

3895

GEOLOGICAL REPORT ON
THE NEW BRAVO GROUP OF MINERAL CLAIMS
HIGHLAND VALLEY, B.C.

Lat. 50°53'N
Long. 121°02'W

92I/11E

J.S. CHRISTIE

SEPTEMBER 10, 1972

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 3895 MAP



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JAMES S. CHRISTIE - B.Sc.

SEPTEMBER 10, 1972

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SCOPE

Geological mapping on the New Bravo Group of mineral claims was undertaken during the 1972 field season as part of a broader exploration program covering some 650 contiguous mineral claims. This program was designed to test the economic potential of a region in which previous mapping by Drs. Carr-Northcote-McMillan of the B.C. Department of Mines has indicated that pre-mineral granitoid rocks of Guichon Creek batholith (Lower Jurassic) are covered in large part by a veneer of post-mineral volcanic and sedimentary rocks of the Kamloops Group (Tertiary).

Geological features of economic significance such as the contact between Bethlehem and Guichon phases of the batholith, and a related northerly trending porphyry dyke swarm are associated with copper mineralization at the Bethlehem mine. These features have been traced northward to at least the edge of Tertiary cover and form a broad zone where numerous copper occurrences and two major prospects (Trojan and Krain) are known. How far these geological features of potential significance may extend beneath Tertiary cover is at present unknown but a prime objective of the current exploration program is to gain some knowledge of such economic possibilities. Another is to establish the thickness of Tertiary cover within the favourable area and to assess the feasibility of grid-drilling.

METHOD

Geological mapping was done entirely by graduate geologists using recent 20 chain Provincial Government aerial photography and matching Multiplex project M260 1" = 1320 feet base maps published with photocenters. Bedrock exposures and geological boundaries were drawn on mylar photo overlays in the field and were later transferred to base maps by the radial-line plotting technique.

LOCATION AND ACCESS

The New Bravo Group is centered about 3 miles north of Twenty Four Mile Lake, 1 mile west of South Forge Mountain in the Highland Valley area. (Lat. 50°33'N, Long. 121°02'W). Access is by a moderately good gravel road from a highway 1/4 mile west of the Bethlehem mine gate, leading through the Trojan and Krain camps. Alternate access is provided by a gravel road leading north from Highland Valley highway near the Lornex tailings pond and by the Barnes Creek fire access road.

GEOLOGY

Kamloops Group

In the vicinity of New Bravo Group Tertiary cover is comprised mainly of volcanic flows with rare interbedded tuffs and sediments. The great majority of the flows are light to medium grey slightly porphyritic rocks that were named dacitic-andesite or andesite in the field. These rocks contain small quartz plagioclase hornblende and augite phenocrysts of variable modal abundance. They typically form flows 100 feet or less in thickness on which block, flow breccias or vesicular flow-tops are developed. No attempt was made to map or trace individual flows because of insufficient exposure.

Interbedded almost at random with the above flows of andesitic nature, and near the bottom of the Kamloops Group, are lighter coloured flows of dacitic or rhyolitic? character in which large smoky quartz phenocrysts are evident. Such flows are typically associated with flow breccias and agglomerates, all of which appear to be closely related in space to a volcanic neck (biotite quartz feldspar porphyry) which lies northeast of Creep #1 Fraction.

On Forge Mountain north of New Bravo Group, above elevation 6000 feet, a stratigraphically higher part of the volcanic succession is comprised of extremely vesicular volcanic flows believed to be andesitic or basaltic andesite composition. Olivine phenocrysts are common in these rocks.

Guichon Batholith

Granitoid rocks of the Guichon batholith are exposed on southwest parts of New Bravo Group. These rocks are granodiorites belonging to the Bethlehem phase of the batholith and are totally devoid of sulphide mineralization and alteration of significance.

South and southeast of the group similar barren rocks of Bethlehem phase granodiorite are exposed. Northeast of Creep #6 a contact between Guichon phase quartz diorite and Bethlehem phase granodiorite is exposed in an old trench. All of the rocks in this area are well fractured, intensely altered in the propylitic facies and weakly mineralized. Quartz-biotite-tourmaline-chalcopryite veins occur but are not sufficiently abundant to be of significance. A few narrow feldspar porphyry dykes were found nearby.

Structure

Structure in the Kamloops Group is relatively simple in that the sediments and volcanic flows appear to dip quaquaversally at moderate to slight angles away from a centre which coincides

3.

roughly with the volcanic neck mapped northeast of Creep #1 Fraction.

Fracturing and sheeting within the volcanic flows is in many instances a phenomena related to the cooling of these rocks. Fracture sets with well developed slickensides along northerly-northwesterly and northeasterly trends are clearly related to Tertiary faulting, and are equally well or often better developed within older granitoid rocks. Among these a northerly trending fracture set, and in particular a major break mapped as a probable extension of the "Lornex fault" is the dominant structural feature of the area. This fault has not been observed in outcrop but its trace forms a sharp western boundary for Kamloops Group suggesting that rocks along its eastern side are downthrown. Fanglomerates east of the fault trace substantiate this hypothesis.

INTERPRETATION AND CONCLUSIONS

Projection of the geology of the Guichon batholith beneath the Tertiary cover on New Bravo Group suggest that most of the area is underlain by barren Bethlehem granodiorite. Northeastern parts of the group are underlain by a Tertiary neck which is also devoid of sulphide mineralization.

Thickness of the Tertiary cover is thought to increase towards the west such that it forms a wedge bounded on the west by "Lornex fault", but there is no way short of drilling to make an accurate estimate of thickness in this area. Thicknesses exceeding 500 feet might be reasonably expected on LE 6,8,10 Fr., and parts of Creep #6 when the influence of topography is considered.

Subsequent to geologic mapping a percussion drill-hole was collared about 500' east of the "Lornex fault trace" on LE 70. This hole bottomed in volcanics at 315 feet.

Additional drilling would not be recommended on the New Bravo Group.

4.

NEW BRAVO (Supplement) - (Original Group - Creep lfr, 2-6)

Claims list as per supplemental Notice to Group filed at time of submission of this report:

<u>Claim Name</u>	<u>Record Number</u>	<u>Previous Ownership</u>	<u>Recently Conveyed</u>
DO 1-4	66226-29)	Getty Mining
LE 5-9	60490-94)	Pacific Ltd.
LE 10fr, 11fr	60495, 96)	"
LE 68fr	60553)	"
LE 70	60555)	"
LE 72	121063)	D. Milburn
LE 66fr	60551)	Getty Mining
LE 13	60498)	Pacific Ltd.
CREEP 1fr	98370)	"
CREEP 2-6	98371-75)	"
Le 15	60550	Cadco	Getty
Do 8-16	66233-41	"	"
Go 23-30	66264-71	"	"

J. S. Christie

5.

STATEMENT OF COSTS

Geological Mapping - Field

J.S. Christie, Geologist June 9,10,19,28,29 5 days @ \$60.00	300.00
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J.S. Christie, Geologist Report - 1 day @ \$60.00	60.00
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C.P. Harivel, Geologist 2 days @ \$45.00	90.00
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Map preparation and plotting

C.P. Harivel, Geologist 1 day @ \$45.00	45.00
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Drafting and Report preparation	50.00
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Truck rental, fuel 1/2 a week	50.00
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Camp costs 1/2 a week	90.00
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\$ 685.00

STATEMENT OF QUALIFICATIONS

C.P. Harivel - 1972 Geology graduate, B.Sc.(honours)
University of British Columbia.

J.S. Christie - 1965 Geology graduate, B.Sc.(honours)
University of British Columbia.

Experience

1960 - 65 Geological field assistant with B.C. Dept.
of Mines....Wesfrob Mines (Tasu)....Giant
Yellowknife Mines.

1966 Geologist - Canada Tungsten, N.W.T.

1967 - 68 Enrolled PhD program U.B.C. - detailed
geological mapping in Shuswap terrain in
conjunction with PhD thesis.

1969 - 71 PhD candidate U.B.C. - summer months spent
prospecting
1969 Britco Syndicate
1970-71 B.C. Dept. of Mines Grubstake.

CURRENT

Early 1972 accepted permanent employment
with Quintana Minerals Corporation - Geologist -
completion of PhD anticipated late 1972.

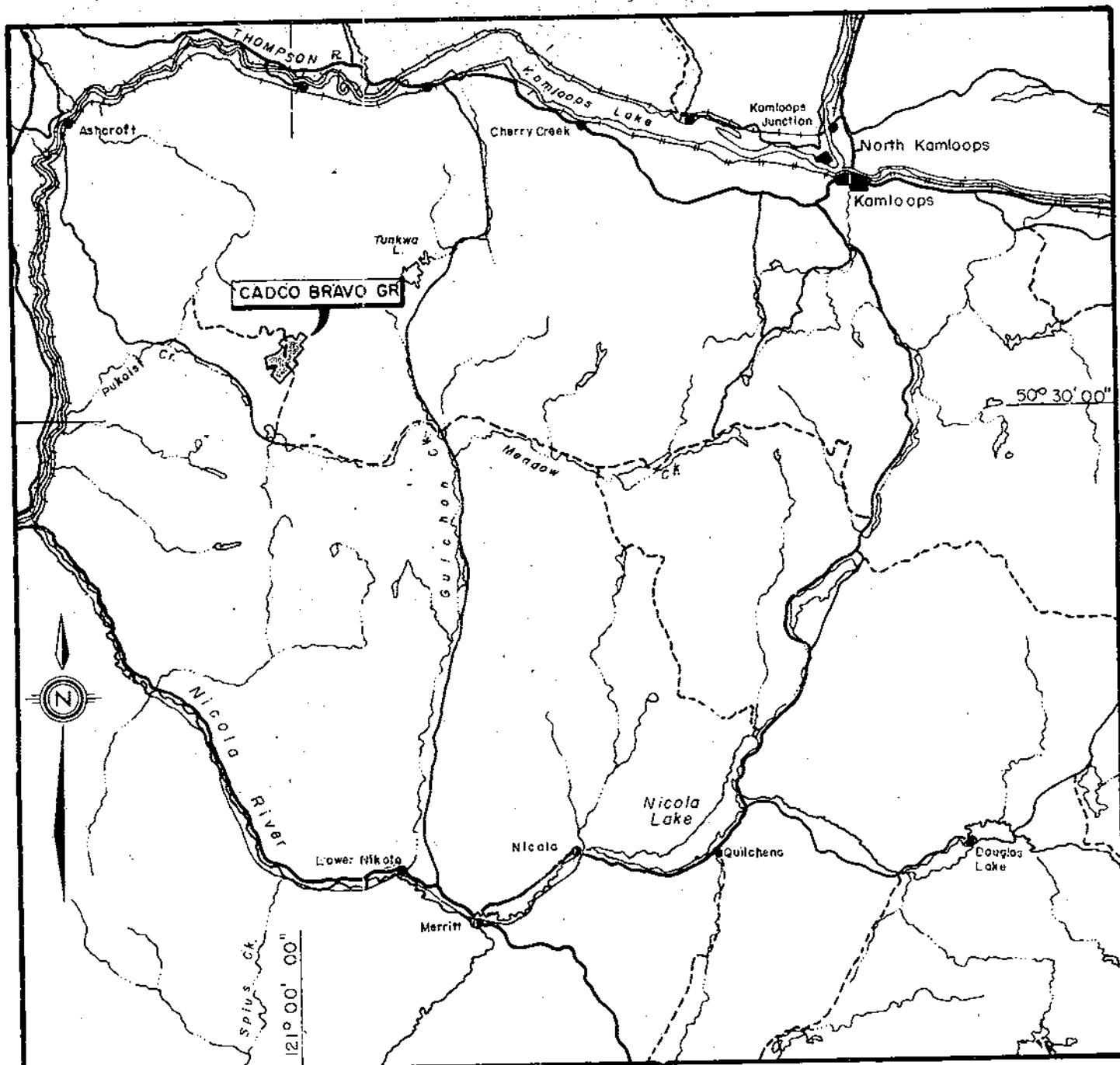
Work on the New Bravo Group was undertaken in 1972 on behalf
of a joint venture between Quintana Minerals Corporation and
Getty Mining Pacific Ltd. I have personally planned,
participated in and supervised all of the field work under-
taken to date:

Respectfully submitted,


J. S. CHRISTIE

JSC/cme
September 10, 1972 .

Sept 18, 1972



QUINTANA MINERALS CORPORATION
HIGHLAND VALLEY PROJECT

PROPERTY LOCATION MAP
NEW CADCO BRAVO GROUP

Department of
Mines and Petroleum Resources

ASSESSMENT REPORT

NO. **3895** AND **#1**

JULY 1972, by J.S. CHRISTIE

KAMLOOPS MINING DIVISION, B.C.

SCALE

0 8 Mile
(1: 500,000)

KAMLOOPS GROUP

5 Volcanic flow breccias - agglomerate

3	Tertiary (?) Subvolcanic	Plug
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2 Bethlehem Phone

I Highland Valley Phase
(Gulchon variety)



L. J. Mason, D. P. F. Williams and R. P. Farnham

Geologic contact

Website: <http://www.fishbase.org>

Finally, we should note that the *in vitro* and *in vivo* results

Receiving plate, dip 40° to South

Journal of Clinical Pharmacy and Therapeutics, 1995, 20, 1-10

Class - spaced fracturing in volcanic flows

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GUTHRIE MINERALS CORPORATION

HIGHLAND VALLEY PROJECT

GEOLOGY MAP

NEW CADCO BRAVO GROUP

JULY 1972, by J. S. CHRISTIE

RAMLOPE, Mining Division, B-4

REAL



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GROUP

JE
B

9/11/72
SIN 18, 1972