

115 P

004689

Clearwater Creek Uranium

Barlow J. T.

Jan 29 1968

KERR ADDISON MINES LIMITED

(FOR INTER-OFFICE USE ONLY)

115P

To..... W. M. Sizala..... From..... P. M. Kavanagh.....

Subject..... Clear Creek Uranium Deposit, Barlow, Y. T...... Date..... January 29th, 1968.....
63° 32' N, 137° 47' W

- W.S.R.
- K.C.G.
- J.H.S.
- E.F.
- R.D.S.
- E.C.B.
- P.M.K. ✓
- G.W.M.
- R.O.M.
- G.K.W.
- J.B.S.
- G.P.R.
- K.F.L.
- J.L.B.
- (E.C.)

This is prompted by your January 26th memorandum on this property.

My experience prompts me to think that the important clue is the mention on page 2 of the report which states that "the granite is rusty to orangy to faintly yellowish on the weathered surface". Particularly the yellow is diagnostic of minor amounts of secondary radioactive mineralization contributed from minor amounts of primary mineralization which were eroded elsewhere and then transported in solution to end up as paint on ~~the~~ rocks which probably contain no primary mineralization themselves.

Last summer I wasted a whole weekend going to see just such a situation in the La Ronge region in Saskatchewan.

By the way radioactive (and radioactivity) is one word, not two as Lynda has typed them.

Paul M. Kavanagh

PMK:sw

JAN 29 1968

KERR ADDISON MINES LIMITED

(FOR INTER-OFFICE USE ONLY)

W.S.R.
K.C.G.
J.H.S.
E.F.
R.D.S.
B.C.B.
P.M.K.
G.W.M.
R.O.M.
C.K.W.
J.B.S.
G.P.R.
K.F.L.
J.I.B.
E.C.J.

To P. M. Kavanagh From W. M. Sirola
Subject Clear Creek Uranium Deposit, Barlow, Y.T. Date January 26, 1968
63° 32'N, 137° 47'E

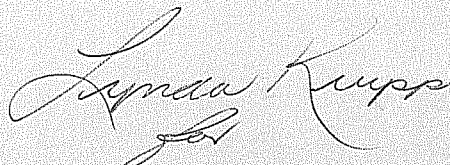
Enclosed is a report on this property signed by L. T. Jory and Douglas Campbell. The information was submitted by Malcolm Gillies of Vancouver.

The report concerns a radio-active occurrence in a pegmatitic granite located on the west bank of Clear Creek. The exposure is 500 ft x 600 ft with a vertical height of 200 ft.

Radio-activity of approximately four times background occurs over the exposure but surface sampling by the authors showed only trace amounts of U_3O_8 . The authors do not think the radio-activity is caused by monazite since thorium did not show up in the assaying. By the same token, however, they do not know what the cause of the radio-activity might be. The owner of the property, Mr. George Karens, sampled a 10-foot deep slot in a rock cliff and obtained 0.1% U_3O_8 from this sample.

I do not feel that the evidence submitted is particularly encouraging. Radio-activity in granites is commonplace and no uranium minerals as such have been identified. The property was optioned to Inter Provincial Metals which is one of Gaylord Snell's companies. Snell, I believe, is the Vice-President of New Imperial Mines. Unfortunately, Gillies does not know what Inter Provincial did on the property except that they cut some lines. He does not think any drilling or trenching was done. In any case, the option has been dropped.

While I don't profess to know what is causing the radio activity, I doubt very much that it is coming from primary uranium minerals in economic quantities and I do not recommend any approach on the property.



W. M. Sirola.

WMS/1k

MALCOM GILLIES

OPTIONED BY
INTER PROVINCIAL
METALS & DROPPED

LOCATION: (63°32' N, 137° 47' E)

PAGE 1

The Clear Creek uranium showing is located near the Whitehorse-Dawson highway, 270 miles by road from Whitehorse or 425 miles from the Keno turnoff at Stewart Crossing. A little-used side road, (a former placer operations service road), leaves the Dawson highway near the abandoned community of Barlow. This road is presently passable to 4-wheel drive vehicles. Three miles from the highway, it passes within 1 1/2 miles of the showing.

Access from the side road to the showing on foot is presently difficult because the area is an old burn in small-diameter, mixed coniferous and deciduous trees. However, outcrops are few and slopes into the valley of Clear Creek gentle, so that a "Cat" road to the property could be constructed very inexpensively.

HISTORY:

The presence of above-average radioactivity in certain rocks in the Clear Creek area has been known for a number of years. In 1966, Mr. George Korans carried out detailed prospecting up Clear Creek and staked a large outcropping of radioactive granite.

Lang (G.S.C. Paper 51-10, p. 41), reported the presence of allanite in Clear Creek placer deposits.

GEOLOGICAL SETTING

The uranium showing is in pegmatitic granite near the western edge of a small granitic stock, about 12 miles in longest dimension, immediately north of the Tintina trench. The stock, believed to be part of the Mesozoic age Coast Intrusions, is intruded into and completely surrounded by metamorphic rocks of the Yukon group.

LOCAL GEOLOGY:

The western contact between the granitic stock and the Yukon group metamorphic rocks lies between the placer operations service road previously discussed and the bed of Clear Creek. The central part of the showing, on the northwest bank of Clear Creek, is about 1/2 mile east of the contact.

At the central part of the showing, the outcrops are pegmatitic (porphyritic) granite with phenocrysts of light creamish feldspar two inches or more in length. The matrix to the phenocrysts is composed of finer grained feldspar, 20% dull quartz, and less than 5% mafics, principally mica. The granite is strongly fractured with three more or less mutually perpendicular fracture sets. Occasional steeply dipping shears up to four inches wide are exposed.

The granite is rusty to orangy to faintly yellowish on the weathered surface. It is moderately decomposed and disintegrates readily under hammer blows.

About 2000 feet downstream from the central part of the showing is an outcrop of a similar granite. However, it is light grey rather than rusty in color, is not as strongly weathered, and does not have anomalous radio-activity where examined.

DISTRIBUTION OF RADIOACTIVITY

In the vicinity of the showing, the granite in place has a fairly consistent level of radioactivity of three to four times background. Individual hand specimens removed from the area for testing have a barely detectable increase in radioactivity above background.

To the northeast, the anomalous radioactive granite disappears under overburden adjacent to a branch of Clear Creek. To the southwest, the radioactivity extends 500 to 600 feet along Clear Creek (downstream) before decreasing to about twice background a short distance from where the granite, there less strongly weathered, becomes completely covered with overburden. Up the hill to the northwest from Clear Creek, outcrops can be traced for an estimated distance of 600 to 700 feet horizontally from the creek. The level of radioactivity appears to decrease in the final northwestern outcrops seen, but the decrease is not marked.

Immediately across Clear Creek on the southeast no outcrops are present. However, it is reported that further back from the creek to the east a second area of anomalous granite but not as radioactive as that in the discovery area is present.

From examinations made, it was not possible to determine the micro distribution of the radioactivity in either its original form or in the presently weathered outcrops. No positive identification of even secondary uranium minerals could be made; however, assays show anomalous quantities of uranium to be present. In addition, the higher level of radioactivity than that detected in the less weathered granite downstream indicates that the radioactivity is not due principally to potassium in feldspar. The virtual lack of thorium as shown by assays makes it improbable that the uranium is present mainly in accessory monazite.

To a minor extent, radioactivity may be concentrated on fractures. This is attributed to secondary deposition, probably of radium, from ground water rather than to primary deposition of uranium on fractures from hydrothermal fluids following complete consolidation of the granite.

It is concluded that the uranium was deposited in localized areas in the granite from late stage magmatic fluids and that it is disseminated in the matrix minerals in unknown mineralogical form.

ASSAYS:

Grab samples taken for assay by others in 1966 returned values in uranium (U_3O_8) up to 0.1% and minor values in molybdenum. The one sample which assayed 0.1% U_3O_8 was reported to have been collected from the freshest exposure - the bottom of a 10 foot deep slot blasted in a rock cliff immediately above the creek.

* Samples collected by the writer have been sent for assay. When received, the results will be forwarded as a supplement to this report.

* These samples contained only traces of U_3O_8 .
W.A.

CONCLUSIONS & RECOMMENDATIONS:

The area of anomalously radioactive, pegmatitic granite on the west bank of Clear Creek measures at least 500 feet in one direction, 600 feet in the other and is exposed over a vertical height of more than 200 feet above creek level. It is open to the northeast and southeast. These dimensions indicate a tonnage potential of 25,000 tons/vert. foot, or 5 million tons for 200 vert. ft.

Easy access to the Dawson highway, large tonnage open pit mining, and relatively low crushing and acid leaching costs make this deposit, if it exists, amenable to exploitation of low grade material. At \$8. per pound for uranium, rock possibly as low in grade as 0.06% U₃O₈ could be economically exploited, excluding revenue from by-products such as molybdenum.

Final recommendations will await the receipt of assay results. However, because of the tendency for uranium to be leached from outcrops, very little weight can be placed on the assay of surface samples. It is apparent that an adequate assessment of the deposit can only be made by diamond drilling, tunnelling or extensive trenching. Drilling would be the most practical and economical at this stage.

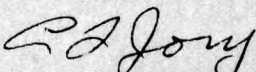
RECOMMENDATIONS:

Because of the possibility of the Clear Creek property being a large tonnage, low grade uranium deposit that would be profitable at the anticipated prices for uranium we would recommend that this possibility be investigated by a limited drill program to test grades of unweathered material. For such a test we recommend a minimum program as follows:-

3 EX holes @ 200 ft. each =	600 feet
600 feet @ \$15/ft. =	<u>\$9,000.00</u>

(Note: The cost per foot estimate for drilling is all inclusive for access road construction, assay costs, and field supervision.)

Respectfully submitted,



L.T. Jory, P.Eng., Ph.D.



Douglas D. Campbell, P.Eng., Ph.D.