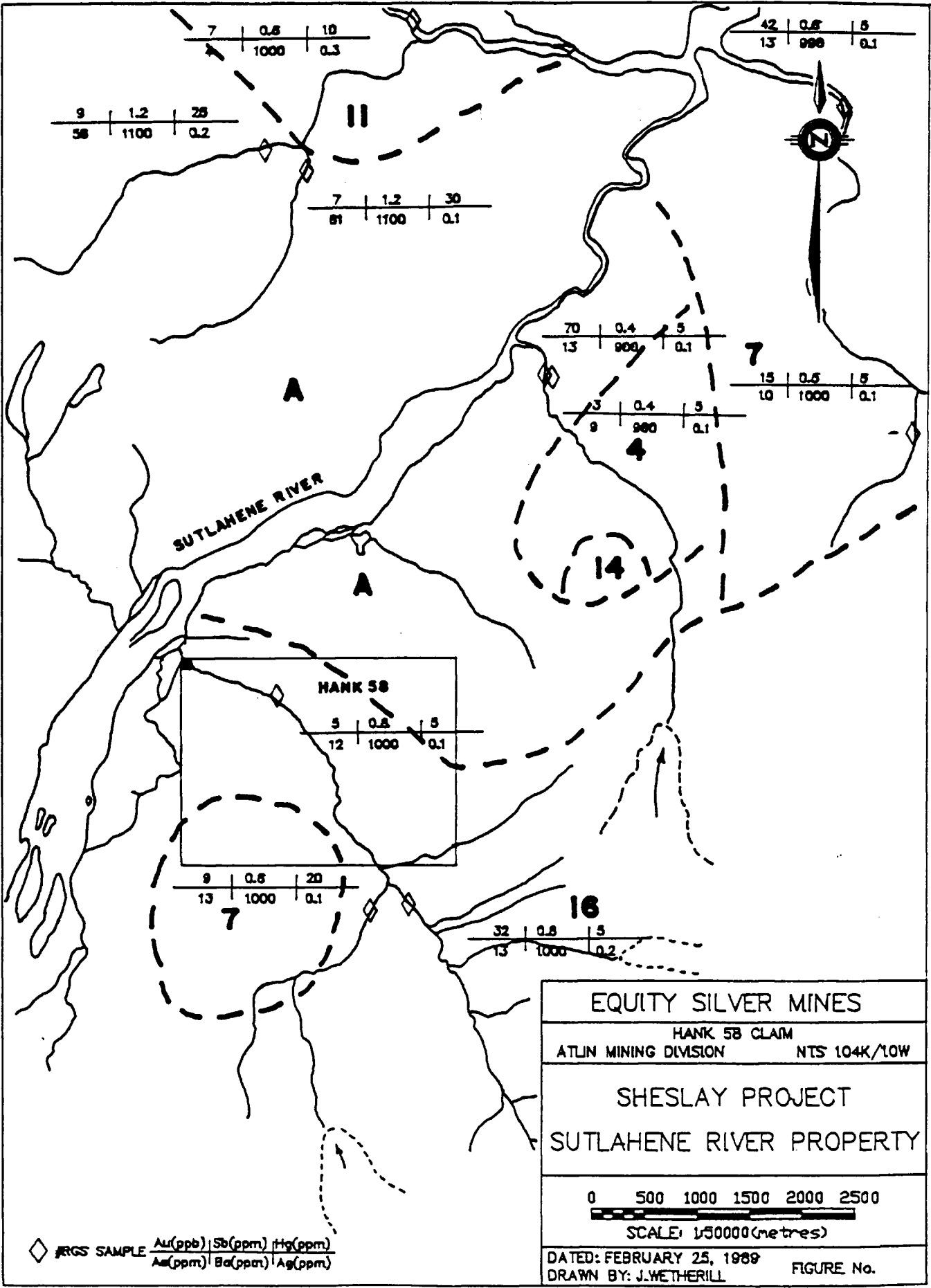
1982        Geochemical Report on the Drift Group Mineral  
             Claims. B.C. Department of Energy, Mines and  
             Petroleum Resources. Assessment Report #10356,  
             36 pages.

Graham, J.D.

1982        Geochemical Report on the Drift Group Mineral  
             Claims. B.C. Department of Energy, Mines and  
             Petroleum Resources. Assessment Report #10923,  
             58 pages.

SUTLAHINE RIVER PROPERTY - Mapsheet 104K/10W

<u>Claim Names</u>	<u>Units</u>	<u>Expiry Dates</u>
Hank 58	20	July 18, 1989





### 1.1 Property Geology

Souther (1971) indicates the property is centered over a remnant roof pendant of Upper Triassic Stuhini group volcanics within Cretaceous and Tertiary Sloko group quartz monzonite. Amphibolite and diorite gneiss of unknown age outcrop in the northeastern corner of the property.

Detailed mapping immediately to the east indicates the quartz monzonite to be a medium-grained holocrystalline rock with a general composition of 25% quartz, 29% plagioclase, 34% orthoclase, 9% mafics and 1% accessory minerals (White, 1970).

Stuhini volcanics on the property are represented by dark contact metamorphosed andesitic rocks and siltstones.

Dyke rock in the area includes; basalt and andesite porphyry, aplite (felsite) and dacite porphyry.

### 1.2 Mineralization/Alteration

Structure in the area generally trends northeast, and on the ground immediately to the east of the property a breccia zone

## 1.2 Mineralization/Alteration (continued)

30 metres in width comprising limonite, quartz chalcedony and calcite is exposed.

Alteration of the quartz monzonite is reported to include argillic and sericitic alteration with saussuritisation of plagioclase and biotite-chlorite replacement of hornblende. Shear zones are commonly silicified and exhibit varying degrees of pervasive wallrock silicification.

## 1.3 Property History

No work has been recorded on the property, but geological and geophysical investigations were made on contiguous claims to the east in 1970 by White. Shear and breccia zones associated with significant areas of silicification, carbonitization and mineralization were delineated in the intrusives. The RGS (1987) returned values from drainages in the area of 32 and 70 ppb Au, and good values in Ba were detected (1000 ppm).

1.4 Capsule Comment

Geology, alteration and structure of the area indicate the property has excellent potential for shear zone hosted epithermal type precious metal mineralization.

Gold was detected in all RGS samples from the property area and all barium values were above the geometric mean of the total barium for the map sheet.

Detailed mapping indicates the major fault systems in the area have significant widths and strike lengths and could therefore host a precious metal deposit of significant tonnage.

1.5 Recommendations:

- 1) Geological and structural mapping of the property should be undertaken, with special attention paid to alteration types previously mapped in the area.
- 2) Channel sampling of all shear zones on the property, and the breccia zone discovered in 1970, should be conducted, and the samples analysed for Au, Ag, and elements associated with epithermal style mineralization.
- 3) Reconnaissance Mag/VLF-EM geophysical surveys should be conducted across the property to help delineate structures and to a lesser extent lithologies.
- 4) Bulk heavy mineral stream samples should be taken at all RGS sites and at regular intervals up major drainages.

1.6 References

White, L.G.

1970 Report on the Geology of the B, S, and J Claim Groups. BCDM Assessment Report, # 2648.

White, L.G.

1970 Geophysical Report on a Magnetometer, Band J Claim Groups. BCDM Assessment Report, # 2649.

Souther, G.

1971 Geology and Mineral Deposits of Tulsequah Map Area, British Columbia. Geological Survey Canada, Memoir 362, pg 84.

SUTLAHINE RIVER PROPERTY

3 DAY FLY-CAMP

PRELIMINARY BUDGET

**Personnel:**

Reconnaissance	H.M.C.	3 crew/days	\$ 1,800
Geological		3 crew/days	1,800

**Analytical:**

H.M.C.	24 samples @ \$100 each	2,400
Rocks	60 samples	900

**Transportation:**

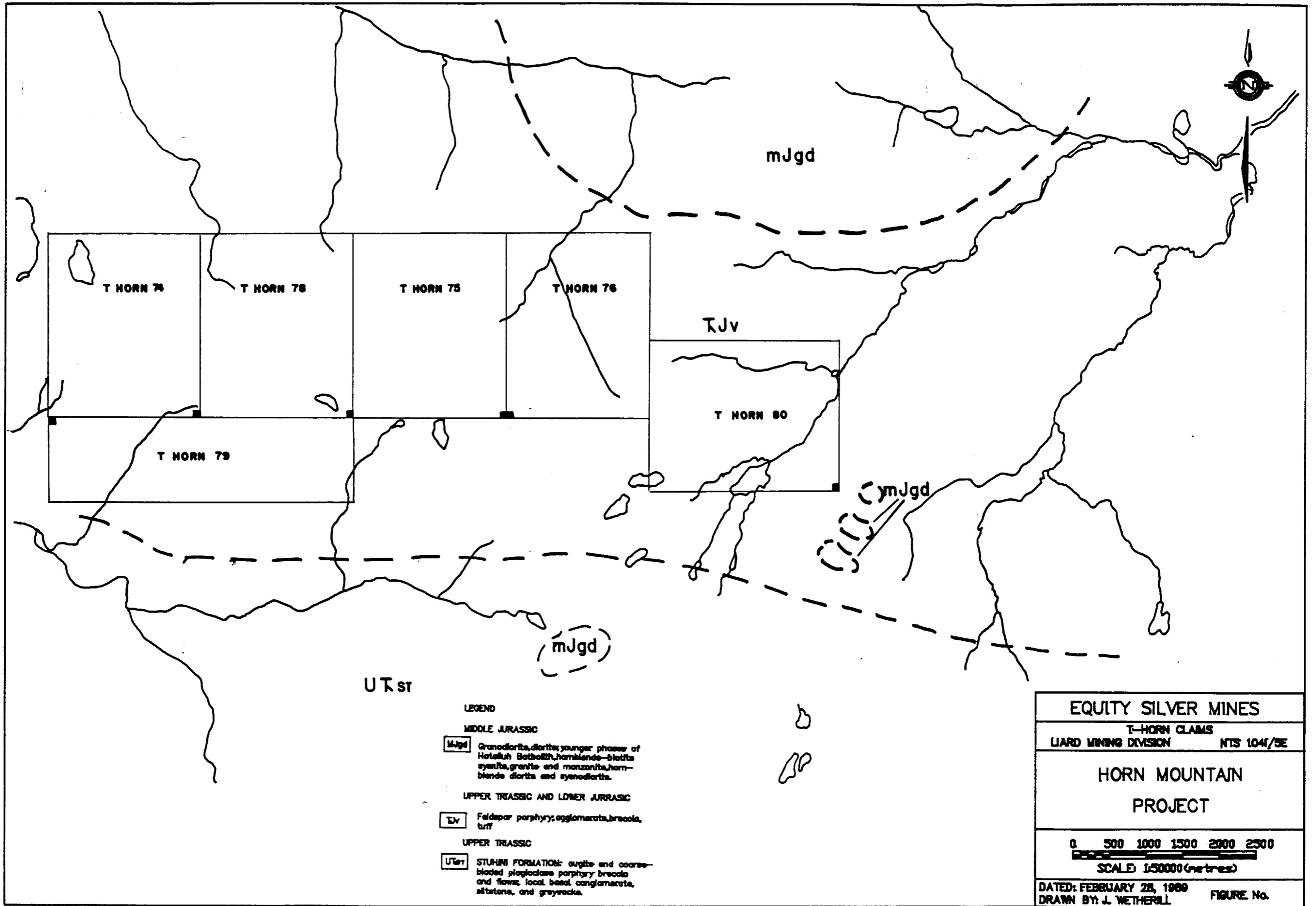
Helicopter	10 hours	6,500
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<b>SUBTOTAL</b>		<b>13,400</b>
Plus 10% Contingency		1,340

<b>TOTAL</b>		<b>14,740</b>
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HORN MOUNTAIN PROPERTY - Mapsheet 104I/SE

<u>Claim Names</u>	<u>Units</u>	<u>Expiry Dates</u>
T. Horn 74	20	August 3, 1989
75	20	"
76	20	"
78	20	"
79	16	"
80	20	"
	-----	
<b>TOTAL UNITS</b>	<b>116</b>	



EQUITY SILVER MINES	
T-HORN CLAIMS	
LIARD MINING DIVISION	NTS 1041/5E
HORN MOUNTAIN PROJECT	
SCALE: 1:50000 (metres)	
DATED: FEBRUARY 28, 1989	
DRAWN BY: J. WETHERILL	FIGURE No.

Prepared by: STETSON RESOURCE MGMT. CORP.



# LEGEND

## LATE TERTIARY

### PLEISTOCENE AND RECENT

- 18 LEVEL MOUNTAIN GROUP - Basalt
- 17 HEART PEAKS FM  
Trachyte, rhyolite

### CRETACEOUS and TERTIARY

- SLOKO GROUP - Felsic volcanic flows, intrusives and pyroclastic
- 16 Quartz monzonite
- 15 Felsite
- 14 Rhyolite

### UPPER JURASSIC

- 12 Diorite granodiorite

### JURASSIC

#### LABERGE GROUP

- 11 TAKWAHONI FORMATION - Conglomerate, sandstone
- 10 INKLIN FORMATION - Clastic sediments, limestone

### UPPER TRIASSIC

- 9 SINWA FORMATION - Limestone, clastics, chert
- 7&8 STUHINI GROUP - Volcanic and sedimentary rocks

### TRIASSIC

- 6 Granodiorite, quartz diorite, foliated diorite




### PRE - UPPER - TRIASSIC


- 4 Sedimentary and volcanic rocks

### PERMIAN

- 3 Limestone, dolomitic limestone, chert
- 1&2 1) Serpentinite, peridotite 2) Gabbro
- A Diorite gneiss, age unknown

 Geological boundary  
 Bedding

 Fault  
 Thrust fault  
 Dykes

 Zone of hydrothermal alteration

 Mineral property / occurrence

 Legal Corner Post

### 1.1 Property Geology

The property covers Upper Triassic and younger volcanics with minor sedimentary rocks (Gabrielse 1969). These rocks are intruded by a hornblende granodiorite related to the Hotailuh Batholith of Juriassic-Cretaceous age which outcrops eight kilometres to the south of the property area.

On the property, andesitic flows and pyroclastics are intruded by a medium grained diorite-granodiorite. Some brecciation of the margins of the intrusive stock was reported.

### 1.2 Mineralization/Alteration

The property covers an extensive gossan zone extending east-west roughly 3000 metres. Extensive shearing occurs in the zone which hosts disseminated lazulite, a mineral associated with a high temperature hydrothermal environment. Outcrops of the gossan are highly weathered and only local pyrite was reported. Unaltered volcanics host minor malachite, chalcopryrite and chalcocite in shears, quartz carbonate stringers and vug fillings. A soil survey conducted on the T-Horn #80 claim returned statistically anomalous silver,

## 1.2 Mineralization/Alteration (continued)

copper, and molybdenum values from B-horizon soils. Test pits on and to the north of the T-Horn #80 claim, indicate copper mineralization increases with depth. No reported samples were analysed for gold.

## 1.3 Property History

The property was explored by Union Miniere Explorations from 1970 to 1973 for its molybdenum potential. Kennco Explorations Ltd. explored the eastern portion of the property in 1973, and in 1975 - 1976 Utah Mines Ltd. explored the central portion of the property. Seranna Resources explored the eastern portion of the property in 1982. These programs included soil and stream sediment sampling, geological mapping, IP geophysical surveys, and diamond drilling.

## 1.4 Capsule Comment

An extensive gossan zone hosting significant shear zones remains untested for its precious metal potential, based on recorded work.

1.4 Capsule Comment (continued)

The presence of disseminated lazulite in several shear zones suggests a mesothermal depositional environment.

The eastern portion of the property returned statistically anomalous silver values from B-horizon soil samples.

Outcrops of shear zones in the gossan zone are highly weathered and mineralization present in unaltered rocks is absent in the altered rocks due to leeching.

1.5 Recommendations

- 1) Bulk heavy mineral sampling should be conducted on all property drainages.
- 2) Mag/VLF-EM surveys should be conducted on the property to delineate shear and fault zone extensions covered by overburden.
- 3) Mapping and channel sampling on the property should be undertaken, with special attention paid to alteration and structure similar to the main showing.
- 4) Previously mapped shear zones of significant size and intense alteration should be trenched to enable channel sampling of less weathered material.

1.6 References

Panteleyev, A.

1970       Geology, Exploration and Mining in B.C.  
            B.C. Department of Mines and Petroleum  
            Resources, 1970, page 38.

Op. cit.,       1971, page 45.

Op. cit.,       1972, page 539.

Clouthier, G.Z., Vyselaar, J.

1975       Geological and Geophysical Report on the Tour  
            Group 1. B.C. Department of Energy, Mines and  
            Petroleum Resources. Assessment Report # 5769,  
            8 pages.

Smee, B.W.

1971       Geochemical Soil Survey on the Lotus Group of  
            Claims. B.C. Department of Energy, Mines and  
            Petroleum Resources. Assessment Report # 3538,  
            16 pages.

1.6 References (continued)

Ball, C.W., Ashton, J.M.

1982        Geochemical Report on the Drift Group Mineral  
             Claims. B.C. Department of Energy, Mines and  
             Petroleum Resources. Assessment Report #10356,  
             36 pages.

Graham, J.D.

1982        Geochemical Report on the Drift Group Mineral  
             Claims. B.C. Department of Energy, Mines and  
             Petroleum Resources. Assessment Report #10923,  
             58 pages.

HORN MOUNTAIN PROJECT

PRELIMINARY BUDGET

Personnel:

Bulk H.M.C. Samples	50 samples	6 crew/days	\$ 3,600
Geological		6 crew/days	3,600

Analytical Expenses:

H.M.C.	50 samples @ \$100 each	5,000
Rock and Soil	240 samples	3,600

Transportation:

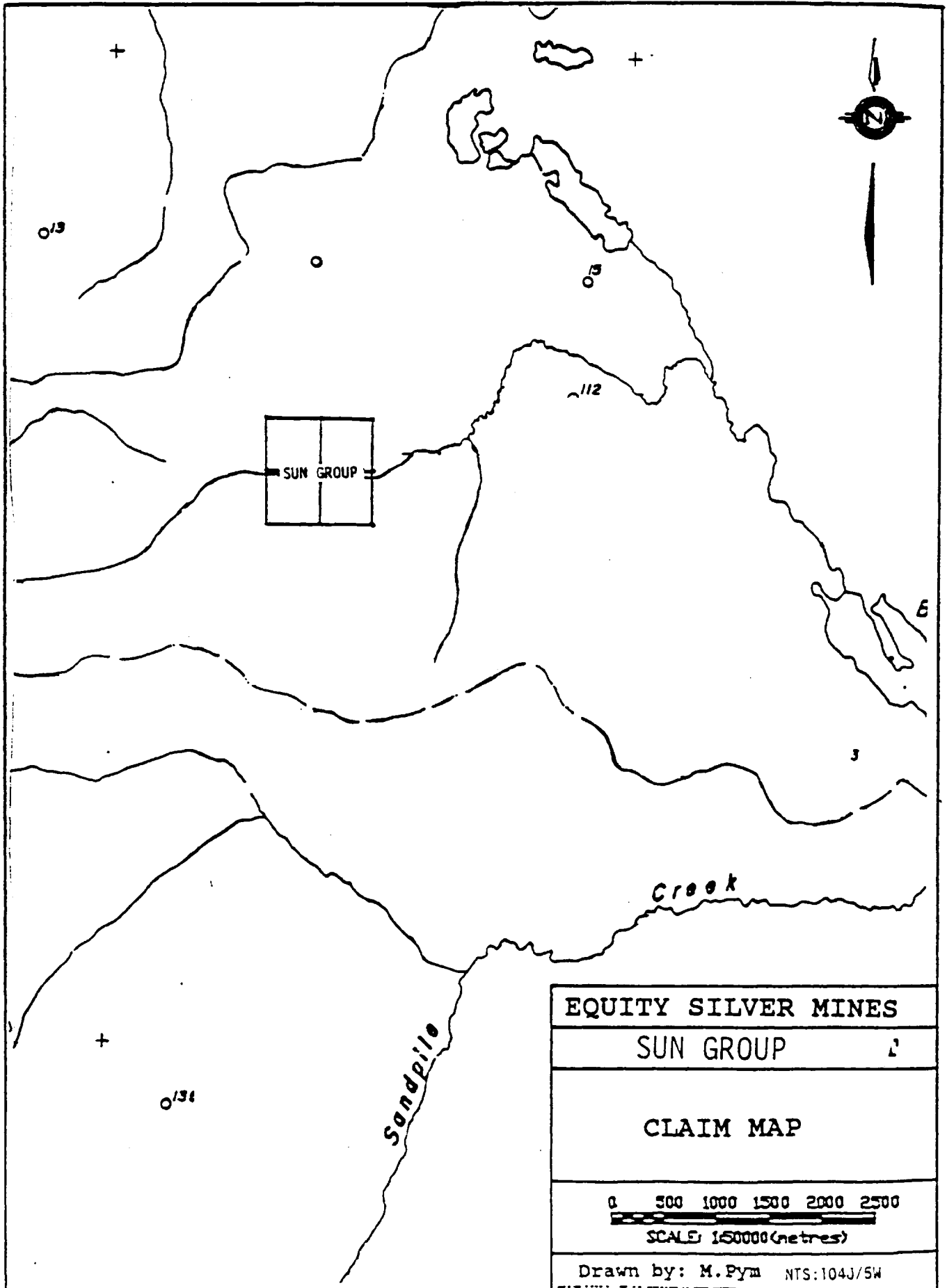
Helicopter	4,000
------------	-------

	SUBTOTAL	19,800
	Plus 10%	1,980
		-----
	<b>TOTAL</b>	<b>21,780</b>



SUN GROUP PROJECT - Mapsheet 104P/1E

<u>Claim Name</u>	<u>Units</u>	<u>Expiry Date</u>
Sun 29	1	July 18, 1989
30	1	"
31	1	"
32	1	"



EQUITY SILVER MINES

SUN GROUP

CLAIM MAP

0 500 1000 1500 2000 2500

SCALE: 1:50000 (metres)

Drawn by: M. Pym NTS:104J/5W

### 1.1 Property Geology

According to Gabrielse (1963), the property is underlain by Atan Group limestone, dolomite and minor shale of Early Cambrian age. The Atan limestone is part of a block-faulted anticlinal structure flanked to the west by Kechika Group phyllites.

### 1.2 Mineralization/Alteration

Sphalerite and galena occur as pods and disseminations and in veinlets hosted by massive to thin-bedded Atan Group limestone. These sulphides form resistant ridges giving the limestone a light brown and grey ribboned appearance. Secondary hydrozincite commonly occurs in lead-zinc mineralized outcrops. Minor gypsum-carbonate veining also outcrops on the property.

### 1.3 Property History

The Consolidated Mining and Smelting Company examined the area in 1951 for its copper potential. In 1951, G. Hope staked the copper showing now covered by the Sun property.

**1.3 Property History (continued)**

Amoco Canada explored the property during the late seventies. The program consisted of soil and silt sampling, geological mapping and sampling, and three diamond drill holes.

**1.4 Capsule Comment**

Chalcopyrite occurrences are exposed in roughly the same stratigraphic position in calcareous phyllites of the Kechika Group in a zone extending for at least 12 miles northwest from Hidden Valley Creek. Atan Group rocks flank the Kechika Group rocks and have several occurrences of silver-lead-zinc mineralization replacing dolomitized limestone and quartzite.

1.5 Recommendations

- 1) Channel sampling of the showing should be undertaken to test its precious metal potential.
- 2) Bulk heavy mineral stream sediment sampling of major drainages should be conducted.
- 3) Mapping and sampling of property geology should be undertaken.

1.6 References

Pantaleyev, A.

1983        1978 Atan (104P/1E). B.C. Ministry of Energy,  
Mines and Petroleum Resources, 1983, Geology in  
British Columbia, pages 187 - 188.

Pantaleyev, A.

1970        Geology, Exploration and Mining in B.C.  
B.C. Department of Mines and Petroleum  
Resources, 1970, page 38.

Op. Cit.

1972        Page 539.

Gabrielse, H.

1963        McDame Map Area, Cassiar District, British  
Columbia. Geological Survey of Canada,  
Memoir 319, 138 pages.

SUN GROUP PROJECT  
3 DAY FLY-CAMP  
PRELIMINARY BUDGET

**Personnel:**

Reconnaissance H.M.C.	2 crew\days	\$ 1,200
Geological	3 crew\days	1,800
Channel Sampling	1 crew\day	600

**Analytical:**

H.M.C.	10 samples	1,000
Rocks	30 samples	450

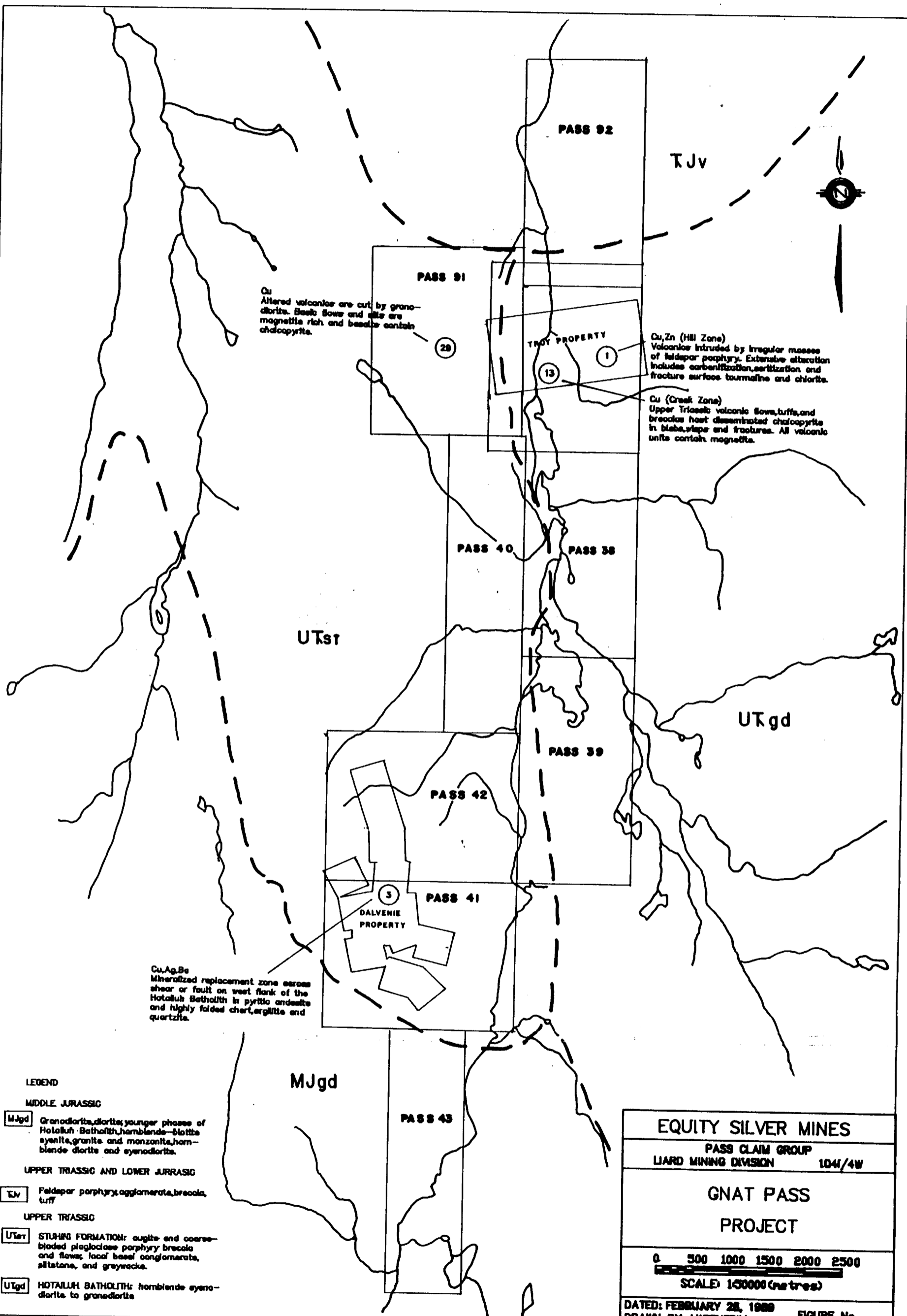
**Transportation:**

Helicopter	4 Hours	2,600
		-----
	SUBTOTAL	7,650
	Plus 10% contingency	765
		-----
	<b>TOTAL</b>	<b>8,415</b>

GNAT PASS PROJECT PROPERTY - MAPSHEET N.T.S. 104I4W

<u>Claim Name</u>	<u>Units</u>	<u>Expiry Dates</u>
Pass 38	18	July 6/89
39	18	"
40	16	July 8/89
41	20	July 6/89
42	20	"
43	14	"
91	20	Aug 20/89
92	18	Aug 20/89
	-----	
<b>TOTAL UNITS</b>	<b>144</b>	





Cu  
Altered volcanics are cut by granodiorite. Basalt flows and sills are magnetite rich and basalts contain chalcopyrite.

Cu,Zn (Hill Zone)  
Volcanics intruded by irregular masses of felsic porphyry. Extensive alteration includes carbonatization, sericitization and fracture surface tourmaline and chlorite.

Cu (Creek Zone)  
Upper Triassic volcanic flows, tuffs, and breccias host disseminated chalcopyrite in blebs, veins and fractures. All volcanic units contain magnetite.

Cu,Ag,Bi  
Mineralized replacement zone across shear or fault on west flank of the Hotalluh Batholith in pyritic andesite and highly folded chert, argillite and quartzite.

**LEGEND**

**MIDDLE JURASSIC**

**MJgd** Granodiorite, diorite; younger phases of Hotalluh Batholith; hornblende-blattite syenite, granite and monzonite; hornblende diorite and syenodiorite.

**UPPER TRIASSIC AND LOWER JURASSIC**

**TJv** Felsic porphyry, agglomerate, breccia, tuff

**UPPER TRIASSIC**

**UTst** STUHNI FORMATION: augite and coarse-bled plagioclase porphyry breccia and flows; local basal conglomerate, siltstone, and greywacke.

**UTgd** HOTALLUH BATHOLITH: hornblende syenodiorite to granodiorite

<b>EQUITY SILVER MINES</b>	
PASS CLAIM GROUP	LIARD MINING DIVISION 1041/4W
<b>GNAT PASS PROJECT</b>	
<p>SCALE: 1:50000 (metres)</p>	
<p>DATED: FEBRUARY 28, 1989          DRAWN BY: J. WETHERILL          FIGURE No.</p>	

### 1.1 Property Geology:

Gabrielse (1969) indicates the property covers Upper Triassic Stikine formation augite and plagioclase porphyry breccia and flows, which are in contact with the western flank of the Hotailuh Batholith of hornblende syenodiorite to granodiorite. The property has been divided into a northern and a southern section for ease of discussion.

Gabrielse (1969) shows the northern portion of the property to be underlain by Upper Triassic or earlier volcanic andesite and basalt flows, tuffs and breccias, with sediments intruded by stocks and sills of porphyritic andesite and basalt. These rocks lie along the flank of a large quartz monzonite-granodiorite intrusive stock believed to be related to the Upper Jurassic-Cretaceous Cassiar batholith.

-Triassic rocks covered by the southern portion of the property consist of folded thin-bedded siltstones, quartzites, cherts and argillites associated with minor volcanic beds. These rocks have been intruded by hornblendite and gabbro of Jurassic-Cretaceous age which outcrop as discordant masses or thin sills paralleling bedding planes of the Jurassic units. The texture of the intrusive ranges from coarse equicrystalline to coarse porphyritic.

1.1 Property Geology continued

Both these units are crosscut by two diabase dykes which strike  $016^{\circ}$  and dip  $075^{\circ}$  W. The dykes are roughly parallel and intrude a highly sheared fault zone which hosts the main mineralization.

## 1.2 Mineralization/Alteration

On the northern portion of the property, the volcanic units are moderately to strongly carbonitized and generally sheared and fractured. Rhyolites within the volcanic package usually exhibit extensive brecciation which obliterates primary features. Carbonitization and shearing increase closer to Gnat Creek which suggests the Gnat Creek Valley may represent a major shear zone. Sericitic and silicic alteration zones are distributed across the property. Tourmaline and chlorite commonly cover fracture surfaces.

The brecciated rhyolite hosts erratically dispersed fine, disseminated, chalcopyrite associated with weak chloritization.

On the Troy claims, magnetite-chalcopyrite mineralization occurs as fracture-filling veinlets in the andesite and dacite flows. The veinlets assay up to 2.88% Cu but generally do not exceed 1/2 inch in width and pinch and swell erratically. Replacement pods in the host volcanics assay up to 2.94% Cu.

1.2 Mineralization/Alteration (continued)

Precious metal values of up to 0.01 oz/ton Au, and 0.18 oz/ton Ag were returned from the "Creek Showing" on the Troy Claims, but values are generally below detection limits across the property.

The Pass #91 claim overstakes the Troy claims which cover the Gnat Pass deposit (proven reserves of 18 million tonnes of 0.44% Cu).

On the Dalvenie claims, chlorite alteration has been reported on the southern portion of the property, particularly in fault zones and proximal wallrocks. Areas of the property separated from these zones remain relatively unaltered.

Mineralization is hosted by smokey quartz in the diabase dyke - fault zone on the Dalvenie claims, and comprises massive pyrite with blebs of chalcopyrite, arsenopyrite and fracture surface bornite and hematite. Minor occurrences of siderite and sphalerite were also observed. Values of 3.4% Cu, 0.08 oz/ton Au, and 0.9 oz/ton Ag., were obtained from the main fault zone trenches.

### 1.3 Property History

In 1960, Cassiar Asbestos Corp. staked several copper showings near Gnat Lake discovered during a regional prospecting program. These claims were restaked in 1963 and actively explored from 1965 to 1968. A total of 17,384 metres of diamond drilling were completed in 102 holes, blocking out the Gnat Pass deposit. The deposit and the surrounding ground are currently covered by the Troy claims and the northern portion of the Pass property.

The southern portion of the property covers and surrounds ground initially staked by Joseph Clearihue during the 1899 Dease Lake gold rush. Several periods of restaking occurred until the Dalvenie Syndicate of Victoria had the claims Crown Granted in 1935 following an extensive trenching program. In 1935, prospectors' samples from the property returned values up to 1.10 oz/ton Au, 15.5 oz/ton Ag, and 6.45% Cu but the exact locations of the samples are unknown.

### 1.4 Capsule Comment

Across the property, the broken crystal, prophyritic character of the intrusives and the number of ophitic dykes suggest a hypabyssal subvolcanic environment.

Mineralization and structure of the dyke shear zone on the southern portion of the property is typical of disseminated shear zone replacement Au, Ag, Pb and Zn mineralization.

Local geology remains obscure due to extensive overburden. Further diamond drilling for extensions to mineralized zones could significantly increase tonnage estimates on the southern portion of the property.

### 1.5 Recommendations

- 1) Extensive drilling on the Gnat Pass deposit indicates the deposit is small and has been thoroughly tested (Panteleyev, 1977). Exploration efforts should be concentrated peripheral to the deposit for shear zone precious metal type deposits.
- 2) Due to extensive overburden, property-wide MAG/VLF-EM surveys should be conducted to enhance structural mapping in the area.
- 3) Bulk heavy mineral sampling should be undertaken on all major drainages of the property area.
- 4) X-ray drilling of the dyke-shear zone on the southern portion of the property indicated mineralization increased with depth. Fan-style diamond drilling should be conducted to test the zone at depth, following surface trenching results.
- 5) Mapping and sampling should be conducted on areas of the property unexplored to date.
- 6) Soil survey, 100 km. grid.



1.6 References

Hanson, G.; McNaughton, D.A.

1936 Eagle-McDame Area, Cassiar District British  
Columbia; Geological Survey of Canada,  
Memoir 194, 16 pages.

Mandy, J.T.

1935 Dease Lake Area (Dalvenie); British Columbia  
Minister of Mines, Annual Report, 1935,  
pages 22-23.

Jeffery, W.G.

1966 June, Stikine, September, Etc. (Dease Lake  
Mines Ltd.), Minister of Mines and Petroleum  
Resources, Annual Report, 1966, pages 19-20.

PRELIMINARY BUDGET

GNAT PASS PROJECT

Personnel

Grid 100 km, 1 km/man/day - 100 km \$17,500.00

Geophysical (VLF - Mag EDA)

25 mandays at \$250/day 6,250.00

Geochemical

Soil Survey: 50 mandays at \$175 8,750.00

H.M.C.: 50 samples at 4 man/day 2,275.00

Prospecting & Mapping

25 mandays 6,250.00

Trenching

5 mandays 1,250.00

Supervision

25 mandays 6,250.00

Supplies and Equipment

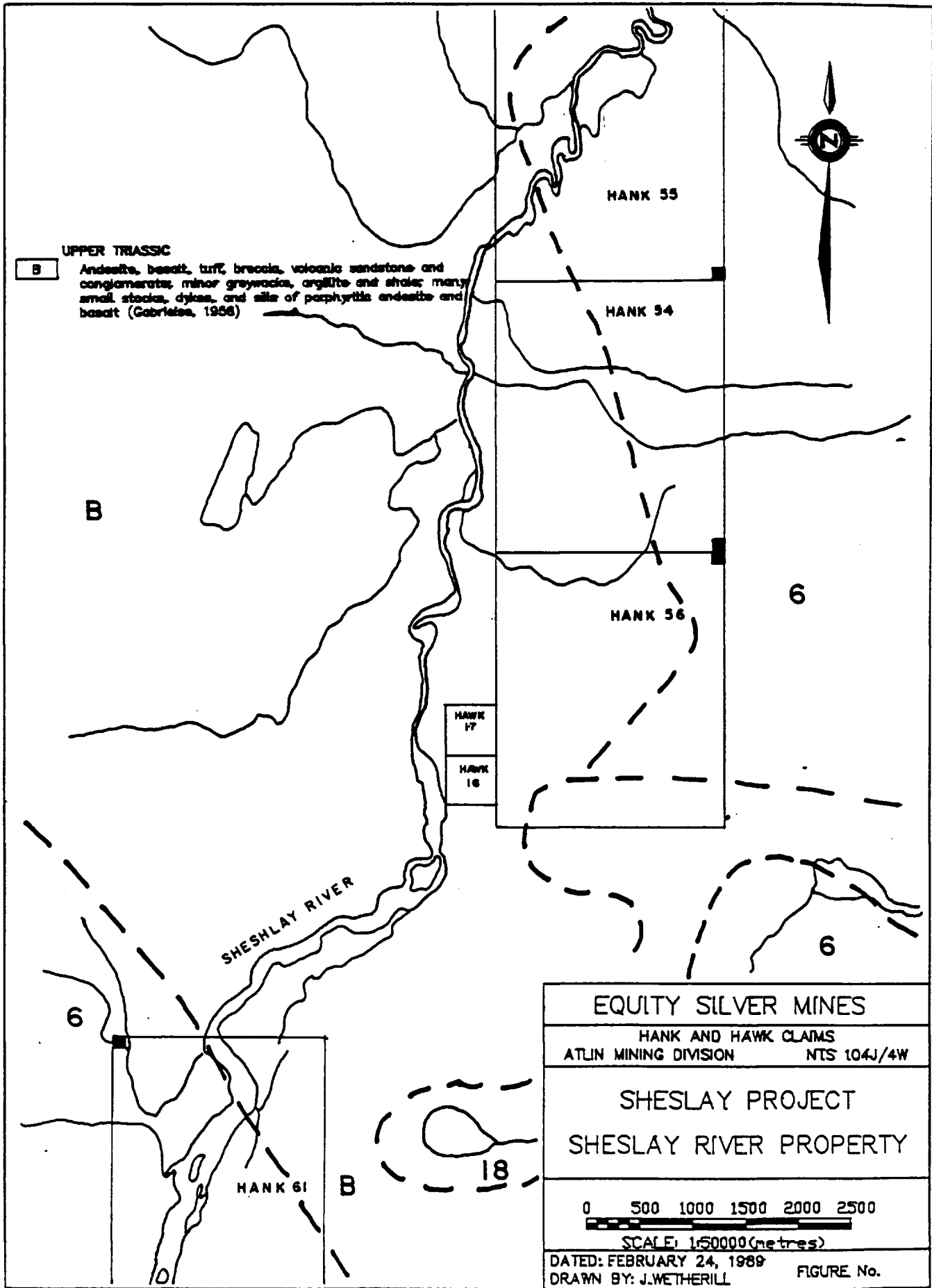
Geophysical 6,250.00

Grid Prep. 2,500.00

Trenching and Blasting	\$1,250.00
Backhoe (Trenching)	6,000.00
<b>Analytical</b>	
Soils - 2000 samples at \$15/sample	30,000.00
H.M.C. - 50 samples at \$100/sample	5,000.00
Rocks - 500 samples at \$15/sample	7,500.00
<b>Transportation</b>	
Trucks	3,750.00
Fixed Wing	4,000.00
<b>Plotting</b>	
10 man days	2,000.00
Room & Board	19,600.00
	-----
SUBTOTAL	\$136,375.00
10% Administrative Overhead	13,637.00
	=====
GRAND TOTAL	\$150,012.00

SHESLAY RIVER PROPERTY - Mapsheet 104J/4W

<u>Claim Names</u>	<u>Units</u>	<u>Expiry Dates</u>
Hank 54	20	July 6, 1989
55	20	"
56	20	"
61	20	"
16	1	"
17	1	"
	<hr/>	
TOTAL UNITS	82	



Prepared by: STETSON RESOURCE MGMT. CORP.

# LEGEND

## LATE TERTIARY

### PLEISTOCENE AND RECENT

- 18 LEVEL MOUNTAIN GROUP — Basalt
- 17 HEART PEAKS FM  
Trachyte, rhyolite

### CRETACEOUS and TERTIARY

SLOKO GROUP — Felsic volcanic flows  
intrusives and pyroclastic

- 16 Quartz monzonite
- 15 Felsite
- 14 Rhyolite

### UPPER JURASSIC

- 12 Diorite granodiorite

### JURASSIC

#### LABERGE GROUP

- 11 TAKWAHONI FORMATION — Conglomerate, sandstone
- 10 INKLIN FORMATION — Clastic sediments, limestone

### UPPER TRIASSIC

- 9 SINWA FORMATION — Limestone, clastics, chert
- 7&8 STUHINI GROUP — Volcanic and sedimentary rocks

### TRIASSIC

- 6 Granodiorite, quartz diorite, foliated diorite




### PRE — UPPER — TRIASSIC


- 4 Sedimentary and volcanic rocks

### PERMIAN

- 3 Limestone, dolomitic limestone, chert
- 1&2 1) Serpentinite, peridotite 2) Gabbro
- A Diorite gneiss, age unknown

 Geological boundary  
 Bedding

 Fault  
 Thrust fault  
 Dykes

 Zone of hydrothermal alteration

 Mineral property / occurrence

 Legal Corner Post

### 1.1 Property Geology

According to Gabrielse (1979) the southern area of the Sheslay River Property covers: Upper Triassic augite and plagioclase, porphyry, breccia and flows; tuff, volcanic sandstone and conglomerate; and minor siltstone, of the Stuhini formation. The northern portion of the property covers the western flank of Kaketsa Mountain formed by the Kaketsa stock comprising diorite, quartz monzonite granodiorite, and biotite-hornblende quartz diorite.

In the property area, the Kaketsa stock outcrops as medium grained rock ranging in composition from monzonite to quartz diorite, and remnant volcanics as roof pendants. Syenite dykes crosscut the stock and the remnant volcanics. No detailed mapping has been recorded on the southern portion of the claims.

### 1.2 Mineralization/Alteration

Alteration and mineralized zones tend to correlate with the syenite intrusions. Contact metamorphism by the Kaketsa stock has enriched the volcanic remnants in epidote,

## 1.2 Mineralization/Alteration (continued)

carbonate, magnetite and minor copper mineralization, but the more mineralized zones of disseminated chalcopyrite occur in the syenite intrusions and in the stock proximal to the syenite. Two rock samples from the Hank 55 Claim returned trace Au, and 0.28 and 0.13 oz/ton Ag. Copper-rich rock samples were not analysed for precious metals.

## 1.3 Property History

Reconnaissance exploration on the property was reported during the early sixties, consisting of mapping and some geophysics. Exploration in the area intensified during the early seventies for porphyry copper type mineralization. Several small deposits were discovered but were not of sufficient grade to warrant production. Renewed interest in the Kaketsa Mountain area is attributed to the discovery of several significant porphyry Cu-Au deposits which are associated with syenite intrusions (Galore Creek deposit, 2,000,000 oz contained Au).



**1.4 Capsule Comment**

Syenite intrusions and associated mineralization and alteration were reported on the property.

Two reported rock samples were assayed for Au and Ag and both returned anomalous values in silver and trace gold.

### 1.5 Recommendations

- 1) Resampling of the mineralized zones previously outlined on the property should be implemented and assayed for Au and Ag.
- 2) Detailed geological mapping on the southern portion of the property should be conducted to delineate the contact zone between the Kaketsa stock and the Upper Triassic volcanic and related sedimentary rocks. Attention should be paid to syenite exposures similar to those found in the Kaketsa stock on the eastern flank.
- 3) Structural mapping should be conducted on the property to determine a spatial relationship between the Kaketsa stock, any syenite intrusions and fault systems in the Upper Triassic volcanics.
- 4) Bulk heavy mineral sampling of all property drainages should be conducted to test the precious metal potential of the area.

1.6 References

Gutrath, G.

1965 Report of Geophysical Survey. BCDM Assessment Report, #647.

Barr, D., Lawrence, E.

1961 Report on the Geological and Geochemical Surveys, KID 1 - 12 M.C.'s. BCDM Assessment Report, # 349.

Hallof, P.

1962 Report on Geophysical Survey on the KID Claim Group. BCDM Assessment Report, # 428.

Cukor, V.

1970 The Colorado Corporation Grizzly Group. BCDM Assessment Report, # 2605.

Fitzgerald, M.

1972 Report on Geological, Geochemical, And Geophysical Surveys, Grizzly Claim Group. BCDM Assessment Report, # 3390.

**SHESLAY RIVER PROPERTY  
PRELIMINARY BUDGET**

**Personnel:**

Reconnaissance	Bulk H.M.C. Survey	4 crew/days	\$ 2,400
Geological		4 crew/days	2,400

**Analytical:**

Rock Samples	160 Samples		2,400
Heavy Mineral	30 Samples		3,000

**Transportation:**

Helicopter	16 hours		10,500
			-----
	SUBTOTAL		20,700
	Plus 10% Contingency		2,070
			-----
	TOTAL		\$22,770

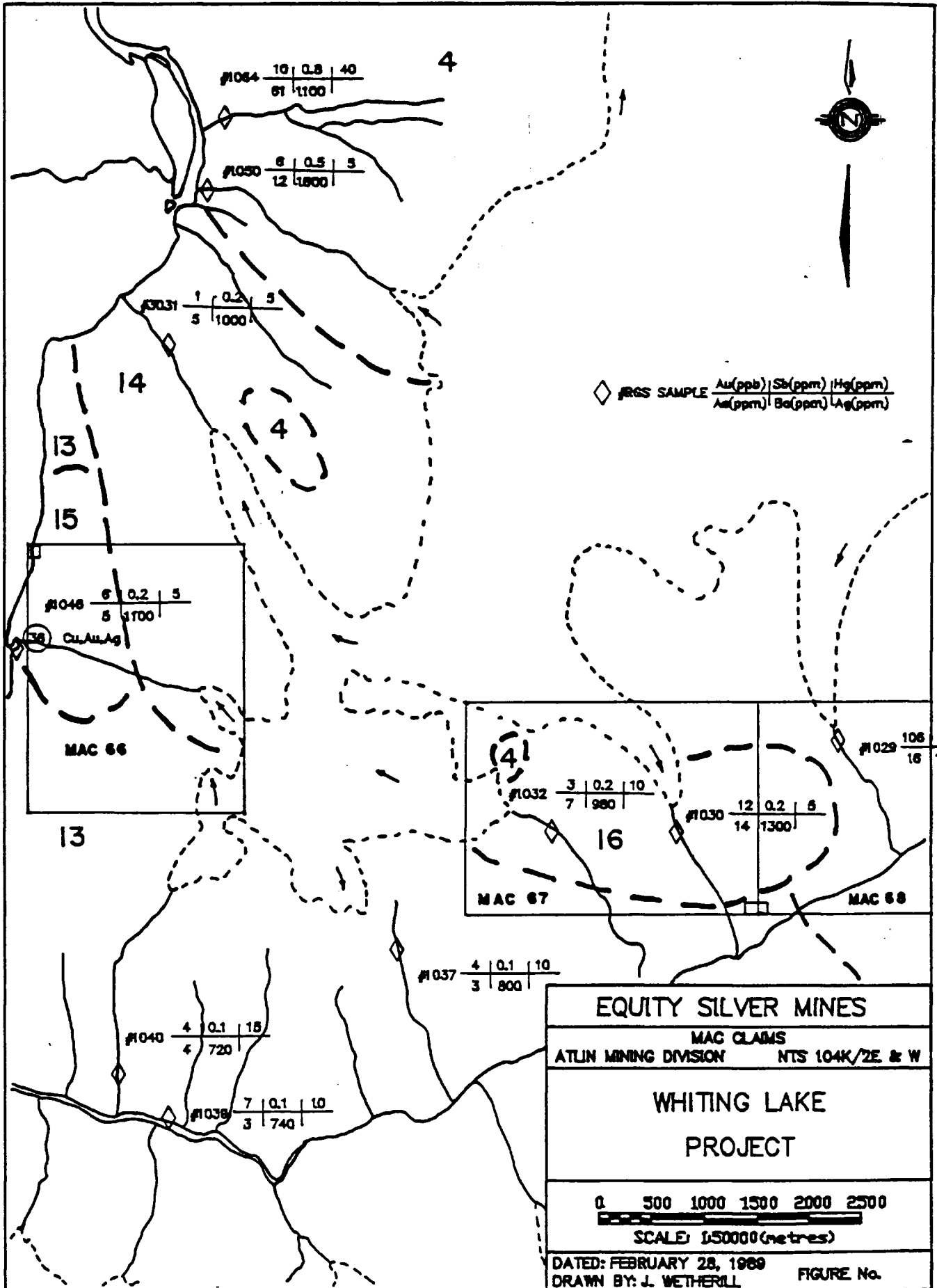
NAME OF GROUP: Whiting

N.T.S. 104K-2

NO. OF UNITS: 60

CLAIM NAMES:

	units	Expiry Dates
Mac 66	20	Nov. 20/89
67	20	"
68	20	"



# LEGEND

## LATE TERTIARY

### PLEISTOCENE AND RECENT

18 LEVEL MOUNTAIN GROUP - Basalt

17 HEART PEAKS FM  
Trachyte, rhyolite

### CRETACEOUS and TERTIARY

SLOKO GROUP - Felsic volcanic flows  
intrusives and pyroclastic

16 Quartz monzonite

15 Felsite

14 Rhyolite

### UPPER JURASSIC

12 Diorite granodiorite

### JURASSIC

#### LABERGE GROUP

11 TAKWAHONI FORMATION - Conglomerate, sandstone

10 INKLIN FORMATION - Clastic sediments, limestone

### UPPER TRIASSIC

9 SINWA FORMATION - Limestone, clastics, chert

7&8 STUHINI GROUP - Volcanic and sedimentary rocks

### TRIASSIC

8 Granodiorite, quartz diorite, foliated diorite

### PRE - UPPER - TRIASSIC

4 Sedimentary and volcanic rocks




### PERMIAN


3 Limestone, dolomitic limestone, chert

1&2 1) Serpentinite, peridotite 2) Gabbro


A Diorite gneiss, age unknown

 Geological boundary  
 Bedding

 Fault  
 Thrust fault  
 Dykes

 Zone of hydrothermal alteration

 Mineral property / occurrence

 Legal Corner Post

### 1.1 Property Geology

The Mac 66 claim covers a Tertiary Sloko Group quartz-feldspar porphyry stock up to 3 km wide. The western edge of the stock is in contact with Sloko Group rhyolites. This important NW trending contact is the focus of considerable alteration which includes strong silicification, sericitization and kaolinization. To the east and upsection, the rhyolites grade to bedded felsic Sloko Group pyroclastics. Coeval with the felsite stock to the west the volcanic section is cut by small plugs and dykes of brecciated and clay-altered rhyolite. This complex intrusive-extrusive relationship was noted by Souther (1971) as follows:

On the east side of Whiting Lake, rusty weathering felsite with a high content of disseminated pyrite cuts the lower part of the Sloko Group (volcanics), yet tuff-breccias within the same volcanic pile contain accidental inclusions obviously derived from the felsite.

Farther to the east the Mac 67 and 68 claims cover a Sloko Group quartz monzonite stock which represents a deeper intrusive phase of the hypabyssal felsite and extrusives covered by Mac 66. The quartz monzonite intrudes Pre-Upper Triassic volcanics and sediments to the north and east, Pre-Upper Cre-



taceous granodiorites to the south and the area between the Mac 67 and 66 claims to the west is covered by a glacier.

## 1.2 Mineralization/Alteration

Pyritic, argillic and silicified volcanic and intrusive rocks of Early Tertiary Sloko Group form a large, rusty weathering gossanous zone on the Mac 66 claims. The zone strikes  $350^{\circ}$  and dips  $25^{\circ}$  east with widths of up to 1.6 km and can be traced 3 km along the strike. The zone occurs on both sides of a Sloko Group extrusive-intrusive contact. The protolith is often obliterated by strong silicification, sericitization and kaolinization.

On the intrusive side of the contact the quartz feldspar porphyry stock is pervasively mineralized with up to 20% finely disseminated pyrite. Pyrite and quartz infill sharp joints at  $87^{\circ}/90^{\circ}$  and  $123^{\circ}/78^{\circ}$  E. Areas, up to 5 m in diameter, of green-yellow arsenic oxides and minor Fe-Mn staining occur in the stock. Quartz stringer zones to 10 m wide occur in limited areas of silicification.

On the extrusive side of the contact a rhyolite is strongly brecciated with angular blocks up to 20 cm in diameter ce-

### 1.2 Mineralization/Alteration (continued)

mented by a limonite and clay matrix. Yellow to green arsenic staining is abundant. Pyrite may occupy up to 20% of the breccia and is localized along narrow fracture planes.

Higher up in the Sloko volcanic section to the west is a series of narrow interbedded volcanic and sedimentary rocks. These have been intruded by "patches" and dykes of brecciated and pervasively clay altered rhyolite. Silicification and pyritization occur along these intrusive contacts.

Limited sampling of localized areas of the gossan zone gave values of up to 780 ppb Au from brecciated, chalcedonic quartz veins.

### 1.3 Property History

In 1973, NRD Mining Ltd., did a geochemical and reconnaissance geological survey to evaluate a copper occurrence in the Sloko felsite stock now covered by Mac 66. The occurrence

was located by the G.S.C. survey in 1971 while mapping the 104K map sheet (see G.S.C. map 1262A). Very little copper mineralization was found and the claims were allowed to lapse.

In 1984, Noranda staked the ground now covered by the Mac 66 as a follow-up to a regional exploration program. Limited rock soil and silt sampling was done. More work was recommended but the claims were allowed to lapse.

In 1987, the BCDM conducted a regional silt sampling program of the area (BC RGS 20). A silt sample taken from a drainage on the northern edge of Mac 68 analysed 106 ppb Au. From a data base of 896 samples, this sample (871029) plots in the 97th percentile. The source of this anomaly may be outside the claim boundary on open ground to the north. Other than this reconnaissance work, there is no record of exploration on the area covered by Mac 67 and 68.

#### 1.4 Capsule Comment

The area covered by the Mac 66 claims is a high priority gold exploration target. The intensely silicified, sericitized

and pyritized alteration zone is typical of advanced argillic alteration zones located above and peripheral to epithermal lode gold type deposits in the Cordillera. The large size of the alteration zone (1.6 km by 3 km) is encouraging as the bigger the alteration zone, generally, the larger the potential ore body (Panteleyev, 1985). The geological environment of the Mac claims suggests an El Indio type exploration model.

The El Indio\* deposit is hosted by auriferous quartz stringers and silicification within a young felsic hypabyssal volcanic complex. An advanced argillic alteration suite is intimately associated with the deposit (Walthier, T.N., et al).

\*The El Indio deposit in Chile hosts 3.2 million tonnes of 12.3 gm/tonne gold, 141 gm/tonne silver, and 4% copper as well as 120,000 tonnes of direct shipping ore grading 277 gm/tonne gold.

1.5 Recommendations

- 1) A camp should be set up on Whiting Lake that can be serviced by float plane.
- 2) Topography in the claim areas is precipitous with local reliefs in the order of 1600 meters. Helicopter support will be necessary to properly access the claims.
- 3) A zodiac should be provided to access the western half of the Mac 66 claims including all its drainages.
- 4) Prospector-samplers with mountaineering skills and/or assisted by mountain climbers will be necessary to properly sample many areas of the claims.
- 5) All drainages should be sampled using bulk H.M.C. techniques to zero in on sources of gold.
- 6) The gossan-alteration zone on Mac 66 runs along the face of a steep ridge. Bulk H.M.C. talus samples should be collected along the base of the ridge.

1.6 References

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- 1985 A Canadian Cordilleran Model for Epithermal  
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**WHITING LAKE**  
**6 DAY FLY-CAMP**  
**PRELIMINARY BUDGET**

**Personnel:**

Bulk H.M.C. silt sampling	5 crew/days	\$3,000.00
Bulk H.M.C. talus sampling	5 crew/days	3,000.00
Prospecting	10 crew/days	6,000.00
Trenching	3 crew/days	1,800.00

**Supplies & Equipment**

Powder		750.00
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**Analytical Expenses**

H.M.C.	75 @ \$100 each	7,500.00
Rocks	400 @ \$15 each	6,000.00

**Transporation**

Helicopter Support	23 hours @ \$650	14,950.00
Mob & Demob		3,000.00

		=====
	SubTotal . . .	\$46,000.00
	10% Contingency . . .	\$4,600.00
		=====
		\$50,600.00