2094

A GEOLOGICAL REPORT

on the

TOPLEY, BABINE, and TOTEM CLAIMS,

OMINECA, M.D.,

54° 126° N.E.

one mile south of Topley Landing, B.C.,

for

TRO-BUTTLE EXPLORATIONS LTD.,

by

R.W. WOOLVERTON, BSc., P.Eng.,

between

June 14th and August 15th, 1969

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LIST OF ILLUSTRATIONS

SUMMARY AND CONCLUSIONS

Rock exposures were found on the western and southeastern parts of the claim groups. Most of the remaining half of the property is covered by glacial overburden. The rocks present are the Topley granites, Hazelton volcanics, north trending dykes of variable composition and Sustut sediments.

Although weak biotization was noted in two areas and three small copper showings were found, no alteration or mineralization of economic interest was noted. However, the claim group is adjacent to a known mineralized "porphyry" environment and is within a regional magnetic complex. Therefore, the drift covered areas warrant geophysical and geochemical prospecting.

INTRODUCTION

The north boundary of the mapped area is about one mile south of Topley Landing, B.C. on the west shore of Babine Lake, about forty miles east of Smithers, B.C. A good all weather road from Topley to Topley Landing crosses the western part of the claim area. A summer road links the Topley road with Spindrift Lodge on Babine Lake near the northeast corner of the property. Elevations range from 2335 feet at Babine Lake to a maximum of nearly 3300 feet near the south boundary of the claim group.

Although the map area is within the Interior Plateau, there is widespread thick underbrush. Alder is abundant with considerable devil's club in the swamps.

REGIONAL GEOLOGY

The Triassic Topley Granites and the Jurassic Hazelton volcanics are the two major rock units. The granites underly most of the area south of Topley Landing with the younger overlying Hazelton volcanics forming many of the prominent hills. The Topley Landing region marks the northern limit of exposure of the Topley granites which form a batholith stretching some one hundred and fifty miles to the southeast.

Glacial drift of varying thickness covers a large part of the area. Overburden depths is excess of 300 feet were encountered by Noranda in one of the drill holes on their claims immediately southwest of the map area. Nearby, Tachek Creek has eroded a prominent canyon into Topley granite at a higher elevation than the bottom of the drill hole. Similar conditions probably exist in the swampy and poorly drained central portion of the map area immediately to the northeast.

Nearer Babine Lake, in the southeast part of the map area, the glacial cover has been removed and a few canyons eroded into the Topley granites. Clearly, a complicated glacial history has produced an area which is in part difficult to prospect.

LOCAL ECONOMIC GEOLOGY

Disseminated and fracture filling chalcopyrite and molybdenite in

Topley granite was found in the canyon of Tachek Creek immediately southwest of the map area in August 1968. The claims were optioned by Noranda Explorations Limited in September. This significant find is still being evaluated.

The mineralization appears to be associated with introduced biotite and possibly secondary potash felspar in the Topley granites. The presence of biotization, characteristic of the Tertiary porphyry deposits of the Babine Camp, suggests a Tertiary age for the Topley Landing porphyry mineralization as well. An examination of the 1969 aeromagnetic maps of the area also supports this view. Magnetite has apparently been injected or remobilized adjacent to regional north trending shear and alteration structures. The resulting magnetite concentrations appear to be in both the granites and volcanics so that the associated porphyry mineralization is at least younger than the Hazelton volcanics.

Copper, associated with calcite veins in the volcanics of the area have been known for many years. There may also be copper minerals associated with flow top structures in the Hazelton.

GEOLOGY OF THE MAP AREA

The grid was geologically mapped by Niel Thomsen, a geology student, under the writer's supervision. The work was done from June 14th to 20th, June 25th to July 5th, on July 8th, and August 8th and 9th, 1969.

The oldest rock unit appears to be the Topley granites. Two varieties were identified. A medium grained granite which grades locally into granodiorite, and a younger finer grained granite. The contact between the two granites

is very irregular. These rocks are all slightly epidotized and chloritized. This alteration is strongest in the granite adjacent to the granodiorite phases. The granodiorite east and northeast of camp is very slightly biotized and pyrhotized. Secondary biotite in granite was also noted west of camp. Quartz veining is fairly common in the Topley granites.

Unconformably overlying the granites are two varieties of volcanic rocks tentatively assigned to the Hazelton (and Tachek) Group. These are amygdaloidal andesites and porphyritic andesites and andesite breccia.

The amygdaloidal andesites outcrop on the two ridges at the extreme western edge of the claim group. These vary from black or dark green to brick red. The amygdules are calcite. Quartz-epidote stringers are abundant but lack a preferred orientation. The rocks are variably magnetic. No sulphides were noted.

The only area of porphyritic andesite and andesite breccia outcrops about one mile northeast of camp. The felspar phenocrysts are fairly small in a dark aphanitic ground mass. The andesite and andesite breccia are in fairly narrow beds.

Both the granites and volcanics are cut by dykes ranging from basalt to rhyolite. Most of the dykes strike between ten and twenty degrees east of north and dip fairly steeply. They are generally between three and twelve feet wide. Only major dykes were plotted on the accompanying geological map. They exhibit erratic magnetism irrespective of composition. Some of the mafic dykes are pyritized.

Sediments outcropping on Tachek Creek west of the centre of the map area were tentatively assigned to the Upper Cretaceous Lower Teriary Sustut Group.

These rocks are moderately consolidated conglomerates, sandstones, and graywackes. The buff to reddish conglomerates contain pebbles of quartz, chert, basalt, and granite. Since these sediments are not cut by dykes they are probably the youngest rocks present in the map area.

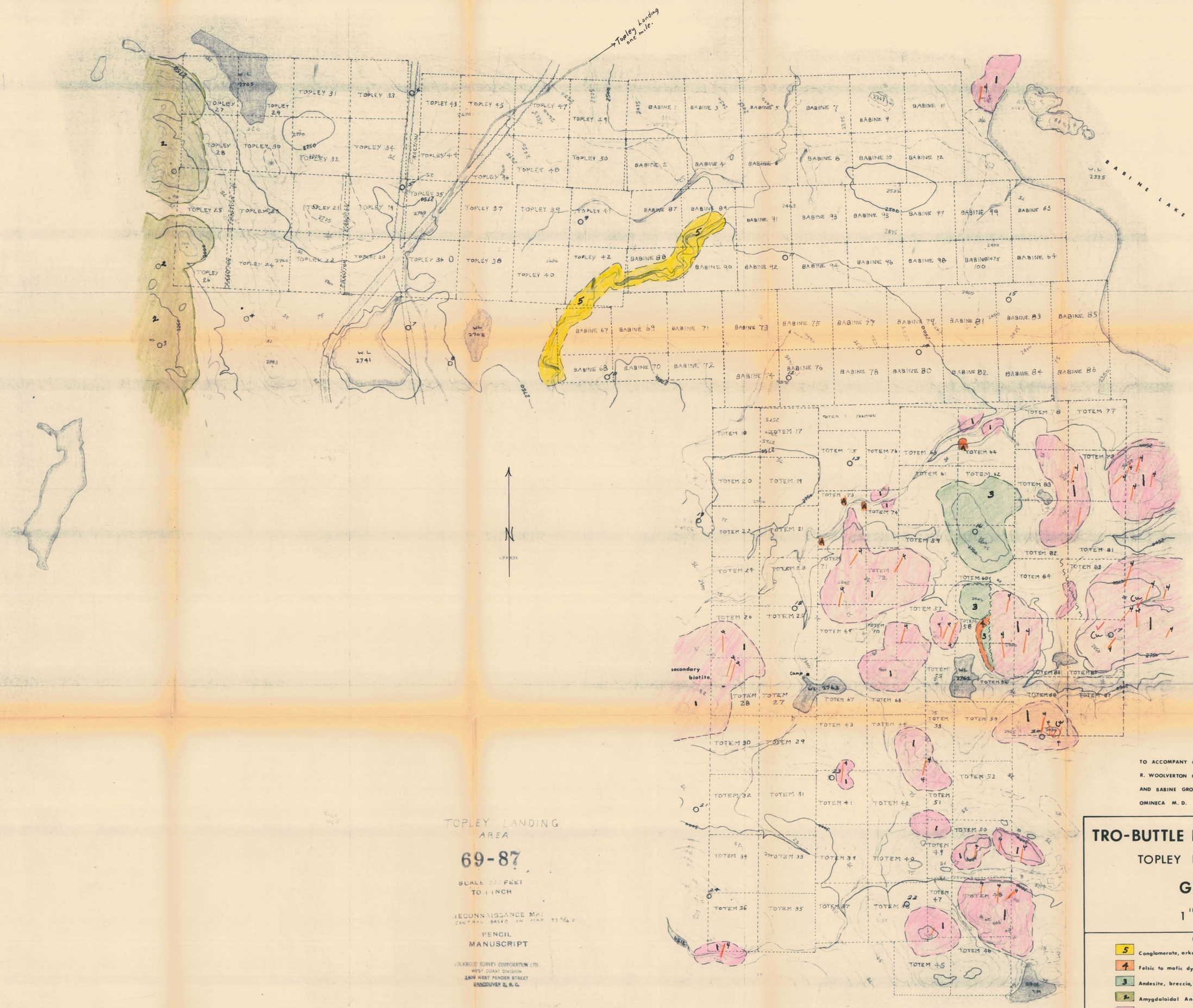
Three copper occurences were noted during the mapping and are plotted on the geology map in the pocket of this report. The most southerly occurrence is minor chalcopyrite in a quartz vein. The other two showings, near the eastern edge of the map area, are traces of chalcopyrite disseminated near narrow fracture zones in the Topley granites. No significant alteration was noted in the vicinity. Since Topley granites are fairly well exposed adjacent to the showings, the mineralization is of no economic importance.

RESPECTFULLY SUBMITTED,

R. Woolverton

R.W. Woolverton, BSc., P.Eng.

September 3, 1969



TOPLEY LANDING AREA

69-87

SCALE 1000 FEET TO 1 INCH

RECONNAISSANCE MAP CONTROL BASED ON MAP 93 5/16 E

PENCIL MANUSCRIPT

LOCKWOOD SURVEY CORPORATION LTD.
WEST COAST DIVISION
1409 WEST PENDER STREET
VANCOUVER 2, B. C.

Department of Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 2094 MAP #1

TO ACCOMPANY A GEOLOGICAL REPORT BY R. WOOLVERTON ON THE TOTEM, TOPLEY, AND BABINE GROUPS, TOPLEY LANDING, B.C., OMINECA M. D. DATED Sept 3, 1969
R. Woolverton

TRO-BUTTLE EXPLORATIONS LTD.

TOPLEY LANDING AREA

GEOLOGY

1" = 1000'

LEGEND

5	Conglomerate, arkose, and greywacke	– Sustut
4	Felsic to mafic dykes	
3	Andesite, breccia, and tuff	– Tachek
2	Amygdaloidal Andesite	– Hazelton
1	Granite and Granodiorite	– Topley
Cu	Copper mineralization	
SS	Shear zone or fault	
	Outcrop area	

SURVEY BY : EVERGREEN EXPLORATIONS LTD.
SMITHERS B.C. JUNE - JULY, 1969.

2094