

804

GEOPHYSICAL - GEOCHEMICAL REPORT

on the

WANOKANA 1 to 6 CLAIMS

located

Ten Miles Southwest of Port Hardy

50° 127° N.W.

Nanaimo Mining Division

by

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Utah Construction & Mining Co.

July 1- August 31, 1966

TABLE OF CONTENTS

	<u>PAGE</u>
Summary	1
Introduction	2
Fieldwork	2
General Geology	2
Geophysical Results	2 & 3
1. Magnetism	2
2. Geochemistry	3
Conclusions	3 & 4

Maps

#1	Magnetic Contours	Scale 1" = 200'	Rear Pocket
#2	Soil Geochemistry	Scale 1" = 200'	Rear Pocket

S U M M A R Y

Detailed magnetometer and geochemical surveys were conducted over the six-claim Wanokana group during July and August 1966. Several narrow east-west anomalies of fair magnetic amplitude to the north of Wanokana Creek and several small isolated anomalies of moderate magnetic amplitude along the west edge of Wanokana # 3 claim were outlined in the ground magnetic survey. These magnetic anomalies are believed due to variations in the magnetic susceptibility of individual flows. A number of small copper soil anomalies with peak values up to six times background and one anomaly with peak value about ten times background were outlined in the soil survey. These anomalies are scattered over the entire claim group and appear to be a reflection of the scattered disseminated chalcopyrite in the Karmutsen flows.

I N T R O D U C T I O N

The Wanokana 1-6 claims are located about ten miles southwest of Port Hardy, B.C. near the head of the east fork of Wanokana Creek. Access is provided by 12 miles of logging road west of Port Hardy; to Kains Lake; 1½ miles of logging road south of Kains Lake; and two miles of rough trail south to the property. During July and August 1966 ground magnetometer and soil sampling surveys were completed over the claim area.

F I E L D W O R K

The 1966 field work consisted of fairly detailed magnetometer and geochemical surveys of the entire claim group. The grid for these surveys covered an area 4500 feet long by 3200 feet wide. The location line between Wanokana No's 1 & 2, and Wanokana No's 3 & 4, which trends roughly S 60° E was used as a baseline and base stations were marked at 200-foot intervals from west to east, as 0 to 32. Traverse lines were run N 30° E for 1500 feet with 100-foot stations marked 1 to 15 N. from the following base stations: 0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 26, and 32. Traverse lines were run S 30° W for 3000 feet with 100-foot stations marked 1 to 30 S from the following base stations 2, 8, 14, 20, 26, and 32. In addition lines 0 and 4 were run from 1 S to 15 S, and line 2 was run from 0 to 11 S. Each of these traverse lines was tied to its adjoining traverse lines at both north and south ends. All traversing was done by compass and tape.

G E N E R A L G E O L O G Y

The Wanokana claims are underlain by andesite and basalt flows of the Karmutsen group which is the lower unit of upper Triassic age. These flows are amygdaloidal andesite and basalt with disseminated pyrite and a few specks of chalcopyrite in places. They are fairly to moderately magnetic.

These flows are intruded by a tongue of medium grained grey hornblende quartz diorite, which contains disseminated pyrite and magnetite and, in places, a few specks of chalcopyrite.

G E O P H Y S I C A L

R E S U L T S

1. Magnetics

The magnetometer used in this survey was a Jalander fluxgate magnetometer which measures the vertical component of the earth's magnetic field. The maximum sensitivity of this instrument, which is manufactured in Finland, is about ten gammas; however practical repeatability is limited to about 50 gammas.

Although ground magnetics was done on part of the Wanokana group in 1965, the entire survey was re-done in 1966 due to a change in the magnetometer and the operator. The 1966 magnetic contour map is somewhat lacking in detail due to the wide line-spacing in the southern and eastern part of the map.

Magnetic background in the area appears to be about 3000 gammas. The area of higher magnetic relief is generally north of Wanokana Creek and is in the form of several narrow east-west highs separated by narrow magnetic lows. The magnetic highs reach 9000 gammas, or about 6000 gammas above background.

An area of isolated highs occurs along the western edge of Wanokana #3 claim. Here the maximum amplitude reaches 18,925 gammas in a small high about 200 feet in diameter. An east-west anomaly of over 6000 gammas covers an area about 1400 feet long by 400 feet wide.

The magnetic low along Wanokana Creek coincides with the hornblende diorite outcrop. Otherwise the magnetic highs probably represent certain volcanic flows of higher magnetic susceptibility than normal.

2. Geochemistry

The soil samples were taken insofar as possible in the soil horizon, which directly underlies the humus zone. This material is generally a rusty weathered sandy (or silty) and stoney soil.

The samples were analyzed for total copper in parts per million by T.S.L. Laboratories Ltd. by the "atomic absorption" method in which a weighed portion of the sample is taken into solution with hot nitric acid and the solution is made up to specific volume. This solution is aspirated into a hydrogen-air flame, and a light beam of the metal's characteristic wave length is passed through the flame to a spectrometer, which measures the intensity of this light. The absorbed light is proportional to the concentration of the metal in the solution.

The results were plotted on the Soil Geochemistry map at a scale of 1" = 200 feet and were contoured at intervals of 10 parts per million.


The area background is apparently slightly under ten parts per million in copper. A number of small copper soil anomalies are scattered over the claim group. Most of these anomalies are less than 300 feet in the maximum surface dimension and show a maximum value of about 60 parts per million copper, or about five times background. On Wanokana 3, 4, 5 and 6 claims a number of thin elongate WNW-trending copper anomalies have been outlined. These anomalies are up to 800 feet long and 200 feet wide and show a maximum amplitude of 104 parts per million copper or roughly ten times background. The apparent WNW orientation of the geochemical anomalies is probably partly due to the wide line spacing.

C O N C L U S I O N S

The magnetic anomalies outlined on the Wanokana claims are probably

due to Karmutsen volcanic flows of variable magnetic susceptibilities. Several of these anomalies represent fair concentrations of magnetite but these anomalies are small in area.

The scattered pattern of the copper soil anomalies may be a reflection of the scattered disseminated chalcopyrite, and in places native copper, in the Karmutsen andesite and basalt flows. The long narrow anomaly which straddles the center line between Wanokana 3 and 4 claims about 500 feet south of the initial posts of Wanokana 1, 2, 3 and 4, lies along Wanokana Creek. It is thus probably due to a concentration of copper ions along this drainage although the quartz diorite intrusive in this area also shows some chalcopyrite.



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VANCOUVER, B.C.

SEPTEMBER 26, 1966.



Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 804 MAP # 1

TO ACCOMPANY GEOPHYSICAL-GEOCHEMICAL
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WONOKANA GROUP, 10 MILES SOUTHWEST OF
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DATED SEPTEMBER 26, 1966.

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Sept 26, 1966

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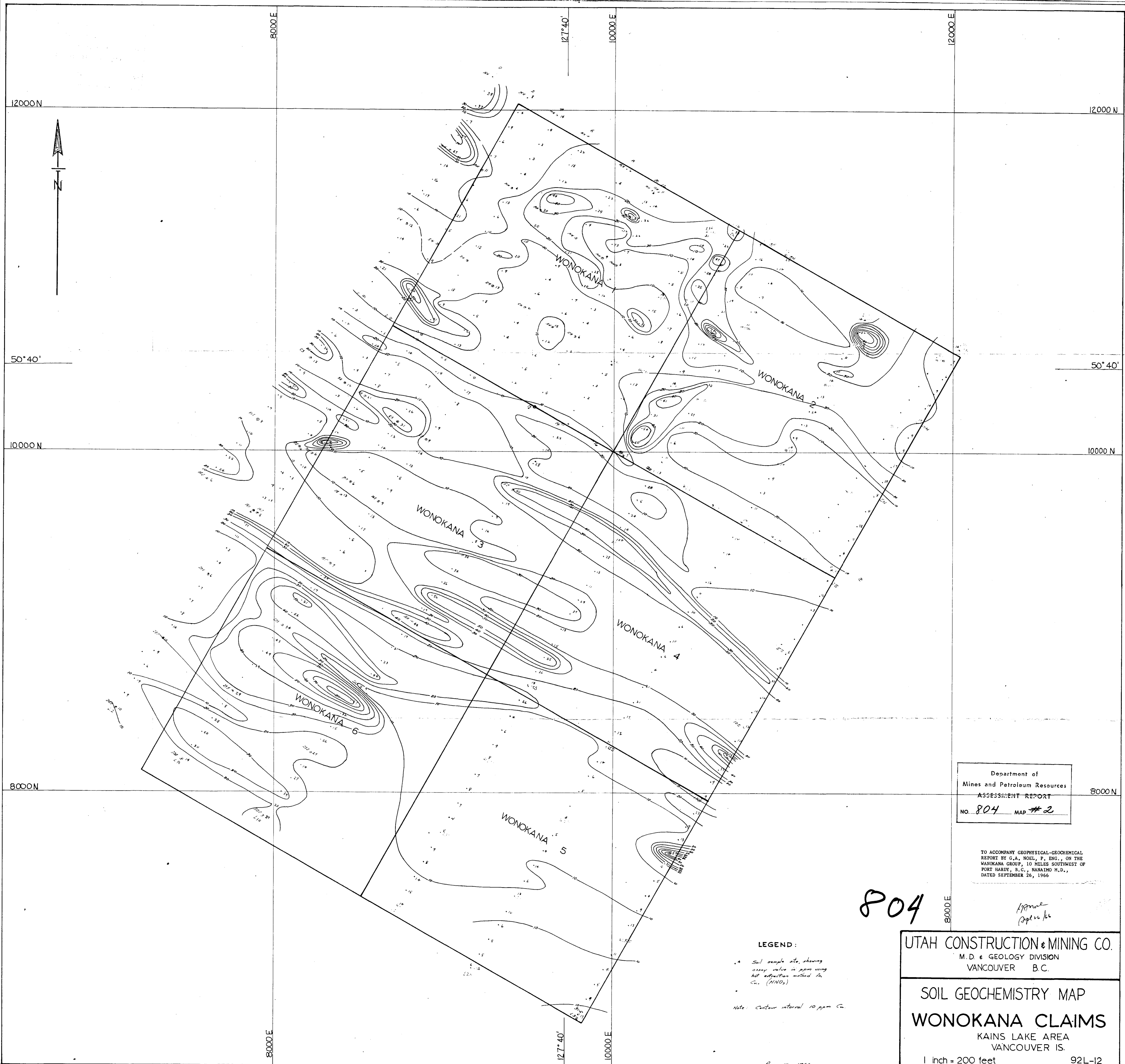
UTAH CONSTRUCTION & MINING CO.
MINERAL DEVELOPMENT & GEOLOGY
VANCOUVER B. C.

MAGNETIC CONTOURS
WONOKANA CLAIMS
KAINS LAKE AREA
VANCOUVER IS.

Contour interval: 1000 gammas

August 1966

92L-12



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 ASSESSMENT REPORT
 NO. 804 MAP # 2

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LEGEND:

• Soil sample site, showing
 assay value in ppm using
 hot extraction method in
 Cu. (ANOs)

Note: Contour interval 10 ppm Cu.

UTAH CONSTRUCTION & MINING CO.
 M.D. & GEOLOGY DIVISION
 VANCOUVER B.C.

SOIL GEOCHEMISTRY MAP
WONOKANA CLAIMS
 KAINS LAKE AREA
 VANCOUVER IS.

1 inch = 200 feet

92L-12

August 1966