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Geological Survey of Canada
Commission géologique du Canada

File Number
N° à rappeler

601 Booth Street,
Ottawa, October 27, 1966

T.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.
S.K.W.
J.B.S.
G.P.R.
K.F.L.
J.L.B.
<u>E.C.T.</u>

Mr. P. Kavanagh,
Chief Exploration Geologist,
Kerr Addison Mines Ltd.,
1600 - 44 King Street West,
Toronto 1,
Ontario.

*Geochemical Sampling,
Swim Lake "A" Camp, Yukon.*

Dear Sir:

I enclose a copy of the results of semiquantitative chemical analysis carried out on samples of mineral soil collected by J.A.C. Fortescue during the summer of 1966 at Swim Lake No. 1 in the Yukon.

Dr. Fortescue will be in touch with you during the winter regarding more detailed information regarding the Swim Lake property. The results included here and some of the information obtained from you later will be incorporated in a Progress Report which Dr. Fortescue is preparing for publication next Spring. Relevant parts of the manuscript report will be sent to you for approval prior to publication.

I would like to take this opportunity to thank the Kerr Addison Mining Company for its cooperation with Dr. Fortescue during the past summer.

Yours sincerely,

J.O. Fortier
Y.O. Fortier,
Director.

*cc: sent to Sivola
Chaw.*

Encl.

JACF: jm

Outline of field and laboratory treatment of samples

Field samples collected by J.A.C. Fortescue

- 1) A pit some 18" deep was dug with a trenching tool to expose the soil profile at each site.
- 2) A sample of the "B" horizon (or equivalent mineral horizons) was taken in a Kraft paper bag 14" x 10½".
- 3) The samples were air dried in the field and taken to Ottawa for analysis.

Laboratory analyses carried out in the Geochemical Section Laboratory of the Geological Survey of Canada under supervision of J.J. Lynch

- 4) Samples dried overnight 110°C in bags in which they were collected.
- 5) Samples were broken up and then passed through an 80 mesh stainless steel sieve.
- 6) 100 mgm of the minus 80 mesh material placed into a platinum dish and treated with 5ml of 48% HF and 2ml of 70% HClO₄ and allowed to digest overnight.
- 7) Evaporated to fumes of HClO₄ and sides of dish washed with metal free water. Fuming and washing repeated four more times, and then to dryness.
- 8) Residue dissolved in 5ml of 1N HCl, and diluted to 10ml with water.
- 9) Aliquots of this solution removed as required for the Zn, Pb, Cu and Ni test. These elements were determined by methods due to Gilbert (1959) in the case of zinc, copper and lead, and Stanton and Coope (1962) in the case of nickel.
- 10) The performance of the method in the normal working range (20 - 1000 ppm) is within 25% of the total amount of metal present.

References

Gilbert M.A. (1959)

"Field and Laboratory Methods used by the Geological Survey of Canada in Geochemical Surveys. No.1 Laboratory methods for determining copper, zinc and lead".

G.S.C. Paper 59-3

Stanton R.E. and Coope J.A. (1958)

"Modified field test for determination of small amounts of nickel in soils and rocks".

Inst. Min and Metal. Bull 623 p.9-14

Total minor element content of samples of mineral soil collected
below the visible ash layer on Line 65W, Swim Lake No. 1 property, Yukon

Station	Sample Code	ppm zinc	ppm copper	ppm lead	ppm nickel
16S	AA-2	130.	32.	20.	20.
16S	AB-2	80.	28.	5.	10.
14S	AC-2	80.	4.	5.	10.
12S	AD-2	70.	68.	5.	10.
10S	AE-2	70.	44.	5.	15.
8S	AF-2	90.	48.	80.	15.
6S	AG-2	130.	40.	55.	20.
4S	AH-2	180.	68.	60.	20.
2S	AI-2	180.	28.	5.	15.
1N	AJ-2	360.	48.	70.	15.
3N	AK-2	540.	68.	300.	40.
5N	AL-2	360.	48.	65.	35.
7N	AM-2	460.	48.	40.	30.
9N	AN-2	270.	48.	40.	20.
11N	AO-2	360.	48.	50.	35.

Note Two pickets marked "16S" were found as shown above.

Where possible samples were taken from unfrozen ground.
(This applies to samples AA, AB, and AC.)