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PRELIMINARY REPORT

on

GRASSLAND PROJECT

Nicola M.D. B.C.

92 I 2/₩ E

by

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GRASSLAND PROJECT

SUMMARY

Quintana's Grassland property is in an area of easy access in Southern B. C. It includes glaciofluvial and possibly older Tertiary.cover flanked on three sides by outcrops and drill holes carrying fracture controlled pyrite, trace chalcopyrite. The best grades are about 0.1% Cu. This peripheral mineralization strongly suggests a target for porphyry type or possibly scarn type copper mineralization somewhere in a 2000 m by 4000 m covered area. Quintana holds slightly more than half of this covered area, the Nicola Indian Band has the rest. I recommend a diamond drill programme costing up to \$55,000 over one or more years to test Quintana's portion of the target.

INTRODUCTION

PROPERTY: Axendental (rec. no 121, June 24, 1976) and Grassland Bonanza (rec. no 122, June 24, 1976) claims, including 19 units owned by Corbin J. Robertson (Quintana) in Nicola M. D.

LOCATION: 18 km at 1150 from Merritt, B. C. in NTS 92 I 2/E The property, which lies just west of Quilchena Creek, is bounded on the north by I R #7, and on the east by claims belonging to Canadian Occidental Minerals. Relief on the property is gentle and vegetation is sparce. Elevation is about 1000 m. Drilling season is 12 months, field work season is 8 months.

ACCESS: Access for exploration is by auto from Merritt, about 4 hours by auto from Vancouver.

Access for production is by road to Merritt which is on a C P R branch line, or by road to Vancouver.

HISTORY: Evidence of exploration activity in the local area such as pits, trenches, and shafts, indicates that intermittent prospecting has taken place during the last 50 years. This activity has been concentrated on the ground now held by C. F. Graham as the Pit claim, north of Quintana's ground and separated from it by part of I R 7. During the last 15 years, Carolin Mines and others performed geochemical and geophysical surveys, and have drilled at least one diamond and four percussion drill holes.

To the east and south Bethlehem Copper, alone and as operator for a syndicate, drilled a number of percussion and diamond drill holes in 1969 through 1971. Minor pitting and trenching has been done to the southwest of Quintana's claims.

GEOLOGY:

REGIONAL: The Grassland property lies within a narrow north trending belt of Upper Triassic to Lower Jurassic, basic to intermediate, volcanics. These Nicola group volcanics are intruded by co-eval plutons associated with porphyry copper mines at Copper Mountain - Ingerbelle, Highland Valley, and Afton-Iron Mask.

Many other pcrphyry copper prospects are known within this 60 km by 300 km belt stretching from the U. S. border north to Kamloops and beyond. Locally these Nicola rocks are overlain by Upper Mesozoic and Cenozoic rocks, often in fault bounded basins.

LOCAL: North of Quintana's property on the Pit claim, a north striking, steep to vertically dipping sequence of fine grain Nicola sediments with minor limestone is flanked on the west by Nicola volcanics. The eastern contact of the sedimentary rocks is obscured by glaciofluvial cover. The sediments are hornfelsed and locally altered to scarn. Fracture controlled pyrite with minor chalcopyrite and molybdenite is widespread within a 300 m wide zone striking northerly for at least 2000 m. Reported results of Carolin's drilling in this area suggest an average grade of not more than 0.1% copper and 0.02% malybodenam.

To the south, Bethlehem's drilling encountered Tertiary volcanics under 15 m to 30 m of glaciofluvial sediment. To the southeast and east, a series of percussion and core holes penetrated propylitically altered diorite with up to 5% fracture controlled and disseminated pyrite as well as minor chalcopyrite. The best 10' sections contain 0.1% copper. One drill hole assays 0.07% copper over the 135' of rock cored. Copper content increases slightly toward the north.

Southwest of Quintana's property, Nicola sediments and volcanics are weakly mineralized with fracture controlled pyrite together with local chalcocite and malachite. These rocks are unconformably overlain by Tertiary volcanics.

No outcrop, nor any recorded drill hole, exists within Quintana's claims. A single outcrop of Nicola volcanic rock exhibiting strong pervasive chlorite - epidote alteration without, pyrite exists on the west side of the north boundary.

It seems reasonable to infer that the contact between a mineralized intrusive on the east and mineralized sediments and volcanics on the north west and south west lies under glaciofluvial sediments on Quintana's claims. This contact, or a second hidden intrusive responsible for the observed peripheral mineralization, is a good porphyry copper or scarn copper exploration target.

There is a strong possibility that post-mineral Tertiary volcanics of unknown thickness exist over part of the target area. IR7 presumably contains part of the target.

CONCLUSIONS AND RECOMMENDATIONS:

A good porphyry and scarn copper exploration target exists on Quintana's claims. Because of the risk of thick cover, the target should be tested using at least a Longyear 38 or equivalent sized diamond drill. A rotary or downhole hammer drill should be considered if available locally. A programme of up to (4) holes spaced roughly 600 m apart averaging 150 m each, at a cost of \$80/m is recommended. Discouraging results in the two easterly holes might be cause for abandonment. This drill programme should be preceded by a ground magnetometer survey on a few east-west profile lines, to see if Tertiary volcanic contacts can be inferred under cover.

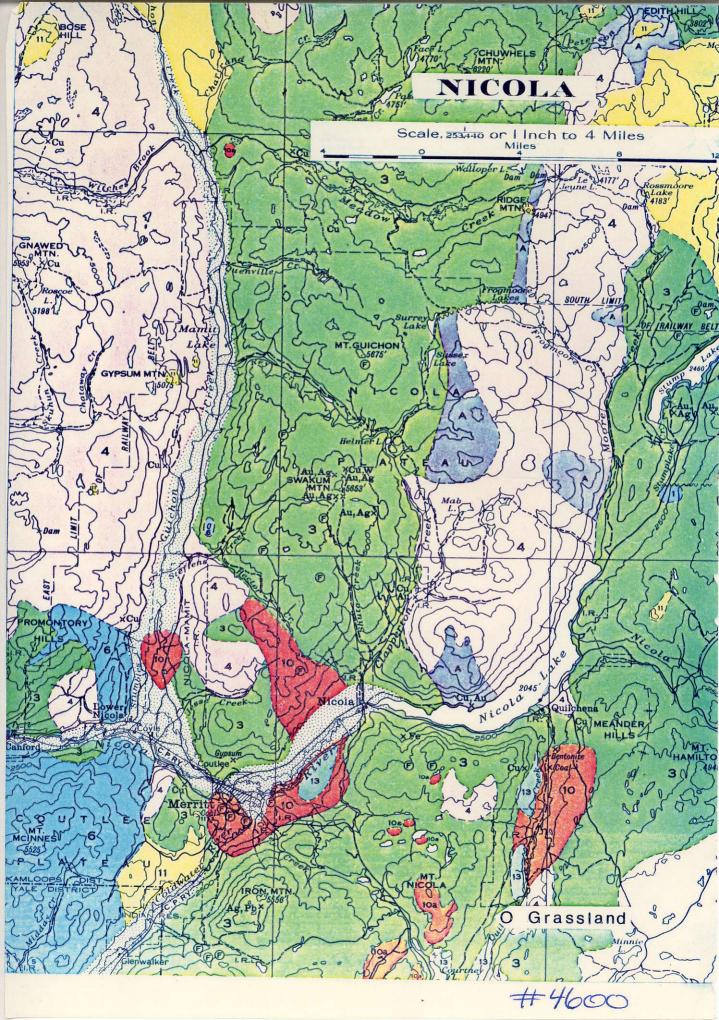
The total budget, including contingency, magnetometer survey, and drilling of four holes should be \$55,000. The minimum budget is about \$40,000. Some additional claims should be staked south and west of Quintana's property.

Although IR7 obviously has part of the target, poor progress of previous negotiations between Bethlehem and the Nicola Band, coupled with the Band's lack of response to Quintana's more recent overtures, suggests that it may be wiser to conduct preliminary drilling on Quintana's ground before pressing for a deal on IR7. However, efforts to conclude a deal on IR7 should be continued.

Refs: Preto, V.A. et al; Prelim. Map No. 15, Geol.

Map of Aspen Grove Area, B.C. Dept. of Mines and Pet. Res., 1973

Taylor, D.P.; Geol. and Geochem. Rept. on the Quilchena Creek Prop.; B.C. Asses. Rept.



LEGEND

TERTIARY
MIOCENE OR LATER

13

Valley basalt: mainly vesicular basalt

CENOZOIC

MESOZOIC OR CENOZOIC

MIOCENE OR EARLIER

11. Rhyolite, andesite, and basalt: associated tuffs, breccias

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 Khyolite, andesite, and basalt: associated tuffs, breccia and agglomerates. May include some younger basalts
 TRANQUILLE BEDS: conglomerate, sandstone, shale, tuff; thin coal seams



COLDWATER BEDS: conglomerate, sandstone, shale, and coal; 10a, similar to 10, but may include younger beds

CRETACEOUS OR TERTIARY



COPPER CREEK INTRUSIONS: granite, granodiorite, granite porphyry



Andesite, basalt; picrite, agglomerate, breccia, and tuff; minor conglomerate and sandstone



Conglomerate, sandstone, and shale

CRETACEOUS

LOWER CRETACEOUS

KINGSVALE GROUP



Rhyolite, andesite, and basalt; associated tuffs, brecclas, and agglomerates; arkose, conglomerate

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MESOZOIC

PALÆOZOIC

SPENCE BRIDGE GROUP

Hard, reddish lava

JURASSIC AND(7) LATER

A

COAST INTRUSIONS: granite, granodiorite, gabbro; 41, Iron-Mask batholith; syenite, monzonite, diorite, gabbro; 4b, pyroxenite and peridotite. Probably not all of the same age, and may be in part post-Lower Cretaceous

TRIASSIC

UPPER TRIASSIC

NICOLA GROUP



Greenstone, andesite, basalt; agglomerate, breccia, tuff; minor argillite, limestone, and conglomerate

CARBONIFEROUS AND PERMIAN

CACHE CREEK GROUP (?)



Greenstone, generally slightly sheared. May include some Triassic rocks (3)



Argillite, quartzite, hornstone, limestone, sheared conglomerate, breccia, greenstone, and serpentine, 1A, limestone



Chlorite schist, quartz-mica schist, amphibolite, and granitic intrusions; commonly gneissic and largely of Palæozoic age

