

GEOLOGICAL REPORT ON THE TOM,
RED CHIEF, and HAPPY DAY CLAIM GROUPS,
5 miles N.E. of Cranbrook, Forte Steel, M.D.
115°43' W. 49° 35' N. N.W.
CINDY MINES LTD 82G/12E
By J. Willars. July 21-Aug 31, 1967.

9416

946

REPORT ON THE GEOLOGICAL SURVEY
OF THE WESTERN SECTION OF THE

CINDY MINES LIMITED
CRANBROOK AREA PROPERTY

BY

J. G. WILLIAMS, B.A.Sc.
P.Eng. (Ont.)

ON BEHALF OF

A. C. A. HOWE & ASSOCIATES LTD.

This is Exhibit "C" referred to in
the affidavit of William J. Williams
sworn before me at Vancouver
in the Province of British Columbia,
this 22 day of February 1967

[Signature]
A Commissioner for Taking Affidavits
within British Columbia

Toronto, Ontario

August 25, 1966

940

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"GEOLOGICAL MAP" 7

BACK FOLDER

RECEIVED
MAY 1 1964
CRANBROOK, B.C.
MINING RECORDER

APPENDIX

REVISIONS

Please delete from the section on page 3 entitled ECONOMIC GEOLOGY the words "As previously reported...." so that it reads as follows:-

"Chalcopyrite was observed in three pits sunk on the diorite. It occurs in disseminated form and in quartz veinlets. No additional mineralization was observed."

RECEIVED
APR 1 1964
GRANBROOK, B.C.
MINING RECORDER

INTRODUCTION

During the latter part of August, 1966, fifty-eight claims (the western section) of a group of one hundred held by Cindy Mines Limited were geologically mapped by the writer. Picket lines had been cut at 400 ft. intervals to use for control.

Roads and trails provide reasonably easy access to any part of the property.

The chief purpose of the survey was to determine the extent of the copper bearing diorite and its relationship to the country rocks. Approximately 50% of the area is overlain by overburden.

GENERAL GEOLOGY

The oldest rocks on the property are of the Kitchener formation of Precambrian Age. These occur on the west half of the property and consist of coarse bedded light and dark grey argillites, green shales, grey calcareous shales, a series of narrow banded shales colored red, green, brown, yellow calcareous shales, and red argillite.

These rocks are overlain by the Siyeh Formations of Precambrian Age which occur on the east half of the property. They consist of a series of green siliceous (quartzitic)

sediments, grey siliceous (quartzitic) sediments, a conspicuous red to green sediment, brown siliceous (quartzitic) sediments, red shales, and amygdaloidal lavas.

In the extreme north east part of the area mapped a band of Palaeozoic quartzites and argillites overlies the above mentioned Precambrian rocks.

The Precambrian rocks are intruded by diorite dykes and sills.

STRUCTURAL GEOLOGY

In the north part of the area mapped the Precambrian rocks strike northwesterly and dip -45° to -55° to the north-east. In the south part of the property the rocks strike northerly and dip vertically or steeply to the east. In the west central part of the mapped area the rocks strike westerly and dip vertically or steeply to the north. This appears to be part of a large S-shaped fold and is in part illustrated by the shape of the amygdaloidal lava.

Locally these rocks are severely contorted and fractured. Shearing is severe and is predominantly striking in a northeasterly direction across all of the Precambrian rocks. The dip of the shearing varies from vertical in the

north part to -45° northwesterly in the south part. No faults were positively identified, but probably they are present and strike northeasterly.

The diorite dykes strike across the bedding of the Precambrian sediments in a northeast direction. No dips were determined, but the diorite is intruded along the shearing direction and this may influence its attitude. Therefore in places it may dip flatly to the northwest. The main diorite rocks are located in the central part of the map area. Two occurrences to the northwest appear to be concordant with the bedding and are sills.

No attitude was observed on the Palaeozoic quartzites in the north east part of the map area.

ECONOMIC GEOLOGY

As previously reported, chalcopyrite was observed in three pits sunk on the diorite. It occurs in disseminated form and in quartz veinlets. No additional mineralization was observed.

SUMMARY AND CONCLUSIONS

The diorite with which the chalcopyrite mineralization

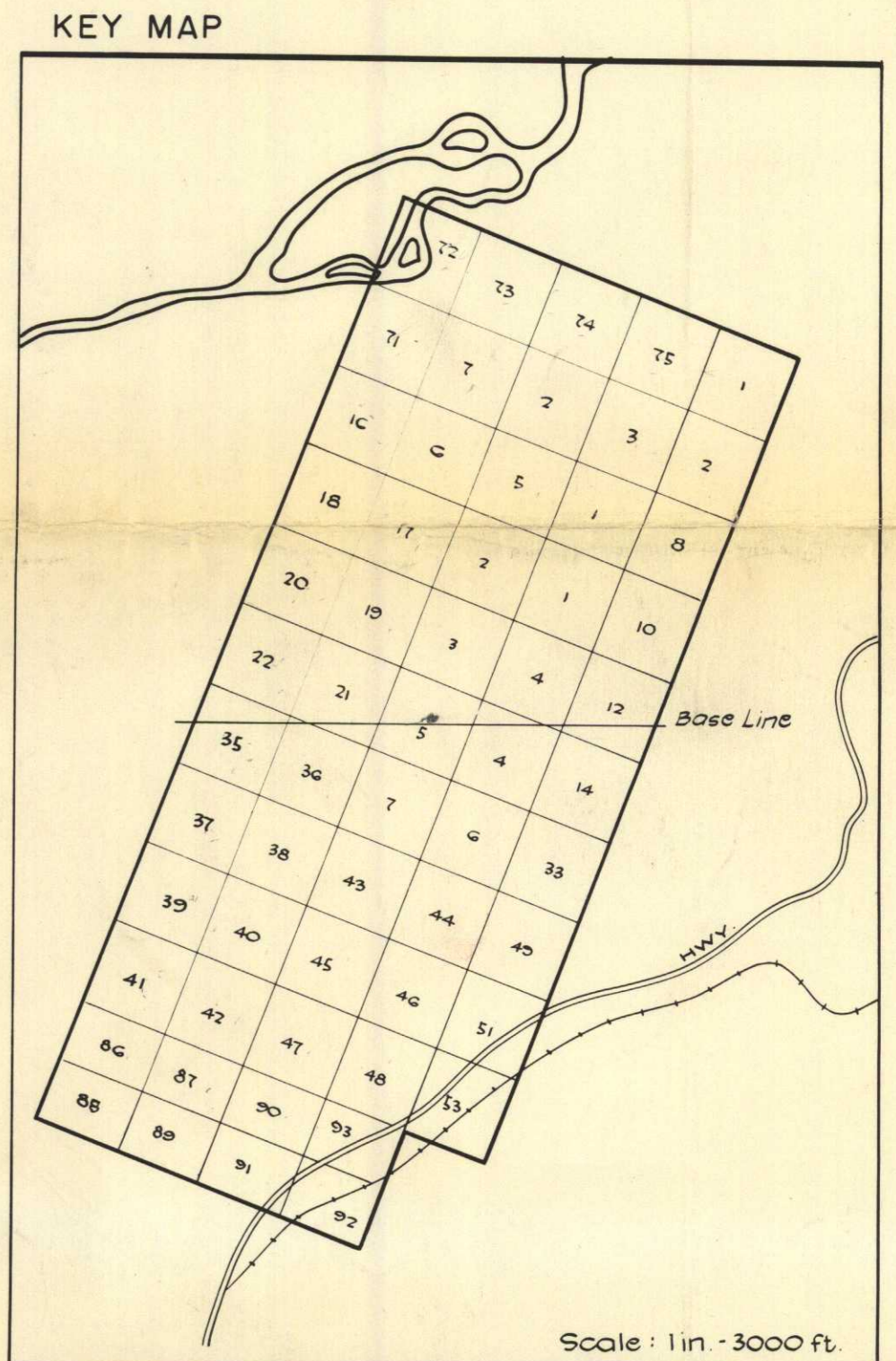
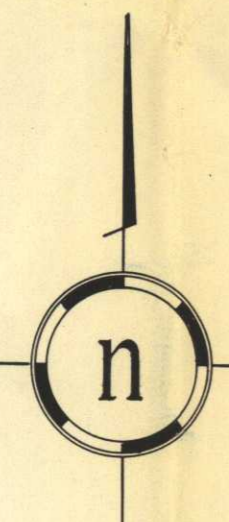
is associated can be projected southwesterly across the property and for the most part is overlain by overburden. The geochemical soil survey which has just been completed may provide information leading to economic mineralization in this area. If so, a magnetometer survey in this area would probably outline the diorite rocks more closely.

An explanation for the irregular shapes of the diorite rock areas is that it is in reality a sheet like intrusive dipping approximately -35° to the northwest.

Respectfully submitted,
A. C. A. HOWE & ASSOCIATES LTD.

J. G. Willars B.A.Sc., P.Eng. (Ont.)

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P.Eng. (Ont.)



Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 946 MAP I

CINDY MINES LIMITED
KOOTENAY DISTRICT, BRITISH COLUMBIA

GEOLOGY
by
A.C.A. HOWE & ASSOC. LTD.

946

To accompany geological report by
J.C. Willars, on the Tom, Red Chief,
& Happy Day Groups, near Cranbrook,
in the Fort Steele Mining Division, August 25, 1966
September 66

- LEGEND**
- CENOZOIC**
- 1 Pleistocene glacial drift, silt, gravel, clay
- PALAEZOIC**
- 2 Quartzites
 - 3 Argillites
- PRECAMBRIAN**
- 4 Diorite intrusives
 - 5 Sishu Formation
 - 6 General siliceous sediments
 - 7 Amygdaloidal lavas
 - 8 Kitchener Formations
 - 9 General shales, argillites, dolomites
- SYMBOLS**
- Strike, dip (45-90° predominantly NW)
 - Isoclinal direction
 - Shearing (predominantly NE)
 - Outcrop
 - Geological contacts assumed
 - Projections of diorite dykes
 - Pit
 - Claim posts, assumed claim lines
 - Railway
 - Highway
 - Road
 - Trail
 - Power line