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ASSESSMENT REPORT

GEOLOGICAL REPORT
ON THE
LUND AND ROB MINERAL CLAIMS
(LUND GROUP)

Malaspina Peninsula, British Columbia
Vancouver Mining Division
NTS 92F/15E
Latitude 49°57' N Longitude 124°41' W

Report for

Jon A. Stewart

By

Neil Froc, C.E.T.

On Behalf of

Powell River Copper Ltd.

GEOLOGICAL BRANCH
ASSESSMENT REPORT
Powell River, B.C. May 1985

13,808

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APPENDIX I Previous Reports and Work Outline

SUMMARY AND CONCLUSION

The field geological mapping program, carried out in May, 1985 on the John Bull Grid, successfully outlined the major anomalous zone previously determined by geophysical and geochemical surveys. Centered at 6+00 N 1W, it can be represented by a rough circle with a diameter of 240 metres (790 feet).

The nature of the mineralized showings within this zone suggest various stages of mineralization. Initial mineralization consists of disseminated sulfides throughout the complete zone with isolated sections of more massive sulfides. The full extent of the massive sulfides still remains undetermined.

Secondary phases of mineralization consist of high grade zinc ore and massive magnetite ore. The high grade zinc ore occurs as replacement along joint planes and intersections within the limestone and along the diorite contacts. The massive magnetite ore occurs as a north dipping seam alongside (within ?) a breccia zone at 7+ 35 N, 4+50 E.

The potential for a higher grade gold ore body is definitely present within this zone, as a grab sample, taken in this zone in 1924, assayed Gold 0.7 oz/ton, Silver 0.5 oz/ton, Copper trace, Lead nil, and Zinc trace.

Further exploration within the John Bull Grid region is definitely warranted and should consist of a two-phase program initially:

Phase One: Detailed mapping of the alteration zone with emphasis on mineralization and alteration types. Extensive rock chip sampling to better outline areas of interest for trenching or drilling.

Phase Two: Trenching or drilling to be warranted, depending on results of Phase One.

LOCATION AND ACCESS

The Lund Group of mineral claims is located approximately 16 km northwest of Powell River, B.C. on the Malaspina Peninsula. The centre of the property is at latitude 49°57' North and longitude 124°41' West (see Fig. 1).

Access to the claims is excellent by secondary gravel roads from Provincial Highway 101. There are numerous roads which traverse the Lund claims which add to increased accessibility.

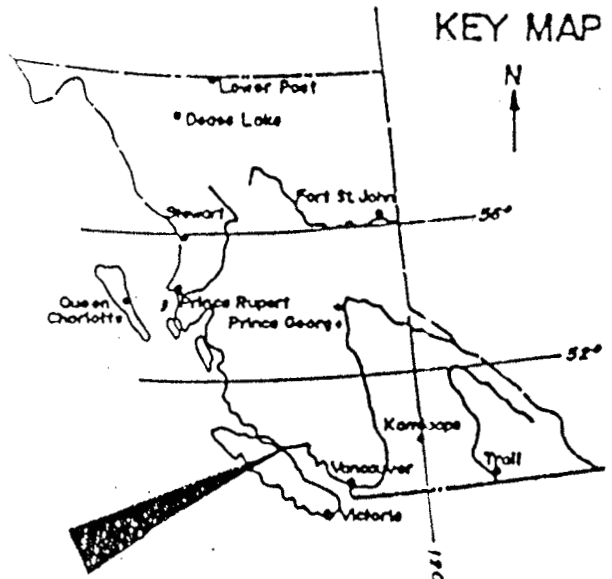
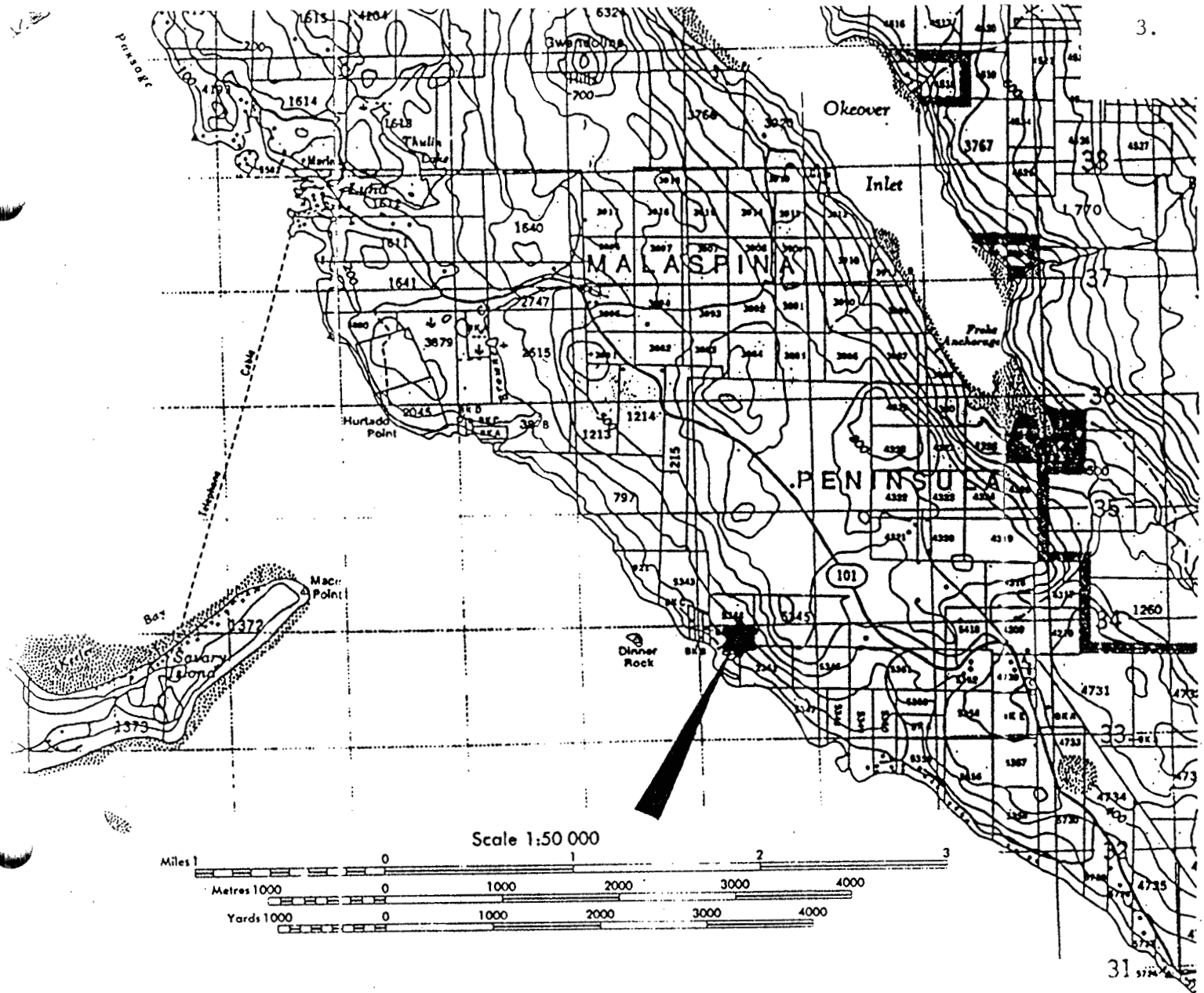
CLAIMS INFORMATION

The claims are held by Jon A. Stewart of Powell River, British Columbia, (Free Miner's Certificate No. 274838 STEWJA) with Powell River Copper Ltd., Vancouver, British Columbia, as operator. (Fig. 2)

The claims appear on the Ministry of Energy, Mines and Petroleum Resources Map 92F/15E.

<u>Name</u>	<u>Record No.</u>	<u>*Expiry Date</u>
Rob No. 1	1649	May 29, 1985
Rob No. 2	1650	"
Rob No. 3	1651	"
Lund No. 1	1652	"
Lund No. 2	1653	"
Lund No. 3	1654	"
Lund No. 4	1655	"

* Before Assessment credits



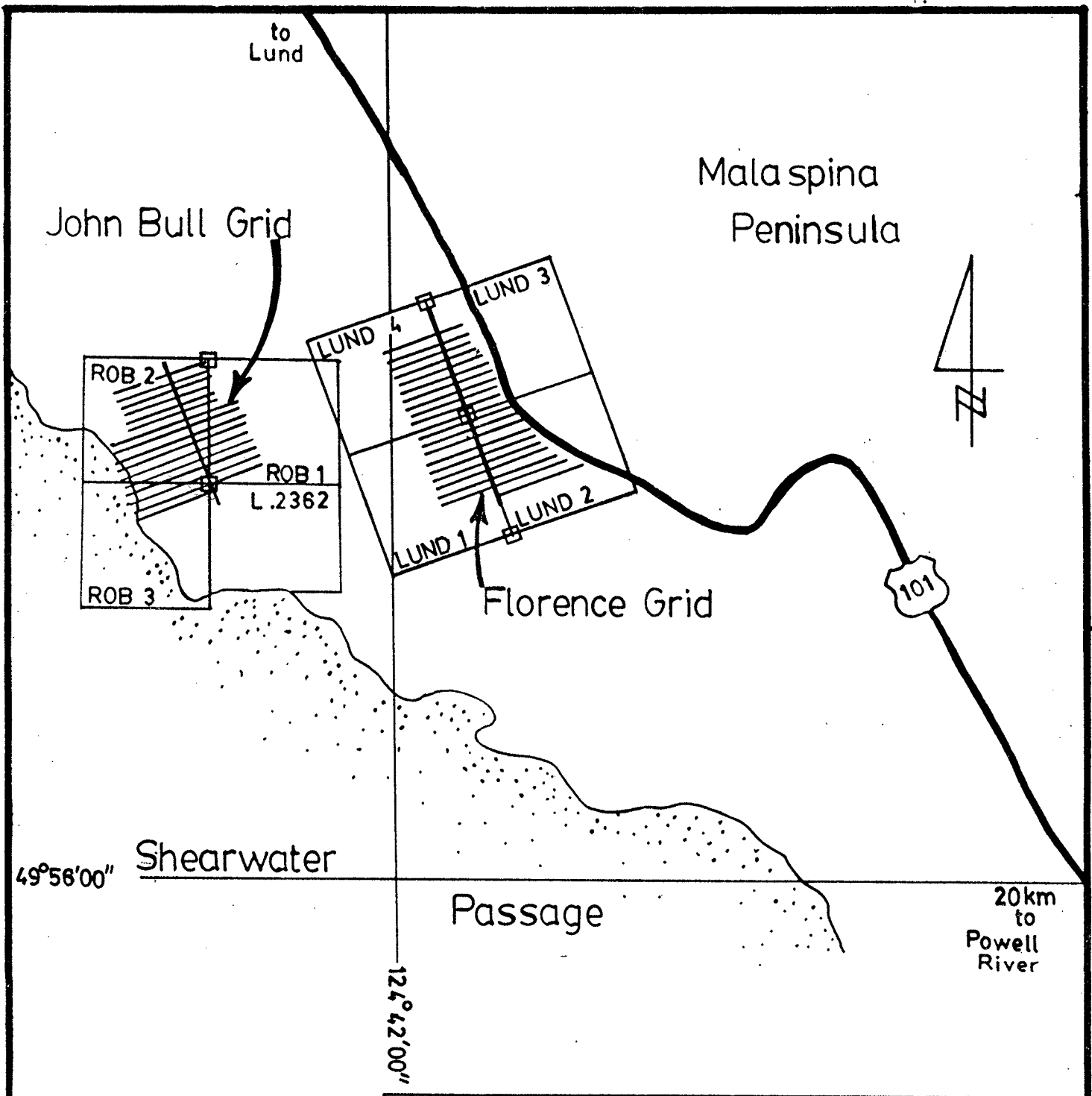
POWELL RIVER COPPER LTD.

LUND-ROB CLAIM GROUP
 Malaspina Peninsula, B.C.
 Vancouver Mining Division

92F / 15E

LOCATION MAP

FIGURE 1



POWELL RIVER COPPER LTD.

LUND-ROB CLAIM GROUP
 Malaspina Peninsula, B.C.
 Vancouver Mining Division

92F / 15E



Scale 1:20,000

CLAIMS MAP

FIGURE 2

HISTORY

The first mention of mining activity in this region was in 1917. Between the years of 1917 and 1929, various pits, trenching, shafts and an adit were completed in an effort to determine the extent of the surface mineral showings. These attempts revealed an appreciable amount of mineralization and warranted the shipment of 43 tons of ore to a Tacoma smelter. This shipment showed an ore grade of 3.1 oz/ton Silver, 4.9% Copper, and 12.4% Zinc. Shortly after this shipment, Malaspina Mines Ltd. was forced to discontinue any further work or exploration due to the onset of adverse economic conditions in the early 1930's.

Not until 1972 was interest rekindled when Jon Stewart and Warren Geiger restaked the property. Initial assessment work was carried out as prospecting and reconnaissance geological mapping with the results warranting further exploration. In order to maintain better control on survey results, two grids were cut and flagged on 100-foot intervals (John Bull Grid and Florence Grid). Upon completion of these two grids, numerous surveys were carried out which involved soil sampling (Au, Ag, Cu, Pb), magnetics, self potential and induced polarization methods. Along with the geophysical and geochemical surveys, a diamond drill program was introduced which included 9 holes on the Florence Grid and 6 holes on the southern portion of the John Bull Grid.

The work completed outlines various anomalous regions and highlights areas of greater interest. Included in the Appendix is an outline of the various reports presented on this region, with a brief description on work completed.

REGIONAL GEOLOGY

The Malaspina Peninsula generally is underlain by Coastal Range intrusives with minor volcanics and sedimentary inliers. Texture and surface appearance of the intrusives vary with composition ranging from dioritic to granodioritic. The sedimentary inliers are commonly limestone with included volcanics appearing as dykes either controlled by contacts or planes of weakness within the limestone. The volcanics are not restricted to the sedimentary inlier as they appear themselves as remnants or dykes within the Coastal Range intrusives.

LOCAL GEOLOGY

The field work consisted of geological mapping and random rock chip sampling. Results of the mapping program are shown on the John Bull Grid Geology map (Fig. 4) which shows rock lithologies, outcrops, pits, dumps, observed mineralization, sample locations, diamond drill holes, and grid coordinates. It is important to note that the grid coordinate system is in feet and the geology has been mapped relative to an idealized grid.

Within the map region, overburden cover is extensive (85%), leaving limited outcrop. The outcrops plotted show generalized boundary outlines and are classified and categorized into one of the following groups:

Diorite

The nature of the diorite in the John Bull Grid region is such that the diorite be divided into two distinguishable groups: porphyritic diorite and equigranular diorite. The division is being made strictly on textural and visual appearance for field identification.

i) Porphyritic Diorite

- greyish green in colour with texture being markedly porphyritic to hypidiomorphic with plagioclase phenocrysts.
- the occurrence of the porphyritic diorite lies between 1+00 S to 2+00 N and 4 W to 4 E with the extent south of 1+00 S remaining undetermined (outside of designated grid region).

ii) Equigranular Diorite

- overall colour is dark grey with "salt and pepper" appearance.
- grain size varies from medium to coarse.
- some flow banding can be seen.
- often difficult to distinguish from granodiorite.
- the occurrence of the equigranular diorite lies between 6+00 N to 10+00 N and 1 E to 5 E.
- a second occurrence starts on the bottom southeast section of the grid but its full extent remains undetermined (outside of designated grid region).

Granodiorite

The outcrops of granodiorite occur very massive or as large boulder rubble piles. The general surface relief over the granodiorite is smooth with little irregularities, which may be attributed to its intrusive nature accompanied with little structural deformation within the outcrop bodies themselves. Field appearance is marked by the occurrence of both potassic (pink) feldspar and plagioclase with grain size ranging from medium to coarse.

Texturally, the granodiorite is often difficult to distinguish from the equigranular diorite. Therefore it may be more convenient to classify them together as a granitoid.

Limestone

The extent of limestone outcrops can be encompassed by an area bound by 1+00 S to 3+00 N and 2+50 W to 2+00 E.

Distinctive layering is exhibited within the white crystalline limestone outcrop centered on 2+50 N, 1+80 E, with abrupt changes in strike directions revealing intense reworking or alteration. The grain size varies from medium to coarse.

The remaining limestone is also white crystalline, but the general grain size is distinctly coarser with layering being less dominant (marble). At 0+00, 0+50 E, layering is partially highlighted by interbedded limestone (marble) and biotite.

The limestone occurs as sedimentary inliers altered by contact metamorphism.

Alteration Zone

The alteration zone has been generalized to encompass a complicated region of alteration and therefore includes numerous diversifications which are often inseparable. To make the classification more discrete, four rock types have been categorized with letters used to depict observed occurrences. The classification is as follows:

- i) a - fissured fine-grained black mafic dykes.
- ii) d - intensely altered chloritic dykes.
- iii) c - massive chert with disseminated sulfides.
- iv) g - gneissic phases of diorite/granodiorite (granitoid)

The boundaries between separate classifications are not outlined because exact field locations are difficult to determine and would require much more detail and time.

The overall shape of the alteration zone is circular with a diameter of 240 m centered on 6+00 N, 1 W. Surface lineations within the zone are distinct and strike $\approx 135^\circ$. The lineations are analogous to the strike direction found for layering in chert along the outcrop boundary from 7+00 N, 4 W to 5+00 N, 3 W.

The surface geology within the alteration zone can be separated into three inner zones (see Fig. 3):

Central Zone:

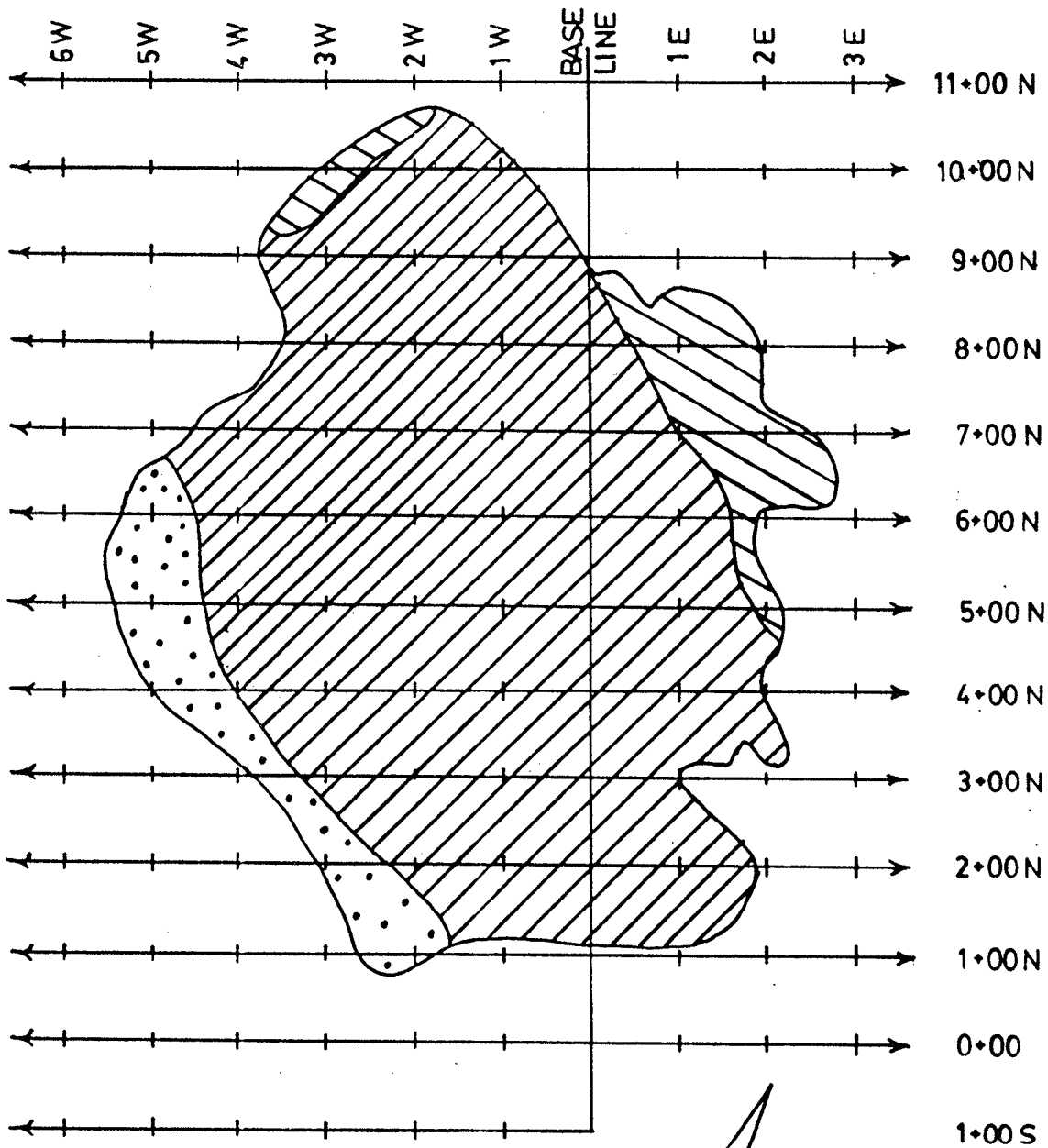
Relative to outcrop orientation, this region is observed as being rectangular covering 37088 m² (244 m x 152 m). It consists of massive tan/brown/green chert with significant disseminated sulfides. The surface appearance is rustic with the fresh surface showing little oxidation or weathering.

Southwest Border Zone:

This zone parallels the central zone showing a rectangular nature covering 3843 m² (183 m x 21 m). The composition varies, but consists essentially of intensely altered, fractured chloritic dykes, and green fine-grained siliceous dykes.

North-Northwest Border Zone:

The outcrop boundary for this zone is more erratic than for the previous mentioned zones. The actual extent of this zone may be extended further to the northwest as a granodiorite outcrop appears to exhibit gneissic characteristics and may actually represent the boundary. (Proper determination of



CENTRAL ZONE



SOUTHWEST BORDER ZONE



NORTH-NORTHWEST BORDER ZONE



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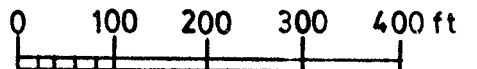
92F / 15E

0 20 40 60 80 100m

1:2400



1" = 200'



ALTERATION ZONES

FIGURE 3

zonal extent difficult due to overburden.) For the region outlined, the surface area encompassed is 3680 m² but may be as large as 12075 m². The composition consists of diorite or granodiorite that has been metamorphosed (contact) to the extent that it appears gneissic or to have gneissic phases within it.

Greenstone

The only occurrence of greenstone is at the ends of line 0+00 and 1+00 S at 9 W. It appears massive, well-fractured and contains numerous narrow veins of quartz and calcite. The general strike of these veins is in two directions, 25° and 95°, with the most dominant being 95°. There are also numerous inclusions of chert in the form of pods and lenses as well as inclusions of granodiorite. The inclusions of granodiorite range from 5 cm. to 6 meters in diameter and indicate the greenstone to be post granodiorite. The outcrop showing is restricted to the beach and suggests the greenstone to be in the form of a dyke of substantial thickness (30 m).

Dykes

The categorization of "dykes" refers to dykes other than those contained within the skarn zone. The composition ranges from mafic andesitic dykes to highly siliceous dykes with no distinction made between the two.

MINERALIZATION

During the field mapping program, three different types of mineralization were observed:

High Grade Zinc

Surface showings of this type occur between 0+75 N, 0+25 W to 2+00 N, 1+50 E within a width of 12 meters, up to 21 meters. It is important to note that this describes the outcrop extent, not the mineralized extent.

Mineralization is primarily sphalerite of the "honey-resin" variety with disseminated chalcopryrite occurring as both massive and disseminated ore within a broader skarned zone. The widest zone observed within the old workings crossed through three pits and contained disseminated ore in a skarn zone bordered by diorite. A rock chip sample of this ore was taken across a 5-foot width (sample # 4858).

The strike direction is 140° which parallels the strike and surface lineation direction observed for the larger altered zone directly to the west. Exact extent of this zone is difficult to determine with sparse surface showings and erratic diamond drilling results from the 1977 program.

The mineralization appears closely related to the dioritic "plugs" or intrusions and the limestone outcrops occurring as replacement along joint planes and intersections within the limestone and along the diorite contacts.

Previous assays for the high grade zinc revealed results of up to 52% zinc and 4.4 oz/ton silver.

Massive Magnetite

This type of mineralization was found only at one location, an old working at 7+35 N, 4+50 E. The magnetite occurs as a 10 cm, north-dipping seam along the north and east wall of the pit. A strong rusty gossan encompasses the pit and the bordering diorite is highly fractured, altered and brecciated. The rock types are difficult to distinguish due to the intense alteration and fracturing.

Two samples within this pit were taken: one with the massive magnetite and bordering oxidized rock (sample # 4855), the other of the brecciated rock (sample # 4856).

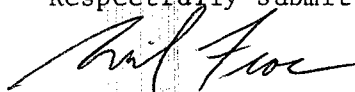
Gossan Zone

The complete altered zone is rusty with the most intensely "gossaned" section extending from 4+00 N, 2+50 W to 7+50 N, 4 W, with an average width of 15 meters.

Mineralization includes disseminated and massive sulfides with the massive portion being localized to smaller showings. Sulfides seen include pyrite, chalcopyrite, pyrrhotite and sphalerite (magnetite also seen as disseminated). An old working at 7+20 N, 3+80 W contained massive mineralization of the above minerals and a sample from the dump was assayed (sample # 4861).

A possible extension of this gossan zone occurs in the outcropping from 9+40 N, 3+75 W to 10+60 N, 1+85 W, with a width of 8 meters.

Respectfully submitted,



Neil Froc, C.E.T.

COST STATEMENTPersonnel

Mining Technologist (May 21-28, 1985 incl.):

8 days @ \$108 \$ 864.00

1 helper (May 21-28, 1985)

6 days @ \$100 \$ 600.00

\$1,464.00

Expenses

Room and Board:

14 man days @ \$25/day \$ 350.00

Supplies \$ 30.00

Auto: 8 days @ \$30/day \$ 240.00

\$ 620.00

Report Writing

Mining Technologist:

5 days @ \$108 \$ 540

\$ 540.00

TOTAL

\$2,624.00

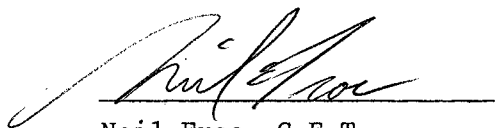
Total Assessment applied for

\$1,400.00

Balance Unused

\$1,224.00

Certified Correct,



Neil Froc, C.E.T.

BIBLIOGRAPHY

Ashton, A.S. (March 1977). Diamond Drill Report on the Lun 1-10, Lun 7-17, Lun 23, 24 Mineral Claims. (Assessment Report No. 6258 for B.C. Department of Mines.)

B.C. Minister of Mines (1917-1929) Annual Reports.

1917	page 256
1922	page 234
1924	pages 246-247
1925	page 292
1926	page 312
1927	page 357
1928	page 382
1929	page 391

Bullis, A.R. (March 15, 1976). Geological, Soil Sampling and S.P. Surveys on Lun Group of Mineral Claims. (A report prepared for Longbar Minerals Ltd.)

Chase, W.F. (March 1982). Geochemical Report on a Portion of the Lun Group of Mineral Claims. (Prepared for Aquarius Resources Ltd.)

Geiger, K.W. (June 1972). Lun Claim Group Report. (Prepared for Aquarius Mines Ltd.)

Wolfe, R. (April 30, 1980). Geophysical Report on the Magnetometer Survey and Induced Polarization Survey of Portions of the Lun 1-14 and Lun 7-10 Claims near Lund, B.C. (Prepared for Aquarius Resources Ltd. by Cochrane Consultants Limited.)

CERTIFICATE OF QUALIFICATIONS

I, NEIL U. FROC, of Saskatoon, Saskatchewan, do hereby certify that:

1. I am a certified mining technologist employed by Powell River Copper Ltd., Vancouver, B.C.
2. I am a graduate of the Northern Alberta Institute of Technology, Edmonton, Alberta, with a diploma in Mineral Resources (1981).
3. I am presently entering my Fourth Year of a four year Geological Engineering program (B.E.) at the University of Saskatchewan, Saskatoon, Saskatchewan. (Completion expected in April 1986.)
4. I have been actively employed in the mineral exploration business for four of the past five field seasons by such firms as: Saskatchewan Mining Development Co., Aquarius Resources Ltd., and Rhyolite Resources Inc. The year not spent in mineral exploration involved employment by P. Machibroda Engineering at Lanigan, Saskatchewan as Senior Technician (geotechnical).
5. This report, prepared at the request of Powell River Copper Ltd., on behalf of Mr. Jon A. Stewart, is based on work that I did or supervised on the Lund Group of Mineral Claims during May, 1985.
6. I have no interest, either direct or indirect, in the properties or securities of Powell River Copper Ltd., nor do I expect to acquire any such interest.
7. I am a member in good standing of the Society of Engineering Technologists of British Columbia (C.E.T.).

Powell River, B.C.
May 1985


Neil Froc, C.E.T.

APPENDIX I

History - Previous Reports and Work Outline

1917 Annual Report by the Minister of Mines, B.C.

The first mention of mining activity in this region.

1922 Annual Report by the Minister of Mines, B.C.

Development to date consists of 3 old shafts and several open cuts.

Assay results were as follows:

1) From main shaft dump: (30' deep)	Au - trace Cu - 0.8%	Ag - 4.4 oz Zn - 10%
2) Surface outcrop:	Au - trace Cu - 0	Ag - trace Zn - 17.5%
3) 18' x 8' opencut by 10' deep:	Au - 0.02 oz Cu - 0.2%	Ag - 0.2 oz Zn - 31%
4) Exposed ore in 12' shaft:	Au - trace Cu - 0 Pb - 2%	Ag - 1.2 oz Zn - 1.6%

Mineralization consisting mainly of magnetite revealed in a shaft 100' southwest of first mentioned shaft (not sampled).

Open cut 15' x 8' which extends to nature cave into limestone
≈ 30 - 40' long.

1924 Annual Report by the Minister of Mines, B.C.

New 21', close timbered shaft sunk 280' northwesterly from previous main workings (1922 Report).

Assay results from dump:	Au - 0.7 oz	Ag - 0.5 oz
	Cu - trace	Pb - 0 Zn - trace

1925 Annual Report by the Minister of Mines, B.C.

Property optioned to Malaspina Mines Ltd.

Sketch plan of geology included with report.

1925 (Continued)

Old development work re-opened.

Open cuts extended to determine further development (200').

30' shaft completed.

1926 Annual Report by the Minister of Mines, B.C.

Option relinquished by Malaspina Mines, Ltd.

Open cut 150' long driven in northwesterly direction to southwesterly side of an igneous dyke (10' deep at start and 20' deep at face).

Another shaft (31') was sunk.

Further assays (locations?):

1.	Au - trace	Ag - 0.2	Zn - 30%
2.	Au - 0.04	Ag - 0.4	Zn - 40%
3.	Zn - 52%		

1927 Annual Report by the Minister of Mines, B.C.

Under option to Mr. Barrett of the Northland Mining Co. Ltd.

1928 Annual Report by the Minister of Mines, B.C.

Serviceable road, 1½ miles, built to the mine and log buildings constructed for mine camp.

Note: No further work initiated until early 1970's.

Not stated in Annual Reports by the Minister of Mines, B.C., was a shipment of ore (43 tons) to a Tacoma smelter (ore came from Florence workings) containing 4.9% Cu, 12.4% Zn, and 3.1 oz Ag per short ton.

1972 Lun Claim Group Report

Written by K. Warren Geiger, geologist, on behalf of Longbar Minerals Ltd.

1972 (Continued)

General property assessment.

Mineral rights for property acquired by Jon Stewart and K. Warren Geiger.

1976 Geological, Soil Sampling and S.P. Surveys on Lun Group of Mineral Claims

Written by A.R. Bullis, P.Eng., for Longbar Minerals Ltd. (March 15, 1976).

Report is for both Florence and John Bull mines.

1973 - Additional claims added by Jon Stewart and K. Warren Geiger.

Prospecting and reconnaissance geological mapping.

Control grids laid out with 100-foot spacing intervals (lines "brushed out", picketed and flagged).

1974 - Soil samples taken at grid stations and tested for "heavy metal content" (grid locations can be seen on Claims Map).

Brief geological description given for John Bull area. Most work done near Florence Mine.

1977 Diamond Drill Report

Written by A.S. Ashton, P.Eng. (May 12, 1977)

15 B.Q. holes drilled on the Lun Claim Group, 6 of which were drilled near the John Bull workings. (Total drilling for 15 holes - 548.5 metres).

"Generally, all the holes encountered altered limestone with zones of skarn. Mineralization was not extensive, being confined generally to narrow widths and erratic grades." (B.C. Dept. of Mines Assessment Report #6258).

1980 Geophysical Report (Magnetometer and Induced Polarization Surveys)

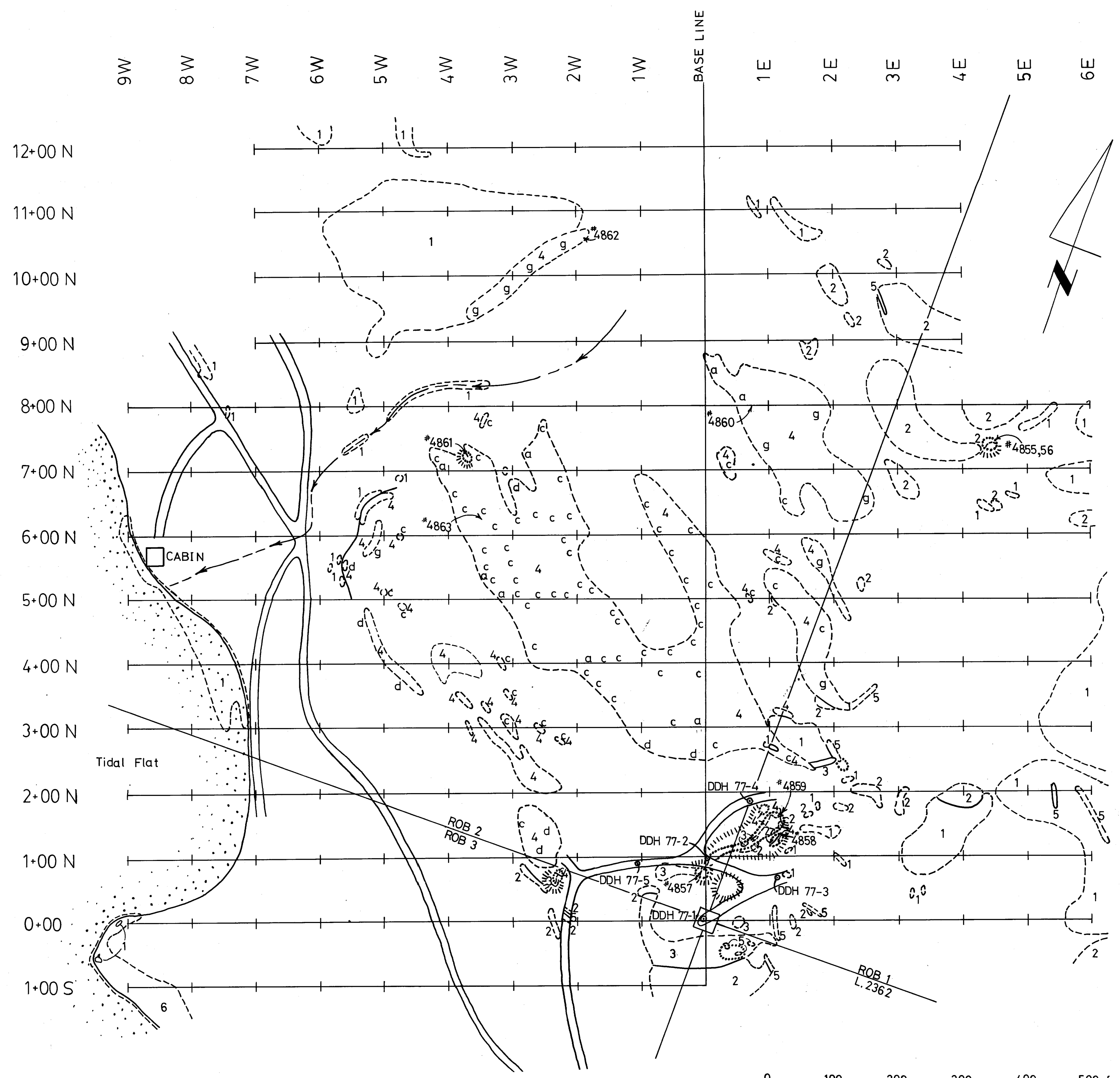
Written by Robert Wolfe, P.Eng. (Cochrane Consultants Ltd.) for Aquarius Resources Ltd. (April 30, 1980)

1980 (Continued)

Geophysical survey outlined a large chargeability anomaly centered on the Base Line, between 3+00 N and 8+00 N. Discussion of results for magnetometer, self potential, apparent resistivity and apparent chargeability.

1982 Geochemical Report

Written by W.F. Chase for Aquarius Resources Ltd. (March 1982). Two (minimum) geochemical anomalies outlined in the vicinity of anomalous geophysical zone. Soils were tested for gold, silver, copper, and lead.

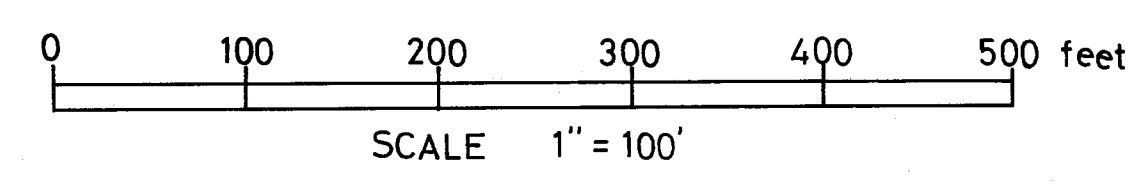


GEOLOGY

- 1 GRANODIORITE
- 2 DIORITE
- 3 LIMESTONE
- 4 ALTERATION ZONE
 - c- massive chert with disseminated sulfides
 - g- gneissic phases of diorite/granodiorite
 - d- intensely altered chlorite dykes
 - a- fissured basic dykes
- 5 DYKES (mafic, andesitic, siliceous)
- 6 GREENSTONE

- Diamond drill holes
- Pit / Trench
- ☀ Dump piles
- - - Outcrop boundaries
- Contacts
- ~ ~ ~ Creeks

NOTE - Geology has been idealized to the grid stations
 - Samples taken include 4855-63 (8)



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