

MINNOVA

MEMORANDUM

DATE: January 20th, 1992
John Gordon
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COPIES TO:
DE: Ian Pirie
FROM:
SUBJECT: Brenda - Minnova JV: 1992 Budget Proposal

823603

The attached Budget proposal is respectfully submitted for your perusal and approval. The figure of \$733,520 has been arrived at because it is both a realistic budget for the projects involved and suffices to complete Brenda's earn in to the JV.

The majority of the Budget (\$525,000) is assigned to the exciting new LeMare project on northern Vancouver Island. This 17 claim, 302 unit property lies 35 kilometers SW of BHP Utah's Island Copper mine (360m tonnes, 0.45% Cu, 0.017% MoS₂ and 0.24 g/t Au) and shows very similar geological, geophysical and geochemical patterns. As a new discovery in 1991, it has seen only limited exploration and no drilling. Our aim in 1992 will be to bring the main targets to a drill stage and drill at least 3000m on those targets.

The ongoing Rainbow - Tam O'Shanter project is allotted \$100,000. This will allow us to follow up drill intersections made late in 1991. Since the area of the intersections is close to the Wildrose property boundary, an allowance for \$10,000 in option payments due on it in April is also made. However, if weather permits, we may be able to test the potential for mineralization trending onto Wildrose before the due date and react accordingly.

The remaining funds (\$21,000) are earmarked for the General budget to allow us to continue to seek high quality projects which meet the objectives of the joint venture.

BRENDA – MINNOVA JV 1992 BUDGET PROPOSAL

Summary by Work Type

<u>Project</u>	<u>Geol</u>	<u>Geoph</u>	<u>Geoch</u>	<u>Drill</u>	<u>Line</u>	<u>Trench</u>	<u>Hotels</u>	<u>*Options</u>	<u>Other</u>	<u>Total</u>	% of Budget
GENERAL	17500	0	0	0	0	0	3500	0	0	21000	3.2%
RAINBOW TAM	16500	0	0	80000	0	0	3500	0	0	100000	15.2%
WILD ROSE	0	0	0	0	0	0	0	10000	0	10000	1.5%
LEMARE	105250	67680	27720	251450	48400	0	20000	0	4500	525000	80.0%
TOTALS	139250	67680	27720	331450	48400	0	27000	10000	4500	656000	
% of Budget	21.2%	10.3%	4.2%	50.5%	7.4%	0.0%	4.1%	1.5%	0.7%		

DIRECT EXPENDITURES	=	\$656,000
ADMINISTRATION	=	\$77,520
TOTAL	=	\$733,520

Fig. 1

BRENDA GENERAL (PN 658,624)

1992 BUDGET PROPOSAL

BUDGET: \$21,000

INTRODUCTION:

The Brenda General budget allows ongoing reconnaissance work and property examinations within the Brenda JV area. Project generation in 1992 will continue concentrating on prospects at or close to the diamond drilling stage. Principal targets are large tonnage, open-pittable deposits. These include: porphyry Cu-Au, disseminated (epithermal) Au, and skarn. As in past years, a large number of submittals are anticipated throughout the year.

PROJECT BUDGET FORECAST 1992

PROJECT NAME: **BRENDA GENERAL**

PROJECT NO. **658**

GEOLOGY

Salaries	\$12,000		
Travel Expenses	\$4,500		
Contract Payments	\$0		
Field Expenses	\$500		
Analyses	\$500	<u>\$17,500</u>	83%
	\$0		

GEOPHYSICS

Salaries	\$0		
Travel Expenses	\$0		
Contract Payments	\$0		
Field Expenses	\$0	<u>\$0</u>	0%

GEOCHEMISTRY

Salaries	\$0		
Travel Expenses	\$0		
Contract Payments	\$0		
Field Expenses	\$0		
Analyses	\$0	<u>\$0</u>	0%

DRILLING

Salaries	\$0		
Travel Expenses	\$0		
Contract Payments	\$0		
Field Expenses	\$0		
Analyses	\$0	<u>\$0</u>	0%

<i>Line Cutting</i>		<u>\$0</u>	0%
<i>Trenching</i>		<u>\$0</u>	0%
<i>Hotels and Meals</i>		<u>\$3,500</u>	17%
<i>Option Payments</i>		<u>\$0</u>	0%
<i>Property Maintenance</i>		<u>\$0</u>	0%
<i>Property Acquisition</i>		<u>\$0</u>	0%

TOTAL DIRECT EXPENDITURES **\$21,000**

RAINBOW-TAM O'SHANTER (PN 661)

1992 BUDGET PROPOSAL

BUDGET: \$100,000 (100% Brenda)

OBJECTIVES:

1. Diamond drill follow-up of anomalous gold values returned from holes TM 91-16, TM 91-19, and TM 91-20A.

SUMMARY:

The Rainbow Tam O'Shanter property consists of 345 claim units in the Greenwood Mining Division of B.C. The property is centred approximately six kilometres west of Greenwood and covers the eastern margin of the Tertiary Toroda Creek Graben. The potential for skarn, porphyry, and epithermal mineralization on the property is significant.

The claims cover a large area of Eocene volcanics, sediments and intrusives in what is known as the Toroda Creek Graben. On the west side of the graben, at the southwest part of the property, a felsic intrusive of Jurassic age cuts Permo-Carboniferous Knob Hill Group sediments and Triassic Brooklyn Formation sediments.

Two areas of alteration occur on the property, one in the Midway Mine area, the other in the Tam O'Shanter area.

At the Midway Mine, three separate phases of alteration and mineralization occur. The earliest consists of pervasive listwanization of serpentinite in the Knob Hill Fm along regional thrust faults. Younger quartz-feldspar porphyry

dykes and sills overprint the listwanite zones and cause pervasive clay alteration and localized silicification. This event deposited narrow polymetallic veins in high angle shear zones. Steeply dipping Tertiary faults containing epithermal-style chalcedonic veins (e.g. the Picture Rock Quarry) represent the youngest mineralizing event in the Midway area. Work in this area to date has failed to identify any zones of significant mineralization.

In the Tam O'Shanter area a number of different alteration types occur. Large areas of argillic alteration and pervasive silicification occur in Eocene Kettle River Fm adjacent to the Deadwood Fault zone near the eastern boundary of the Toroda Creek Graben. In the north east corner of the property a large Cretaceous diorite intrusion occurs. It, and surrounding host rocks are anomalous for Cu and Au. Alteration consists of a central chlorite-magnetite zone grading outward through phyllic and advanced argillic zones. A broad Cu-Au soil anomaly occurs in this area as well. Work on the Tam 91 grid area was successful in defining a number of anomalous zones indicating the presence of a large mineralized porphyry system. This was confirmed by geology, geochemistry, and geophysics. Subsequent drilling of the porphyry system in the northern portion of the Tam 91 grid failed to identify any zones of economic significance. Three holes in the southern portion of the grid did, however, intersect Au mineralization of significant grade. These three holes (TM 91-16, -19, -20A), located on the same line, intersected Au mineralization over a lateral distance of 400 metres. The best intersections are 26.14 m @ 0.754 g/t Au, 145 ppm Cu (incl. 5.51 m @ 2.5 g/t Au, 69 ppm Cu), 53.5 m @ 0.26 g/t Au, 155 ppm Cu (incl. 9.0 m @ 0.51 g/t Au, 171 ppm Cu), and 27.07 m @ 1.09 g/t Au, 0.14% Cu (incl. 3.3 m @ 7.3 g/t Au, 0.83% Cu).

The relationship of mineralization between these holes is not fully understood at this time as it is related to Tertiary structure in one hole, yet related to a Cretaceous (?) diorite intrusion in another.

The 1992 exploration program will concentrate on following up the mineralized intersections. A 1000 metre drill program is planned, preceded by detail rock sampling and structural analysis of this particular area.

PROPOSED WORK:

1. A short detailed sampling and mapping program will attempt to locate the surface projection of the mineralization intersected in the three holes. Mineralization appears structurally controlled.
2. A 1000 metre, 5 hole drill program is proposed to further define the zone of anomalous Au mineralization.

TENTATIVE SCHEDULE:

- | | | | |
|----|----------------------|---|----------------|
| 1. | Sampling and mapping | - | March to April |
| 2. | Drilling | - | March |

PROJECT BUDGET FORECAST 1992

PROJECT NAME: **RAINBOW
TAM O'SHANTER**

PROJECT NO. **661**

GEOLOGY

105 lithos @ 18.75

Salaries	\$8,535		
Travel Expenses	\$1,000		
Contract Payments	\$0		
Field Expenses	\$5,000		
Analyses	\$1,965	\$16,500	17%

GEOPHYSICS

Salaries	\$0		
Travel Expenses	\$0		
Contract Payments	\$0		
Field Expenses	\$0	\$0	0%

GEOCHEMISTRY

Salaries	\$0		
Travel Expenses	\$0		
Contract Payments	\$0		
Field Expenses	\$0		
Analyses	\$0	\$0	0%

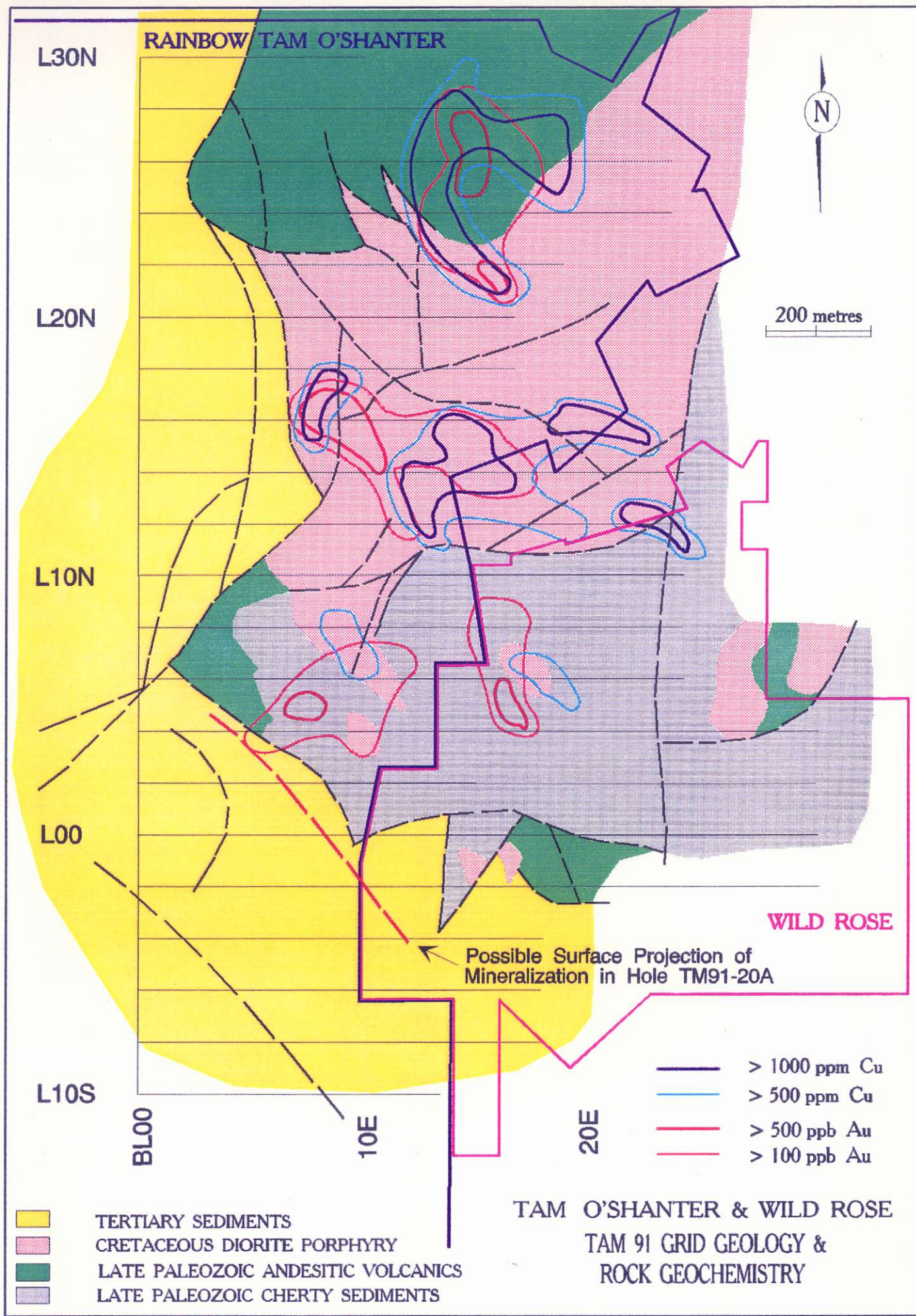
DRILLING

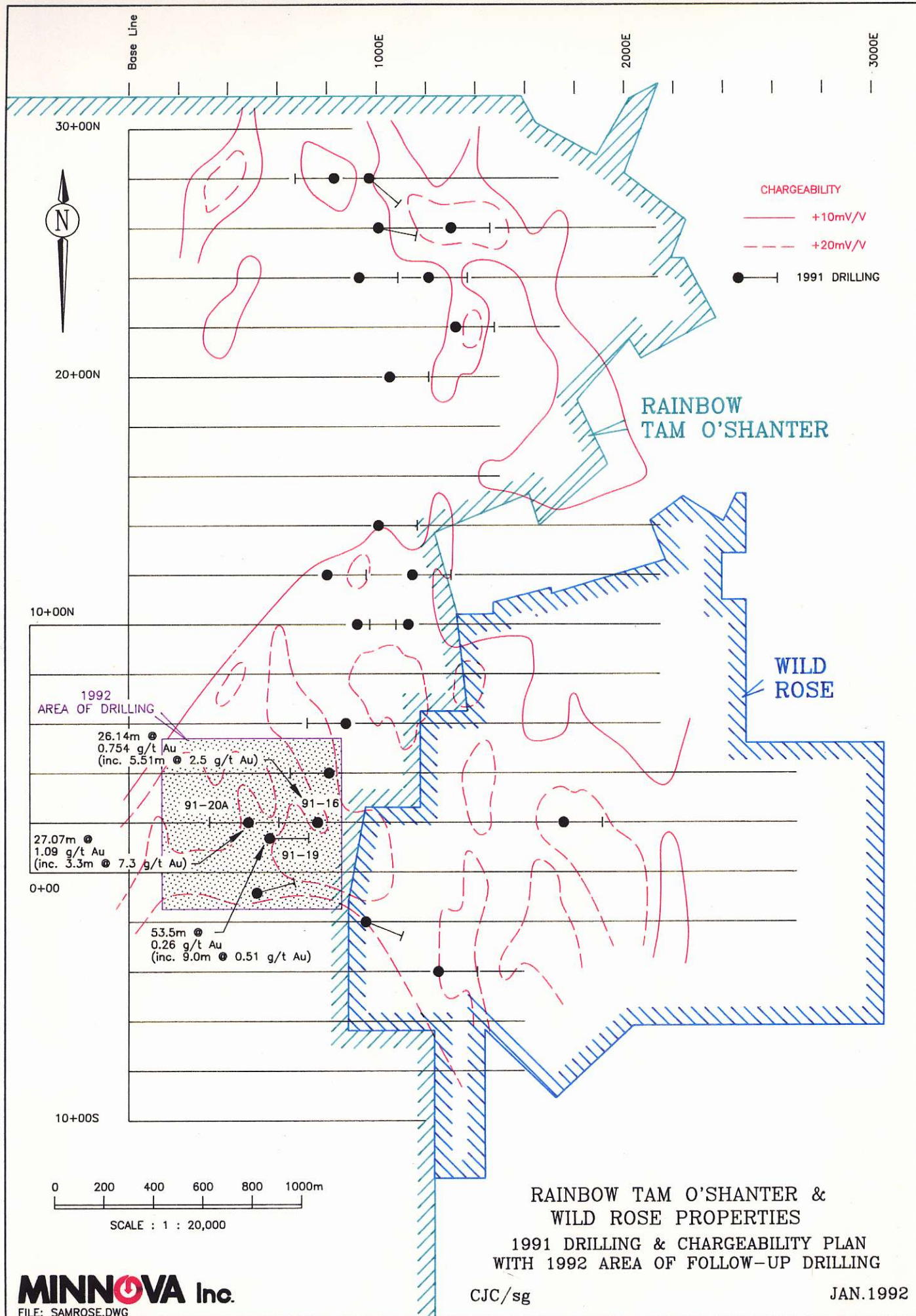
1000m @ \$74.15/m

Salaries	\$8,000		
Travel Expenses	\$1,000		
Contract Payments	\$60,350		
Field Expenses	\$4,750		
Analyses	\$5,900	\$80,000	80%

<i>Line Cutting</i>	\$0		0%
<i>Trenching</i>	\$0		0%
<i>Hotels and Meals</i>	\$3,500		4%
<i>Option Payments</i>	\$0		0%
<i>Property Maintenance</i>	\$0		0%
<i>Property Acquisition</i>	\$0		0%

TOTAL DIRECT EXPENDITURES **\$100,000**





CHARGEABILITY
 ——— +10mV/V
 - - - +20mV/V
 ● — 1991 DRILLING

RAINBOW
TAM O'SHANTER

WILD
ROSE

1992
AREA OF DRILLING

26.14m @
0.754 g/t Au
(inc. 5.51m @ 2.5 g/t Au)

27.07m @
1.09 g/t Au
(inc. 3.3m @ 7.3 g/t Au)

53.5m @
0.26 g/t Au
(inc. 9.0m @ 0.51 g/t Au)

91-20A 91-16
91-19

0 200 400 600 800 1000m
 SCALE : 1 : 20,000

RAINBOW TAM O'SHANTER &
 WILD ROSE PROPERTIES
 1991 DRILLING & CHARGEABILITY PLAN
 WITH 1992 AREA OF FOLLOW-UP DRILLING

WILD ROSE (PN 672)
1992 BUDGET PROPOSAL

BUDGET: \$10,000 (100% Brenda)

OBJECTIVES:

1. Option payment if warranted.

SUMMARY:

The Wild Rose property consists of 22 claim units located in the Greenwood Mining Division of B.C. just west of Greenwood. The property was optioned from Randsburg Gold Corporation in 1991 as an eastern extension of the Rainbow-Tam O'Shanter property. Geophysical work and geological mapping on the adjacent Tam 91 grid indicated the presence of a mineralized porphyry system trending onto the Wild Rose property. Known mineralization on the Wild Rose property consists of structurally controlled massive pyrite, chalcopyrite, magnetite veins. Property geology consists primarily of a bedded sequence of Carboniferous to Permian cherty sediments, volcanoclastic rocks (ash to crystal tuff), and argillite. These generally strike north north-west and dip 40-50° north-east. They are intruded locally by small sills and dykes of microdiorite, trachyte, and hornblende diorite. Past interpretation has grouped the microdiorite and trachyte with the Carboniferous Knob Hill Group, however regional observations suggest the microdiorite may belong to the Jurassic/Cretaceous Nelson Plutonic Series.

A major north-south trending structure, the Greyhound Creek Fault, cuts the property and separates Permo-Carboniferous units to the west from possible Triassic age quartzite, calcareous phyllite, and impure limestone to the east. These units strike in a roughly east-northeast direction, dipping to the northwest.

In addition to the above sequence, a series of chert pebble conglomerate and sheared volcanic agglomerate occur on the property. The chert pebble conglomerate consists of chert pebbles 2-15 mm in diameter in a sandy silicious matrix. The agglomerate unit consists of coarse, light to medium grey sandy material in a black silicious matrix. Fyles (1990) suggests the conglomerate and agglomerate belong to the Carboniferous or Permian Knob Hill Group while Little (1979) indicates these to be of Triassic age belonging to the Brooklyn Formation.

Argillite reportedly hosts much of the quartz, pyrite, pyrrhotite mineralization on the property. Known mineralization consists of bands of massive pyrite, pyrrhotite, minor chalcopyrite, and arsenopyrite in a quartz vein breccia.

Several strong linear north-south trending zones of high chargeability ($>+20$ mV/V and up to $+52$ mV/V locally) with coincident low resistivities (<100 ohm-m) were delineated by the I.P. survey. Soils associated with some of these anomalies were anomalous for Cu and Au. Rocks did not return any significant results except from sulphide veins previously worked. Drilling did not intersect any significant mineralization and many of the geophysical anomalies were explained by pyritic sediments, and argillaceous units.

PROPOSED WORK:

1. Retain control of the property until the potential of the "gold zone" on the adjacent Rainbow-Tam O'Shanter property has been assessed. There is some indication that the structure that may be controlling the highest grades intersected by drilling on that property may be fault offset on to the Wild Rose property.

PROJECT BUDGET FORECAST 1992

PROJECT NAME: **WILD ROSE**

PROJECT NO. **672**

GEOLOGY

Salaries	\$0		
Travel Expenses	\$0		
Contract Payments	\$0		
Field Expenses	\$0		
Analyses	\$0	<u>\$0</u>	0%

GEOPHYSICS

Salaries	\$0		
Travel Expenses	\$0		
Contract Payments	\$0		
Field Expenses	\$0	<u>\$0</u>	0%

GEOCHEMISTRY

Salaries	\$0		
Travel Expenses	\$0		
Contract Payments	\$0		
Field Expenses	\$0		
Analyses	\$0	<u>\$0</u>	0%

DRILLING

Salaries	\$0		
Travel Expenses	\$0		
Contract Payments	\$0		
Field Expenses	\$0		
Analyses	\$0	<u>\$0</u>	0%
	\$0		

<i>Line Cutting</i>		<u>\$0</u>	0%
<i>Trenching</i>		<u>\$0</u>	0%
<i>Hotels and Meals</i>		<u>\$0</u>	0%
<i>Option Payments</i>	<u>\$10,000</u>		100%
<i>Property Maintenance</i>		<u>\$0</u>	0%
<i>Other</i>		<u>\$0</u>	0%

TOTAL DIRECT EXPENDITURES **\$10,000**

LE MARE (PN 676)
1992 BUDGET PROPOSAL

BUDGET: \$525,000 (Brenda 100%)

OBJECTIVES:

1. To concentrate on evaluating the potential of the South Gossan Zone and Culleet Creek Zone for economic porphyry mineralization.
2. To assess the mineral potential of the Lake and South Lake Zones.
3. To prospect other areas of the property.

SUMMARY:

The Le Mare Property consists of 17 claims totalling 312 units (7,800 ha) located in the Alberni Mining Division on Quatsino Sound on the northern end of Vancouver Island. The property, a porphyry copper-gold-molybdenum target similar to the Island Copper Deposit, has been recently optioned from Stow Resources Ltd. This is a recent discovery with little surface work and no diamond drilling completed to date.

The property is underlain by mafic volcanics of the Lower Jurassic Bonanza Group covering a blind QFP intrusive body. Within the mafic volcanics a number of strong alteration zones have been identified that are characteristic of porphyry systems. In the South Gossan Zone the alteration is well developed and pervasive ranging from propylitic through argillic to advanced argillic. Local areas of shattering containing veins and stockworks of quartz, bornite, chalcopyrite, covellite,

and specular hematite occur around the edges of the system. Silicic and potassic alteration are present at the Culleet Creek Zone.

PROPOSED WORK:

1. Approximately 88 km of I.P. quality line cutting over the South Gossan Zone and the Culleet Creek Zone.
2. Induced Polarization (pole-dipole) survey over 62 km of grid.
3. VLF-EM and Magnetometer surveys over 74 km of grid.
4. Soil sampling at 50 metre intervals on 200 metre spaced lines over 74 km of grid.
5. Geological mapping and sampling over 74 km of grid.
6. Drilling of best targets (3000 m).

TENTATIVE SCHEDULE:

- | | | | |
|----|-----------------------------------|---|---------------|
| 1. | Linecutting and Ground Geophysics | - | April - May |
| 2. | Soil Sampling | - | May - June |
| 3. | Geological Mapping/Sampling | - | June - July |
| 4. | Drilling | - | July - August |

PROJECT BUDGET FORECAST 1992

PROJECT NAME: **LEMARE OPTION**

PROJECT NO. **676**

GEOLOGY

*data compilation,
mapping*

Salaries	\$68,000		
Travel Expenses	\$5,000		
Contract Payments	\$0		
Field Expenses	\$27,250		
Analyses	\$5,000	\$105,250	20%

GEOFYSICS

*VLF/Mag, IP
74 km*

Salaries	\$0		
Travel Expenses	\$0		
Contract Payments	\$67,680		
Field Expenses	\$0	\$67,680	13%

GEOCHEMISTRY

soils, rocks

Salaries	\$0		
Travel Expenses	\$0		
Contract Payments	\$3,885		
Field Expenses	\$1,500		
Analyses	\$22,335	\$27,720	5%

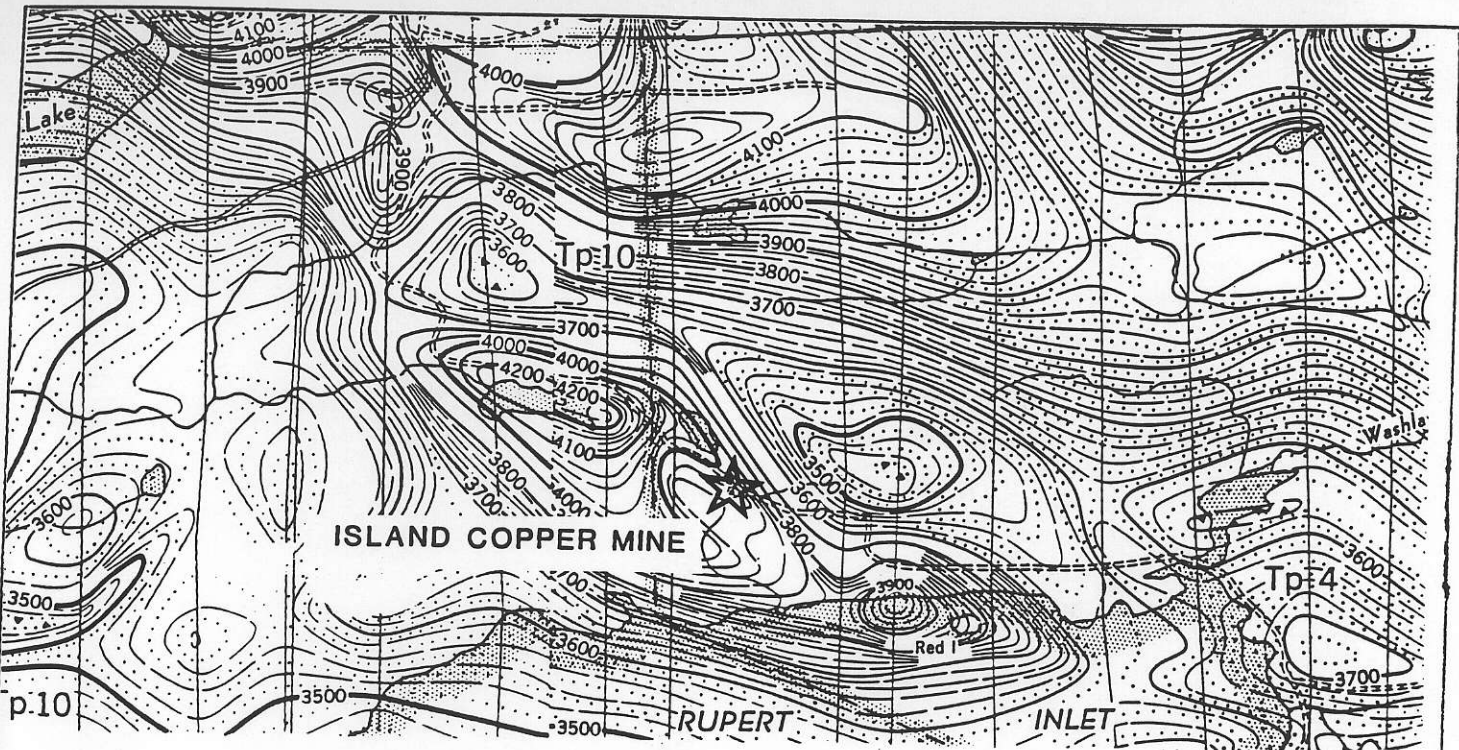
DRILLING

3000 m

Salaries	\$24,000		
Travel Expenses	\$2,000		
Contract Payments	\$180,000		
Field Expenses	\$21,450		
Analyses	\$24,000	\$251,450	48%

<i>Line Cutting</i>	(88 km)	\$48,400	9%
<i>Trenching</i>		\$0	0%
<i>Camp Costs</i>		\$20,000	4%
<i>Option Payments</i>		\$0	0%
<i>Property Maintenance</i>		\$4,500	1%
<i>Other</i>		\$0	0%

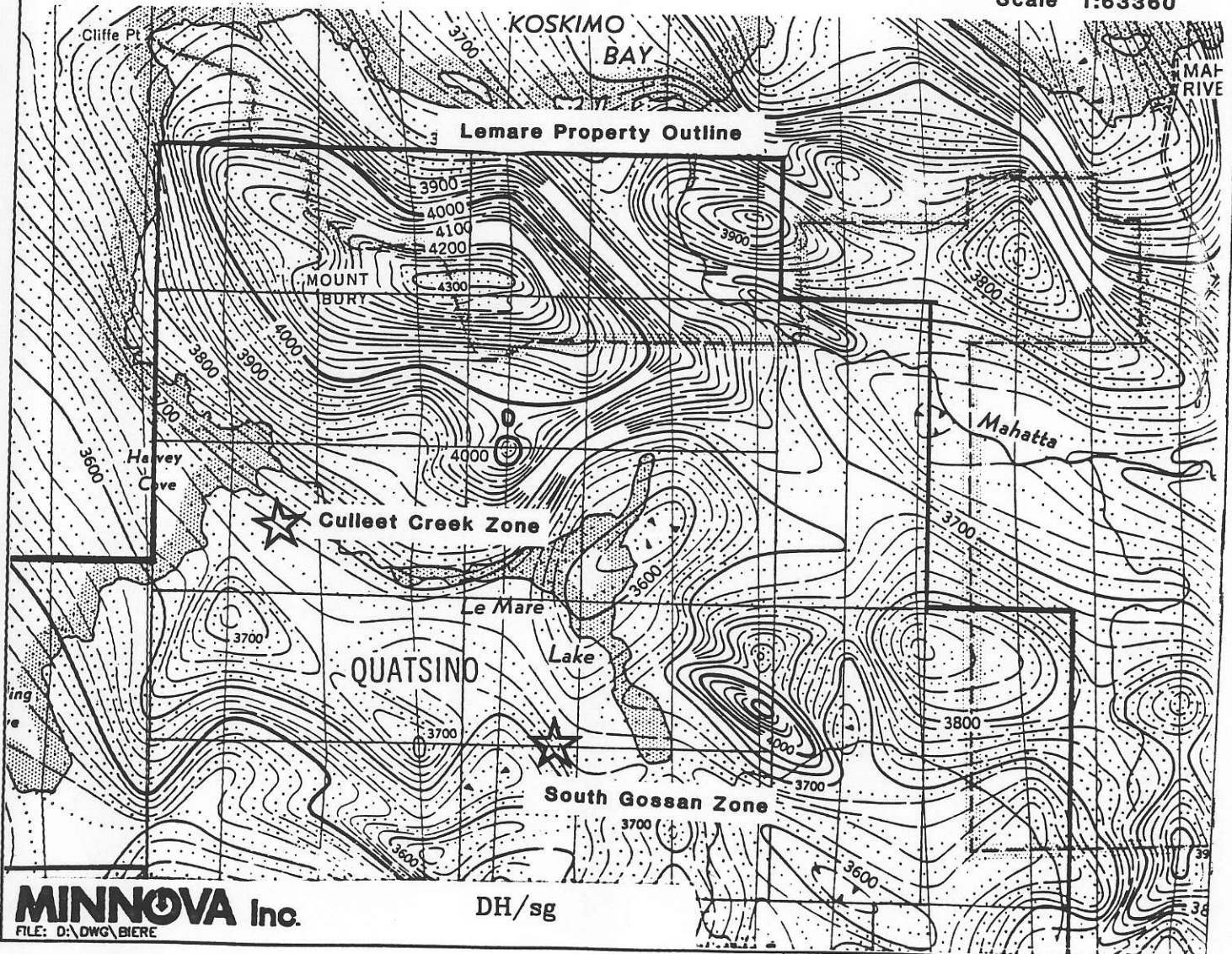
TOTAL DIRECT EXPENDITURES	\$525,000
ADMINISTRATION (12%)	\$63,000
TOTAL EXPENDITURES	\$588,000

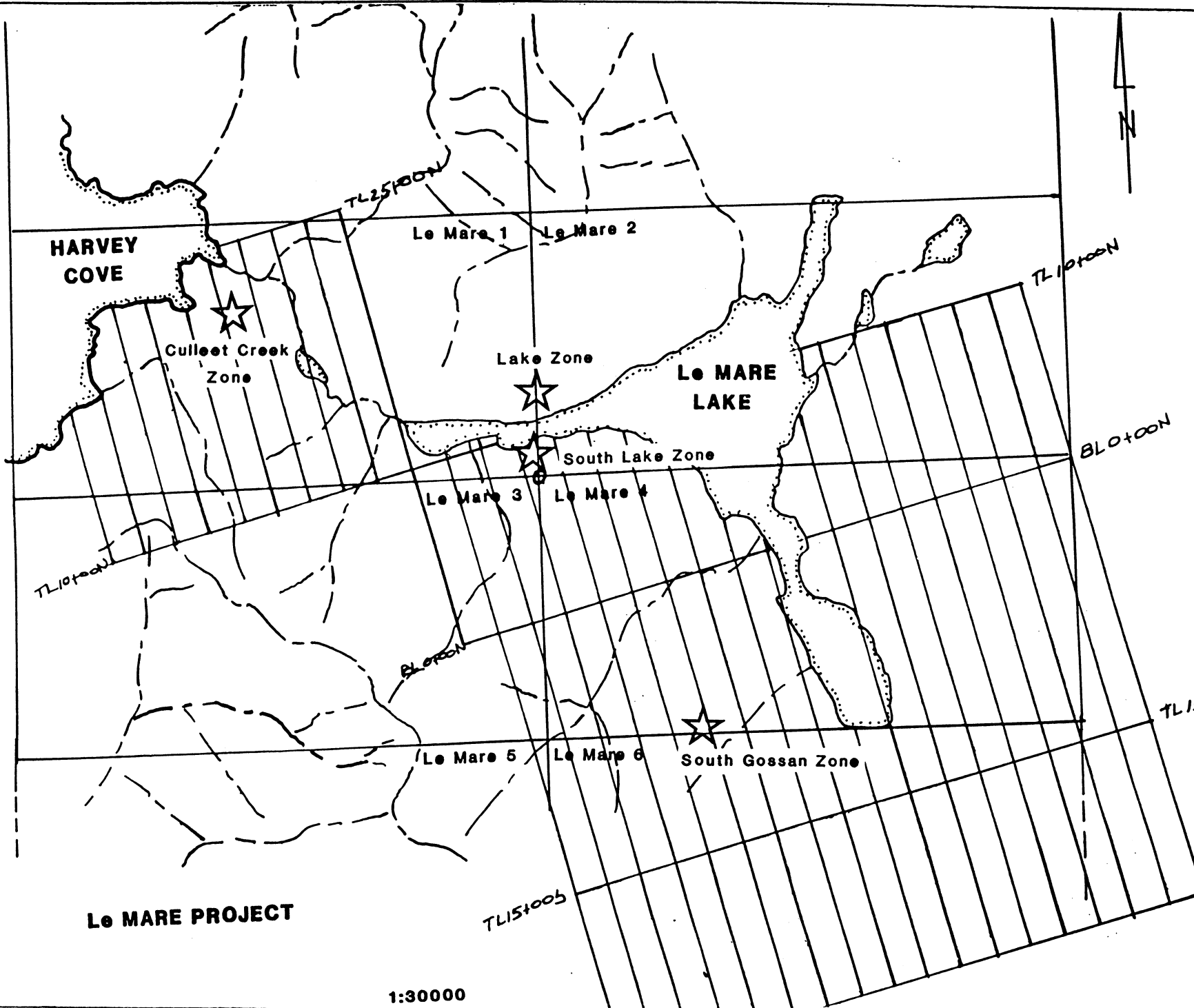


ISLAND COPPER: Regional Mag Survey

LEMARE PROPERTY: Regional Mag Survey

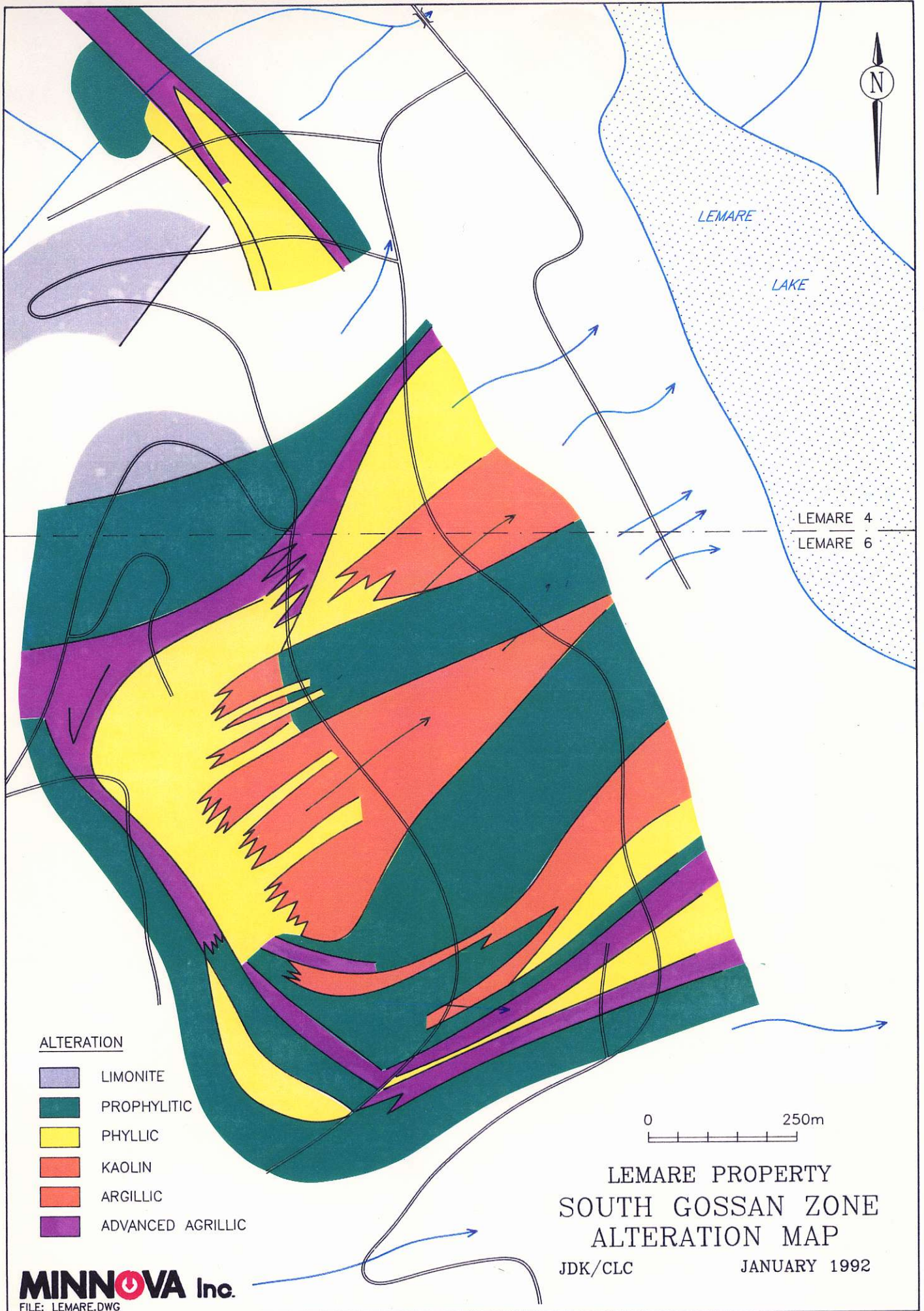
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Le MARE PROJECT

1:30000



ALTERATION

- LIMONITE
- PROPYLITIC
- PHYLIC
- KAOLIN
- ARGILLIC
- ADVANCED ARGILLIC

0 250m

**LEMARE PROPERTY
SOUTH GOSSAN ZONE
ALTERATION MAP**

JDK/CLC

JANUARY 1992