

587

GEOCHEMICAL SURVEY

VEGA GROUP

LOCATION: Long. $125^{\circ} 20'$ W., Lat. $56^{\circ} 09'$ N.
6 miles Northwest of Uslika Lake

REPORT BY: E. Bronlund, P.Eng.

OWNER: Croydon Mines Limited (N.P.L.)

WORK DONE: July 15 - September 1, 1964
September 1 - October 6, 1964

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<p>Department of Mines and Petroleum Resources ASSESSMENT REPORT</p> <p>NO. <u>587</u> MAP</p>
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CROYDON MINES LIMITED (N.P.L.)

GEOCHEMICAL SURVEY

VEGA GROUP --- OMINECA M.D.

Report by: E. Bronlund, P.Eng.
December 18, 1964.

INTRODUCTION.

This report describes a geochemical survey done by the writer during part of the 1964 season on the Vega Group which is a copper-gold occurrence first discovered in 1935. Surface and underground work during the period 1935-38 showed a complex fault situation. Except for a very limited area near the discovery showings, rock outcrops are scarce and the surrounding area is generally covered by deep overburden. The purpose of the geochemical survey was to ascertain if mineralization was indicated elsewhere on the property at a location which would rule out the discovery showings as a source.

PROPERTY.

The Vega Group consists of 10 mineral claims, Vega No.1 - 10 owned by Croydon Mines Limited (N.P.L.)

LOCATION.

Longitude 125° 20' W., Latitude 56° 09' N. Map sheet 94-C, Fort Grahame. The property is located 6 miles by trail northwest of Uslika Lake which is the north end of the Manson highway and 180 miles from Fort St. James, B.C.

GENERAL STATEMENT.

The geochemical survey was done in two stages as parts of an exploration program on the property comprising also trenching and geological mapping. The initial stage consisted of random soil testing in several directions from the discovery showings. When a certain trend became evident in a southeast direction, a base line was laid out along its west margin and 13 cross-sectional lines were started with a spacing of 200 feet and designated by letters B to Z. These lines have a bearing of south 85° east and stations were established along them at 100 ft. intervals, numbered from 1 and up, commencing at the base line. The lines were run by chain and Brunton compass. The work was done by two men who did first 14200 feet of line cutting, then soil sampling and testing at the established stations. This initial

stage required two men for 20 days and was done between July 15th and September 1st. The second stage comprised expanding the grid net and adding the area near the old workings. It consisted of 19600 feet of line cutting and testing which required three men for 17 days. The work was done between September 1st and October 6th.

The attached drawing No.305 shows the grid area and test results.

DESCRIPTION OF AREA.

Physical features.

The Vega Group lies in an ancient, high level through valley that runs northwesterly from Uslika Lake towards Tutizzi River and is segmented by the deeply cut valleys of Thane, Vega and Tenakihi Creeks. Its general elevation is about 4500 feet. The gorge of Vega Creek is 4 - 600 feet deep with an elevation at the old mine of 4000 feet, and shows some bedrock outcrops. Elsewhere the surface is covered mainly by talus and residual soils. Glacial deposits are thin and in places absent, but some areas of residual soils show admixtures of sand and silt.

The area investigated lies southeast of the old workings. There is first the "mine hill" which rises 150 feet from Vega Creek and contains the surface showings and underground workings. The hill is bounded on the south and east by a drift filled gully 20 to 50 feet deep which marks the sub-outcrop of underground faults. Southeast of the gully the ground again rises steeply 300 feet and more to the broad crest of a north trending ridge one mile long and bounded on three sides by deeply cut, small valleys. The central summit area of the ridge coincides with the central part of the grid area and is about 800 feet wide west-east, 1000 feet long north-south and slopes gently in all directions to steep drop-offs near the confining valleys. There are no rock outcrops within the grid area and the overburden is known to be at least 15 feet deep in places but probably less on the summit area. The overburden consists of a well drained, rocky and in part sandy residual soil with a yellow to rusty brown color. There is no clay. Most of the area is heavily wooded with large spruce at lower elevations and balsam fir higher up. There is much windfall and underbrush.

Geology.

The Vega showings occur in Takla Group andesitic lavas and breccias containing fragments of feldspar porphyry and consist of chalcopyrite, pyrite and bornite, either disseminated or as massive stringers with quartz, calcite and epidote in braided fracture zones within an area of granitized breccia. The general strike of the ore is northeasterly with steep dips. The mineralized area is bounded on the west by a major fault zone 2 - 300 feet wide. The underground workings show two directions of post-mineral faulting, striking north 15° east and north 65° east, both showing striations and clay seams.

PROCEDURE.

Sampling.

Samples were taken at each grid station by digging a pit through the humus layer usually less than a foot deep, to the top of the soil. A stellite, one inch augur bit would then be drilled down 15 inches and the sample for testing taken from the tip. Small stones were removed as well as possible and the soil inserted into an aluminum pelletizer to give pellets of 0.1 to 0.3 grams as required. At regular intervals a 5 to 10 gram control sample would also be taken for spectrographic test. A total of 360 samples were tested from the grid area and 60 of these were also controls. In addition 30 samples including 13 controls, were taken from outside the grid area to establish a mean background heavy metals content.

Testing.

The method used was the cold extractable dithizone test. Metal free ammonium citrate extractant was purchased made up from a geochemical laboratory. Dithizone-xylene solution was made up fresh every morning before testing started. A zinc chloride solution containing 10 ppm zinc per milliliter was used to calibrate the dithizone solution at frequent intervals. Initially and at intervals during the survey, a sample would be tested repeatedly by using various weights ranging from 0.1 to 0.5 grams of soil and various strengths of dithizone solution ranging from 0.001 to 0.01 percent. The results checked out quite well. Titration was used on samples showing very strong red color. The standard procedure decided on, which was used in the majority of tests consisted of placing a 0.2 gram pellet of the soil in a graduated test tube, adding 5 ml of citrate solution, 1 ml of 0.01 percent dithizone solution and shaking vigorously 50 times during 50 seconds. The resulting end colors are those shown on the attached plan.

Control Tests.

Spectrographic tests on the 13 controls taken outside the grid area show a uniform heavy metal content of 40 to 50 ppm copper, 5 to 11 ppm lead and 30 to 50 ppm zinc. These samples showed no change in the normal green dithizone color and are assumed to represent normal background. Spectrographic tests on the 60 controls within the grid area show that copper is the predominant metal, ranging from a low of 65 ppm to a high of 500 ppm. Lead and zinc show normal background values in all but three samples. 45 of the controls agree reasonably well with the end colors obtained and show a range of 65 to 90 ppm for blue, 90 to 150 ppm for purple and 150 ppm and up for red. 15 controls do not agree with the end colors. Nine of them show copper values much higher than indicated,

up to 250 ppm for blue and 300 ppm for purple end color. Six of the controls show copper values much below those indicated, down to 65 ppm for red. In these cases contamination has been ruled out and it is possible that other metals such as manganese, may be present. No spectrographic tests were made for metals other than copper, lead and zinc.

DISCUSSION OF RESULTS.

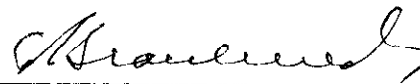
The geochemical survey indicates a copper anomaly southeast of the mine hill at elevations from 100 to 500 feet higher, which would rule out the old showings as a source. The source of the anomaly and its significance remains to be determined.

The overburden has the characteristics of a residual soil in that it consists mainly of in part, angular and deeply weathered fragments of the same rock types as can be seen near the discovery showings. Test pits from 2 to 10 feet deep show no stratification or obvious change in make-up of the overburden.

The shape of the anomaly would suggest more than one source of mineralized bedrock and the abrupt falling off in indicated metal content of the soil at the periphery is quite noticeable.

It is apparent that the ratio of cold extractable to total copper is highly variable in the test area.

Submitted by


E. Bronlund, P.Eng.

Fort St. James, B.C.
December 18, 1964.

Attachments: DWG. No.305

DOMINION OF CANADA:
 PROVINCE OF BRITISH COLUMBIA.
 To Wit:

In the Matter of

I, Emil Bronlund, P.Eng.
 of Fort St. James, B.C.

in the Province of British Columbia, do solemnly declare that the following line cutting and geochemical survey were done under my supervision on the Vega Group of mineral claims situated about 6 miles northwest of Uslika Lake in the Omineca Mining Division between July 15th and October 6th, 1964.

Line cutting and soil testing:

<u>Employee</u>	<u>Days worked</u>	<u>Period</u>	
J.C.Hayman	20	July 15 - August 31/64	
A.Kalaschnikow	20	July 15 - August 31/64	
	40 man/days		
Costs:	40 man/days @ \$14.00		
	plus free board 4.00		
	<u>\$18.00</u>		\$720.00
P.Laursen	17	Sept.1 - Sept. 20/64	
A.Kalaschnikow	17	Sept.1 - Oct. 6/64	
F.Woodford	17	Sept.1 - Oct. 6/64	
	51 man/days		
Costs:	51 man/days @ \$14.00		
	plus free board 4.00		
	<u>\$18.00</u>		\$918.00
<u>Supervision:</u>	E. Bronlund, P.Eng.	9 days @ \$30.00	\$270.00

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 Nanaimo, in the
 Province of British Columbia, this 25
 day of January, 1965, A.D.

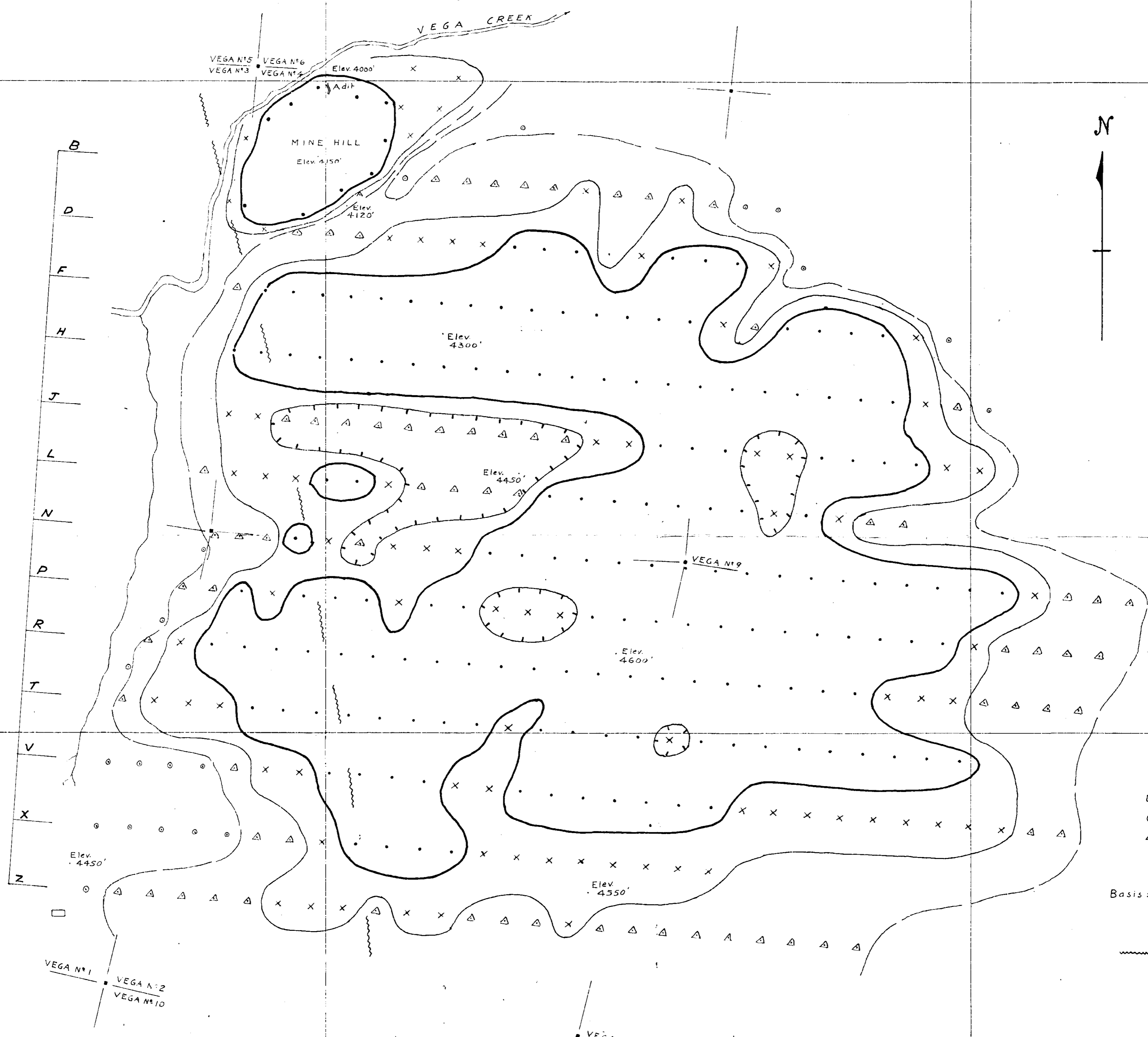
[Handwritten signature]

Madelaine Brown

A Commissioner for taking Affidavits within British Columbia or
 A Notary Public in and for the Province of British Columbia.

★o

Sub-Mining Recorder.



MI

LEGEND

Dithizone End Colors

- Green
- △ Blue
- x Purple
- Red

Basis: 0.2 gr. sample
1 ml dithiz. 0.01%

~~~~~ Fault

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 587 MAP 1

CROYDON MINES LIMITED (NPL)  
VEGA GROUP  
GEOCHEMICAL SURVEY  
SCALE: 1 inch = 200 Ft.  
Dec. 1964 E.B. *[Signature]* DWG. No 305