

EYN  
92B/5W  
DEARCK AREA  
MACSAN

MINERAL AGREEMENT  
No. 14

005331

MACSAN EXPLORATIONS LTD. (N.P.L.)  
C.P.O.G.  
MINERAL AGREEMENT NO. 14  
GEOLOGICAL REPORT by D. C. MALCOLM  
PROPERTY FILE

MACSAN EXPLORATIONS LTD. (N.P.L.)  
SCHEDULE OF EXPENDITURES MADE ON GROUND  
LEASED FROM C.P.O.G. UNDER MINERAL AGREEMENT #14  
TO MAY 31, 1966

Prospecting	\$ 1,972.32
Trenching	<u>2,909.92</u>
	<u>\$ 4,882.24</u>

# EN. 103 a.

MACSAN EXPLORATIONS LTD. (N.P.L.)

C.P.O.G.

MINERAL AGREEMENT NO. 14

GEOLOGICAL REPORT by D. C. MALCOLM

## SUMMARY

In 1964 the E and N Land Grant south of the Leech River was geologically mapped, prospected and partly soil sampled. A belt of extensively sheared basalt was found for a mile south of the main fault and some sparse chalcopyrite, pyrrhotite and native copper were found and trenced.

## LOCATION

Lat. 48° 30' Long. 123° 50' Elevation 2000 feet. The deposits lie to the east of the Jordan River and south of Bear Creek and Jordan River storage dams. It is reached either by the B. C. Hydro road up the Jordan River or by the Canadian Forest Products road up Kirby Creek 18 and 8 miles respectively from Sooke via Highway 17. The area can also be reached by logging road from the Port Renfrew road via Jordan Meadows.

## PROPERTY

Approximately 200 acres on S.W. corner of L123 of Malahat Land District.

## GEOLOGY

### (a) Topography

The deposit lies on an easterly trending high plateau or mountain 2000 feet in elevation. The country consists of basalt knob like outcrops separated by low swampy ground. The Diversion and Bear Creek reservoirs lie to the north in a broad valley 500 feet below the plateau and to the west the hill drops off to the Jordan River Canyon 500 to 700 feet lower. To the south there is a gentle logged off slope which extends to the Strait of Juan de Fuca.

The timber on the claim area is poor due to the rocky and swampy nature of the ground.

### (b) General Geology

The Sooke to Jordan River area is in a graben or downfaulted block of Tertiary Rocks. This is bounded on the north by a major steep dipping reverse fault - The Leech River Fault. North of the fault are sheared Permian rocks. To the south, in the Strait of Juan de Fuca another east striking fault is thought to exist.

The block is underlain by Metchesin volcanics; a thick series of basalt flows, agglomerates and tuffs. These rocks have been intruded by long narrow northwest striking gabbro dikes and by some later granites. These rocks have been extensively sheared, shattered and broken by innumerable faults and shear zones. Late Tertiary sandstones and shales cover the coastal areas and basins close to the coast.

### (c) Claim Geology

The rocks are remarkably uniform, hard black fine grained basalts. These rocks are extensively sheared as follows:

1. The Leech River fault is a zone 500 feet in width. The rocks in it are platy and a highly altered mixture of schist and basalt. It strikes east and dips steeply north.
2. South of the fault a parallel series of east striking faults or shears 50 to 100 feet wide extend to Alligator Creek about 2000 feet to the south where a wider shear zone occurs.
3. A second series of marked faults striking N 70 W cross the area. Fracture zones parallel with these can be seen in some of the basalt outcrops where the rock is broken into small fragments healed with quartz feldspar and sulphides.
4. A series of faults striking N 20 E cross the area and these have parallel sheeted zones associated with them.

### (d) Mineralization

The sheared basalt contains small veins and fracture fillings of pyrrhotite, chalcopyrite and native copper. The amount of mineralization and the grade appears to depend on the intensity or the spacing of the fractures on some empirical formula. For example if the rock has 1 set of mineralized fractures at 1/8" spacing the amount of sulphides would be 1 unit. If the rock has 2 sets of fractures the sulphides would be 3 or 4 units and 3 or more sets of fractures the amount of sulphides increase substantially until in some cases massive sulphides occur.

The rock outcrops appear fresh when blasted but native copper occurs extensively at the surface as thin plates and films. At the Cowichan Copper mine surface values were negligible in many cases over the ore bodies and values diminish to negligible amounts within 100 feet of the present surface.

These facts are difficult to explain geologically but they have a definite bearing on the potential of the property. One possible explanation is that native copper is not recoverable at Cowichan Copper and is difficult to assay and may be screened out of samples before assaying. This was believed to be done on the surface bulk samples from the claims.

#### DEVELOPMENT

Prospectors have blasted several pits ranging from 5 feet square and 3 feet deep to 20 feet by 5 feet and 5 to 10 feet deep in a haphazard fashion on the outcrop areas. These trenches were made using hand steel and sand blasting and we feel they are representative of the outcrops. The water filled areas between outcrops have not been sampled except for specimens of higher grade float found on the shores of the shallow lakes.

#### SAMPLING

Thirty lb. bulk samples were taken, one from each pit, and assayed at the Cowichan Copper Co. mine. These varied from 0.05% copper to 0.65% copper.

#### CONCLUSIONS

The area represent the surface outcrops of a highly sheared greenstone belt well mineralized by fracture plane copper minerals. Surface sampling is inadequate and cross sectional diamond drilling at 500 foot centres is recommended to determine grade and tonnages.

Report by

D. C. Malcolm, P. Eng.

Block 70

~~X~~

" 23

X

" 81

X

39

X

69

811

174

607

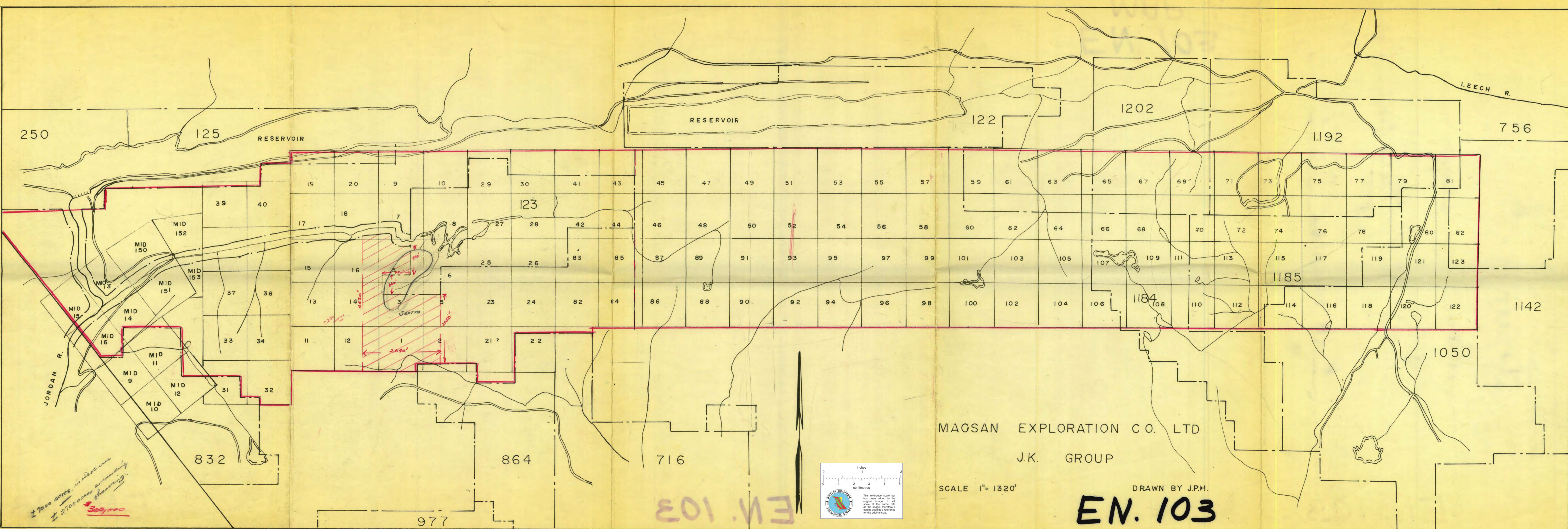
716

884

1027

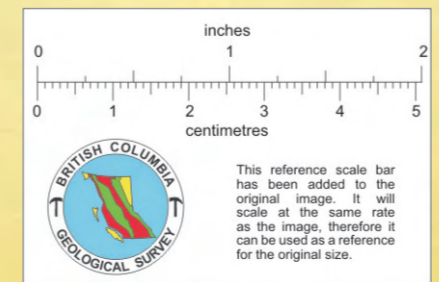
785

795



± 7000 acres in dist area  
 ± 2700 acres surrounding  
 300,000

EN. 103  
 MAP 1



MAGSAN EXPLORATION CO. LTD  
 J.K. GROUP

SCALE 1" = 1320'

DRAWN BY J.P.H.

**EN. 103**  
**MAP 1.**

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BULK COPPER SAMPLES

SCALE 1" = 100'

DRAWN BY P.H

EN. 103a.  
Map. 1.

ALLIGATOR CREEK

