

KLEANZA MINES LTD. (N.P.L.)

*Rec'd Jan 24/67
answered " 25 / 67*

800792

HEAD OFFICE: 200 - 535 THURLOW ST.; VANCOUVER, B.C. • 682-3024 EXPLORATION OFFICE: BOX 2110, TERRACE, B.C. • VI 3-2119

P.O. Box 2110,
Terrace, B.C.
January 23rd, 1967

Mr. W.M. Sharp,
808 - 900 West Hastings Street,
Vancouver, B.C.

Dear Bill,

Re; Geochemistry

Having read the enclosed brochure as well as other literature on 'Moly' soil tests etc. I have wondered what your experience has been with the method enclosed herewith.

I have, in addition, a method of determination of 'Moly' method by the U.S.G.S. The method by Reichen and Ward, 1951 (reprinted 1959) known as circular 124, describes a method of indicating 'Moly' in plants and plant material .

*bio
geochem
a
specimens*

The U.S. method is somewhat similar to the one described for soils in the enclosed material. Plant material is ashed , an acid solution of 25 mgs. of ash is treated with stannous chloride and potassium thiocyanate . The amber colored molybdenum thiocyanate complex ion is extracted with isopropyl ether, the intensity of the color of the ether layer in the test sample is compared with a standard 'moly' solution prepared earlier.

I would appreciate your comments on both of the above mentioned methods and their application to both the Croesus and the Molybdenum Creek properties.

The 'Moly' Creek property, with its poor cover of soil and thick cover of balsam and cedar may perhaps be suitable for the plant testing method. Plant material could be collected at present provided that the season does not alter the mineral carrying features of the plant or tree.

If you have information as to other publications in this field that might be of interest to me, I would be most appreciative should you send names of them.

Yours truly,
R.H. Bates
R.H. Bates

WILLIAM M. SHARP, P. ENG.
CONSULTING GEOLOGICAL ENGINEER

STE. 808, 900 WEST HASTINGS ST.
VANCOUVER 1, B. C.

January 25, 1967

Mr. R. H. Bates,
Kleanza Mines Ltd. (N.P.L.),
P.O. Box 2110,
Terrace, B.C.

Dear Dick:

This in reply to yours of January 23rd.

First, I have not had first-hand experience re methods of determining Mo in the field. As a matter of fact, all of the geologists of my acquaintance involved in soil-sampling for Mo submit their samples to commercial or "company" labs set up for trace-Mo analyses. The reason for this generally boils down to:

- (a) Field-time involved.
- (b) Doubtful accuracy of results - the Mo analyses generally being considered as of more-than-average difficulty.

With regard to the biogeochemical method noted by you, I would not advise employing it. It appears that a considerable amount of local experience and experimentation is involved in merely selecting the correct species, branches or shoots, etc. at specific seasonal periods. This is all prior to the actual lab. determinations.

With regard to analytical methods pertaining to soil and rock samples, I understand several local labs use the hot nitric acid extraction-dithial determination method. This is distinct from the atomic-absorption techniques, using absorption spectrometer equipment.

The model Mo-1 ^{kit} bit and procedure may be quite adequate; however, I would suggest further checking with the G.S.C. or U.S.G.S. before setting on a method. My text notes that a method has been developed by the Geochemical Prospecting Research Centre, Imperial College of Science and Technology, London, England. It might be worth while to write to them for information on this. In any case, mention that B.C. soils are normally quite acidic (pH 0-7 range), where associated with local intrusives.

. cont'd -

Continued

- 2 -

If I can pump any of the lab. boys for information, I will pass on my findings.

Hoping the Cupra soil-sampling is progressing to your satisfaction, and that meteorological conditions settle down sufficiently for the mag. survey.

Best regards,

W. M. Sharp, P. Eng.

WMS/jm

Old file

April 29, 1968

Mr. R. H. Bates
Kleanza Mines Ltd. (N.P.L.)
Box 2110
Terrace, B.C.

Dear Dick:

The following is in response to yours of April 20th, 1968 (Re. Taltapin property, etc.), with additional comments pertaining to the type of supplementary and new exploration information currently desired for the preparation of the new Company prospectus on order.

In regard to the results of your Taltapin silt samples, these are not actually significant. In general, decisively anomalous soils will range upward of 100 p.p.m. total Cu - with a significant proportion of the lot ranging between 500 and 1000 p.p.m.; significantly anomalous Cu concentrations in stream silts may be expected to run even higher - or within a general range of 500 to 2000 p.p.m. total Cu, if the silts had originated from the same general region as the soils used in the foregoing example. An example with which I am quite familiar - and related to a well-known large tonnage, low grade, heavily overburdened copper deposit (1/2% Cu range) - has silt samples scaled as follows:

	<u>Total Cu, p.p.m.</u>	<u>Total Mo, p.p.m.</u>
'Background range'	0-800	0-60
Weakly anomalous	801-1000)	
Moderate to strong anomalies	1001-3000)	61-100
Very strong anomalies	over 3000	over 100

We need not expect that the average situation will range this high; however, the above scaling does indicate that the Taltapin silts from the one stream course thus far sampled are in a general "background" category - with respect to copper (and zinc).

I would suggest, Dick, that you submit some of your silts to Barringer Research, Toronto for general geochemical investigation-evaluation; they could advise of the possible presence (or absence) of significant 'pathfinder' metals which might serve as definitive 'tracers'.

The apparent intrusive dome indicated on your recently acquired Taltapin air photos would be a worthwhile exploration objective; however, Dick, we require some rather more specific data or exploration findings for the new prospectus.

April 29, 1968

To this end, could you provide any information accruing from general prospecting and/or geological-geophysical work accomplished since my December, 1967 report. I think you will appreciate the fact that I should have all the specific data available since I, the reporting Consultant, have not actually been on the Taltapin ground - unfortunately. I have discussed this with Dan Small, and think that he generally concurs with me on this.

As a further tangible indication of exploration progress, I think we could use some supplementary data on Kleanza's Terrace property also. In addition to your recent findings at hand, I would suggest that you submit some of Kleanza soils (and silts) for total metal determinations - primarily Cu and Mo. These could be selected, for example, from your samples originating from grid-ref. areas ON, OE; 4N, 8E; 4S, 4E; 4S, 36E; 12N, 36E; 16N, 36-44E; and 28N, 28-38E. These locations are referenced to my Nov., 1966 Dwg. No. 1. In addition representative soils accruing from subsequent sampling done during the past year should be included. In addition to requesting total Cu and Mo generally, you could request geochem. Ag and Au for samples originating from the Dollar-Gem section of the property; these metals might possibly serve as more specific geochem. 'tracers'. I would guess that a total of 50 to 75 check determinations might provide substantial indications. In the above, I am assuming that your sampling has been generally directed to the "B" soil horizon.

With the above I hope that the recommended I.P. and supplementary E.M. (Turam) surveys will be eventually and comprehensively conducted.

Dan advises that there is no immediate rush for the new prospectus; therefore, you are not under the gun for immediate answers.

Your April 23, 1968 letter 'Re. Croesus Property' has just arrived, so the following pertains to this additional information:

Mr. Carter's geology specifically confirms our original inference of an E-W trending intrusive complex. His igneous terminology is somewhat different, in that I have tended towards a 'field' classification, while he has used more exact petrographic nomenclatures. The main thing is that we both agree that the Croesus trenches are underlain by an E-W complex of acid to intermediate intrusives. However, I feel that the indication towards a conformable E-W fracture control for the mineralization are more significant than the interpretation one might make from Mr. Carter's few observations on the weaker (and partly post-mineral) N.W.- trending joints. In any case, our general lithologic-structural assumptions are similar; therefore the current exploration layouts are valid and applicable.

Re. Mr. Shuto's comments concerning the local applicability of 'Turam' E.M. surveys, I could only comment that this cannot be ascertained without its trial in conjunction with the recommended I.P. surveys. I would think that Turam-operating at relatively high frequencies - would pick up individual or composite vein sulphide occurrences as well, or better than the I.P., and could also indicate the heavier pyrite-chalcopyrite replacements such as have been noted in the Excelsior zone. So, in summary, I feel that it is quite possibly applicable in the exploration of the general Croesus-Excelsior 'dispersed' sulphide zones, and very definitely applicable to exploration of the Dollar-Gem type of vein mineralization. Furthermore, it is not entirely improbable that significant pyrite veining occurs within, and on the easterly, or up-hill extensions of the Croesus-Excelsior zones.

April 29, 1968

My specific objection to the SE 200 is that, to my knowledge, it is a single, or fixed-frequency unit; therefore it cannot be adjusted for the possible detection of poor or semi-conductive mineral aggregates.

With reference to your comments on the Fisher "Explorer" E.M. outfit, I am of the present opinion that it is a prospector-type outfit only. Probably it will pick up massive sulphide mineralization at 125 feet depths as claimed, but would guess that its other capabilities with regard to the detection of non-continuously mineralized veins or densely-disseminated mineralization are very limited - although cheaper than Turam.

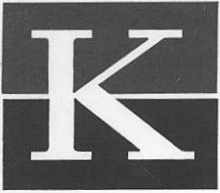
Finally, the principal advantages of the I.P. method are: (1) ability to detect entirely disseminated mineralization; (2) ability to detect hydrothermal alteration zones (kaolin, sericite, etc.) usually related to Cu - Mo sulphide replacements and (3) higher depth range and also false 'anomalies'; because of its different capabilities, E.M.'s place in the program is as a useful supplement or, locally, as an alternative to I.P.

Enclosed is a copy of the Fisher brochure for your file.

Best regards,

W. M. Sharp, P.Eng.

encl.



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Mr. W.M. Sharp,
Room 1, 425 Howe Street,
Vancouver 1, B.C.

April 20th, 1968
Terrace, B.C.

Dear Sir,

Re: Taltapin property etc.

Enclosed herewith please find ~~enclosed~~ copies of map and results of tests on silt samples from a creek in the Taltapin property area.

In the vicinity of the slightly higher Cu. indications I note several rhyolitic bodies or dykes and other dykes. I plan to investigate further when snow is gone.

The map shows approximately the location of the Base line on the property although I have not shown any other grid lines which have been completed, as there are few .

I note on recently procured air photos an anomalous looking structure on the property which bears investigation. It appears to be an intrusive dome from which several ¹⁸resistant dykes or structures radiate. It is in an area which I have planned prior to this to carry out silt sampling in.

Yours truly,


R.H. Bates

Kleanza Mines Ltd. (N.P.L.)

Silt samples

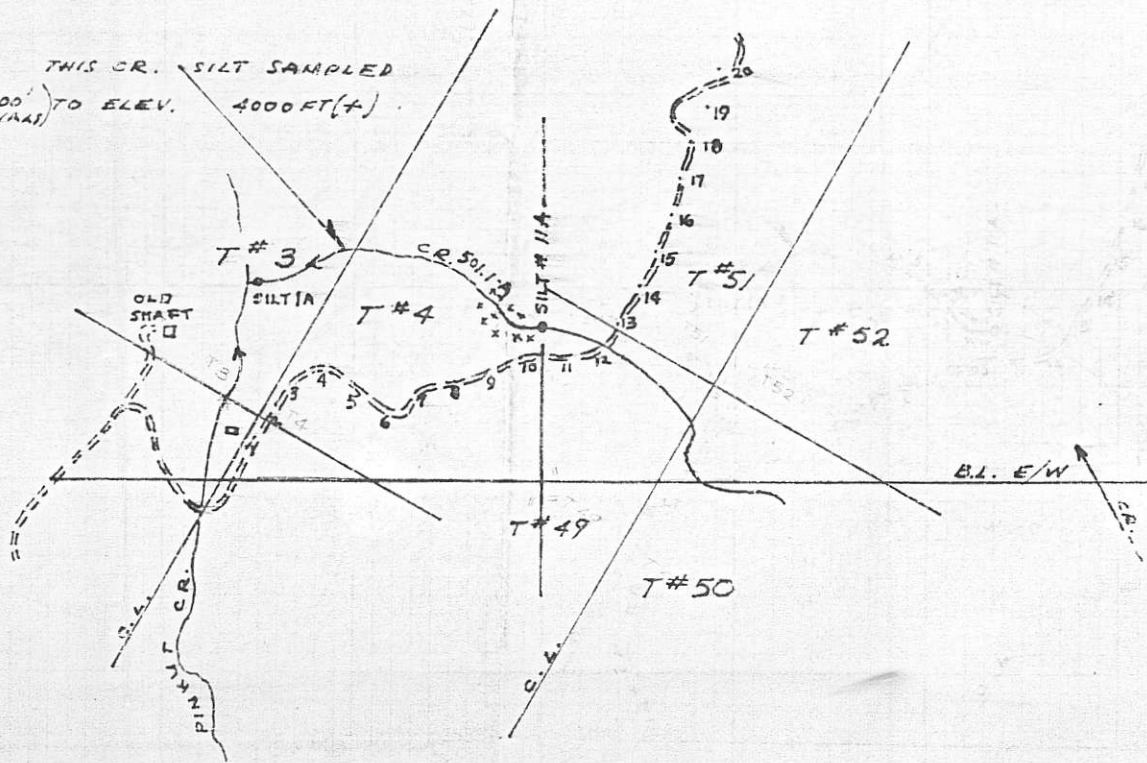
Taltapin property

Kleanza Mines Ltd. (N.P.L.)

Creek 501.1 -A

<u>Sample #</u>	<u>Cu. (HCL ppm.)</u>	<u>Zn. (CX ppm)</u>
1 A	15	2
2 A	21	2
3 A	20	2
4 A	20	2
5 A	22	2
6 A	26	2
7 A	22	4
8 A	19	2
9 A	20	2
10A	17	2
11A	18	2
12A	17	1
13A	20	3
14A	22	2
15A		
16A	25 *	3
17A	24 x	2
18A	30 x	3
19A	42 x	3
20A	34 x	2
21A	22	3
22A	20	2
23A	28 x	3
24A	24	3
25A	26	3
26A	32 x	4
27A	30 x	13
28A	37 x	9
29A	26	2

THIS CR. SILT SAMPLED
(500-800' INTERVAL) TO ELEV. 4000 FT (+)



X P. X INTRUSIVE

B.L. N/E
O.E./W

KLEANZA MINES LTD (NPL)
TALTADIX PROPERTY

(APPROX LAYOUT OF GRID)
(AND NEW ROAD LOC.)

R.H. BATES 1 IN = 1000 FT.