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C O R A N E X   L I M I T E D

GEOCHEMISTRY OF NORTH SLOPE GRID - PEACH LAKE PROJECT

by

J. R. Woodcock

North Vancouver, British Columbia - December 10, 1968

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GEOCHEMISTRY OF NORTH SLOPE GRID - PEACH LAKE PROJECT

LOCATION

The Peach Lake Project is in the Clinton Mining Division about fifteen miles northeast of Lac La Hache.

An access road has been extended by Coranex Limited from the Murphy Lake road (about 15 miles from Lac La Hache), eastward about six miles to the claim group and then north and northeasterly about ¼ mile to the north edge of the North Slope Grid.

The present survey area, called the "North Slope Grid", is north of and adjoining the Peach North Grid which was geochemically surveyed in 1967.

CLAIMS AND OWNERSHIP

The geochemical survey covered parts of the Peach mineral claims 44, 46, 48, 50, 59, 60, 61, 62, 63, 64, 73, 74, 77, 78, 79, 80, 81, 82, 83 and 84. These claims are owned by Coranex Limited and were grouped on July 31, 1968 as the "New Peach Group". The claim locations are shown on the accompanying geochemical map.

PERSONNEL

The following persons were employed by Coranex Limited for this work:

- J. R. Woodcock, P.Eng. -- supervision, field investigations, and preparation of report.
- D. Brabec, Ph.D. candidate in geochemistry at U.B.C. -- field sampling.
- N. Wychopen, prospector -- field sampling and line cutting.
- G. Paget and F. Orth, student assistants -- field sampling and line cutting.
- J. Kobierski, draftsman.

Days worked and wages are as follows:-

D. Brabec	August 5 to August 16	@ \$28.75 per day
F. Orth	August 5 to August 16	@ \$21.00 per day
N. Wychopen	Sept. 20 to Sept. 29	@ \$26.55 per day
	October 4 to October 6	@ \$26.55 per day
	October 11 to October 12	@ \$26.55 per day
G. Paget	Sept. 20 to Sept. 29	@ \$21.00 per day
	October 4 to October 6	@ \$21.00 per day
	October 9 to October 16	@ \$21.00 per day
J. R. Woodcock	Sept. 26, 27, 28, 29	@ \$75.00 per day
	October 29, 30	@ \$75.00 per day
	November 7, 8	@ \$75.00 per day
Jim Kobierski	November 6, 7, 8	@ \$27.60 per day

#### GEOCHEMICAL TECHNIQUES

Line spacing is 800 feet with 400-foot spacing in the more interesting areas. Lines were run with a Silva compass and local magnetic deflection was a problem. However the lines were tied in by several cross lines. Sampling along the lines was generally at 200-foot spacing with 100-foot spacing in the more interesting areas or in areas where preliminary work had indicated anomalous geochemical values.

Attempts were made to sample the soil immediately below the A horizon. Generally the B horizon is not noticeable and the top of the C horizon is gleyed with a considerable incorporation of black organic material. Soil type, vegetation type, and degree of drainage were noted on the sample forms for future use in interpretation. Soil profiles were taken by the writer along two lines which showed anomalous geochemical values.

The samples were run in the Coranex Vancouver laboratory under the direction of Mr. C. Chun, and for cold extractable copper. The minus 80 mesh portion of the dried samples were used. Outlines of the chemical techniques are included in the appendix.

#### GEOCHEMICAL RESULTS

The analyses for total copper and cold extractable copper are plotted on one map. In appraising this map one must note the position of the boundary of the clay bank area. Within this clay bank area, glacial deposits are of variable thickness and are of considerable

thickness over much of the area; and negative geochemistry cannot be unconditionally accepted. Above or to the south of this clay bank area, overburden is generally quite thin and the geochemical results can be accepted with more certainty. The clay bank area is bounded below or to the north by a swampy zone where one would get very little geochemical reflection of underlying copper mineralization.

The geochemical map shows several lines (0+00E, 4+00E, 28+00E) with good anomalous values adjacent to the north contact of the diorite stock. Values are up to 3100 ppm in some of the soil profiles (Figure 1). However in most of the places these good values do not continue to adjacent lines. Whether this can be attributed wholly to the irregular nature of the mineralization or whether one can attribute it to the irregularities in the thickness and swampyness of the overburden is not known. These anomalous values do occur in the vicinity of the boundary between the clay bank area and the relatively swampy ground to the north.

An area of scattered highs occurs in the northwest part of the North Slope Grid (lines 8W, 16W, 24W). The writer did not map along these lines; however Mr. Nick Wychopen reports widespread pyrite with sparse chalcopyrite.

Dragan Brabec made notes on the soil types in his sampling on the North Slope Grid and the writer dug pits for geochemical profiles for the highly anomalous parts of lines 4E and 28E. The geochemical copper values for the soil profiles are shown on Figure 1. From these observations and data some conclusions can be made on the interpretation of the geochemical results.

Most of the soil on this northerly slope is strongly gleyed\* podsol. For the two anomalous lines (4E and 28E), the depth of organic material is unusually great. In some profiles the forest litter (moss, peat, etc.) is up to 12 inches thick. This is underlain by black soil which grades downward into grey organic-rich, clay-rich material. Even two feet below the surface some of the organic material is still present. In places this grey soil is underlain by clay-rich soil which contains rusty pods and which can also contain enough illuvial material to create a hardpan.

The anomalous parts of lines 4E and 28E are characterized by evergreens of unusually large size (18 inches diameter). These patches of relatively large evergreens are sharply bounded by areas of smaller forest growth -- possibly old burned areas.

The geochemical profiles indicate that the total copper in soil is greatest immediately below the organic layer, and that this drops off sharply with depth over a distance of one to two feet. The extractable copper however does not have this obvious trend. In fact for many of the profiles it was constant and for some of the profiles it increased with depth. Several interpretations could probably be

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\*Gleying occurs in a podsol that is periodically wet. In the presence of the organic matter intense reduction occurs and grey colours result.

placed on the data; however the writer prefers the following:

(1) The profiles for total copper indicate that the old evergreens concentrated copper in their twigs and needles. This copper ended up in the plant litter and migrated downward into the organic-rich gleyed soil.

(2) The apparent increase in cold extractable copper with depth is less certain and more puzzling. Seepage and capillary action might bring it up from below, or downslope seepage on top of the hardpan could create a transported anomaly.

#### CONCLUSIONS AND RECOMMENDATIONS

The geology, described in a separate report, is very favourable for a copper deposit of major proportions. Particularly interesting is the northern contact of a diorite stock which lies along the southern part of the North Slope Grid. This contact is in the vicinity of the high but discontinuous geochemical values.

Geophysical follow-up in the form of an I.P. survey is recommended.

  
J. R. Woodcock

December 10, 1968

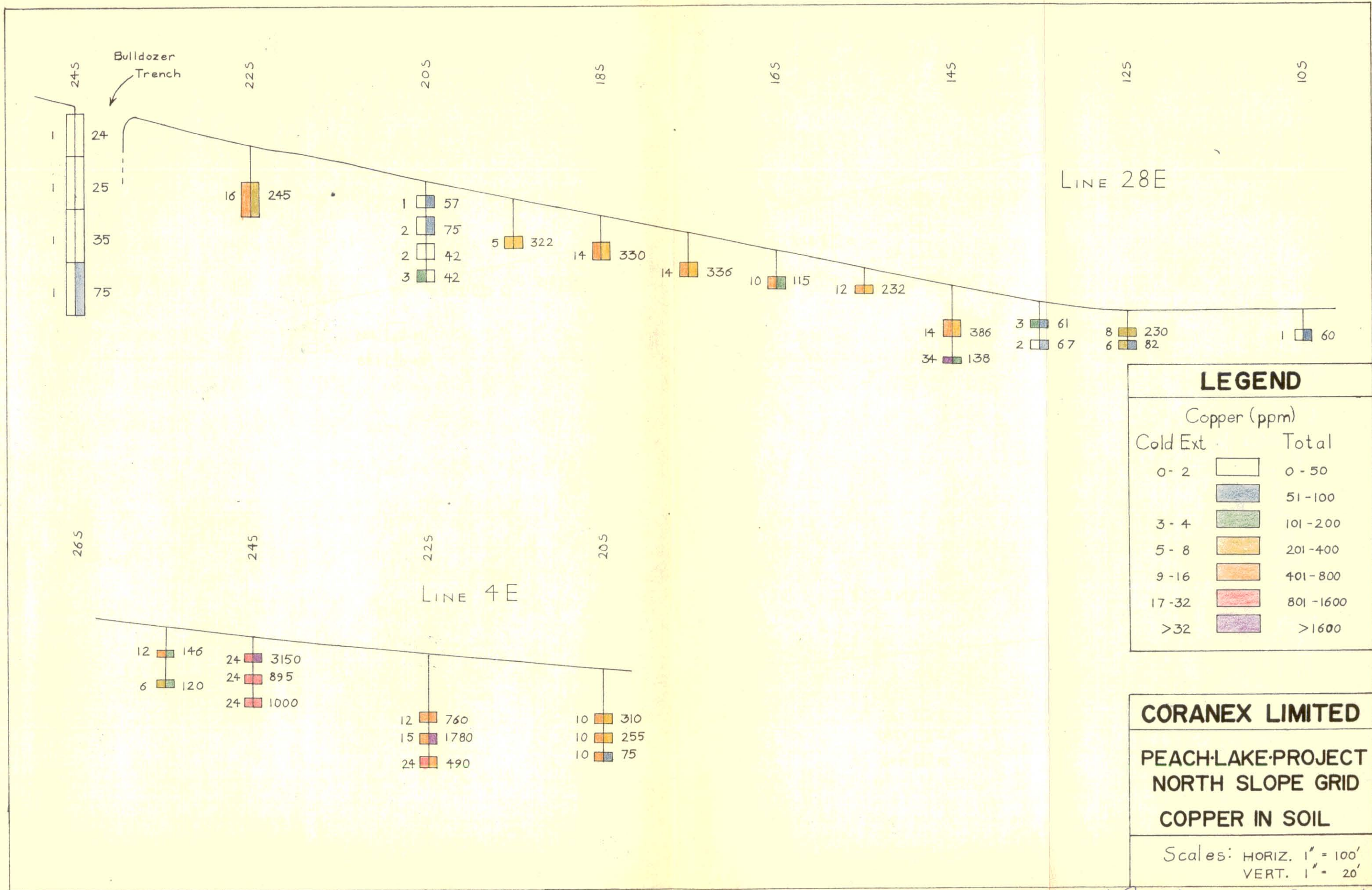


Fig 1

*A.R. Woodcock Dec 10/68*

ANALYTICAL METHOD USED IN GEOCHEMICAL ANALYSIS FOR ACID  
SOLUBLE COPPER IN SOIL AND SILT SAMPLES

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METHOD

(1) Digestion

- (a) 1.00 gram of the -80 mesh samples.
- (b) Samples are heated in a sand bath with nitric and perchloric acids, later with hydrochloric acid.
- (c) The digested samples are diluted with water to a fixed volume.

(2) Copper Analysis

- (a) A Techtron Model 4 Atomic Absorption Spectrophotometer with a copper hollow cathod lamp is used for determination of copper.
- (b) The copper results in parts per million are calculated by comparing a set of copper standards to calibrated the Atomic Absorption unit.

REFERENCES:

- (a) J. W. Robinson: Atomic Absorption Spectroscopy
- (b) N. H. Furman: Standards Methods of Chemical Analysis. 6th Ed.
- (c) Sydney Abbey: Analysis of Rock & Minerals by Atomic Absorption Spectroscopy. Geological Survey of Canada Paper 67-37
- (d) The Manual Of Analytical Methods for Atomic Absorption Spectrophotometer Perkin- Elmer Corp.
- (e) Atomic Absorption Newsletters. Perkin-Elmer Corp.



ANALYTICAL METHOD USED IN GEOCHEMICAL ANALYSIS FOR COLD ACID-EXTRACTABLE  
COPPER

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METHOD:

- (1) 0.50 grams -80 mesh dried sample
- (2) Buffer solution at pH 5.0  
Reagents: Hydrochloric acid  
Ammonium citrate  
Hydroxylamine Hydro chloride
- (3) Dithizone-benzene solution at 0.001% W/V concentration
- (4) The concentration of the copper is estimated by using the following formula:

$$\frac{1}{\text{Wt. of Sample}} \times \frac{\text{ml. of dithizone to reach the end point}}{\text{ml. of buffer}} = \text{parts per million}$$

REFERENCES:

- (1) Holman: Trans. Inst. Min. & Met. V66,  
Part I, pp 7-16.
- (2) Methods of geochemical determinations from Applied  
Geochemical Laboratory, University of California,  
U. S. A.

I, J. R. Woodcock of 1521 Pemberton Avenue, North Vancouver, agent for  
 Coranex Limited of 1521 Pemberton Avenue, North Vancouver

of

in the Province of British Columbia, do solemnly declare that the following is a detailed state-  
 ment of work done since July 31, 1968 on Peach 44, 46, 48, 50, 59 to 64, 66, 73, 74, 77 to  
 84 M.C.'s

(1) Geochemical survey under supervision of J. R. Woodcock:

<u>Wages:</u>	D. Brabec - 12 days @ \$28.75	\$ 345.00	
	F. Orth - 12 days @ \$21.00	252.00	
	N. Wychopen - 19 days @ \$26.55	504.45	
	G. Paget - 21 days @ \$21.00	441.00	
	J. Kobierski - 3 days @ \$27.60	82.80	
	J. R. Woodcock - 5 days @ \$75.00	<u>525.00</u>	\$ 2,150.25
	Geochem analyses -- 325 @ \$1.70		552.50
	Accommodations & Food:		
	Brabec & Orth - 24 man days @ \$6.00 per day	\$144.00	
	Remainder at Ten-ee-ah Camp	<u>364.50</u>	518.50
	Transportation and Mobilization		200.00

(2) Access Road: Peach 64, 66, 83

	Bulldozer bill ( 17 hrs. @ \$18.00 per hour)		306.00
	Slashing:		
	N. Wychopen's wages - 7 days @ \$26.55	\$185.85	
	G. Paget's wages - 5 days @ \$21.00	<u>105.00</u>	290.85
			<u>\$ 4,018.10</u>

And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of  
 the same force and effect as if made under oath and by virtue of the "Canada Evidence Act."

Declared before me at the *City*  
 of *Vancouver*, in the  
 Province of British Columbia, this *3<sup>rd</sup>*  
 day of *December, 1968*, A.D.

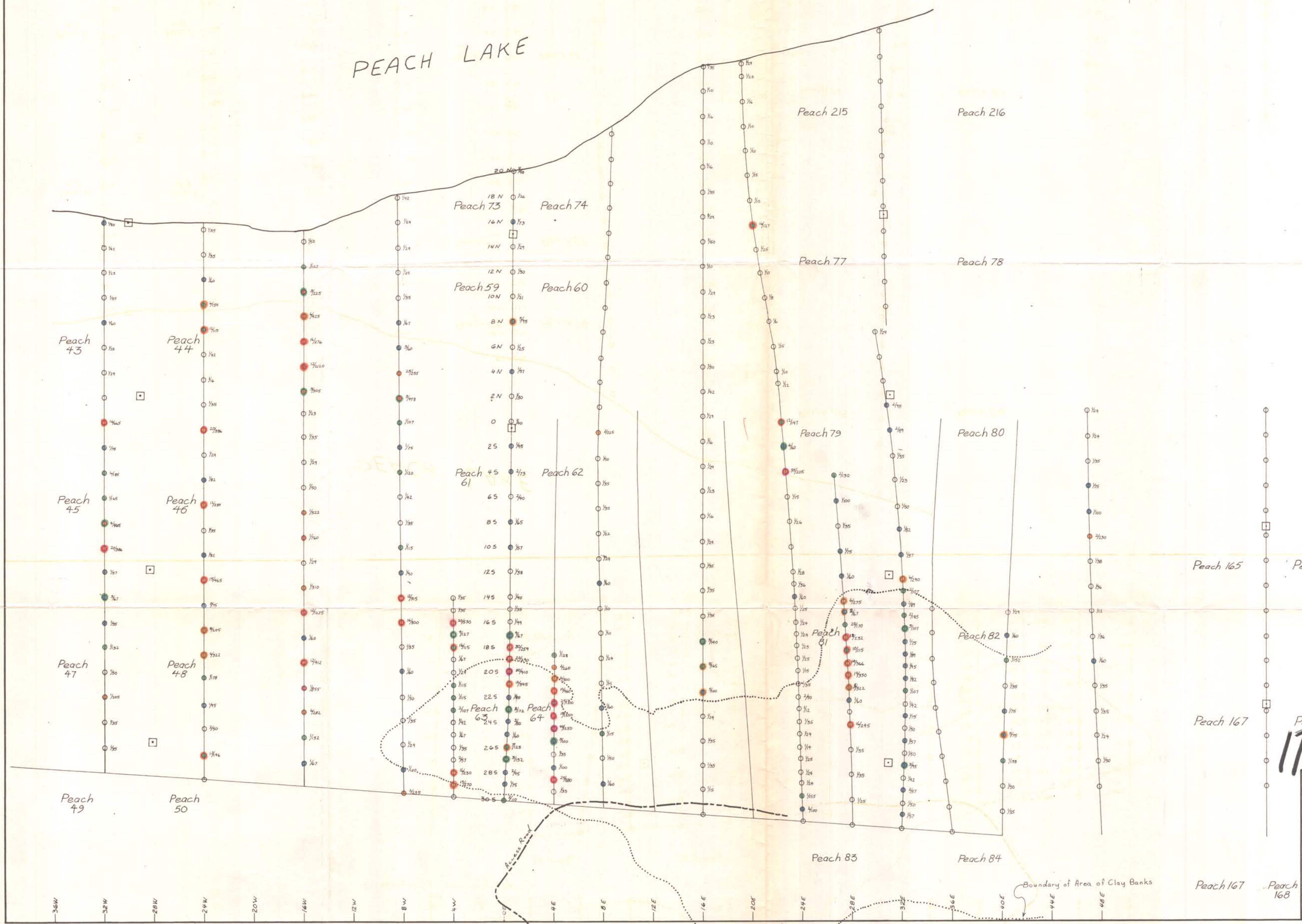
*J. R. Woodcock*

*J. Paul* SUB-MINING RECORDER  
 A Commissioner for taking Affidavits within British Columbia or  
 A Notary Public in and for the Province of British Columbia

★o

# PEACH LAKE

LEGEND	
Sample Site Concentration	Cold Ex. / Total (ppm)
	0-2 / 0-50
	51-100
	101-200
	201-400
	401-800
	801-1600
	>1600



Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 1734 MAP 1

1734

**CORANEX LIMITED**  
**PEACH LAKE PROJECT**  
**NORTH SLOPE GRID**  
**COPPER IN SOIL**

1" = 400'    October 1968    J.R. Woodcock

Fig 2  
To accompany report by J.R. Woodcock  
on Peach group Central M.D. Dec 10, 1968