

Burrell Creek

1.

TICK # 1 and 2 Claim Group  
Greenwood Mining Division  
British Columbia

*see*  
*(North Atlantic)*  
*Resources*

### INTRODUCTION

The writer has not examined the claim group in detail but is familiar with the general geology of the area and has made a number of geological traverses to the north of the Tick # 1 claim. A cursory examination has also been made of the Rio Tinto copper-molybdenum deposit on the Alco Group that adjoins the Tick Group to the south.

This report is written at the request of the directors of North Atlantic Resources Ltd. and outlines a two phase exploration program for the Tick Group.

SUMMARY

The Tick 1 - 2 Claim Group of 28 contiguous claims covers approximately 1,736 acres and is located on the east side of the Burrell Creek valley 43 air miles northnortheast of the community of Grand Forks in south-central British Columbia.

Access to the property from Grand Forks is by 45 miles of good road up the Granby River valley and then along the east side of the Burrell Creek valley to the general area of the Franklin Mining Camp. From this point there is no road access to the claim group that lies one mile to the east.

The Tick property is located approximately 4 miles to the east of the Franklin Mining Camp that was first explored in the late 1800's and early 1900's. Numerous copper showings were initially located but it was not until 1912 that a very high grade gold occurrence was discovered. Between 1911 and 1929 gold, silver, copper, lead and zinc ores were selectively mined for direct shipment and from 1928 to 1933 the Hecla Mining Company operated a mill in the area.

The Burrell Creek - Franklin Camp area is underlain by granodiorite of the Nelson batholith that has been cut by younger intrusives of varying acidic composition. Within this intrusive complex is a large remnant, approximately 16 square miles in area, that is composed of greenstone, limestone and related sediments of Permian age. These older rocks have been cut by volcanic necks and dikes related to Cenozoic age vulcanism.

The mineral occurrences mined during the early 1900's were all within the large metasedimentary-volcanic remnant. Copper-molybdenum mineralization was discovered as early as 1907 in the granodiorite

peripheral to the remnant but the occurrence received very little attention. It was not until a logging road was cut through the copper-molybdenum mineralized outcrop area in 1975 that the extent of the mineralization was recognized. This property was staked as the Alco Group and is now under option to Rio Tinto Canadian Exploration Ltd.

On the Alco claims the copper-molybdenum mineralization occurs as fracture coatings and veinlets in highly shattered granodiorite of the Nelson batholith. Deep weathering and intensive leaching of the surface outcrops has left little or no evidence of the underlying mineralization that was originally thought to be erratic and directly related to narrow shear zones. However, it was found on examining the fresh rock cuts that the mineralization is wide spread and can be traced in outcrop along the road for approximately 1,800 feet.

The intense fracturing which is very important in the concentration of the mineralization has undoubtedly resulted from a number of factors, the most important being the areas close proximity to the resistant remnant to the north and from the movement along a major northeasterly trending regional fault zone that forms the contact between the intrusive and older paragneisses to the east.

This type of copper-molybdenite occurrence has recently been described as a "Batholithic Ore Deposit" in a report by Dr. E.S. Cheney of the University of Washington. He refers to the Quartz Creek and Middle Fork deposits in the Snoqualmie batholith of Washington, the Pre-Main Stage mineralization at Butte, Montana and the Brenda deposit in British Columbia as being typical of this type of deposit.

The Tick Group is underlain by the Monashee group of gneisses and schists of early Paleozoic age that have been intruded by a large elliptic shaped granodiorite stock that is an outlier of the Nelson

batholith. The Monashee Group is in contact along the east boundary of the Tick Group with Valhalla granites that are younger, although related to the Nelson batholith of Jurassic-Cretaceous age.

The major northeasterly trending fault zone that appears to have an important role in the concentration of the fracture controlled copper-molybdenum mineralization of the Alco Group, passes through the northwest corner of the Tick property. There are two topographic indicated lineaments, subparalleling the regional fault zone, that cut across the length of the granodiorite stock on the Tick claims. These interpreted faults may have developed fracture or breccia zones in the stock that would be favourable structures for the emplacement of copper-molybdenum mineralization.

It is concluded that the granodiorite stock on the Tick claim is the most favourable exploration target although the entire claim group should be investigated by reconnaissance prospecting and geochemical silt sampling.

RECOMMENDATIONS

The following exploration program is recommended:

Phase I

1. Geological interpretation of aerial photographs
2. Geological mapping, prospecting and reconnaissance geological mapping on a scale of 1 inch = 1,000 feet.
3. Survey a north-south base line with crosslines at 800 foot intervals to cover the granodiorite stock. The stock can be geologically mapped on a scale of 1 inch = 400 feet with careful attention being given to the recording of fracture densities.
4. Reconnaissance geochemical silt and soil sampling combined with the prospecting.
5. Collect soil and/or rock chip samples at 400 foot intervals on the grid.
6. Hand trenching using a Cobra drill and powder.

Phase II (Contingent on the results of Phase I)

1. Access Road.
2. Bulldozer trenching.
3. Diamond drilling.

ESTIMATED COSTSPhase 1

1. Aerial photograph interpretation Topographic map preparation	\$ 300.00
2. Geological mapping, overall field supervision, prospecting. 1 geologist and assistant prospector	1,500.00
3. Trail and grid survey. 2 miles of trail and 5 line miles of grid	1,000.00
4. Geochemical soil and rock chip sampling	750.00
5. Geochemical analysis	720.00
6. Assaying	100.00
7. Camp and food costs 30 man days @ \$10/man day	300.00
8. Transportation 10 days @ \$20/day = \$200.00 1,200 miles @ 20¢/mile 240.00 <u>\$440.00</u>	440.00
9. Hand trenching using a Cobra drill and powder	1,000.00
10. Data compilation, reports and consulting	750.00
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	\$ 6,760.00
Overhead and contingencies @ 10%	676.00
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	<u>\$ 7,436.00</u>

Phase II (Contingent on results of Phase I)

1. Access Road 1.5 miles tote road	\$ 2,000.00
2. Trenching	2,500.00
3. Diamond drilling 2,000 feet at \$20/foot overall cost	30,000.00
	<hr/> \$ 34,500.00
Overhead and contingencies @ 10%	3,450.00
	<hr/> <hr/> \$ 37,950.00

Respectfully submitted,

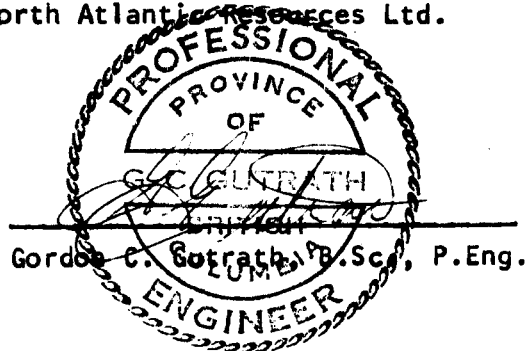
G. S. Atled, P. Eng.  
Atled Exploration Management Ltd.

July, 1976.

ENGINEER'S CERTIFICATE

I, GORDON C. GUTRATH, of 3636, Lakedale Avenue, in the Municipality of Burnaby, in the Province of British Columbia, DO HEREBY CERTIFY:-

1. That I am a consulting geologist with a business address of 420 - 475 Howe Street, Vancouver, B.C. V6C 2B3.
2. That I am a graduate of the University of British Columbia where I obtained my B.Sc., in geological science in 1960.
3. That I am a Registered Professional Engineer in the Geological Section of the Association of Professional Engineers in the Province of British Columbia.
4. That I have practised my profession as a geologist for the past sixteen years, and
5. That I have no interest in the property with which this report is concerned, nor do I expect to receive any such interest, nor do I have any interest in North Atlantic Resources Ltd.



DATED at the city of Vancouver, Province of British Columbia, this 6th day of July, 1976.