008909

GEOCHEMICAL SURVEY

Of

ROSS RIVER

105 J, K.

Yukon Territory

The first half of August, 1962, was spent in silt sampling tributaries to the Ross River. A river boat, powered by 18 h.p. outboard motor, was used. Mr. Jack Ladue, a Ross River native, was hired as guide and boatman. The river was sampled up-stream from its junction with the Pelly to a point 6 miles south of Otter Creek. Here, the river was wide, rocky and shallow (one foot deep or less) and the project was discontinued.

METHOD:

It soon became apparent that the broad, flat Ross Valley would cause difficulty in sampling the streams. Most of the streams entered the Ross after seepage through miles of swamps or passage over miles of Ross Valley silt. This would result in a severe and extremely variable dilution of metal content in the silt sampled.

The sample was taken as far up-stream from the Ross as time and terrain would permit. Where the stream outlet was in low, swampy ground, however, the silt could only be taken below the high water level of the Ross.

Where the stream itself exhibited a distinct flood condition, samples were taken both from the stream bed and from the flood silt above the present water level. This was an attempt to find out if there was a variation in metal content between low and high water silt deposits.

Plastic spoons were used to gather the material which was placed in labelled plastic bags. The location of the sample was noted on a 4 mile topographic map along with brief, marginal notes about the size of the stream and type of material sampled.

A large sample, two heaping tablespoons, was taken so that there would be enough material for several tests. Back at the base camp at Ross River, part of the sample was tested by the ammonium citrate-dithizone method. The/

Method (Cont'd):

The remainder was split, half being sent to X-Ray Laboratories in Toronto and the rest retained for further tests, and as insurance against loss of the samples in transit to Toronto.

RESULTS:

Field testing indicated that most of the streams had a detectable heavy-metal content. These results will not be used; any figures listed below as p.p.m. are results of testing by X-Ray Laboratories.

Ross River silt, taken in two widely separated locations, R-1-Cam and R-30-B gave "background" values of Cu - under 10 p.p.m., and Zn - 70 p.p.m. All of the side-streams gave values higher in Zn than these, the average being 194 p.p.m. - Zn.

One sample, R-LST, had Zn in excess of 400 p.p.m. This small stream, about 2' wide, entered the Ross through pyritic slate. Five samples, R-5A, R-18-M1-SS, R-24A, R-31B, R-31A, contained 300 or more p.p.m. Zn.

CONCLUSIONS:

All of the streams show high concentrations of Zn. Because of innumerable variations, i.e. type of silt, size of particles, organic content, distance of travel - some streams were 20 miles long or more - dilution by Ross flood silt etc., it is possible that a stream carrying 100 p.p.m. might run over an ore deposit while one giving 400 p.p.m. might have nothing but a bit of float near the place from which the sample was taken.

The only fully reliable method is to sample each stream at, say, $\frac{1}{4}$ - $\frac{1}{2}$ mile intervals to it's head. Since this is time consuming, the localities would have to be carefully selected because of geology, structure or favourable history.

None of the results are sufficiently high to warrant a large expenditure in further work.

Some areas, however, will be easily accessible when the Canol road is extended beyond Ross River and should have further work done on them.

Cu values do not appear to have any diagnostic value in these samples. R-29 - 50 p.p.m. Cu - is from swampy material. No silt was available and the sample was largely black mud.

RECOMMENDATIONS:

Follow-up work should be done on the following streams, which are listed in order of accessibility:

(1) R-31A - 310 p.p.m. Zn
R-31B - 330 p.p.m. Zn
R-32 - 270 p.p.m. Zn
R-18-MI-SS - 330 p.p.m. Zn
R-18-MI - 250 p.p.m. Zn

These streams (31+32) were sampled on the way up the Ross where a lunch stop was made, (2L). Ladue knew this area as 18 Mile Creek, hence R-18-MI-SS - stream silt above Ross flood level, and R-18-MI - silt below Ross flood level. The samples check very well.

At their outlet, these streams are only a few hundred feet apart and drain a relatively small area - easily accessible via the Canol Road. Here granodiorite and porphyry intrude upper Ordovician sediments.

(2) R-16A - 280 p.p.m. Zn:

Significant because Jack Ladue mentioned, at the time of sampling, that "This could be the rusty stream seen on the Canol Road". This stream should be sampled both above and below the Canol Road.

The stream drains a region of porphyry intrusives and, therefore, may indicate an attractive prospecting area.

(3) R-5A - 300 p.p.m. Zn
R-5B - 270 p.p.m. Zn:

On the Canol Road side of the Ross River and will sooner or later be more accessible when the Canol Road is re-opened.

(4) R-LST - 430 p.p.m. Zn:

Access difficult. The stream comes from a small lake. There is probably no outcrop. No special effort should be made to follow it up. However, it should be remembered and sampled further if work is done in the vicinity; or it should be sampled if a 'plane can land on the Ross at this point, perhaps on its way to or from the MacMillan Pass area.

(5) R-24A - 300 p.p.m. Zn
R-24B - 260 p.p.m. Zn
R-24C - 170 p.p.m. Zn:

Although higher than average in metal content, this would involve several/

Recommendations (Cont'd):

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several miles of sampling. The Sheldon Lake and Finlayson Lake geological map sheets indicate that outcrop is almost non-existent.

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