

Sub 8

PROGRESS REPORT  
ON THE  
KYUQUOT SYNDICATE

E.D. Dodson, P.Eng. Jan. 15, 1971

92-L-3

KYUQUOT SYNDICATE  
By: E.D. Dodson,  
January 15, 1971.

92-L-3  
B.C.

TELEPHONE 681-7493

MACDONALD CONSULTANTS LTD.

SUITE 12-425 HOWE STREET, VANCOUVER 1, B. C.

PROGRESS REPORT

ON THE

KYUQUOT SYNDICATE

BY

E. D. DODSON, P.ENG.

JANUARY 15, 1971

TABLE OF CONTENTS

	<u>Page</u>
Introduction	1
History	1
Program Proposal	2
Work Accomplished	2
Geology	3
Mineralization	5
Recommendations	8
Budget	9

## INTRODUCTION

Much of the descriptive material in the following report is taken directly or with minor changes from the writer's preliminary report of October 9th, 1970. Conclusions based on geochemical data are those of Dr. R. B. Band. Recommendations are the writer's and are the result of consideration of all the material currently at hand.

## HISTORY

The Kyuquot Syndicate program was first considered by the writer in the winter of 1967. However, the writer learned that other workers were in the area at that time and therefore dropped the project. Interest in the area was maintained, particularly when the writer learned that crews of the Coranex Syndicate had had some indications of copper mineralization in the Easy Inlet area.

The program was revitalized in the fall of 1969. In December of that year 50 mineral claims were staked in the Easy Inlet - Jansen Lake area in an attempt to cover any open ground in the vicinity of known alteration zones and at the same time to cover Coranex's presumed discovery.

Originally, Falconbridge was approached as a possible partner in a syndicate with another company or companies. When no partner was forthcoming, the writer urged Falconbridge to undertake the project alone on a somewhat reduced area.

PROGRAM PROPOSAL

The 1970 Kyuquot program was designed as a first-stage exploration program to establish broad areas of interest and, if possible, outline more distinct targets within the Kyuquot peninsula of Vancouver Island.

The area was chosen because of geological similarities to the Rupert Arm area where Utah Mining & Construction Company had come up with a major porphyry copper deposit.

The method to be employed involved utilization of a small (4 man) crew, rubberboat and motorcycle to provide intensive coverage of a relatively accessible, but difficult, piece of country. Silt samples were to be taken at 1,000 foot intervals (later modified to 500 feet at the suggestion of Dr. I. E. Elliott) on all drainages to their headwaters. Simultaneously, the geology and mineralization was to be recorded, float was to be checked and a geological map prepared.

The area to be covered was initially the Kyuquot peninsula from the head of Kashutl Inlet to the head of Ououkinsh Inlet. Later this was revised to the east half of the same peninsula. Further adjustments extended the area to approximately 2/3 of the peninsula. Every effort was made to make the coverage as thorough as possible and to avoid holes in the coverage.

WORK ACCOMPLISHED

Over most of the above area all recognizable drainages, both fully developed streams and small seepages, were silt-sampled. Sampling on

streams was at approximately 500 foot intervals and at or near the mouths of tributaries. In all, approximately 1,900 silt samples were taken. In addition, in several cases, where mineralization was known or suspected, limited soil-sampling was carried out. Approximately 30 sulphide occurrences were discovered during the program. Many of the occurrences are of little or no merit, but several may be indications of significant mineralization.

Regional geological mapping coupled with the distribution of known showings has served to indicate the areas and rock types most favourable to mineralization and the probable trend of major structures.

## GEOLOGY

### Sedimentary and Volcanic Rocks

The portion of the Kyuquot peninsula covered by the program is underlain chiefly by rocks of the Bonanza group. The regional dip is southerly, ranging from south-southeast to south-southwest. Prominent variations from this direction relate to local structures.

The Bonanza group is represented by both sedimentary and volcanic rocks. The Upper Bonanza is predominantly volcanic and the Lower Bonanza primarily sedimentary.

The volcanic rocks are chiefly pyroclastics with occasional interbedded flows or series of flows. Most of these rocks are intermediate in composition, but local basaltic flows occur. Pyroclastics range from normal andesitic tuffs and breccias to highly siliceous bedded tuffaceous units.

The Bonanza sediments are almost entirely calcareous. Due to lack of outcrop and interruption by intrusive little correlation was possible from locality to locality.

#### Intrusive Rocks

Two distinct varieties of intrusive are present. The first, here termed syenodiorite, is a medium grained rock composed largely of alkalic plagioclase with subordinate hornblendes. The general body color of this rock is pink to grey. Over large areas this rock contains in excess of 50% basic inclusions.

The second intrusive type is hereafter referred to as the quartz-porphry. This rock varies from relatively fine grained to moderately coarse. All examples seen carry pronounced highly rounded quartz phenocrysts. No thin-section work has been done, but it is believed that both orthoclase and plagioclase are present. The mafics are biotite and hornblende. Pyrite is a common accessory and shreddy brown biotite is developed in the marginal phases.

#### Structure

In general, the area appears homoclinal with a consistent southerly dip. The sediments and volcanics are cut by several intrusive bodies. All rocks are cut by faults. The most common fault direction is northeasterly. It is probable that most of the numerous northeasterly lineaments visible on the airphotos are faults.

A second prominent fault direction is northwesterly. This direction

is represented chiefly by the members of the major throughgoing Mahatta and West Coast faults. Evidence of their existence is primarily pronounced topographic lineaments with intermittent confirmation in terms of breccia zones, mylonites and slickensided surfaces.

#### MINERALIZATION

Distribution of known mineralization is along two broad linears. One runs from Jansen Lake through the Chamiss area toward Kyuquot. These showings consist of disseminated chalcopyrite and, locally, bornite, in flow rock. The second belt coincides in a broad way with the presumed path of the Mahatta fault. All but two of the potentially significant showings seen occur within this second belt.

Of the deposits related to the northeast trending - Jansen Lake Belt - two may prove of interest, although some doubt should be expressed here.

The first occurs on the "H" claims on the east side of Jansen Lake. Here a poorly defined, but probably very limited, area of bornite-chalcopyrite mineralization occurs in a flow top. Specimens carrying several percent copper, as bornite, have been obtained, but geochemical sampling in the area suggests little continuity to the mineralization.

The second occurrence is on Chamiss Creek. Here a small "borrow-pit" or quarry has provided dark green andesitic fill for road construction. Little mineralization is evident in the disused, partially collapsed, quarry. Road fill locally contains boulders of this rock containing disseminations, streaks and veinlets of chalcopyrite. Presumably, the floor of the quarry might show similar material to that found in the fill, but it would necessarily be of extremely limited extent.

The mineralized belt which parallels the Mahatta fault shows a fair density of sulphide showings throughout much of its length. In



the vicinity of the Ououkinsh and Malksope Rivers a broad zone of north-easterly faulting is apparent transverse to the N 30° W Mahatta Fault. This zone at its intersection with the Mahatta is the locus of the above mineralization.

Mineralization occurs in both Bonanza sediments and intrusive porphyries. The Bonanza rocks include limey sediments, partially converted to skarn; tuffs, in part highly silicified; agglomerates and flows. These rocks are cut by syenodiorite dykes and quartz-feldspar porphyry bodies.

Mineralization occurs in both sediments and intrusives. Copper mineralization occurs in sediments, volcanics and quartz-porphyry intrusive. Zinc mineralization appears to be confined to the limey sediments.

At this early stage little is known of the alteration pattern. Skarn is developed locally in the recrystallized limestones, tuffaceous rocks are silicified, agglomerates show quartz veining and irregular quartz patches. In addition, the andesitic volcanics contain abundant patches and streaks of epidote. Portions of the porphyry contain abundant shreddy brown biotite.

In view of the limited exposures no immediate correlation can be made between the alteration and known mineralization. Pyrite is abundant, especially in tuffaceous rocks, but is not consistently present nor as extensive as the chemical anomalies.

Evaluation of the individual showings is premature at this time as insufficient time has yet been devoted to detailed work, and as overburden cover is very extensive. Mineralization ranges from narrow quartz veins with chalcopyrite, sphalerite and galena to disseminations of pyrite, sphalerite and chalcopyrite. In one instance a five foot band of pyrite

with some sphalerite is partially exposed. A quarry used for logging road fill is cut in silicified mylonitized chalcopyrite-bearing tuff, samples from which gave a value of .29% copper.

Some parallels can be drawn between the environment of the Island Copper deposit and the geological conditions on the upper Malksope River.

Unfortunately, the writer was out of the country at the time of Mr. M. Young's oral presentation on the Island Copper deposit. A written presentation of this paper will be forthcoming shortly, but is not yet available.

The following facts are known, however (1):

The mineralization is associated with a quartz-feldspar porphyry of approximately quartz-monzonite composition. Ore grade mineralization occurs on both the hanging and foot-walls of the porphyry within the Lower Bonanza rocks and to a lesser extent within the porphyry. A pyritic hood occurs over portions of the ore zone. Alteration appears to be related to a major N 70° W fault. The long axis of the orebody is also parallel to this fault.

The quartz porphyry of the Malksope River area is megascopically similar in appearance to the porphyry at Island Copper. Known mineralization occurs in the vicinity of the porphyry in rocks of the Lower Bonanza. A pronounced northwesterly striking fault (Mahatta) transects anomaly 1. The known sulphide occurrences appear to be concentrated along it. This same fault could serve as control for a major sulphide deposit.

---

(1) M. Young, Personal Communication, January 1971.

RECOMMENDATIONS

The writer recommends that the following work program be undertaken in the Kyuquot area.

A. Malksope River Area

1. Claim staking - Approximately 50 claims should be staked to complete the coverage of anomaly 1. Two further claims should be staked to cover the west end of anomaly 3. This work should be undertaken as soon as practicable.

2. A soil-sampling program should be undertaken to cover soil-anomaly 1 or, more precisely, those portions which lie on the company's claims. This program can be set up on a 400 foot line spacing with 400 foot sample interval. In those areas which prove of interest sample interval can later be reduced to 200 feet. The soil-sampling should be undertaken as soon as the ground is free of snow.

3. The results of the soil-sampling program should establish priority areas worthy of further work. These areas should be mapped geologically at a scale of 1" = 200'.

The validity of further work would be determined by the results of the above surveys.

4. In addition to the work on Anomaly 1, further prospecting should be carried out northerly along the Mahatta fault and to

the west of Anomaly 1 to determine the full extent of the mineralized area. This can be carried out on a similar basis to the 1970 program but with a smaller crew.

B. Other Areas

Band recommends limited follow-up on each of Anomalies 2 and 4. This could best be undertaken by conducting soil surveys over the anomalies.

BUDGET

- A. 1. Claim staking - costs will be approximately \$40/claim depending on timing and weather conditions. (\$2,000)
2. Approximately 85 line miles of soil sampling will be required with ribboned lines. Lines plus sample collection will cost in the order of \$100/line mile. (\$8,500)
- Additional to this will be the cost of analyses and soil bags - presumably to be supplied by Falconbridge.
3. Geological mapping will require a geologist and helper for a minimum period of six weeks. Overall cost would be in the order of (\$6,500)
4. Prospecting for extensions of Anomaly 1 will require a two man crew, for a period of approximately six weeks (\$7,000)

B. Soil sampling grids and limited prospecting on other anomalous areas would require the two man crew specified in item A 4 for a period of approximately four weeks. This would cost about (\$5,000)

Experience in 1970 suggests that a light truck would be invaluable as a supply vehicle. Barging plus rental for a four month period would be approximately (\$2,000)

Consulting fees - 30 days - to E. D. Dodson @ \$150/day	<u>4,500</u>
Estimated cost	\$35,500
Contingencies	<u>4,500</u>
	\$40,000

Respectfully submitted,  
MACDONALD CONSULTANTS LTD.



E. D. Dodson, P.Eng.

EDD/bd