

Report  
on a  
Biogeochemical  
Survey  
on the  
Covellite Group  
Copper Mountain, B.C.  
49°, 120° S.W.E

by  
J.H. Parliament,  
P.Eng.

Feb. 20, 1951  
to  
Mar. 7, 1951.

92H/8W

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## THE GRANBY CONSOLIDATED MINING, SMELTING AND POWER COMPANY, LTD.

### REPORT ON A BIOGEOCHEMICAL SURVEY ON THE COVELLITE GROUP, COPPER MOUNTAIN, B.C.

April, 10th, 1951.

A biogeochemical survey of the Covellite Group, comprising Covellite No.1 mineral claim and Hans mineral claim, was made for The Granby Consolidated Mining, Smelting & Power Company from February 20th, 1951, to March 7th, 1951. This ground is covered by a thick layer of gravel and glacial debris and is entirely void of outcrop. It is therefore well suited to this method of prospecting.

#### Method of Sampling

The base line of a previous geophysical survey, roughly paralleling the contact of the Copper Mountain gabbro stock and the Wolf Creek volcanics, was used as a reference line. Cross lines 200 to 250 feet apart were laid out at right angles to this reference line and 50 foot intervals were marked on the cross lines. Trees were then cut down as close as possible to each of these marks. The trees were jack-pine, fir and spruce, ranging from about four to twelve inches in diameter. Jack-pine was by far the predominant species. The samples consisted of new growth clipped from the tips of the branches, thus ensuring uniform samples. The tree-stumps were numbered to correspond with the sample, and the exact position of the trees plotted on a map. Two men were employed to lay out the grid and take the samples under the constant supervision of the geological engineer.

#### Assaying

The samples were assayed at Allenby, B.C. in a specially set up biogeochemical laboratory. Two assayers were employed full time on this work. The samples were dried, stripped of needles and a two gram sample of dry twigs assayed for copper. The "Dithizone" method of assay as outlined by Warren and Delavault in "Further Studies in Biogeochemistry", Bulletin G.S.A. Vo. 60, March, 1949, was used. Setting up the laboratory and initial assaying were done under the direction of Dr. R. E. Delavault of the Department of Geology, University of British Columbia. Copper is reported in parts per million (p.p.m.) in dry material.

#### Interpretation of Results

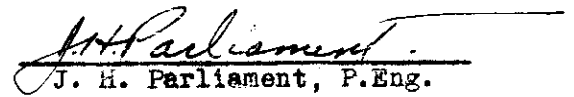
The interpretation of the results and the final maps were made by J. H. Parliament. Statistical diagrams were made for the whole biogeochemically surveyed area at Copper Mountain and the average relative values of jack-pine, fir and spruce were determined. Fir and spruce values were then transformed to terms of pine ("pine equivalent"). The normal value for pine was eight p.p.m. of copper.

The sample values were divided into the following groups:

0 - 6 p.p.m. copper	-	below normal
6 - 10 " "	-	normal
10 - 12 " "	-	slightly high
12 - 14 " "	-	possibly anomalous
14 & over " "	-	definitely anomalous

Profiles were then drawn by plotting copper values along the grid lines and a contour map constructed to show the areas of high value. Values below 6 p.p.m. were interpreted as felsite dyke. Where these dykes are actually mapped they fit in very well with the biogeochemical results. The trends of the anomalies also correlate well with the known ore fracture directions.

This report is accompanied by a 100 scale contour map showing areas of high copper values, and a set of profiles.

  
J. H. Parliament, P. Eng.  
Assistant Geologist,  
Copper Mountain, B. C.

Expenditures Incurred During The Biogeochemical  
Survey on the Covellite Group, Copper Mountain,  
British Columbia.

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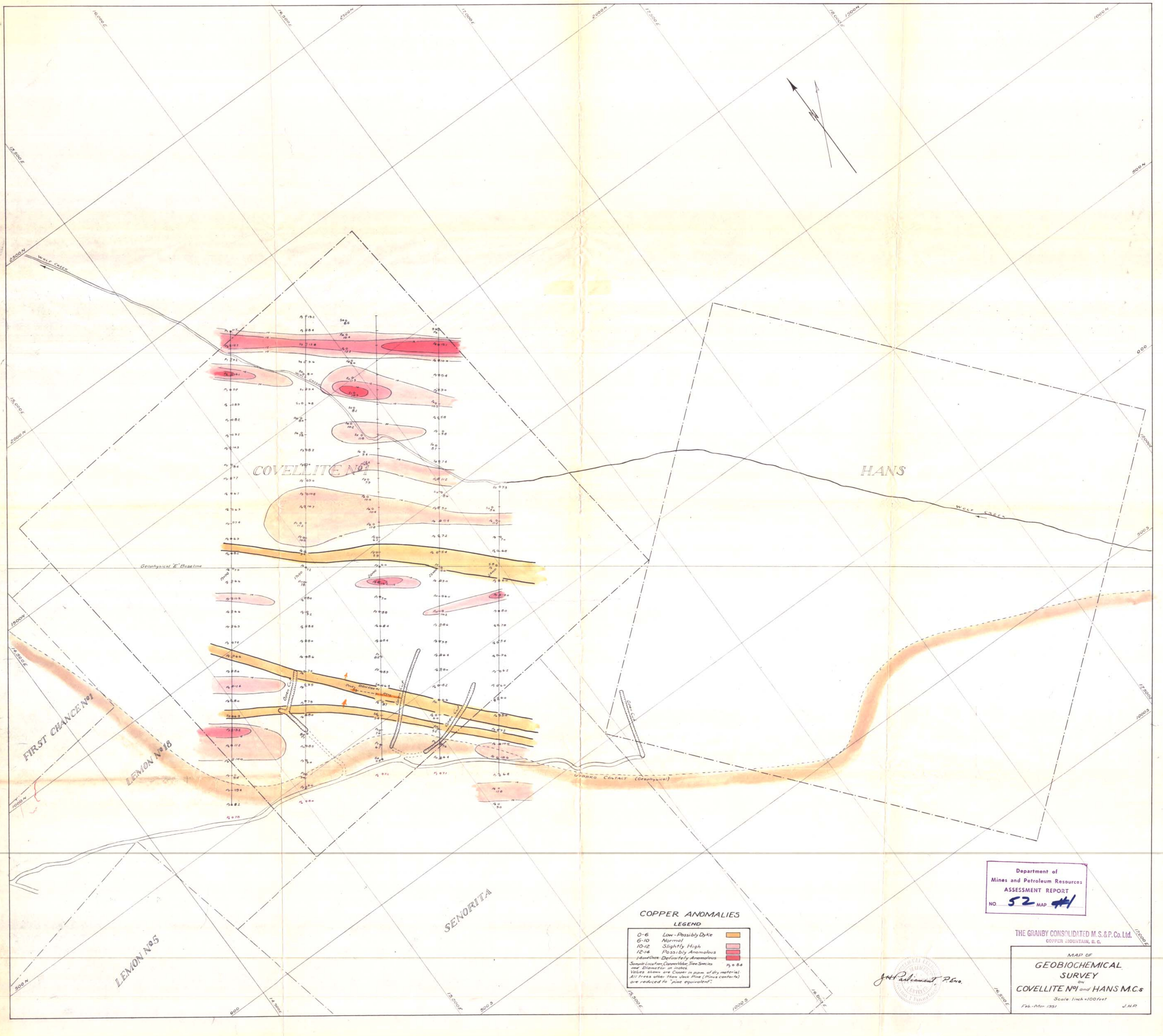
<u>Name</u>	<u>Rate</u>	<u>No. Days</u>	<u>Amount</u>	
<u>Surveying Grid</u>	J.H. Parliament	\$15.60	2	\$31.20
	K. McLeod	9.76	1	9.76
	N. Kirby	9.48	2	18.86
<u>Sampling</u>	K, McLeod	9.76	9	87.84
	N. Kirby	9.48	9	85.16
<u>Assaying</u>	J. Smeddle	12.25	9	110.25
	J. Dobie	9.76	9	87.84
<u>Mapping &amp; Interpretation of results.</u>	J.H. Parliament	15.60	3	<u>46.80</u>
Total .....				\$477.71

I hereby certify that the foregoing is a true and correct statement to the best of my knowledge of the expenditures for labour of this biogeochemical survey:

(signed) *J.H. Parliament.*  
J. H. Parliament,  
P. Eng.

DECLARED BEFORE ME AT  
COPPER MOUNTAIN, BRITISH  
COLUMBIA, THIS 12th DAY  
OF JUNE, 1951

*A. Darnforth*  
a Notary Public in and for  
British Columbia



**COPPER ANOMALIES**

**LEGEND**

0-6	Low - Possibly Dyke	
6-10	Normal	
10-12	Slightly High	
12-14	Possibly Anomalous	
14-16	Definitely Anomalous	

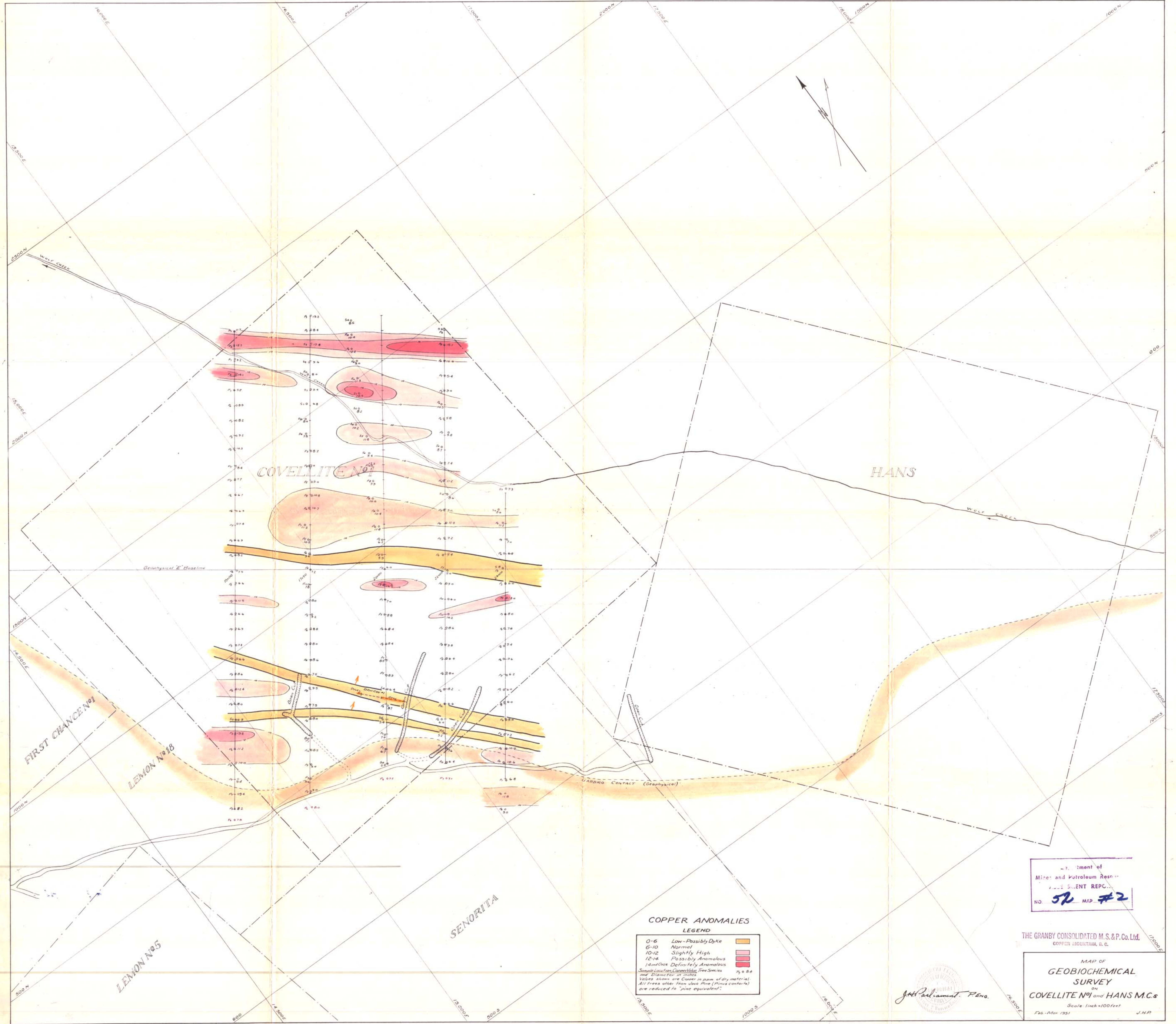
Sample Location, Copper Value, See Smiles  
 15.0 S.S.  
 and Diameter in inches.  
 Values shown are Copper in ppm of dry material.  
 All trees after than Jack Pine (minus contents)  
 are reduced to "pine equivalent".

Department of  
 Mines and Petroleum Resources  
 ASSESSMENT REPORT  
 NO. **52** MAP **#1**

THE GRANBY CONSOLIDATED M. S. & P. Co. Ltd.  
 COPPER MOUNTAIN, B. C.

MAP OF  
**GEOBIOCHEMICAL SURVEY**  
 ON  
**COVELLITE No 1 and HANS M.C.s**  
 Scale 1 inch = 100 feet  
 Feb.-Mar. 1951 J.N.R.

*J.H. Richardson P. Eng.*



**COPPER ANOMALIES  
LEGEND**

0-6	Low - Possibly Dyke	[Lightest Orange]
6-10	Normal	[Light Orange]
10-12	Slightly High	[Orange]
12-14	Possibly Anomalous	[Dark Orange]
14 and Over	Definitely Anomalous	[Red]

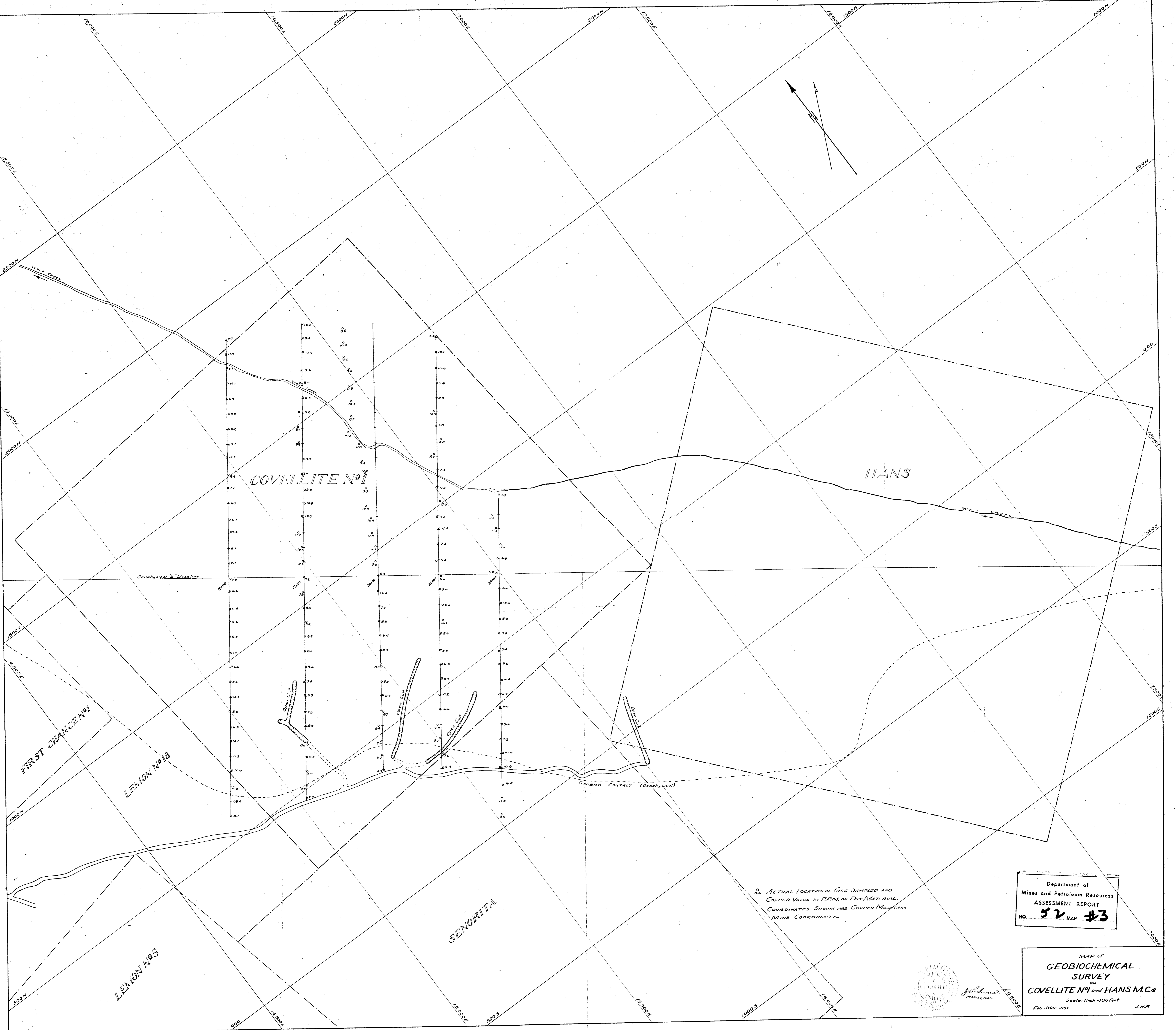
Sample Location, Copper, Tree Species, and Diameter in inches  
Values shown are based on ppm of dry material.  
All trees other than Live Pine (*Pinus contorta*) are reduced to "pine equivalent".

Department of  
Mines and Petroleum Resources  
CURRENT REPORT  
NO. **52** MAP #2

THE GRANBY CONSOLIDATED M.S. & P. Co. Ltd.  
COPPER MOUNTAIN, B. C.

MAP OF  
**GEOBIOCHEMICAL  
SURVEY**  
ON  
**COVELLITE No. 7 and HANS M.C.s**  
Scale 1 inch = 100 feet  
Feb - Mar 1951 J.N.P.

*J.H. Parliament, P. Eng.*



COVELLITE No. 1

HANS

SENORITA

FIRST CHANCE No. 1

LEMON No. 18

LEMON No. 5

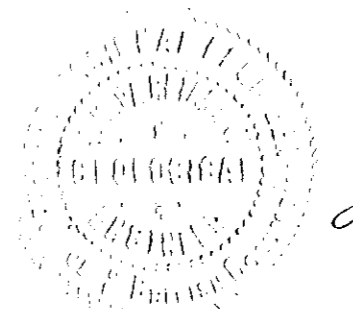
Geophysical E Baseline

GAMBRO CONTACT (Geophysical)

8. ACTUAL LOCATION OF TREE SAMPLED AND COPPER VALUE IN PPM. OF DRY MATERIAL. COORDINATES SHOWN ARE COPPER MOUNTAIN MINE COORDINATES.

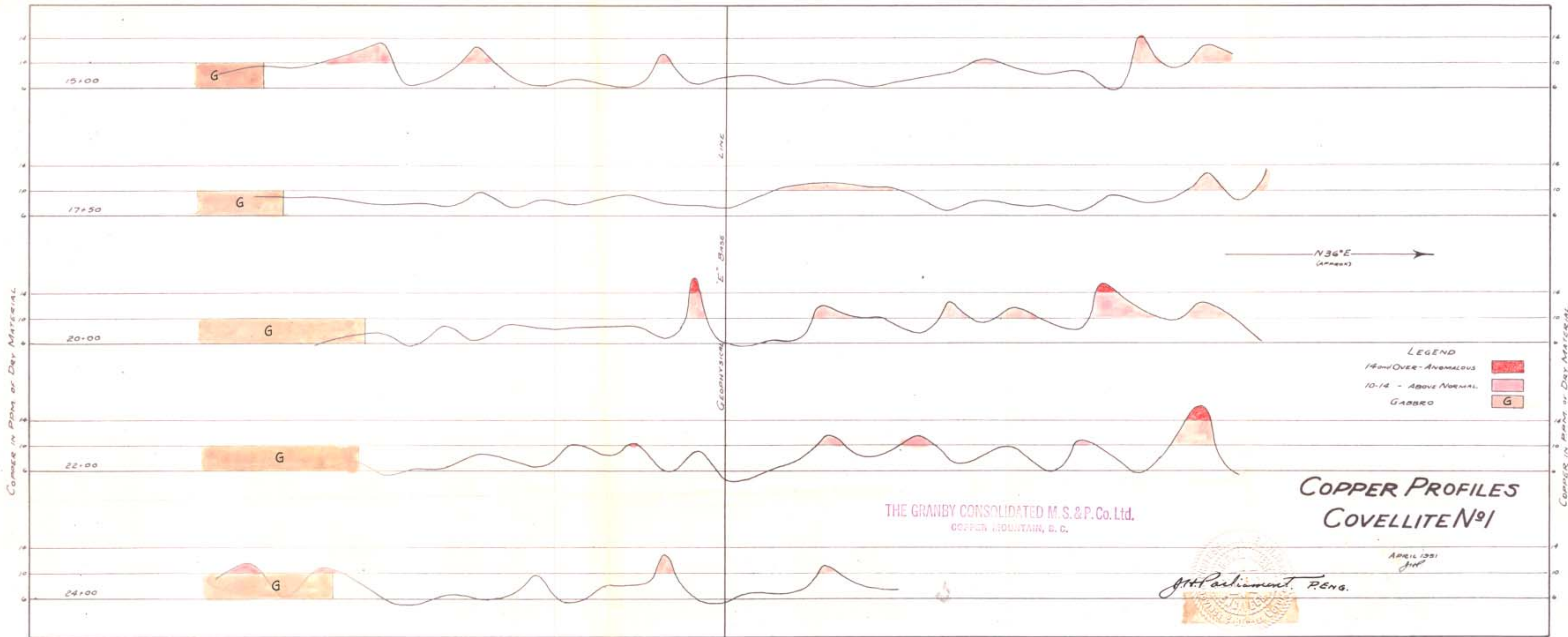
Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 52 MAP #3

MAP OF  
GEOBIOCHEMICAL  
SURVEY  
ON  
COVELLITE No. 1 and HANS M.C.s  
Scale: 1 inch = 100 feet  
Feb.-Mar. 1951 J.N.R.



*J. J. ...*  
MAY 23, 1951





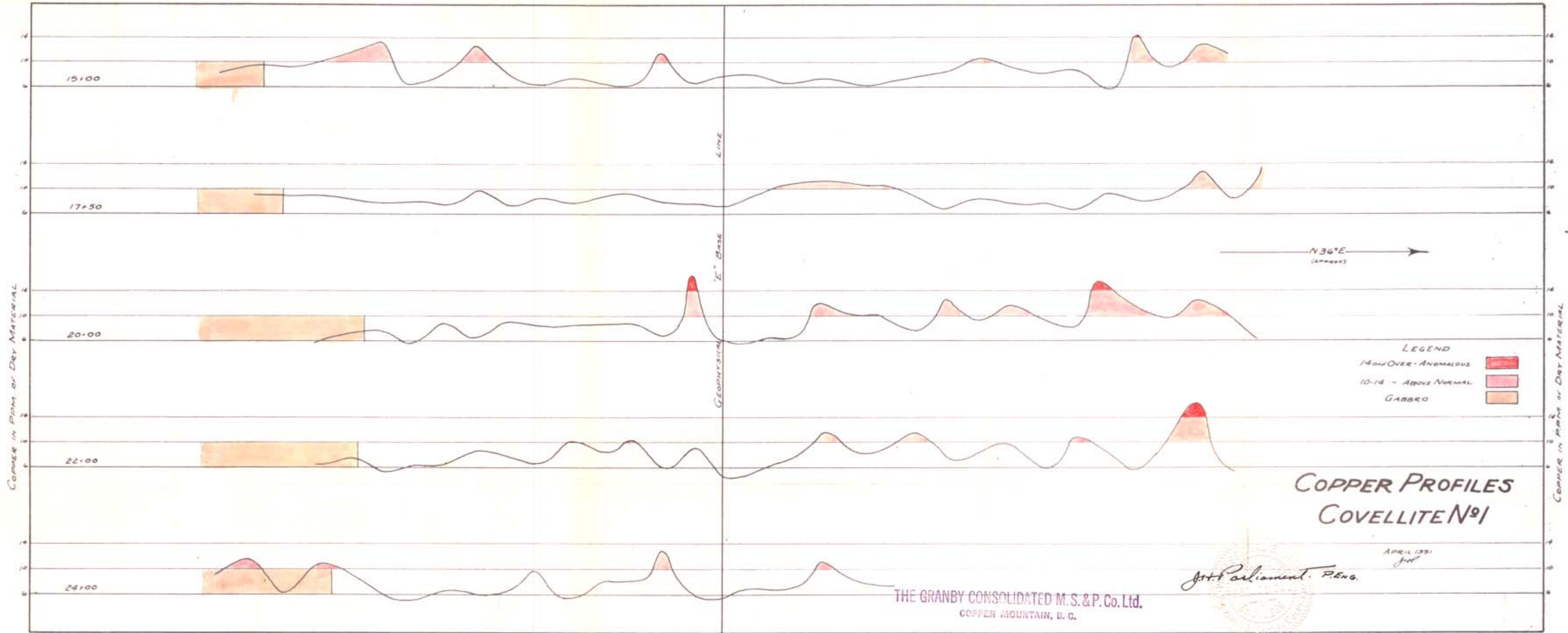
LEGEND  
 14 and OVER - ANOMALOUS  
 10-14 - ABOVE NORMAL  
 GABBRO

THE GRANBY CONSOLIDATED M. S. & P. Co. Ltd.  
 COPPER MOUNTAIN, B. C.

COPPER PROFILES  
 COVELLITE No 1

J. H. Parliament, P. ENG.  
 APRIL 1951  
 JHP

52 Map 4



52 Map 5