REPORT

ON

SOIL GEOCHEMICAL SURVEY

CHAPPELLE NO. 5 GROUP
(Chappelle Mineral Claims $1,3,27,28,51,52,79$, $80,94,127,129-133,190-197,203-209,217-221$, 250-253.)

Situated 16 miles northwest of Thutade Lake, Omineca Mining Division, British Columbia


$$
57^{\circ} 17^{\prime} \mathrm{N} ; 127^{\circ} 02^{\prime} \mathrm{W}
$$



## Page

INTRODUCTION ..... 1
LOCATION AND ACCESS ..... 2
SOIL SURVEY FIELD WORK ..... 3
Control Survey Lines ..... 3
Soil Sample Collection ..... 3
Packaging ..... 3
Sample Preparation ..... 3
Analysis ..... 4
INTERPRETATION ..... 5
STATEMENT OF COSTS INCURRED ..... 6

## PLATES

(1) Location Map ..... 1:250,000$\eta$ Plate No. 1 Soil Sample Sites$1^{\prime \prime}=400^{\prime}$
3 Plate No. 2 Copper in Soil ..... "
4 Plate No. 3 Molybdenum in Soil ..... "
$\zeta$ Plate No. 4 Zinc in Soil ..... "
6 Plate No. 5 Lead in Soil ..... "
1 Plate No. 6 Silver in Soil ..... "
8 Plate No. 7 Gold in Soil ..... "
9 Plate No. 8 Cobalt in Soil ..... "
10 Plate No. 9 Nickel in Soil ..... "


Kennco Explorations, (Western) Limited

## CHAPPELLE CLAIMS

Situated 16 miles northwest of Thutade Lake
Omineca Mining Division British Columbia


- LOCATION MAP

0

## INTRODUCTION

The mineral property discussed in this report is situated about 16 miles northwest of Thutade Lake, British Columbia. The exploration work on these claims consisted of a soil geochemical survey. The position of the soil survey area is shown on the Location Map. This is an extension of Soil Survey Area No. 1 which is described in "Report on Soil Geochemical Surveys" by R.W. Stevenson, P. Eng. on Chappelle No. $1 \& 2$ Groups, situated 17 miles northwest of Thutade Lake, in the Omineca Mining Division, dated September 13, 1971.

The personnel employed are listed in the Statement of Costs Incurred. The work was done under the supervision of R.W. Stevenson, P.Eng.

The Chappelle No. 5 Group of mineral claims situated at Latitude $57^{\circ} 17^{\prime} \mathrm{N}$, Longitude $127^{\circ} 02^{\prime} \mathrm{W}$, about 285 miles northwest of Prince George. This is about 16 miles northwest of Thutade Lake. Soil survey area No. 1 is at an elevation of about 5400' and is well above treeline.

Access to the property is by fixed wing aircraft from Smithers to Black Lake, a distance of about 180 miles, and by helicopter from there. Local travel in the survey area is fairly easy, except for the moderately rugged topography.

# SOIL SURVEY FIELD WORK 

## Control Survey Lines

Three survey lines were established at contour levels of $5550^{\prime}$, $5650^{\prime}$, and $5800^{\prime}$ with the aid of a detailed topographic map, as shown on Plate No. 1. The survey line along the 5400' contour, run as a previous survey on July 8, 1971, is also shown so as to relate the present survey to the earlier work. Sample stations were established at $100^{\prime}$ intervals along each line using a chain and Brunton level.

## Soil Sample Collection

The samples were taken at 100-foot intervals along the grid lines. They were taken from the top of the "B" (rusty) horizon. In some rocky areas, sufficient soil could not be found to take a sample.

The samples were collected by digging a small hole with a mattock or with a trenching tool type of spade. By this means it was possible to examine the soil horizon development. A note was made of the grid line location, the sample number, the depth of sample, the horizon sampled, and the direction of drainage.

## Packaging

The samples were placed in $3^{\prime \prime} \times 41 / 2^{\prime \prime}$ brown paper envelopes on which the sample numbers had been marked. These were closed with a triangular triple fold. (The bags are not anomalous in trace metals).

## Sample Preparation

The samples were taken to base camp, and partly air-dried. They were then shipped to our laboratory in North Vancouver, where they were oven-dried at $80^{\circ} \mathrm{C}$, and sieved through an 80 -mesh size stainless steel screen. (These sieves do not show noticeable wear even after several thousand samples have been sifted). The minus 80 mesh fraction was collected for all the analyses involved.

## Analysis

The samples were analysed in the North Vancouver laboratory of Kennco Explorations, (Western) Limited, under the supervision of H. Goddard, laboratory manager. Total extraction from a weighed sample is achieved by digestion with concentrated nitric acid and $70 \%$ perchloric acid. Determination of the $\mathrm{Cu}, \mathrm{Mo}, \mathrm{Zn}, \mathrm{Pb}, \mathrm{Ag}, \mathrm{Co}, \mathrm{Ni}$ content is made by aspiration in a Techtron AA5 Atomic Absorption Spectrophotometer. To determine the gold content, a weighed sample is digested in aqua regia, filtered, and the gold removed by solvent-solvent extraction in an organic solvent, MIBK (methyl-isobutyl-keytone). This is aspirated in the Techtron AAS.

## INTERPRETATION

The depth of overburden varies from a few inches to probably about $10^{\prime}$ over most of the area sampled. Considering the type of soil, it would seem likely that soil geochemistry is a reliable technique on this part of the property. The samples were analysed for total metal content in copper, molydenim, zinc, lead, silver, gold, cobalt, and nickel.

Sample stations that are considered to be background are uncoloured. Sample stations that are considered to be only weakly anomalous are coloured yellow. The weakly anomalous levels are 150 ppm to 299 ppm for copper, 10 ppm to 19 ppm for molybdenum, 200 ppm to 499 ppm for zinc, 70 ppm to 149 ppm for lead, 2.0 ppm to 3.9 ppm for silver, 0.10 ppm to 0.29 ppm for gold, 50 ppm to 99 ppm for cobalt, and 200 ppm to 499 ppm for nickel. Sample stations that are definitely anomalous are coloured red. The weakly anomalous, and anomalous sample sites along the 5400' line are shown by colour so as to aid in the interpretation.

Copper is weakly anomalous over a fairly broad, welldefined area. Silver is weakly anomalous over a similar, but somewhat smaller area. It is strongly anomalous along limited sections of the 5400' line and the 5550' line. Lead shows a similar anomaly pattern to the strong silver anomaly. Stations anomalous in molybdenum have an erratic distribution, but there is a weak correlation with the silver anomaly.

Gold is weakly anomalous at a few scattered sites in the survey area. The values are rather low; however, several of the sites are contiguous, and all but three are co-anomalous in silver.

Cobalt is weakly anomalous at a number of sample sites. There is no well-defined pattern, except perhaps that it appears to be peripheral to the other metal anomalies. Zinc is virtually non-anomalous. The low values for nickel reflect the absence of basic rocks.

Vancouver, B.C.


November 16, 1971

## STATEMENT OF COSTS

The costs incurred on assessment work on the Chappelle No. 5 Group of mineral claims were as follows:

```
Analysis of 77 soil samples for Cu,
    Mo, Zn, Pb, Ag, Au, Co, Ni - $423.50
Wages & Board: P.R. Archibald, Aug.
    19,20 @ $19.00 + $10.00 - 58.00
        A.B. F1ower, Aug. 19,
    20,@ $21.00 + $10.00 - 62.00
Drafting & Typing - _ 35.00
Total - $578.50
```











