

GEOLOGICAL REPORT

ON THE

REX GROUP

BIG SALMON LAKE,

Y.T.

by

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Thetford Mines

September 1955.

Note:- Field work carried out in part under supervision of A.E. Storey,
B. Sc., Assistant Geologist, Asbestos Corporation (Explorations)
Limited.

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Maps (in pocket)

1. Rex Group, Yukon - Scale: 1/2 mile to 1 inch.
2. Rex Group, Yukon - Scale: 400 feet to 1 inch.

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REX GROUP
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GENERAL DESCRIPTION

The Rex group consists of 31 claims staked out in four parallel rows striking roughly N.65° W., and covers an area approximately 2 miles long by 1 mile wide. The west half of the group lies astride the valley of Caribou Creek, which enters Big Salmon River just below the outlet of Big Salmon Lake.

The maximum relief of the ground is around 2000 feet, the east end of the group having an altitude of about 5000 feet, and Caribou Creek about 3000 feet where it crosses the claims.

PURPOSE OF EXAMINATION

The field work described in the following pages was carried out with the purpose of locating chrysotile asbestos in commercial quantities. On the adjacent Acme group lying to the east and on the Trout group lying to the west interesting exposures of asbestos had already been located.

METHOD

On June 16th and 17th, 1955, a party consisting of a cook, an axeman, a student assistant, a geologist (A.E. Storey), and myself were flown into the northwest end of Big Salmon Lake along with the necessary supplies and equipment.

A camp was set up 3 miles up Caribou Creek at its junction with Rex Brook.

Two parallel picket lines were cut as nearly as possible along the original staking lines and approximately 2500 feet apart. Cross lines were cut at either end to tie these lines together, and the whole was surveyed with a tripod-mounted Brunton compass and chained. The line cutting totalled 25,940 feet, the entire control survey was completed during the first three weeks, and included the tying in of all claim posts.

During the first two weeks, accompanied by A.E. Storey, I carried out a geological survey of the general area in order to establish the extent of the ultrabasic and basic rocks in the immediate vicinity of the Rex group. The outcrops were plotted on aerial photographs and a map compiled to the scale of these photographs or approximately one half mile to one inch. This survey enabled us to ascertain the general rock relationships, the location of the known occurrences of asbestos in adjoining ground, and thus plan where detailed work would be most beneficial.

During the remaining four weeks A.E. Storey remained to supervise the work and proceeded to do detailed mapping in the more promising areas by traversing at intervals of 200 or 400 feet, depending on the abundance of outcrop and nature of the terrain. The surveyed lines were used as control, and transverse lines were run by pace and compass. An outcrop map on a scale of 400 feet to 1 inch was prepared. In conjunction with this work 3 trenches were dug involving the excavation of 94 cubic yards of sand and gravel.

GENERAL GEOLOGY

The Rex group is underlain for the most part by basic and ultrabasic rocks, and metamorphic rocks derived from these intrusives. These rocks are part of a belt trending west-northwest roughly parallel to the Big Salmon valley and lying just north of the valley. The belt has a width of 4 miles or more to the north of the east end of Big Salmon Lake and narrows to about 1 mile in width some 8 miles to the west where it disappears beneath the alluvium of Big Salmon River.

Much of the rock underlying the Rex claims appears to be a magnesian carbonate which is considered to have been derived from the peridotite. This rock weathers to a distinctive rusty brown due to the presence of ferrous iron in the carbonate. The freshly broken rock has a light greenish-grey colour. At the east end of the group in claim 13, a small area of fine to medium grained serpentinitised pyroxenite is exposed. In the adjoining claims of the Acme group this rock was observed to occur along the contact between the serpentinitised peridotite and the gabbro and is undoubtedly an intermediate facies between these two rock types. Along the north margin the group is underlain by fine to medium grained gabbro which weathers to a greyish black colour.

Although serpentinitised peridotite outcrops along either side of the Rex Brook in the Acme group only one outcrop of definitely uncarbonated peridotite was observed on the Rex claims and this lies in claim 13. A number of large boulders of only partially serpentinitised peridotite, up to 25 feet across, are scattered along the south side of

Rex Brook in claim 8. The only fresh peridotite outcrops in the area are situated one mile to the southwest or down the Caribou valley. Many well-rounded boulders of fresh peridotite were seen along the banks and in the bed of the portion of Caribou Creek which crosses the Rex claims. No such rock type outcrops upstream nor does there seem much likelihood that the valley is underlain by it. It seems probable that these boulders have been transported for some distance and for some reason were moved up the valley.

STRUCTURAL GEOLOGY

Little is known concerning the structure of the intruded rocks which consist of the Yukon Series (1) of volcanics, quartzite and slate which have dips ranging from flat to steep. There is however, a suggestion that the intrusive rocks occupy the axis of an anticline, and that they represent a normal series derived from the gravitational differentiation of a basic magma. This differentiation resulted in an overlying facies of gabbro and gabbro-diorite with an underlying facies of peridotite and dunite, with minor amounts of pyroxenite occurring between these two main groups.

The peridotite, dunite, and pyroxenite, have been almost entirely serpentinitised. The serpentinitised peridotite, which is much the most abundant of the three types, is almost everywhere heavily shattered and sheared. In all probability this widespread shattering contributed to the extensive carbonatization of the serpentine rock.

(1) E.D. Kindle, G.S.C. Paper 45 - 21, 1945.

ECONOMIC GEOLOGY

Other than one 3/16 of an inch cross-fibre asbestos vein in one of the large peridotite boulders in claim 8, nothing more than fine fibre lines were observed. The most favourable host rock, peridotite, probably underlies only the south corner of the Rex claims, and in this region of no outcrops the morainal deposition appears to be particularly heavy. Outcrops to the immediate south and east are completely barren, the nearest occurrence of fibre being at least half a mile to the east of the claims. To the west, a broad zone of carbonate lies between the asbestos occurrence here and the Rex claims, a distance of three quarters of a mile.

At the end of July I revisited the property. After reviewing the work carried out it was decided that any further surface exploration would be of little value, and the crew was moved out on August 1st.



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Thetford Mines,
September 12th, 1955.

CONFIDENTIAL



LEGEND

- ALLUVIAL & MORaine
- CARBONATE
- AMPHIBOLITE
- GABBRO
- PYROXENITE
- PERIDOTITE
- VOLCANICS
- OUTCROP
- BOULDER
- CLAIM BOUNDARY
- BLAZED LOCATION LINE
- SURVEYED CONTROL LINE
- TRENCH

ASBESTOS CORP. (EXPLORATIONS) LTD.

REX GROUP
YUKON

SCALE: 1"=400'

DATE: AUG 23, 1955

A.E. STOREY

