

KERR ADDISON MINES LIMITED  
405 - 1112 WEST PENDER STREET  
VANCOUVER 1. B.C.

*Geochem*

007172 COPY  
Swim Lake 'A' Group

October 13, 1966

Department of Energy, Mines and Resources,  
601 Booth Street,  
Ottawa, Ontario.

Attention: Dr. John Fortesque

Dear Dr. Fortesque:

During the past summer, you collected some soil samples from our property at Swim Lakes. If you have had these samples analysed, we would very much like to have the results. We are aware of the fact that time, tides, and the Geological Survey move in mysterious ways, but we would appreciate having these results as soon as you can make them available. We have done some soil testing of our own and the procedure appears to be feasible, however, we have not collected as many samples on any one line as you did in the course of your work.

Yours sincerely,

W. M. Sirola.

WMS/1k

KERR ADDISON MINES LIMITED  
405 - 1112 WEST PENDER STREET  
VANCOUVER 1, B. C.

COPY

Mr. P. M. Kavanagh

W. M. Siroia

Geochem Results  
Camp Area, Swim Lakes "A" Group.

October 21, 1966

I have made a crude plot of the sampling in the vicinity of the camp and including the area where the float was found. About all that can be deduced is that there is limited anomalous areas north of where the float was found. In the absence of other criteria, I can only assume that the anomalies found indicate the possible presence of more float.

Probably, the best procedure for next season would be to do geochem over all the claims not covered by some form of geophysical survey and then do gravity work over any persistent anomalous areas. An even better procedure would be to do gravity work on those claims not previously covered by gravity surveys.

As soon as I can, I will plot the geochemical information on lines 1E, 11W, 14W, and 34W.

W. M. Siroia.

WMS/1k  
Encl.

KERR ADDISON MINES LIMITED

(FOR INTER-OFFICE USE ONLY)

RECEIVED  
OCT 20 1966

KERR ADDISON MINES LTD.

To..... W. M. Sirola ..... From..... P. M. Kavanagh ..... Per.....

Subject..... Geochem Results, Swim Lakes "A" Group, Yukon. Date..... October 19th, 1966.....

A note which I had made to remind me to mention in my September monthly report the results of the August soil sampling which was carried out near the high grade float area and between baselines 1 and 3 on the "A" group; together with the fact that you have not mentioned the results in your September monthly report, prompts me to request that you forward the results and comments on them as soon as convenient.



Paul M. Kavanagh  
Chief Geologist - Exploration.

PMK:sw



Department of Energy, Mines and Resources  
Ministère de l'Énergie, des Mines et des Ressources

*Sirola*  
Geological Survey of Canada  
Commission géologique du Canada

File Number  
N° à rappeler

601 Booth Street,  
Ottawa, October 27, 1966.

Mr. P. Kavanagh,  
Chief Exploration Geologist,  
Kerr Addison Mines Ltd.,  
1600 - 144 King Street West,  
Toronto 1,  
Ontario.

RECEIVED  
NOV 4 1966

KERR ADDISON MINES LTD.

Per.....

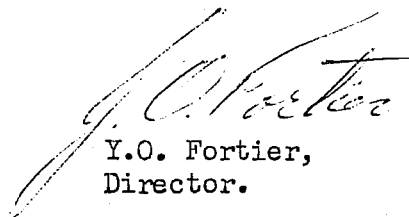
Dear Sir:

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,

  
Y.O. Fortier,  
Director.

*cc: sent to Chew*

*cc - B.H. Brown - June 26/67*

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  $4" \times 10\frac{1}{2}"$ .
- 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% HClO<sub>4</sub> and allowed to digest overnight.
- 7) Evaporated to fumes of HClO<sub>4</sub> 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	130.28	32.	20.15	20.
16S	AB-2	80.64	28.	5.26	10.
14S	AC-2	80.100	4.	5.16	10.
12S	AD-2	70.190	68.	5.145	10.
10S	AE-2	70.65	44.	5.3276	15.
8S	AF-2	90.33	48.	80.128	15.
6S	AG-2	130.130	40.	55.235	20.
4S	AH-2	180.175	68.	60.94	20.
2S	AI-2	180.220	28.	5.118	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.

*Permafrost* { (bracketed next to stations 8S through 2S)

*Permafrost* { (bracketed next to stations 1N through 11N)

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.)

COPY

Mr. P. M. Kavanagh

W. M. Sirola

Swim Lakes "A" Group - Soil Sampling

November 7, 1966

The enclosed map shows all of the soil sampling done on the "A" Group by our own people and by J. A. C. Fortesque of the G.S.C. All of the samples have been treated with hot acids so that analysis techniques are basically the same.

The most persistent high zinc values were obtained at the north end of line 65W where that line extends beyond BL-1. For the moment, my interpretation of this anomalous situation is that there is a hydromorphic fan resulting from transportation of zinc from the mineralized zone downhill. Quite possibly, there was some seepage at that point on the hillside, but I do not know this for certain. Fortesque's notations would suggest that all of the ground in that area is frozen. Be that as it may, I think that were we to run lines, say, 400 feet on either side of line 65W, we would probably again obtain anomalous values. Obviously there is no mineralization underlying the anomaly since it is shown as a gravity low on the Bouger map. The gravity low I interpret as deeper overburden. Probably the bedrock depression at that point provided a catch-basin for the zinc being carried downward by ground waters.

There are other scattered anomalous values on the map, the most pertinent of these (apart from the float area on claim number 18) are on line 1E between BL-1 and BL-2. Again, these could not be very meaningful in the absence of gravity anomalies.

I think that we should do sufficient additional geochemistry to indicate that the anomalies at the north end of line 65W are what I think they are. This would mean that some lead-zinc deposits in the Yukon do have distinct geochemical anomalies of one form or another. Once this has been demonstrated it would then suggest to me that we should do a systematic geochemical survey of the remainder of the claim group. This could be followed by gravity surveys of any persistently anomalous areas thus located.

W. M. Sirola.

WMS/lk

Encl. - Soil Sampling Plan,  
Scale - 1" = 400 feet.

# KERR ADDISON MINES LIMITED

(FOR INTER-OFFICE USE ONLY)

RECEIVED

DEC 19 1966

To..... W. M. Sirola ..... From..... P. M. Kavanagh .....  
KERR ADDISON MINES LTD  
Subject..... Geochemical Survey, Swim Lakes "A" Group, ..... Date December 15th, 1966.  
Yukon.

With reference to your memorandum of December 13th concerning the occurrence of skarn in the area and the advisability of doing a geochemical survey on our "A" group I think it would be a good idea for you to include the possibility of such a survey as you envisage in your budget proposals for 1967. As we planned when I was with you last week I am going to write to Fortesque shortly to enquire what his thoughts are concerning his geochemical work last summer on our property.

*Paul M. Kavanagh*

Paul M. Kavanagh  
Chief Geologist - Exploration.

PMK:sw

# KERR ADDISON MINES LIMITED

(FOR INTER-OFFICE USE ONLY)

RECEIVED  
DEC 19 1966  
KERR ADDISON MINES LTD.

To..... W. M. Sirola ..... From..... P. M. Kavanagh .....  
Subject..... Geochemical Sampling, Swim Lakes "A" Group, ..... Date..... December 16th, 1966 .....  
Yukon.

While getting ready to write to Dr. Fortescue about his geochemical sampling I got out Dr. Fortier's letter to us of October 27th a copy of which was sent to you and Fred, and I note that that letter advises that Dr. Fortescue is to be in touch with us during the winter regarding more detailed information concerning our Swim Lake property, and that relevant parts of a report which he is preparing will be sent to us for approval. I think now that all we can do is wait for him to get in touch with us, and in the meantime you should, in your 1967 budget preparation, allow for some geochemical sampling in the event that Fortescue's thoughts would confirm that such surveying would be worthwhile.

*Paul M. Kavanagh*

Paul M. Kavanagh  
Chief Geologist - Exploration.

PMK:sw

COPY

P. M. Kavanagh

W. M. Sirola

Swim Lakes "A" Group - Soil & Silt Sampling

July 7, 1967

We finally received a note from B. W. Brown to the effect that by the end of June, 436 samples had been collected and had been mailed to Coast Eldridge in Vancouver. These were not sent air express and consequently will take perhaps 10 days to reach here.

Brown finally got the memoranda I have written in the past month and I understand that a report on the Kay group and a progress report on the "A" group are now in the mail.

At the rate he is going, Brown should have no difficulty in completing the work in the allotted time.

When I talked to him by radio today, he was using the Cominco radio so I have asked him to return the S. & T. radio which we rented for him. Should you want to contact him by mail, his mailing address is: c/o Kerr Addison Mines Limited, Swim Lakes, via Ross River, Y.T. The only way to reach him by radio is to call Northwest Expediting in Whitehorse. Northwest have a schedule with Cominco at 7:00 A.M. and 7:00 P.M. Whitehorse time.

Presumably Cominco optioned the Mogar group which butts onto the northeast corner of the Swim group because there are two gravity highs on this property, one of which is near the boundary of Swim #56.

I feel quite certain that the soil sampling results will indicate whether or not additional gravity work on the "A" group is justified.

W. M. Sirola.

WMS/lk

COPY

B. W. Brown

W. M. Sirola

Swim Lakes "A" Group - Soil Sampling

July 19/67

Your sketch showing the claims on which you have completed soil sampling has been received. Perhaps you could suggest by what manner of legerdemain we can transpose this information to our maps. We have absolutely no method of so doing at the moment. Would you therefore kindly submit a tracing of the map we provided you showing the locations of the lines you have established and sampled and showing the sample numbers on the lines.

Where an ash layer is encountered (and that is nearly everywhere) it is necessary to dig through this layer whether it is frozen or not. I mention this because in your report of July 4th you state that "where the ash was frozen or we encountered deep organic material, we had to take what we could". Does this mean that some samples were taken above the ash layer and if so, what were the numbers of these samples? Over the radio you said that your samples had all been obtained from a 24" depth.

In your memorandum of July 7th, you state that it is foolish not to run for copper because there is copper on the property. You also mentioned copper is more mobile than lead. If mobility is your interest, may I suggest that zinc is even more mobile than copper? May I further suggest that we assay for lead largely because it is not mobile and where a strong anomaly is encountered, we do not have to search very far for the source. May I also point out that I have found impressive lead-zinc float without any attendant copper mineralization. We cheerfully grant that the main mineralized zone at Swim Lakes contains a small amount of copper. Are you suggesting that a deposit such as this one could be located by means of determining the copper in the soils and not by determining lead and zinc, or are you simply suggesting that a third mineral might add a dimension which is lacking by using only lead and zinc? Small amounts of copper and small amounts of lead-zinc may be quite common in the rocks in that area. We will however, run certain selected samples for their copper content to see what relationship the copper content has with the lead-zinc content.

Regarding the shipment of samples, probably the best procedure would be to write the following on the package:

To: Coast Eldridge Engineers & Chemists Ltd.,  
125 East 4th Avenue,  
Vancouver, B.C.

VIA: C.P.A. AIR FREIGHT

(continued - Page 2)

COPY

Page 2.....

I mentioned Air Freight instead of Air Express if the packages exceed 20 lbs in weight. The rates go up greatly if the packages weigh more than 20 lbs. In other words, if less than 20 lbs, ship Air Express, if greater than 20 lbs., ship Air Freight. I presume that there are fairly frequent G.N.A. aircraft flying between Whitehorse and Ross River and I think the pilot who picks up your packages at Swim Lakes would arrange to have them transferred to a Whitehorse bound plane. To facilitate handling in Whitehorse, mark the shipments "Collect" and the G.N.A. people can simply advise C.P.A who are in the same hangar that there is a shipment for Vancouver.

We are pleased that your progress in collecting soil samples coincides pretty much with our schedule for this work and we enclose the results of the samples which have been analysed to date. Many of them are anomalous and you can understand our desire to try to get this information on a map.

W. M. Sirola.

WMS/1k  
Encl.

KERR ADDISON MINES LIMITED  
405 - 1112 WEST FENDER STREET  
VANCOUVER 1. B.C.

COPY

B. W. Brown

W. M. Sirola

Swim Lakes "A" Group - Lab Analysis  
of Soil Samples

July 20/67

I have reconsidered your suggestion to determine the copper content of the samples as well as the lead-zinc content. Would you therefore in future indicate on the bags that copper determinations should be made on all the samples. For the time being, we will not run copper on samples B1 to 100 because these were all very low in lead-zinc and in all probability will be equally low in copper.

It would be useful if you would show in your note book the type of terrain from which samples were collected. In other words, indicate slopes, gullies, hilltops, swampy terrain, etc.

W. M. Sirola.

WMS/lk

KERR ADDISON MINES LIMITED  
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RECEIVED  
JUL 31 1967

To W<sup>MR</sup> Sivola

From B. W. Brown

KERR ADDISON MINES LTD.  
JLB

Subject Rubenic Copper tests

Date July 25, 1967

I am enclosing two envelopes with rubenic strips showing the results of some spot testing on soil samples. Envelope A contains tests over a Northeast traverse across claims 50, 67, and 68 towards the ~~North~~ of the claim group. No copper shows in these soils. On the other hand I get a positive response in a similar traverse across claims 35, 36, and 57. I do not mean to imply that Swim Lake will make a copper mine, but we do have an anomalous situation with respect to copper which can serve as a guide to mineralization also.

The negative response in claims 50, 67 and 68 is consistent with the barren schist well exposed there. It is significant that the schists there are consistently dipping Northeastward.

I would be very curious to see copper analyzed on all of the soil samplings.

B. W. Brown

KERR ADDISON MINES LIMITED

(FOR INTER-OFFICE USE ONLY)

To W<sup>m</sup> SIROLA

From B. W. BROWN

Subject YOUR WIRE R'CD JULY 20

Date July 21, 1967

Following the instructions of your wire the following has been done

1. Your instructions concerning depth of samples has been noted. Our sample holes have been in the depth range of 18" to 24". There has been no appreciable problem with frozen ground in most of the samples. The reference I made in my previous memo was to early samples taken in June.
2. At the same time as this letter goes out I am shipping by AIR FREIGHT samples to number 797 inclusive
3. At the same time as this letter goes out I am shipping by AIR FREIGHT the radio.
4. The sample location map (overlays) are enclosed

B. W. Brown

Envelope A 1

✓ RECEIVED  
JUL 3 1 1967

Northeast traverse across  
Claims 50, 67, and 68

KERR ADDISON

MIL. S. LTD.

Per. J. L.

No reaction to test for copper  
or background

Envelope B

RECEIVED  
JUL 3 1 1967

KERR ADDISON

ID.

Per. J. L.

Northeast traverse across  
Claims 35, 36, and 57  
Positive rubesomed test for copper  
and anomalous in comparison  
to tests in Envelope A

KERR ADDISON MINES LIMITED  
(FOR INTER-OFFICE USE ONLY)

RECEIVED  
AUG 7 1967  
KERR ADDISON MINES LTD.

To W<sup>m</sup> Sirola

From B. W. Brown

Per

Subject Frozen "Ash"

Date August 1, 1967

I'm checking the analyses against the soil descriptions I note that a number of the samples I designated as frozen ash are high in lead and/or zinc. This should help to relieve any fear you may have that the character of our sampling would miss any really anomalous values. Specifically, the "difficult" samples which were also anomalous were:

- B-138      B-161
- B-139      B-186
- B-153
- B-154
- B-155

In view of these analyses I am not the least bit concerned about the reliability of your sampling. What I am now concerned about is whether or not the "ash" is truly an ash fall (I know all the geologists who have seen it call it ash). I would really like to see some petrographic work done on it to determine if glass is present. As far as appearance is concerned it could equally well be the ashy layer of a Podsol soil. There are many things here that make me think it might be. If it is, then the so-called "ash" might be the first thing in the world to sample for residues.

I know I am quite stupid, but I am also quite curious about "ash falls" that rather consistently rest on inorganic matter from Swin Lake to Ross.

BWB

COPY

P. M. Kavanagh

W. M. Sirota

Swim Lakes "A" Group -  
1967 Soil Sampling Program

September 12, 1967

Enclosed are two copies of a map showing the results of the soil sampling. One copy is coloured.

The most significant result of this work is that the main mineralized zones located on claims Swim #10 and Swim #25 have a pronounced geochemical fan which extends downhill a distance of approximately 2,000 feet. Judging by the lead-zinc ratios, much of this fan was formed by hydromorphic dispersion.

A similar fan occurs downslope from the weak gravity anomaly located on Base Line 3 between 89W and 93W. There is however, one significant difference between this fan shaped anomaly and the one below the main mineralized zone. The lead-zinc ratios in the anomaly located on claims 14, 15 and 16 are quite different in the sense that the average lead content approximates or exceeds the zinc content in many instances. This suggests to me that the anomaly was formed either by soil creep from the weak gravity anomaly or it is caused by ice movement from the main mineralized zones on Swim #10 and #25. The direction of ice movement in this area is approximately east-west.

Possibly the matter could be resolved by doing some magnetic work over the weak gravity anomaly. It is possible that our airborne work could have missed this particular target.

The 100 ppm Pb anomaly on Swim #18 should be similarly investigated as should the 40 ppm Pb anomaly on claims 33, 35 and 36.

The one loophole I can think of in the ice movement theory is that there is a gap between the main mineralized zone and the geochemical fan on claims Swim #14, 15 and 16. One would expect that ice movement would have left a train of mineralized float all the way from the source to the anomaly. There is a distinct gap on Swim #12. Since however, the topographic gradient on Swim #12 is quite steep, it is possible that any boulder train left there by ice action could have worked itself downslope by soil creep. Hence the cause of the anomaly on Swim #14, 15 and 16 remains to be determined. It appears to emanate from the vicinity of the weak gravity anomaly but the ice action theory remains to be disproved.

Possibly you should get a second opinion on this situation from someone like Richard Kloos.

(continued - page 2)

COPY

Page 2....

The samples were collected at variable depths but always approximately 6" below the ash layer which, as you know, covers much of the Yukon. It could not be said that they were collected from a distinct "B" horizon, but most of the samples were probably from the soil above the "B" horizon, if such a horizon can be said to exist.

W. M. Sirola.

WMS/1k  
Encl. 2

KERR ADDISON MINES LIMITED  
405 - 1112 WEST PENDER STREET  
VANCOUVER 1. B.C.

COPY

December 28, 1967

Dr. B. W. Brown,  
Department of Geography-Geology,  
Appalachian State University,  
Boone, North Carolina 28607,  
U. S. A.

Dear Dr. Brown:

This will reply to your letter of November 16th.

We have enclosed a copy of the Swin Lakes geochemical map and you are authorized to use this map for your research purposes with the proviso that our company name and the location of the work be considered as classified.

Should your research indicate anything which you consider to be helpful, we would appreciate a copy of your summary.

Yours very truly,

W. M. Sirola.

WMS/lk  
Encl.

bcc/ P. M. Kavanagh

**KERR ADDISON MINES LIMITED**

(FOR INTER-OFFICE USE ONLY)

RECEIVED  
DEC 27 1967

To..... W. M. Sirola..... From..... P. M. Kavanagh.....  
KERR ADDISON MINES LTD.  
Per.....  
Subject..... B. Brown's Use of Geochemical Data,..... Date..... December 22nd, 1967.....  
Swim Lakes "A" Group.

With reference to your short note dated December 11th to which you attached a copy of Bahngrell Brown's letter of November 16th requesting permission to use our geochemical data which he helped accumulate on the Swim Lakes "A" Group last summer, I would approve his use of the data for academic purposes under the definite understanding that he divulge neither the location of the survey nor the name of our company.

*Paul M. Kavanagh*  
Paul M. Kavanagh

PMK:sw

# Appalachian

STATE UNIVERSITY

Department of Geography-Geology

Boone, North Carolina 28607

November 16, 1967

Mr. Fred Chow, Engineer  
Kerr Addison Mines  
1112 West Pender  
Vancouver, British Columbia

Dear Fred,

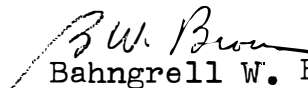
I am in the process of preparing a paper for the Computer conference to be held in Golden, Colorado next Spring. To illustrate a theoretical point in operations research I would like to use the case of real data from a geochemical exploration program. The Swim Lake data would be ideal for this purpose. I wonder if it would be possible for me to obtain a copy of the geochemical map of Swim Lake. It would not be necessary for me to either mention the location or the company if you want to keep the information confidential. The reason I would like to work with this data is that I am somewhat familiar with the topography.

I am getting along fine since my back injury. The only thing I don't do now is tie my own shoes or lift anything over 10 pounds.

We have a 1610 here on campus and have a direct wire to the big computer at the research triangle.

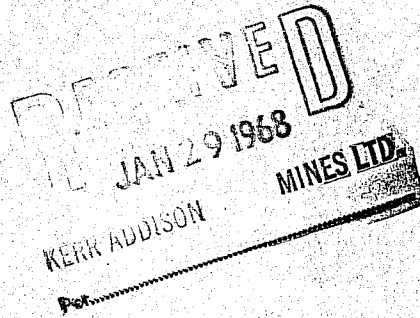
Best regards,

Very truly yours,

  
Bahngrell W. Brown

KERR ADDISON MINES LIMITED  
44 KING STREET WEST  
TORONTO 1, ONTARIO

COPY



January 23rd, 1968.

**Dr. D. Richard Clews,  
Executive Vice President,  
Barringer Research Limited,  
304 Carlingview Drive,  
Rexdale, Ontario.**

**Dear Dick:**

With reference to your letter of January 22nd, I would like to advise that we do not presently have any plans to do geochemical surveying in the Yukon this year.

Last year we carried out a geochemical survey over our Swim Lakes "A" Group. We intend to trench by bulldozer this year an anomalous zone which the survey turned up. The results of the trenching might prompt us to do some additional geochemical surveying this year on the property but I do not foresee any need.

Yours sincerely,

**Paul M. Kavanagh  
Vice-President - Exploration.**

PMK:sw

cc: W. M. Sirola. ✓

JAN 23 1968



304 CARLINGVIEW DRIVE  
REXDALE, ONTARIO, CANADA  
PHONE: 416-677-2491  
CABLE: BARESEARCH

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.

January 22, 1968

Dr. Paul M. Kavanagh  
Vice-President - Exploration  
Kerr Addison Mines Limited  
Suite 1600 - 44 King Street W.  
Toronto 1, Ontario

Dear Paul,

We are setting up a geochemical laboratory in the Ross River Area in the Yukon this year. Would you be interested in using it?

For planning purposes we are attempting to get a feel for the total volume of samples that can be expected and any information you can give will be appreciated.

Regards.

Yours sincerely,

BARRINGER RESEARCH LIMITED

A handwritten signature in cursive script, appearing to read 'D. Clews', with a horizontal line underneath.

D. Richard Clews  
Executive Vice President

DRC:ss

*Copy sent to Hirota*

COPY

P. M. Kavanagh

W. M. Sirola

Swim Lakes "A" Group Geochemistry

February 15th, 1968

Herewith Bahngrell Brown's paper entitled "Stochastic Exploration". I gather that this means skillful exploration or guesswork and I am not quite sure which one Bahngrell has given us credit for. Bahngrell suggests that we collect far too many samples in the course of our work and that all we need to do is collect five samples from each claim. From this, it follows that we are wasting Kerr Addison's money by our particular tactics.

Dr. Brown concludes that claims 14, 15 and 16 are absolutely anomalous in Lead and with this we are forced to agree.

When Dr. Brown makes a statement that in preliminary exploration any five samples taken at random on any claim would be adequate, he ignores such factors as variation in the depth of glacial cover. Five samples taken at random from heavily overburdened areas would provide no information whereas five taken where the overburden is thin would indicate whether or not anomalous base metal values were present in the soil.

W. M. Sirola.

WMS/lk  
Encl.

KERR ADDISON MINES LIMITED

(FOR INTER-OFFICE USE ONLY)

RECEIVED  
FEB 21 1968

KERR ADDISON MINES LTD.

To.....W. M. Sirola.....From.....P. M. Kavanagh.....  
Per.....

Subject.....Bahngrell Brown's Paper -  
Geochemistry, Swim Lakes "A" Group.....Date February 20th, 1968.....

This is prompted by your memorandum of February 15th with Brown's paper attached. He sent me a copy also.

The way the doctor was feeling when we got him out of the Yukon it's very questionable in my mind whether he would even have been able to take the 5 samples per claim in the important claims which were sampled by Reid after his departure.

An important consideration in my mind is that anomalous results from a 5 sample per claim programme would simply have prompted more detailed sampling. We simply did an intensive sampling at the outset, based on the favourably economic character we already knew the property to have.

*Paul*

Paul M. Kavanagh

PMK:sw

KERR ADDISON MINES LIMITED  
405 - 1112 WEST PENDER STREET  
VANCOUVER 1. B.C.

COPY

March 26, 1968.

Liard Construction Limited,  
Box 1768,  
Whitehorse, Yukon.

Gentlemen:

We contemplate bull-dozer work on our Swim Lakes "A" Group in mid-July. This work calls for a D-8 or equivalent bull-dozer equipped with a ripper.

It is difficult to put an exact figure on the amount of work to be done but we would require perhaps six trenches approximately 200 feet long. We think that the overburden in the area ranges from 5 to 20 feet. Conceivably, there could be a thin layer of permafrost, hence the need for a ripper.

Would you kindly advise whether or not your organization would have a bull-dozer in that vicinity at that time and whether or not you would be interested in doing the work.

Yours very truly,

W. M. Sirola.

WMS/lk

Swim Lakes

KERR ADDISON MINES LIMITED  
405 - 1112 WEST PENDER STREET  
VANCOUVER 1. B.C.

COPY

P. M. Kavanagh

W. M. Sirola

Bulldozing of Geochemical Anomaly

July 22, 1968.

The sub-contracting of this work was arranged by Mr. Keglovick of Liard Construction. He turned over the work to the Gardener Brothers of Whitehorse who had a D-8 cat equipped with a ripper working somewhere within 2 1/2 hours walking time to the Pelly River ferry. Mr. Keglovick did not advise the Gardener Brothers sufficiently soon to enable the cat to be on the north side of the Pelly on the scheduled date of July 4th. The cat did not reach this location until July 6th. By 10:30 P.M. on July 6th, the cat had reached the drilling area at Swim Lakes. On July 7th some road repair work was done to enable the drill to be trucked to the drilling site.

On July 8th the bulldozer was taken to the vicinity of the stripping area near Base Line 3 on Line 93W. The trench locations were laid out and the operator advised that while the hillside was quite steep he thought that they could bring the cat to those locations. On July 9th he was making an attempt to reach the locations but had not managed to do so when I left at 5:00 P.M. for the Hart River examination.

I returned to Swim Lakes on July 12th to find that the bulldozer had been idle during my absence and the operator advised me that he was unable to work on the steep slope. On July 12th, we returned to the trenching location and excavated three trenches between Lines 89 and 93 over the gravity anomaly but approximately 200 feet southeast of the designated location.

On the morning of July 14th we excavated a fourth trench on the gravity anomaly and I got the operator to agree to a fifth trench north of Line 93W at 25S, however in attempting to reach this location he ran out of fuel. He agreed to back-pack the fuel and attempt to trench the following day but I was scheduled to leave at 4:00 P.M. on the 14th. We will find out in due course whether or not the trench was excavated and the operator agreed to forward samples from the trench for our scrutiny.

(continued - Page 2)

COPY

- 2 -

The results of the bulldozer trenching do not clearly indicate the cause of the geochemical fan. Trench number one had a few pieces of heavily pyritized gossan float overlying quartz chlorite sericite schist. Trench #2 was entirely in chlorite sericite schist. Trench #3 did not reach bedrock. Trench #4 was underlain by heavily graphitic schist with some pyritized float which was quite angular. It is conceivable that had the bulldozing been done to the edge of the anomaly, other criteria might have developed. It is however, quite clear that the gravity anomaly (if we may call it that) which extends on or near the base line from Line 89W to 101W is due to the proximity of bedrock in that location. In some places, the overburden was only one to two feet deep.

The cause of the geochemical fan remains in doubt but there seems little likelihood that an economic deposit of lead and zinc causes the geochemical anomaly. The source area could of course be diamond drilled later on but no optimism should be placed on the outcome of any such drilling.

The enclosed map shows the location of the excavations.

W. M. Sirola.

WMS/lk  
Encl.

*[Handwritten signature]*

COPY

P. M. Kavanagh

W. M. Sirola

Swim Lakes "A" Group - Liard Construction  
Invoice for Bulldozer Work.

September 5th, 1968.

Mr. Keglovick has protested the \$800.00 deletion I made from his invoice which totalled \$5,385.00. His protest arises in part from the fact that he thought the contract was to be much larger than it was. I discount this protest on the basis that our correspondence with him clearly indicates the number of trenches to be dug together with an estimate of the thickness of the overburden.

Keglovick further maintains that he stipulated a 10-hour minimum day. This is nowhere corroborated in writing, and I don't think I would ever agree to a 10-hour minimum regardless of whether the tractor is working or not.

Keglovick's suggestion was that we split the difference and delete only \$400.00 from the account. This \$400.00 sum would represent the day that the cat operator did nothing while I was away from the property. I object to this for the simple reason that on my return, the operator agreed to try to reach the designated trenching areas again. He never quite got to the correct location but had to work 200 feet further uphill. Had he done this in my absence I would have been prepared to concede the point. In other words, he would have been paid for the effort regardless of whether he was able to work in the designated location.

Another aspect of this situation is that the cat was to rendezvous with us on July 4th at the Pelly River but did not arrive there and cross until July 6th. This meant that we were not able to start work on the property until July 7th.

As far as I am concerned, the \$800.00 deletion should stand. May I have your comments?

W. M. Sirola.

WMS/lk

cc - Invoice file

COPY

March 7, 1969.

University of Southern Mississippi,  
Southern Station, Box 166,  
Hattiesburg, Mississippi 39401,  
U. S. A.

Attention: Dr. B. W. Brown

Dear Dr. Brown:

Dr. Kavanagh has asked me to reply to your  
letter of January 21st, 1969.

The geochemical target area you mention has  
not as yet been investigated by diamond drilling largely because  
the gravity work completed over this area does not suggest the  
presence of a massive sulphide deposit. It is, of course, possible  
that a thin concealed deposit may be producing the geochemical  
effects and we will undoubtedly do a limited amount of drilling  
to determine the cause of the anomaly.

As you are undoubtedly aware, we analyse the  
soils for both lead and zinc. Lead is one of the least mobile  
of the elements in this environment and zinc is highly mobile.

Yours truly,

W. M. Sirola.

WMS/lk

cc/ Dr. P. M. Kavanagh



Swain A  
GEOCHEM JAN 27 1969

# University of Southern Mississippi

Southern Station, Box ~~77~~ 166  
Hattiesburg, Mississippi  
39401

Department of Geology

Jan 21, 1969

Dr. P. M. Kavanagh  
Exploration Department  
Kerr-Addison Mining Co.  
44 King St. W.  
Toronto, Canada

Dear Paul,

I had my geochemical class (eight students) evaluate the data on the Aug. 1967 Swim Lake, Y.T. map. In order to explain the geochemical target (soil anomaly) of claim #16 by geological processes involving disparate migration of Pb and Zn, they have calculated an exploration (drilling) target near the common corner shared by # 11, 12, 13, and 14; I agree.

By now the company has undoubtedly found the exploration target by geophysics and confirmed with drilling. If that vicinity has been drilled and you are at liberty to reveal the results, we would like to know if significant ore intersections have been found there. I wish to know for reasons of academic curiosity as success in this instance would imply that certain geochemical programs which were followed thru but didn't pan out might warrant review with another ore ion of either greater or less mobility than the one used in the original program.

Very truly yours,

"Bill"

Bahagrell W. Brown

RECEIVED  
OCT 30 1969

KERR ADDISON

MINES LTD.

Dear Bill -

Am enclosing map of part of the geology of the Lyn group location of sill & soil site we took.

I did not finish the whole area its slow work & drifts & more covered & very little exposure in most part.

I gave Fred the location of the mineralization I did find, tho not very good grade I noted at least 13 sites. There could be a big one there. I did not finish the west end of 56 N line in detail, I found some fair galena float in the creek - (Goodwin) below the canyon at 174 W & downstream from there.

Some of these zones are lead-zinc replacement in limestone or limy rocks but the rest are mainly replacement in barren zones near the contact with the gneiss - with either magnetite - or iron carbonate or dolomite, minor amounts of garnet.

Am enclosing my expense account to date with receipts.

I did not receive any time sheets for September as far this month & so have not received our September pay.

We restated the claims by 1-16 & Ken attested our signatures for recording.

Best regards

Bill  
→

KERR ADDISON MINES LIMITED  
405 - 1112 WEST FENDER STREET  
VANCOUVER 1. B.C.

P. M. Kavanagh

W. M. Sirola

COPY

Swim Lakes "A" Group -  
Geochem Analysis of D.D.H. A-39.

Dec. 18/69

Herewith the results of our effort to determine whether or not any of the drill core from A-39 had significantly high amounts of lead, zinc, copper and silver.

Apart from the sample at footage 255.5 which ran 107 ppm Cu, there is nothing diagnostic about the geochemical results and it is difficult to attach any significance to any of the figures. It would have been helpful if some of the core below the bleached zones had indicated a higher content of lead and zinc.

W. M. Sirola.

WMS/lk  
Encl.

# VANCOUVER GEOCHEMICAL LABORATORIES LTD.

## GEOCHEMICAL ANALYTICAL REPORT

1521 Pemberton Ave.  
North Vancouver, B.C.  
988-2171

Page 1 of 1

Date: November 28/69

Weight of Sample Used: 0.5 gm

Report Number: 69-09-020

Extraction: Hot HNO<sub>3</sub> & HClO<sub>4</sub>

From: Kerr Addison Mines Ltd.,  
#405-1112 W. Pender Street,  
Vancouver, B.C.

Method of Analyses: Atomic Absorption Spec.

Submitted By: \_\_\_\_\_

Volume of Dilution: 10 ml

Report On: 14 geochem samples (Willbre)

Instrument Used: Techtron AA4 & AA5

Analyzed For: Cu, Zn, Pb, & Ag

Disposition of Sieved Material: in file

Date Sample Received: November 25/69

Analyst: C. Chun & L. Nicol

Date Report Mailed: November 28/69

Signed: *L. Nicol*

REMARKS:

All values are reported in parts per million unless specified otherwise. All values are believed to be correct to the best knowledge of the analyst based on the method and instrument used.

Lab. No.	Sample Number	XXXX	Cu	Zn	Pb	Ag	Remarks
01	A39 - 150		29	57	12	0.5	
02	169.3		72	112	21	1.5	
03	170.6		23	85	15	1.0	<del>white</del> <i>Limonite</i>
04	220.5		59	165	54	1.5	
05	228a		21	82	17	1.0	white <i>breach</i> ?
06	238		32	100	13	1.0	
07	255.5		107	101	18	1.5	white <i>breach</i>
08	262		8	104	22	1.0	
09	304.7		32	39	17	1.5	
10	357		23	135	27	2.0	
11	391.3		26	56	16	1.0	
12	393		18	105	33	2.5	
13	407.4		15	88	27	1.5	
14	A39 - 412		38	95	23	1.5	end
15							

*cc - PMK - Dec. 18/69*