

**GEOCHEMICAL REPORT
ON THE
CIN 1, CIN 2, AND CIN 3 CLAIM GROUPS
PINCHI LAKE AREA, T. C. 54⁰124⁰ N.E.
MASTODON-HIGHLAND BELL MINES LTD.**

**Vancouver, B. C.
October 22nd, 1965**

W. R. Bacon, P. Eng.

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ILLUSTRATION

#/ Geochemical Survey of the Cin Groups
(in pocket)

**GEOCHEMICAL REPORT ON THE CIN 1, CIN 2 AND CIN 3 CLAIM GROUPS
PINCHI LAKE AREA, B. C.**

INTRODUCTION -

The 80 claims comprising the Cin 1, Cin 2, and Cin 3 claim groups are on the northeast shore of Pinchi Lake, in the southeastern part of the Qmineca Mining Division. They are accessible by 30 miles of road from Fort St. James.

As shown on Figure 1, the Cin claims adjoin the Crown-granted property of Consolidated Mining and Smelting Co. Ltd., which company operated a mercury mine thereon during World War II.

The Cin claims are presumed to straddle the Pinchi fault, a major structural feature of central B. C. along which a number of mercury occurrences are known. The claims are largely covered by overburden which is mainly in the form of clay topped by a thin layer of humus.

Vegetation on the claims consists of spruce, poplar and willow. The largest trees are about ten inches in diameter.

Because of the lack of outcrop, the writer decided, as a first approach in exploration of the property, to undertake a geochemical soil survey.

METHOD -

A contract for 40 miles of linecutting, chaining and picketing was given to Jean Alix Company Ltd. of Val d'Or, Quebec. The base line was run in by transit and the cross-lines, at 400 foot intervals, were run in by Brunton compass.

Soil samples were augured at stations 200 feet apart on the cross-lines. The soil sampling kit employed is a collection of twelve different tools manufactured by the Acker Drill Co., Inc. of Scranton, Pennsylvania. After a brief period of experimentation, it was decided to employ exclusively the Jamaica Open Spiral Auger, a tool with an inside diameter of $1\frac{1}{2}$ " that was designed specifically for moist clay.

Samples were obtained from depths of 24" to 27" below the surface - well beneath the organic layer. In all, 979 samples were taken, of which 26 were apparently lost in transit to laboratory facilities at the Department of Geology, University of British Columbia.

The samples were tested for mercury content only, by Dr. R. E. Delevault, a recognized authority on exploration geochemistry.

SAMPLE PREPARATION -

The samples were removed from the tip of the auger and placed in small plastic bags, which were in turn placed in standard manila assay envelopes.

Some samples were moist or even wet. They were prepared for analysis without artificial drying. In all cases, the material was handled in such a manner as to avoid contamination of samples, one with the other, and also to avoid loss of any mercury present through involved manipulations.

Dry clay samples consisted of lumps that were broken by hitting gently with a porcelain pestle covered by filter paper. Such samples were subsequently further reduced by grinding in a folded piece of filter paper. Actually the grinding was done largely by manual pressing in order to avoid damaging the filter paper and mixing some of it with the sample.

In the words of the analyst, "methods were used which, in the course of many seasons, have given satisfactory results".

ANALYTICAL METHOD

The method used by Dr. Delavault involves release of mercury from the sample by heating in an atmosphere of carbon dioxide, and evaluating the mercury concentration in the gas by ultra-violet absorption using a modified Lemaire detector.

According to Dr. Delavault, the method gives results of a reliability comparable to the cold extraction test for total heavy metals. In other words, the method gives results which are sufficient for the purpose of this survey which, at the outset, was considered to be preliminary in nature.

DISCUSSION OF THE RESULTS -

Of the samples taken, more than 10 per cent contain at least 1 part per million in mercury content. Because of the care taken in obtaining samples and the depth from which the samples came, none of these results is attributed to surface contamination from the roasting operations that ceased at the Pinchi mine 21 years ago.

There appears, therefore, to be abnormal, near surface concentrations of mercury in certain parts of the property, particularly near its eastern end (CIN claims Nos: 78, 81, 80, 82, 95, 94, 96) and, to the west, on CIN claims Nos: 55, 54, 56, 17, 15, 18, 16.

In spite of the apparently favourable results obtained, their meaning remains problematical, especially in areas covered by more than 50 feet of clay deposited during the last stages of glaciation. Moreover, the analytical method used in determining mercury content of the samples is relatively new and, hence, the results must be regarded with caution.

No attempt, therefore, has been made at this time to contour the results shown on the accompanying map. Further analytical work is presently being done and, when this is correlated with the aforementioned results, a program of closer sampling may be warranted. In the meantime, some consideration is being given to further exploration of the property by geophysical methods.

FINANCIAL STATEMENT -

Contract line cutting	\$, 4,144.67
Analytical work	4,350.00
Food for crew	778.44
Truck rental, May 19 - Sept, 2, 1965	628.50
Acker DR-90 soil sampling kit	483.84
	<hr/>
	\$ 10,385.45

PERSONNEL -

W. R. Bacon, P. Eng., 19 days on property (during 3½ months).....@ \$50. per day	950.00
R. L. Greyell, sampler May 17 - June 30..... \$500./month	733.33
J. W. Cadenhead, sampler May 29 - July 12..... \$350./month	525.00
D. F. Bacon, sampler June 24 - June 30..... \$250./month	58.33
July 1 - Sept. 2..... \$350./month	723.33
E. Velkjer, sampler July 28 - Aug. 26..... \$15./day worked	360.00
	<hr/>
	\$ 3,349.99
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TOTAL EXPENDITURES	\$ 13,735.44
	<hr/> <hr/>

Vancouver, B. C.
October 22nd, 1965

W. R. Bacon, P. Eng.

W. R. Bacon, P. Eng.

MASTODON-HIGHLAND BELL MINES LTD.

SUITE 502 — 1200 WEST PENDER STREET
VANCOUVER 1, B.C.

November 25th, 1965

4724

Dr. H. Sargent, Chief
Mineralogical Branch
B. C. Department of Mines
Parliament Buildings
VICTORIA, B. C.

Dear Dr. Sargent:

Re: Cin Groups Assessment Report

With reference to our telephone conversation on the above subject, I submit the following data in answer to your queries:-

1. SAMPLING EQUIPMENT -

I enclose a Bulletin showing the Soil Sampling Kit employed. On the inside right page I have checked the Jamaica Open Spiral Auger.

After a period of experimentation with the various augers, a routine was evolved which required the following to be transported from hole site to hole site:-

1. 1 - 6 pound sledge hammer.
2. 2 - pipe wrenches - 4 pounds.
3. 1 - drill rod - 3 pounds.
4. 1 - drive head and 1 handle - 3 pounds.
5. 1 - Jamaica Open Spiral Auger - 2 pounds.
6. 1 - common post hole auger (4") - 5 pounds.
7. 1 - 42" section of NX casing - 15+ pounds.
8. 1 - wire brush for cleaning auger.
9. Knapsack containing plastic sample bags, standard manila assay envelopes, 1 marking pencil and two lunches.
10. 1 - geological pick.

DEPT. OF MINES AND PETROLEUM RESOURCES		
Rec'd NOV 28 1965		

Transportation of the above equipment and drilling of the holes was an arduous task for two men. We required them to work a 5-day week and do their own cooking, thereby cutting a legitimate exploration expense. In spite of this, we had one man quit and another man asked to be transferred to a prospecting job.

November 25th, 1965

2. NATURE OF THE GROUND -

The majority of the holes were in wet, sticky clay, a small minority in coarser material.

Removal of the sample and cleaning of the Jamaica auger were arduous tasks in themselves. It was necessary to use a geological pick to hack at and remove the clay from the interior of the auger in most of the holes. In others it was possible to screw the clay manually, out beyond the tip of the auger, thus obtaining a sample from the bottom of the hole.

A heavy wire brush was used for cleaning the auger after obtaining the sample.

I submit that the sampling method employed and the precautions taken appeared to be advisable at the time. An unusual amount of thought, research and preparation was brought to bear on this job in view of the peculiarities of the metal we were seeking and the possibilities of surface contamination.

As I have mentioned verbally, obtaining the sample was only a small part of the battle -- analysis was the main part and this involved precaution against heat and undue knocking about in transporting the samples from the field to the laboratory. Technical officers of the major company who permitted use of their analytical method recommended Sam Williston of San Francisco as analyst -- at \$10.00 per sample. They advised against use of local custom laboratories, the biggest of which charges \$5.00 per sample, according to a March 1st, 1963 schedule which I enclose.

The analyst employed is an outstanding chemist, but he was naturally new to the method used and had none of the equipment required. Moreover, he had a cautious, scientific approach to the method and, hence, the analytical work was hardly carried out at a mass production pace.

In conclusion, I ask you to believe that I made no attempt to complicate unnecessarily a simple exploration project, thereby running up costs that could be applied for assessment purposes. My sole objective was to obtain reliable information as cheaply as possible. With an increase of confidence in searching for mercury, I think at the moment I would still follow the same procedure.

Yours very truly,

MASTODON-HIGHLAND BELL MINES LTD.



W. R. Bacon
Exploration Manager

WRB:ds

Encls.

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SUITE 502 -- 1200 WEST PENDER STREET
VANCOUVER 1, B.C.

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November 25th, 1965

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DEPT. OF MINES AND PETROLEUM RESOURCES		
Rec'd NOV 23 1965		
HS		

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Yours very truly,

MASTODON-HIGHLAND BELL MINES LTD.



W. R. Bacon
Exploration Manager

WRB:ds

Encls.

November 29, 1965.

Dr. W. R. Bacon,
Exploration Manager,
Mastodon-Highland Bell Mines Ltd.,
Suite 502 - 1200 West Pender Street,
Vancouver 1, B.C.

Dear Dr. Bacon:

Thank you for your letter of November 25th, supplying further information on your sampling for your geochemical survey at Pinchi Lake.

The Acker Drill Co. Bulletin 26-R, "Soil Sampling Kit," is returned to you herewith. Thank you for sending it.

Thank you also for sending the Coast Eldridge 1963 Price List.

Yours very truly,

H. Sargent,
Chief, Mineralogical Branch.

HS:rm

Send: Acker Drill Co. Bulletin 26-R

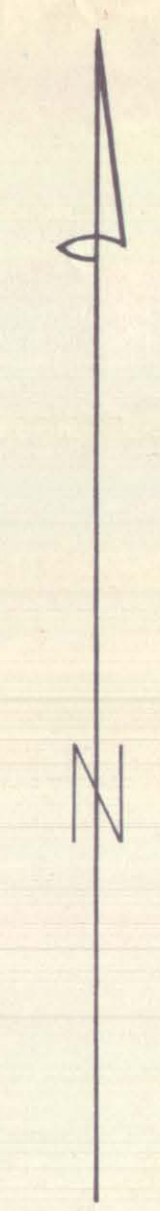
CIN III GROUP

CIN I GROUP

CIN II GROUP

PINCHI MINE
C.M.&S.

PINCHI LAKE



Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 686 MAP #1

position of sample hole
by contour.

FIGURES REFER TO HG CONTENT OF
SOIL SAMPLES IN PPM

MASTODON-HIGHLAND BELL MINES LTD.
GEOCHEMICAL SURVEY OF THE
CIN GROUPS
SCALE 1:600'
OCTOBER 19, 1965. E.R. WOZNIAK



To accompany geotechnical report by W. Bacon, P. Eng.,
on the Cin 1, Cin 2, and Cin 3 groups, on Pinchi Lake, Ontario, N.D.,
dated October 22, 1965.

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