GORDON P. E. WHITE & ASSOCIATES LTD.
CONSULTING GEOLOGISTS

OFF. 688-4134
RES: 681-2673

821 WEST PENDER STREET
VANCOUVER 1, B.C.

1961

PRELIMINARY GEOLOGICAL EXAMINATION

OF THE

NEW GOLD STAR MINES LTD. CLAIM GROUP

OMINECA MINING DIVISION

TERRACE B.C.

BY

GORDON P.E. WHITE & ASSOCIATES LTD.
VANCOUVER, B.C.

SEPTEMBER 12, 1968

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 1961 MAP

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SAMPLE AND LOCATION PLAN SCALE 1" = 1320' approx.

INTRODUCTION

August 30th to September 3rd, 1968, was spent on claims of New Gold Star Mines Ltd. located in the Terrace area. Mr. W. Thain accompanied the writer on one of these days and Mr. J. Zenick for the better part of two days.

A preliminary geological and sample location plan is appended to this report which has been traced from uncontrolled enlargements of two aerial photographs, and in part, from a topographic map, scale 1:50,000.

G.S.C. Memoir 329 and a report by Mr. D. Cochrane of Geo-X surveys of Vancouver were referred to. The assumed magnetic declination in this district is N27°E.

LOCATION & ACCESSIBILITY

The property is located 7 miles north east of Terrace, B.C. and the claims cover Hankin Creek as well as the adjacent slopes and parts of the crests of Kitselas and Lean-To Mountains. The region of principal interest and also of recent work is on the south slope of Kitselas Mountain.

There is a heliport and campsite on the south slope of Kitselas Mountain at approximately the 1900' elevation. It is a relatively easy, approximately 4 mile walk to the Skeena River valley below over a fairly well-graded footpath.

Access to some of the claims from the campsite is physically very difficult due to the rugged nature of the terrain. Some canyons along the stream beds of branch creeks to Hankin Creek would require rock climbing equipment to enter safely.

TOPOGRAPHY & VEGETATION

Other than the gentler fall line of Hankin Creek, the average ground slope would be 30° or steeper; the tributary creeks of Hankin Creek are punctuated by 100 to 200' cliffs and box canyons.

The top of Kitselas Mountain is 4884 feet above sea level while the Skeena River, a little over 1½ miles to the east, is at an elevation of 300 feet.

The claims are covered by heavy stands of timber, moss and shrubs, while stunted evergreens and heather are prevalent above timber line.

CLIMATE

The district is one of heavy rainfall and snow depths well in excess of 5 feet occur during the winter months.

CLAIMS

Claim staking was not checked with the exception that claim posts, tags and claim lines were noted and found to be in order where encountered during the field examination.

No title search has been made of the ownership, current status or anniversary dates of these claims and the status of the claims is assumed to be as indicated by New Gold Star Mines Ltd.

GENERAL GEOLOGY

The traverses upon which the geological descriptions are based have been noted on the appended plan.

Andesite, volcanic flow rocks occur from the lower bridge on Hankin Creek to just above the junction of Hankin Creek and Creek #6. From this latter point, to the north are a series of interbedded quartzites, angular conglomerates and greywackis. The attitude of the sediments varies from 55° to 95° true with south east dips and unless these beds have been overturned, the andesites stratigraphically overlie the sediments.

The contact between these two units is probably gradational interbedded and in the contact area, andesite sandstones are present as on Creek #6 200' above Hankin Creek. The andesite sandstone is finely laminated, contains very occasional rectangular granite pebbles and has local structure suggestive of cross-bedding. Although localized bedded-like features of this nature can be seen elsewhere within the andesite unit, the actual volcanic units appear to be relatively flat lying or having a planar feature

which would be normal to the regional attitude of the sedimentary beds. This may be a plane of structural release although it is the most obvious feature in the andesites where they are well exposed along creek beds.

The greatest thickness of the andesite consists of a green, aphinitic to medium grained, ferromafic rich rock containing 1' to 3' oval pods, lenticular lenses and 1" to 2" veins, parallel to the regional strike, a yellow-green mineral believed to be essentially an iron rich olivine. Quartz veins intrude the andesite as well as small plugs and dikes of granodiorite.

Along the approximate contact of the andesites and sediments there are 40' to 50' wide sills of coarsely porphyritic to fine grained porphyritic andesite. The phenocrysts in the coarser section are closely packed, $\frac{1}{2}$" long, euhedral to subhedral, laths of plagioclase embedded in a dark green, ferromafic matrix. Near the edges of the porphyry, the phenocrysts are anhedral, medium to fine grained and well spaced.

The sedimentary sequence of rocks consists of very fine-grained, buff, pyritiferous, hard beds of quartzite; poorly sorted, clastic greywackis and subgreywackis; conglomerates with coarse, 1" to 3", closely packed,

angular pebbles set in a finer, clastic impure, poorly sorted, finer grained matrix; cherty horizons; and beds of impure schistose material possibly of volcanic origin of intermediate composition.

Bedding features are not everywhere obvious and the better attitudes were noted in conglomeratic horizons. There were no apparent marker horizons noted during the limited time spent on this property.

Quartz veins and granodiorite plugs also intrude this clastic series of rocks.

The quartz veins usually parallel bedding planes or strike 160° true with vertical dips. Chalcopyrite, bornite, pyrite and hematite may be found with the quartz. Limited calcite and a blue-green chrysocolla are found as secondary products along with a form of limonite. The attitude of the quartz veins are similar in the andesite and limited silicification of the andesites has occurred normal to some of the quartz veins.

The granodiorite where encountered is a fine to medium grained biotite-hornblende intrusive sharply contacted with the andesite and sediments occurring as 10' dikes and as small 30' by 40' plugs and sills.

Larger granodiorite masses have been outlined in Geo-X's report but these were not checked.

Magnetite is a common accessory mineral in most of the rock types encountered.

Small basaltic sills and dikes were noted in the volcanics particularly in the area of the suggested contact zone.

STRUCTURAL GEOLOGY

The predominant direction of shearing is 155° - 165° true with vertical to steep easterly dips. The intensity along strike and the width of the shears appear to be limited.

ECONOMIC GEOLOGY

Seven grab samples were taken in order to gain some idea as to the relative mineral content; no samples were taken of the obviously mineralized quartz veins. Sample locations and values are plotted on the appended plan and a written description of sample locations follows:

Sample no.

17151 Creek #2: below base line and approximately 800' horizontal distance above the trail.

17152 Creek #5: elev.* 3250'; between Zenick stations 005365 and 005366.

*Elevations were recorded with no correction for drift due to possible changes in atmospheric conditions.

17153 Creek # 5: Zenick station 005365 "B" - taken at base of falls.

17154 Creek #5: elev. approximately * 3050'.

17155 Creek #6: 200' horizontal distance above Hankin Creek.

17156 Creek #5: base of water fall, east side immediately below trail.

17157 Along bulldozed road on trail in lower valley between collapsed cabin roof and new bridge.

The assay results are as follows:

Sample no.	Rock type	Cu%	Ni%	MoS_2%	Au.oz	Ag.oz
17151	silicified andesite	.70	Tr		Tr	0.2
17152	granodiorite	.03		.01	Tr	0.1
17153	siliceous sediment	.01			Tr	0.1
17154	granodiorite	.08			Tr	0.1
17155	andesite sandstone	.03				
17156	porphyritic andesite	.02		.01	Tr	Tr
17157	med-grd granodiorite	.02				

CONCLUSIONS AND RECOMMENDATIONS

Copper, silver and gold are associated with grandiorite intrusions and later, quartz vein material. The extent and degree of mineralization and silicification of the host rocks are limited by the size of the instrusions and by the intensity of the shearing.

The possibility of finding economic concentrations of metallic minerals on this property are considered remote based on the geological setting combined with the assay results obtained.

In order to adequately map and prospect the entire claim group, should it become necessary to carry out such a programme, intermediate heliports and tent platforms should be established to allow personnel easier access to the property.

The cost to construct these bases of operation with possibly four to five locations would be $10,000 approximately.

Ground control is considered sufficient from photographs and a plan map should be constructed from 1" = ½ mile controlled mosaic and the resultant plan enlarged to at least 1" = 1000'. Structural photo interpretation would be part of the field programme, and a geologist, assistant, two prospectors and a cook should be placed in each camp location to cover the ground. This would cost approximately $15,000 for two months of helicopter supported field operation. The mosaic plan would probably cost around $2000 - for a total overall cost of $27,000. Upon completion of this programme, a decision would be reached as to a possible method of

continued exploration, or alternatively, abandonment of the property.

Respectfully submitted
GORDON P.E. WHITE & ASSOCIATES LTD.

Gordon P.E. White, P.Eng

I, GORDON PATRICK EARL WHITE, of the City of Vancouver, in the Province of British Columbia, HEREBY CERTIFY:

1) THAT I am a registered Professional Engineer in the Province of British Columbia.

2) THAT I am a graduate of the University of New Brunswick with a degree of Bachelor of Science (1953).

3) THAT I am a Consulting Geologist with offices at 821 West Pender Street, Vancouver 1, B. C.

4) THAT I have visited the property discussed in this report.

5) THAT I have practised as a geologist for more than 15 years, examining and reporting on properties in North America and Africa.

6) THAT I have personally checked the staking of the claims listed in this report and have found the posts, tags, and claim lines to be properly staked.

7) THAT I have no interest, direct or indirect, in any company acquiring or intending to acquire control, nor do I expect to have any interest in New Gold Star Mines Ltd. Nor do I have any interest in the claims, direct or indirect, referred to in this report.

DATED at Vancouver this twentieth day of June, 1969

GORDON P. E. WHITE, P. ENG.,

PRELIMINARY GEOLOGICAL SURVEY COSTS

GOLD STAR 2, 3, 6 & 7 CLAIMS

August 29-30, 1968

Personnel	Occupation	Dates	Total
Mr. Gordon P. E. White	Geologist	August 29-30, 1968	$ 150.00
Mr. Arthur J. Cassidy	Assistant	" "	$ 90.00
Mr. Hugh Cumming	Draftsman	September 9-10 1968	$ 50.00
Transportation on Property (estimated helicopter time)			$ 100.00
Report Preparation			25.00
Incidentals			.35
		TOTAL	$ 415.35

And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath and by virtue of the "Canada Evidence Act."

Declared before me at the
of , in the
Province of British Columbia, this
day of , A.D.

A Commissioner for taking Affidavits for British Columbia or
A Notary Public in and for the Province of British Columbia.

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PRELIMINARY GEOLOGICAL SURVEY COSTS

GOLD STAR, GOLD STAR 1, 4 & 5 CLAIMS

August 31, September 1-3, 1968

Personnel	Occupation	Dates	Total
Mr. Gordon P. E. White	Geologist	Aug 31, Sept 1-3 1968	$ 600.00
Mr. Arthur J. Cassidy	Assistant	" "	$ 180.00
Mr. Hugh Cumming	Draftsman	September 9-10 1968	$ 50.00
Transportation on Property (estimated helicopter)			$ 350.00
Report Preparation			$ 290.00
Assaying			$ 80.00
Food Supplies			$ 50.00
		TOTAL	$1,600.00

And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath and by virtue of the "Canada Evidence Act."

Declared before me at the
of , in the
Province of British Columbia, this
day of , A.D.

A Commissioner for taking Affidavits for British Columbia or
A Notary Public in and for the Province of British Columbia.

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INSERT

LARGE

FORMAT

1 map