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KENNCO EXPLORATIONS, (WESTERN) LIMITED

ARCTIC LAKE EXAMINATION
BAM CLAIM GROUP

Stikine River Area,
British Columbia

57° 130° S.W.

Sixty miles south of Telegraph Creek,
Liard Mining Division,
British Columbia

REPORT

ON

GEOLOGICAL MAPPING

by

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August 18 - September 11, 1965

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INTRODUCTION

The Arctic Lake property, consisting of the BAM 1 - 21 Mineral Claims, lies approximately three miles southwest of Arctic Lake in the Mess Creek area of northern British Columbia. Telegraph Creek lies about 60 miles to the north and the Galore Creek camp about 25 miles to the west. This report describes geological mapping carried out on the claims during August and September, 1965.

TOPOGRAPHY

The Arctic Lake region is an area of relatively subdued topography forming a high plateau at an average elevation of approximately 5000 feet. This plateau is about 12 miles long and 6 miles wide, bounded on the west by the incised valley of Mess Creek, and on the east and north by the moderately rugged Spectrum Range. The showings are exposed in a scarp at the top of the 2000-foot valley wall of Mess Creek on the southwest edge of the plateau. The whole of the area is above the tree line so that access to the various sections of the property is generally easy.

GEOLOGY

Field Methods

Geological mapping was carried out under two types of control. In the areas of the mineralized showings the geology was mapped using a plane table on a scale of 1" = 200'. On the remainder of the claim group mapping was carried out on a scale of 1" = 2500' using air photographs for control.

General Geology

The deposits are located in a fairly complex section of a northerly trending belt of rocks lying in the trough of Mess Creek between Coast Range intrusions on the west and the Tertiary volcanics of the Spectrum Range on the east. On the southern end of the belt, near Arctic Lake, the eastern boundary is formed by a small granodiorite batholith about 8 miles wide and 14 miles long.

The mineral deposits occur in carbonates, arkoses and brecciated versions of both. The Geological Survey of Canada has mapped the carbonate sequence as 'Permian' in age and the arkoses as 'Triassic'. As a result of detailed mapping on the property, it is felt from the intimate relations between arkose and carbonates, that the whole assemblage is probably of Triassic age. No good fossils were noted, although vague and poorly preserved remains are common.

Structural Setting

The block of sediments in which the deposits occur is bounded on the west by a large area of sheared and altered pre-middle Permian sedimentary rocks. The contact with this group was not seen exposed.

On the east the boundary is formed by a small granodiorite batholith. This contact is fairly straight with a north-northeasterly trend parallel to the strike of bedding in that area. No brecciation, dyke activity, or structural complexity is evident along this intrusive contact.

Within the sedimentary block faulting is both common and complex. Fault attitudes generally fall into two categories; strike faults parallel to the strike of bedding but with dips which may or may not parallel bedding; and cross faults, which chop the area up into small blocks between which it is nearly impossible to relate stratigraphy.

Triassic Arkose Conglomerate and Arkosic Breccias

Arkose and arkosic breccias make up over one-half of the exposed rocks on the claim group. Arkoses show a fairly diverse grain size with some beds grading into conglomerate. Particle types fall within a fairly restricted range. The bulk of the fragments appear to be volcanic in origin; however, there is enough material of other origins to preclude naming the rock a tuff. The composition of the bulk of the volcanic fragments would be andesitic.

Bedding is usually poorly developed and the material poorly sized and sorted.

The arkoses appear to have been more competent than the carbonate rocks, and have consequently suffered significant crushing and brecciation. The bulk of the arkose exposures show show some effects of crushing and about one-third of the exposures are classed as breccia. The breccia matrix is commonly composed of dolomite which has no doubt been remobilized from adjacent carbonate beds.

Yellow-Orange Dolomite

A number of areas of yellow-orange dolomite were out-

lined during the course of mapping. Because of the complexity of faulting, it is not certain that these are all the same unit, but they have been mapped as such on the basis of lithology and weathered appearance. This is a fairly well bedded unit with beds averaging about 5 feet in thickness. The greatest total thickness, where there is no apparent fault repetition, is about 60 feet.

The dolomite is relatively pure with little or no lime and very little arenaceous material, except near the borders where it grades into arkose across a few feet.

Recrystallization is general and uniform. Fossil remains are recognizable throughout the unit, but are nowhere well preserved. Crinoidal fragments make up the bulk of the fossil remains.

"Foliated" Dolomite

This dolomite forms a fairly continuous bed in the eastern section of the map-area, traceable for a distance of about 1000 feet. Its thickness is fairly uniform and averages approximately 20 feet. The most conspicuous characteristic of this unit is a fine "foliation" developed parallel to the bedding. Thin lamellae about 1/8 inch thick are quite conspicuous on the weathered outcrop. On fresh surfaces these lamellae have no expression. It would appear that the foliation is a reflection of bedding, although the dolomite has been well recrystallized. There is no indication of shearing or stress parallel to bedding in this area to develop such a foliation by tectonic processes.

This "foliated" unit commonly shows crinoidal remains.

Dolomitic Limestone

A single unit of dolomitic limestone lying near the granite contact contains the only lime noted in quantity in the area. This unit is similar to the yellow-orange dolomitic unit

in texture and appearance on the fresh surface. On the weathered surface it shows a distinctive rough weathering due to the differential solubility of the lime and dolomite. This unit also carries many crinoidal fragments in a poor state of preservation. The fossil material is generally composed of dolomite and tends to weather high on the surface.

The thickness of this unit does not appear to exceed 70 feet.

Undifferentiated Shales and Fine-grained Arkoses

Fine-grained arenaceous sediments occur extensively to both the north and south of the area of detail mapping, and to some extent within it. These rocks are found only in fault contact with the arkose-carbonate sequence and may be of a different age. A fine rhythmic banding is characteristic of much of this material. Carbonate material is generally absent and some siliceous bands were noted.

Granite

The granite bordering the sedimentary sequence on the east is a part of a large body of Coast Range Batholith material. The bulk of this unit has not been examined, but along the border at least, it is a true granite. The rock is coarse-grained, pinkish weathering and weakly altered. Jointing is well developed at random attitudes with minor carbonates common along joint surfaces.

The contact between the granite and carbonate units shows little metamorphic effect, except a recrystallization of the dolomite.

Pyroxenite

Small, irregular bodies of pyroxenite occur in zones of weakness. The largest of these is about 200 feet in width and 500 feet long. These bodies show some alteration of feldspars

and pyroxene that is quite uniform and probably deuteric. Later fault movement has fractured and crushed the ultrabasic to some extent with the fractures being filled by a network of dolomite veinlets.

Tertiary Volcanics

Only one small remnant of Tertiary volcanic cover remains in the map-area. This has largely been broken down to areas of rubble blocks. To the north and northeast of the map-area, more extensive areas of Tertiary volcanics occur. This unit is fresh, unaltered, and shows good columnar jointing.

CONCLUSIONS

Mineralization in the area is spotty and irregular. There seems to be no structural control that holds for any significant number of the mineralized areas. Copper occurs mainly as irregular grains and blebs of tetrahedrite in restricted areas of breccia and dolomite. The complexity of faulting and crushing cause further uncertainty about the continuity of the mineralized sections.

Exposure in the area is generally good, so that a fair evaluation of the area could be made.

Vancouver, B. C.

October 27, 1965

Gerald H. Rayner

G. H. Rayner

B.A. Bradshaw

B.A. Bradshaw, P. Eng.

STATEMENT OF COSTS

Geological Mapping

Personnel	Duration	Rate	Days	Total
Panteleyev	Aug 18-31;Sept 1-6	$18.41	20	$368.20
Thompson	Aug 18-31;Sept 1-6	$12.33	20	266.60
Rayner	Aug 21,26,31 Sept 9,11	$25.00	5	125.00
Davies	Aug 18-31	$16.60	14	232.40
Hutzkal	Aug 18-31,Sept 9	$10.00	15	150.00
Other costs applicable				742.68
Total				$1,884.88

BAM 11

BAM 14

BAM 19

BAM 13

BAM 20

BAM 16

BAM 15

BAM 18

BAM 21

BAM 17

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LEGEND

1 Tertiary Basalt
2 Foliated Dolomite
3 Yellow-Orange Dolomite Often Crinoidal
4 Dolomitic Limestone
5 Purple Arkose and Arkosic Conglomerate
6 Undifferentiated Fine Grained Shales & Arkoses
7 Pyroxenite
8 Granite

Contains cherty beds and crinoidal units

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KENNCO EXPLORATIONS (WESTERN) LIMITED

DETAILED GEOLOGY
BAM CLAIM GROUP
ARCTIC LAKE

Liard M.D. B.C.

DATE: 26/10/65 | DRAWN BY: A.P., G.R. | PLATE NO.:
REVISED BY | DATE | SCALE: 1" = 200 feet

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA

To accompany report by G.H. Rayner
on the BAM Gp. Arctic Lake, Liard M.D.
Dated Oct 26, 1965