RUGGED GROUP

Geolog., Geophys., Geochem. Report

Location: 5 miles N.E. of Zeballos
50°02'N., 126°45'W.

Work by: T. Kalnins 92L/2E

Property: G. Milburn
Malaspina Mining Co. Ltd.

Date: June 5-July 2, 1966

TELEPHONE 224-6257

1758 WESTERN PARKWAY
VANCOUVER 8, B.C.

13th December 1966

868

DR. A. C. SKERL
A.R.S.M., PH.D., P.ENG.
CONSULTING MINING GEOLOGIST

This is to certify that :

1. I am the consulting geologist for the Malaspina Mining Company.

2. I have known Mr. T. Kalnins for the past year and consider him to be a competent geologist.

3. Mr. Kalnins has proved capable of conducting the magnetic and geochemical surveys that he has made for the company on various properties.

A. C. Skerl

# MALASPINA MINING COMPANY LIMITED

(N.P.L.)

402 West Pender Street Vancouver 3, B. C.

Canada

January 19, 1967

TO WHOM IT MAY CONCERN

This is to certify that during the year 1963, while working for Bralorne Pioneer Mines Ltd. under Mr. R. Hrkac, who is in charge of exploration for that company, I was instructed in running magnetometer surveys by him and performed that work.

Geochemical soil sampling, including the rubeanic acid method, was included in my curriculum at University of British Columbia. I also performed this type of geochemical survey for Malaspina Mining Co. Ltd. with Dr. A. C. Skerl during the spring and summer of 1966.

T. Kalnins (B.Sc. geology, UBC 1964)
Geologist for Malaspina Mining Co. Ltd.

Dec. 14, 1966

# RUGGED CLAIM GROUP

## Alberni Mining Division

Located northeast of the Nomash River, 1¼ miles above its confluence with the Zeballos River.

| | | |
|---|---|---|
| Ownership: | M.C. RUGGED #1 - 25 incl. | George Milburn<br>#817, 402 W. Pender St.<br>Vancouver 3, B. C. |
| | M.C. RUGGED #26 and 27 | Malaspina Mining Co. Ltd.<br>#817, 402 W. Pender St.<br>Vancouver 3, B. C. |
| | Mineral Lease M. 29<br>(March 25, 1965) | George Milburn<br>#817, 402 W. Pender St.<br>Vancouver 3, B. C. |

Notice to Group:

M.C. RUGGED #1-27 inclusive and Mineral Lease M. 29 grouped Dec. 6, 1966, Vancouver, B. C.

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Malpas, B.Sc.

## LOCATION AND NATURE OF THE AREA

The mineral claims and mineral lease are situated approximately 5 miles northeast of the village of Zeballos, on a steep slope northeast of the Nomash River, 1¼ miles above its confluence with the Zeballos River. The mineral claims are bounded on the southwest by an old logging road paralleling the Nomash River and cover most of the slope to the summit of a mountain to the northeast. Elevations range from 500 to 5,000 ft. with topography becoming increasingly steep to the northeast.

Several streams flow through this area into the Nomash River. The logged off land, extending approximately 3,000 ft. to the northeast of the Nomash River, is covered by a nearly impenetrable jungle of salal, huckleberry and dense second growth hemlock. This, combined with unburned slash, consisting of large cedar and rotten hemlock, make line cutting slower and more expensive than any area in which we have operated.

Access from Zeballos is gained by a gravel road to the Privateer Mine, trail to the Central Zeballos Mine and logging road, including a bridge across the Nomash River, to the claim group.

[illegible], B Sc

GEOLOGY (After Woss Lake map 1028A, descriptive notes)

The Karmutsen Group (1) of basaltic and andesitic lavas, agglomerates, breccias and tuffs, and minor intercalated limestone, has been recrystallized, epidotized and chloritized by induration and thermal and dynamic metamorphism.

The Karmutsen Group is conformably overlain by the Quatsino Formation (2) of crystalline limestone and minor volcanic rocks. In places where the limestone has been cut by Coast Intrusions (4) it has been altered. Some of these metamorphic zones contain magnetite, copper, lead, zinc and other sulphides.

The Quatsino Formation is overlain by the contorted and metamorphosed Bonanza Group (3) of volcanic rocks, argillite, impure limestone and quartzite.

Economic mineralization is of two types: high-grade, lode-gold vein deposits (mined by Privateer, 1934-1942), and contact metamorphic iron, copper, lead and zinc deposits. These are related to the Coast Intrusions and occur in Quatsino and Bonanza Formations. At present there is an operating mine near Zeballos at the Ford magnetite deposit.

[illegible], B.Sc.

## EXPLORATION

Geophysical work was performed by T. Kalnins, (B.Sc. geology, UBC 1964), on a Sharpe Model PMF 3 prospector fluxgate magnetometer. The instrument was operated according to manufacturer's instructions.

Base station (0-0) was established at the final post of Rugged #26 and 27. Other stations were established relative to the 0-0 station.

Soil samples of light brown color and silty-clayey composition, grading into dark brown color with increased amounts of decayed vegetation, were taken at a depth of one foot below soil surface. Soil samples were tested employing a copper-testing kit and the following procedure:

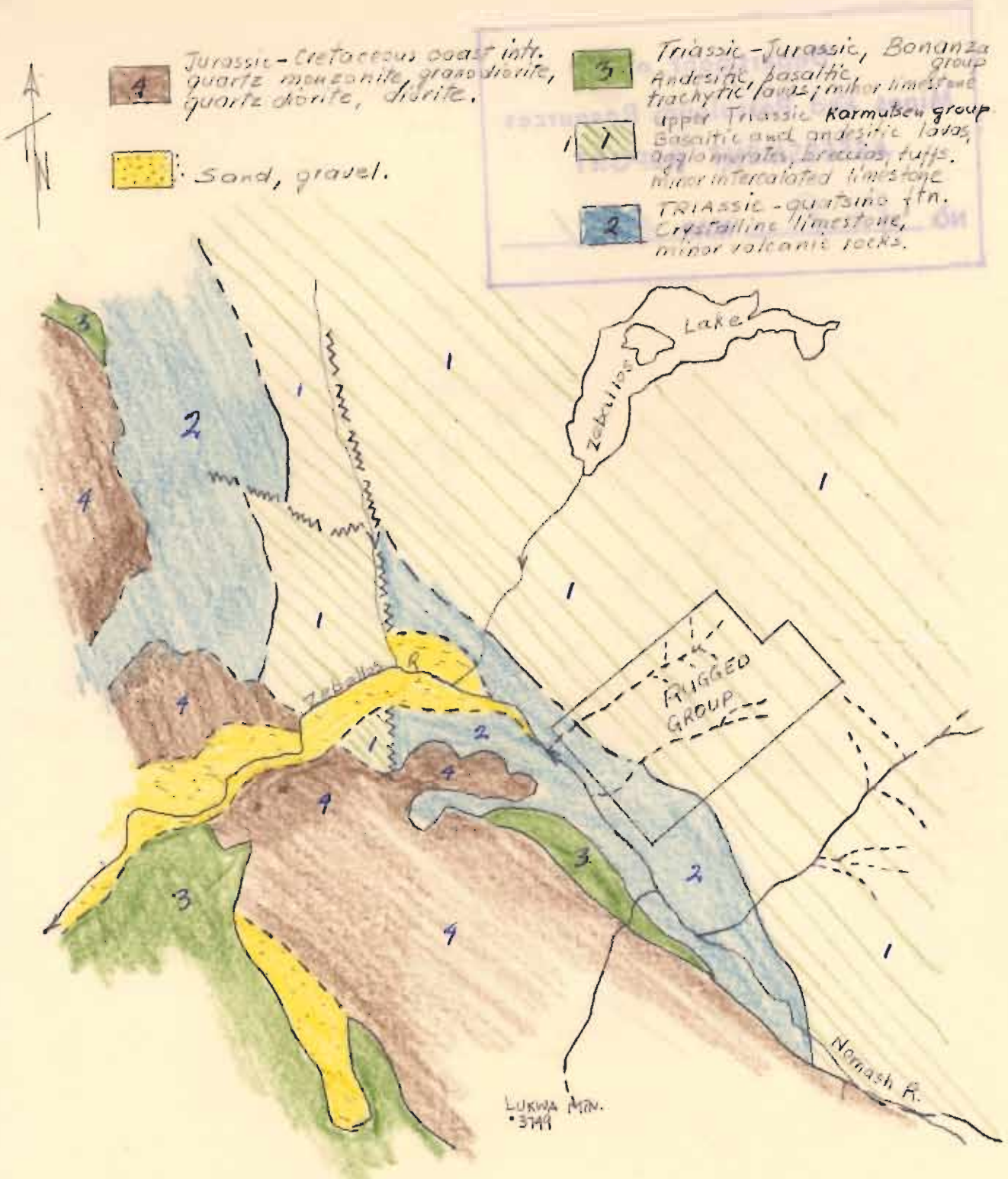
a: Measure ½ teaspoon of - 80 mesh soil into test tube.
b: Add acetic acid (Na Ac solution), enough to moisten sample.
c: Rubeanic acid strip in beaker; fold filter paper in cone and place point on acid paper in beaker; shake contents from test tube into filter cone and observe color on acid paper - blue-green spot indicates copper in soil.

The soil test results (color intensities) were classified from 0 for no visible color to 5 for a black-green spot on the acid paper.

Both the magnetometer and soil sample readings were plotted on graph paper to show coinciding anomalies, if any.

This preliminary exploratory work indicated anomalous conditions at or near N50W9, N32W9, N23, N7 and NE7, S8 and SE8, S30 and SE20, which coincide with the immediate vicinity of south-westerly running (intermittently) creeks. One of these creek canyons showed evidence of faulting. The possibility exists that faulting, ~~xx~~ associated with the coast intrusions approximately one mile to the southwest, possibly controls economic mineralization. The soil samples detect copper well at these locations, but soil sample anomalies are not always confirmed by the magnetometer readings. For further exploratory work an induced polarization or electromagnetic survey should be run over existing lines and extensions of existing lines. Additional parallel lines should be cut for the purpose of conducting further soil sampling and magnetometer, plus either I.P. or E.M. surveys.

Kalnins, B.Sc




TRACING FROM MAP 1028A

# WOSS LAKE

Vancouver Island

B.C.

Scale: 1 inch to 1 mile.

Thalmitz, B.Sc.

George Milburn

MALASPINA MINING CO. LTD.

RUGGED GROUP

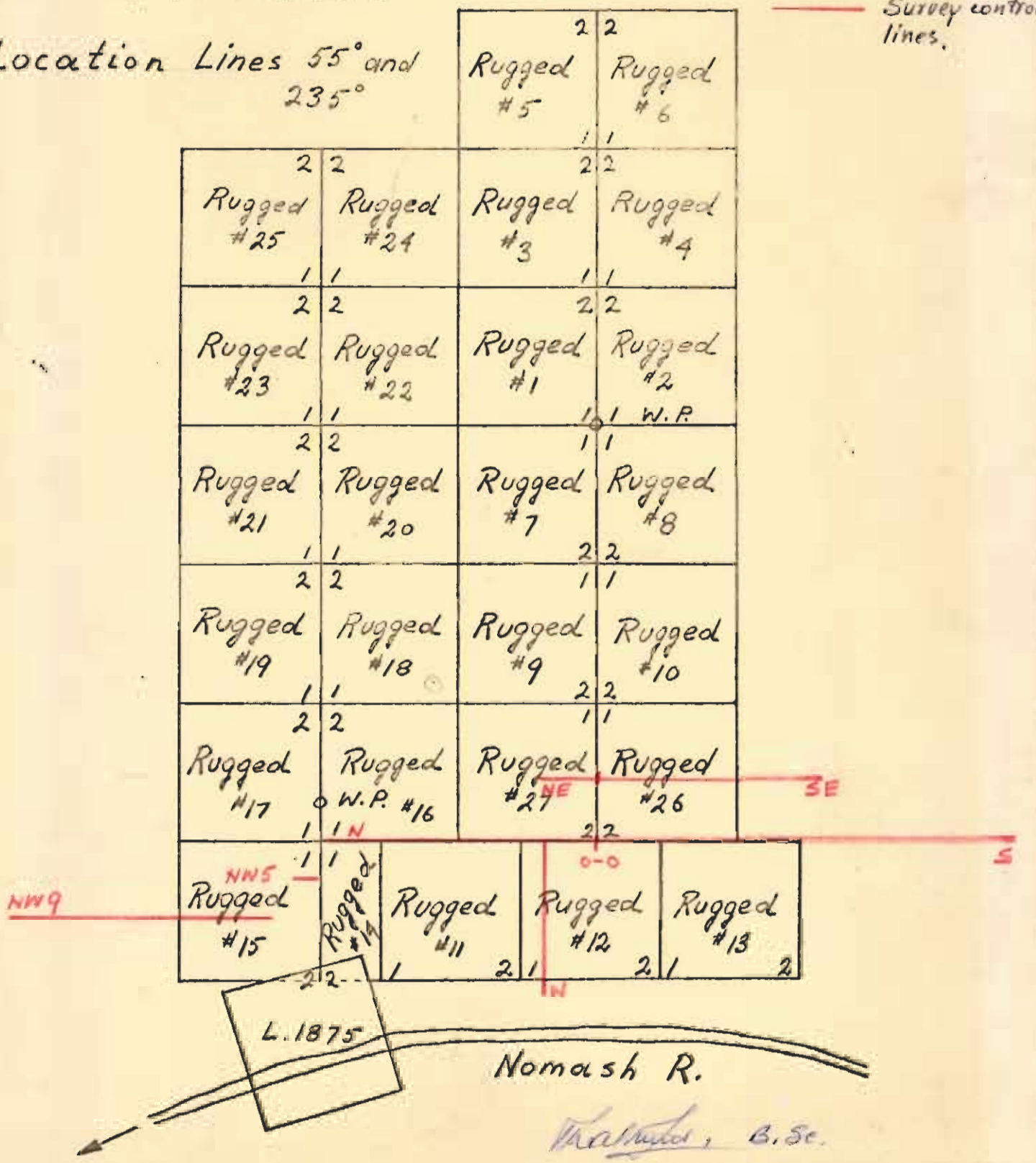
RUGGED MT., NOMASH R.

ALBERNI MINING DIV.

Location Lines 55° and 235°

T. N.

Situation of Survey control lines.



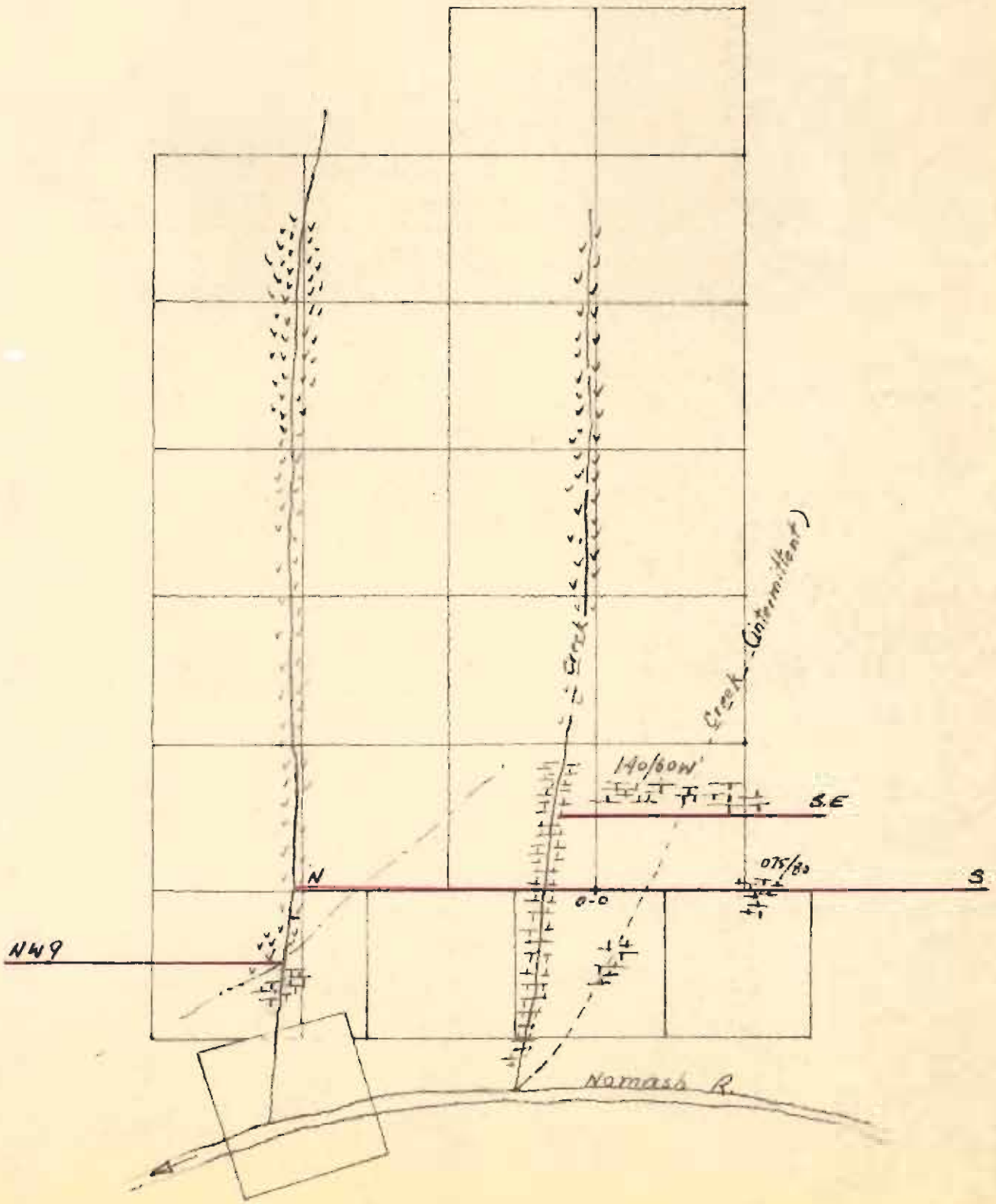

[illegible], B.Sc.

RUGGED GROUP, Geology

Limestone

Volcanics

Scale : 1 inch = 1500 ft



The area is mostly covered by overburden and brush, and rock outcrops are scarce and occasionally inaccessible. The following information was observed, at or near stations on the control lines.

N.6 + 50: Rocks exposed in a ravine approximately 50 feet deep and 50 feet wide consist of crystalline, banded, light limestone which strikes 135°, dip 60° N.

N.9,N.33 + 50: At elevation 850 feet there appears to be faulting or fracturing (approximate strike N-S) and there is a limestone-greenstone contact. The limestone is as described above, but contains small pockets of iron pyrites. The greenstone is of the Karmutsen type - amygdaloidal, basaltic rock altered to brownish-green chloritic material with disseminated iron pyrites. Cliff surface shows white lime and rust stains. There are several pinching aplitic dikes exposed in the creek bed, also carrying small amounts of iron pyrites. Approximately at the 2,500 ft. elevation there is a 4 ft. wide vein well mineralized with chalcopyrite, but I was unable to examine this showing due to snow conditions.

W.9, N.48: At elevation 1,000 ft. a rock bluff approximately 50 ft. high exposes similar volcanic rocks and pinching aplitic dikes as mentioned previously.

S.E.6: A dry creek bed exposes crystalline, white limestone, strike 145°, dip 60° W.

S.E.9: A similar outcrop of limestone (strike 115°, dip 40° S) which again outcrops at S.E. 15-17, strike 115°, dip nearly vertical.

W. Galbraith B. Sc.

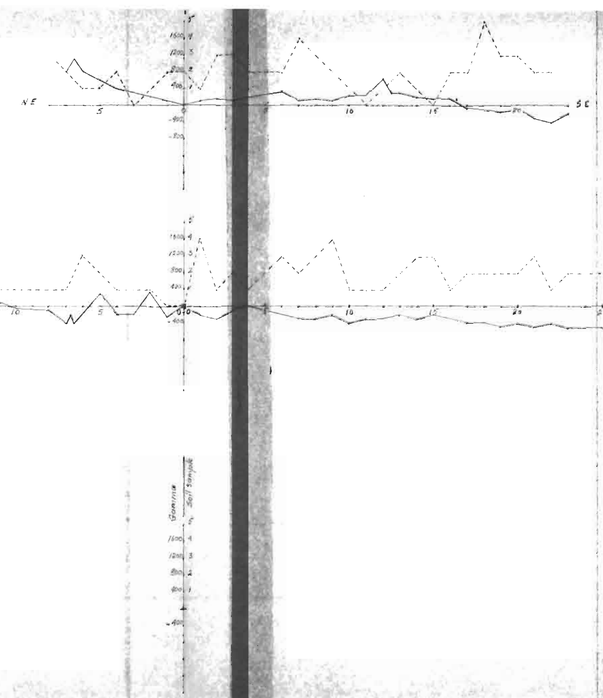
SURVEY RESULTS,
MALASPINA MINING CO. LTD.
RUGGED GROUP OF CLAIMS,
RUGGED MT, NOMASH R.,
ALBERNI MINING DIVISION.

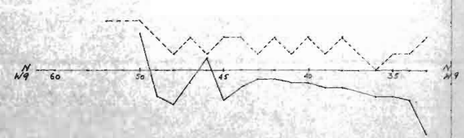
Scale: 1 inch = 400 ft.

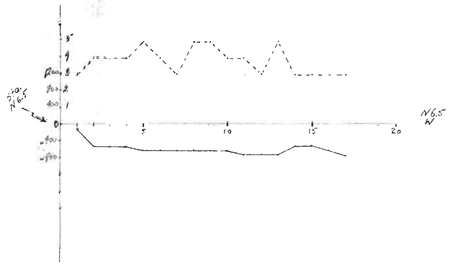
——— MAGNETOMETER READINGS (GAMMAS)

– – – – SOIL SAMPLE READINGS

Mathews, B.Sc.

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