380

GEOLOGY AND COPPER PROSPECTS

of

ROYAL CANADIAN VENTURES LTD.

HIGHLAND VALLEY, B.C.

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Supplement to Reports entitled

Highland Valley Copper Prospects of Royal Canadian Ventures Ltd.
dated November, 1960
by Norman S. Edgar and C. Warren Hunt

and

Reconnaissance Report, Highland Valley Area, B.C.
dated June, 1961
by Virgil R. Chamberlain

and

Supplemental Report, Highland Valley Area, B.C.
dated July, 1961
by Virgil R. Chamberlain

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C.Warren Hunt Exploration Ltd.

C.Warren Hunt, President

August, 1961

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Maps: In Pocket

Map Showing R.C.V. Claim Groups and Magnetometer Surveys
Map Showing Geology of Claim EZZ 13 and Vicinity

PERTINENT DATA

Party:	C.Warren Hunt
Transportation:	Personal automobile
Dates of trip:	July 23-29; of examination: July 24-27
Weather:	Warm, dry
Headquarters:	With magnetometer crew at Highland Valley Lodge.

PREFATORY REMARKS

Following the geologic reconnaissance of the author and N.S.Edgar of October and November, 1960, and the more detailed work of Virgil Chamberlain in June and July, 1961, there were several areas in which further reconnaissance and detail were considered desirable. These were investigated on the ground; and the results are reported in the following summaries.

A guide map to all areas discussed and a detailed map of one area are included in the pocket of this report.

Area I, Inkikuh Creek

This region was suggested as a possible intrusive plug by Virgil Chamberlain because (a) it has a circular erosion pattern expressed on aerial photographs and (b) it is near a known contact between Bethseda quartz porphyry and Younger quartz diorite.

The area was thoroughly traversed in several directions by the author. No fresh bedrock occurs there. Some near-source weathered boulders are present on the highest ground and much float is present. All float and near-source boulders are Younger quartz diorite. No mineralization and no interest of structural nature was observed.

Area II and III, North of OK Mine

Area III also was suggested as a possible intrusive plug by Chamberlain. He had found a contact between Bethseda quartz porphyry and Younger diorite east of point III. Although the writer found and attempted to trace this in the field it is very obscure due to mixing of float.

A northwest-trending neck of Bethseda is interpreted as extending through Area III from the main Bethseda stock southeast of OK mine toward area IV.

Area II is all Younger quartz diorite. Exposures, however, are only good on

the hilltops; and alocthonous masses could be present beneath intermediate terrain.

Area IV, eastern EZZ 13 region

This is a region of altered Younger quartz diorite. A small outcrop of Bethsada porphyry near Magnetometer Station P32 is interpreted as the end of the neck of that material reported above to extend through Area III toward IV.

As seen in this vicinity there is a complete and gradual transition from unaltered Younger diorite to well defined Bethsada porphyry. The Bethsada in this locality is a recrystallized phase of the Younger diorite. Regionally this is not so, of course.

Two prominant members of the joint pattern west of IV bear N 52 W and N 30 E. Nearer IV their trends are bent to N 75 W and N 20 E. This distortion of the joint pattern suggests tectonic activity subsequent to Bethsada crystallization and, therefore, subsequent also to alteration of the Younger quartz diorite.

Bulldozer clearing at IV shows a sericitic area with malachite stains, some chalcopyrite and much mechanical brecciation. The trends of fracturing do not seem to be indicative of any single fault. Rather, the alteration seems to

be related to an area of fracturing and hydrothermal action. The general strike of the altered area seems to be northeast.

Area V, Diggings of Guthro beside road on EZZ 13

An area of altered Younger quartz diorite has been mapped (see map in pocket) in which crystal sizes are greatly increased, mafic minerals are more or less chloritized, and felspars to some extent are sericitized. Bornite is disseminated in much of the altered area but not in all of it. A northeast trend is the general orientation of both the mineralization and the alteration. Configuration of trend and local fractures suggest a steep southeast dip of both mineral and alteration zones.

Area VI, Dacite dike

This structural feature is found to have a north-south strike, to extend from the road to VI, and to terminate close to VI. No contacts were actually observed but both contacts were determined within ten or more feet at numerous places along the trend of the dike.

Areas VII and IX, "Vent" and Kathleen Trail areas

The dike studied at Area VI is of such interest that the author considered a regional tension crack could exist on the trend it occupies. Extended south this trend would pass just west of OK mine and east of the Kathleen workings. A photo-alignment gives some encouragement to the tension fault idea.

The entire trend was walked by the author without fruitful result due to heavy overburden in most areas. However, from VII north to the road intersection (1000 feet southwest of the OK Mine) there is much exposure of Bethseda quartz porphyry and no sign of major faulting.

Results of geologic studies in these areas are inconclusive. Potentialities are still present and must be assessed by other means. The most likely place for mineral occurrence would seem to be south of VI where easterly prolongation of the EZZ 13 structural trends meet the southward prolongation of the dacite dike trend. Other possibilities are (1) the junction of the northeastward Empire mine trends with the dacite dike trend and (2) the intersection of the Island Lake fault and the dike trend.

Area VIII, East Calling Lake

Partial bornite replacement of ferro-magnesian minerals in a large area of

ubiquitous Bethseda quartz porphyry was discovered by the writer. Although bornite is present in small quantity (.03%) it is thought possible that the Island Lake fault would be found to be a controlling and localizing factor in hydrothermal migration and deposition. It is reasoned that any brecciated and altered rock of the region would be covered by muskeg and lake or by float and drift.

X The Bathseda workings were briefly visited for correlative purposes. They are located east of the map area in a region of ubiquitous Bathseda quartz porphyry.

Massive and vuggy quartz veins with molybdenite, pyrite, chalcopyrite, bornite and various minor minerals and alteration products occur on easterly trends (N 80° E ±) in Betheeda porphyry. The porphyry is hydrothermally altered near the veins into sericite. Hydrothermal deposits often include and re-cement earlier-formed fault breccia. Quartz reaches 2 feet thickness. Evidently the quartz veins are a very late emplacement.

RECOMMENDATIONS

This region is too heavily covered to permit direct detection of ores of the type found in the Bethlehem Mine by field geologic methods. It is, therefore, recommended that areas of interest as shown on the accompanying map be surveyed (1) with closed traverses using a plane table,

(2) with magnetometer using a 50-foot square grid, and

(3) with the Induced Polarization technique.

C. Warren Hunt
Professional Geologist, Alberta

GEOLOGY

IN AREA

OF

MAGNETOMETER SURVEY:

CLAIM EZZ 13 and VICINITY

Scale: 1" = 50'   Contour Interval: 10 Instrument Units

Calibration: 1 Instrmt. Unit = 21 γ

Points P. 35 A to J, P. 36 A to J, P37 A to L, P38 A to L and P39 A to L = 1 Istrmt. Unit = 34.9 γ
Points P. 36, 21 to 26, P. 37 21 to 27, P. 38 21 to 29, P. 39 21 to 30, P. 40 21 to 31, P. 41 21 to 32, = 34.9 γ

◉ = Test Hole

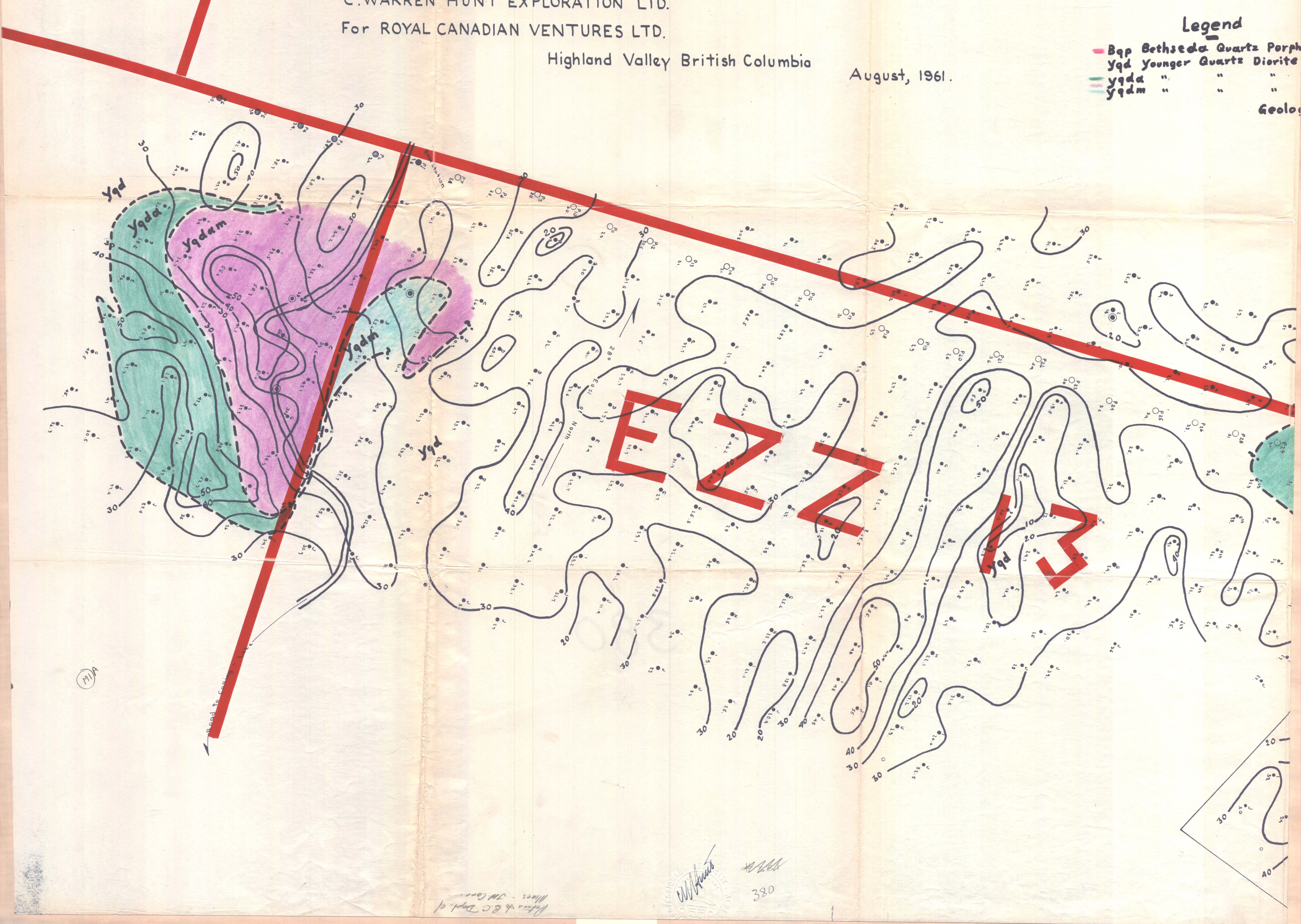
By

C. WARREN HUNT EXPLORATION LTD.

For ROYAL CANADIAN VENTURES LTD.

Highland Valley British Columbia

August, 1961.



N

ts

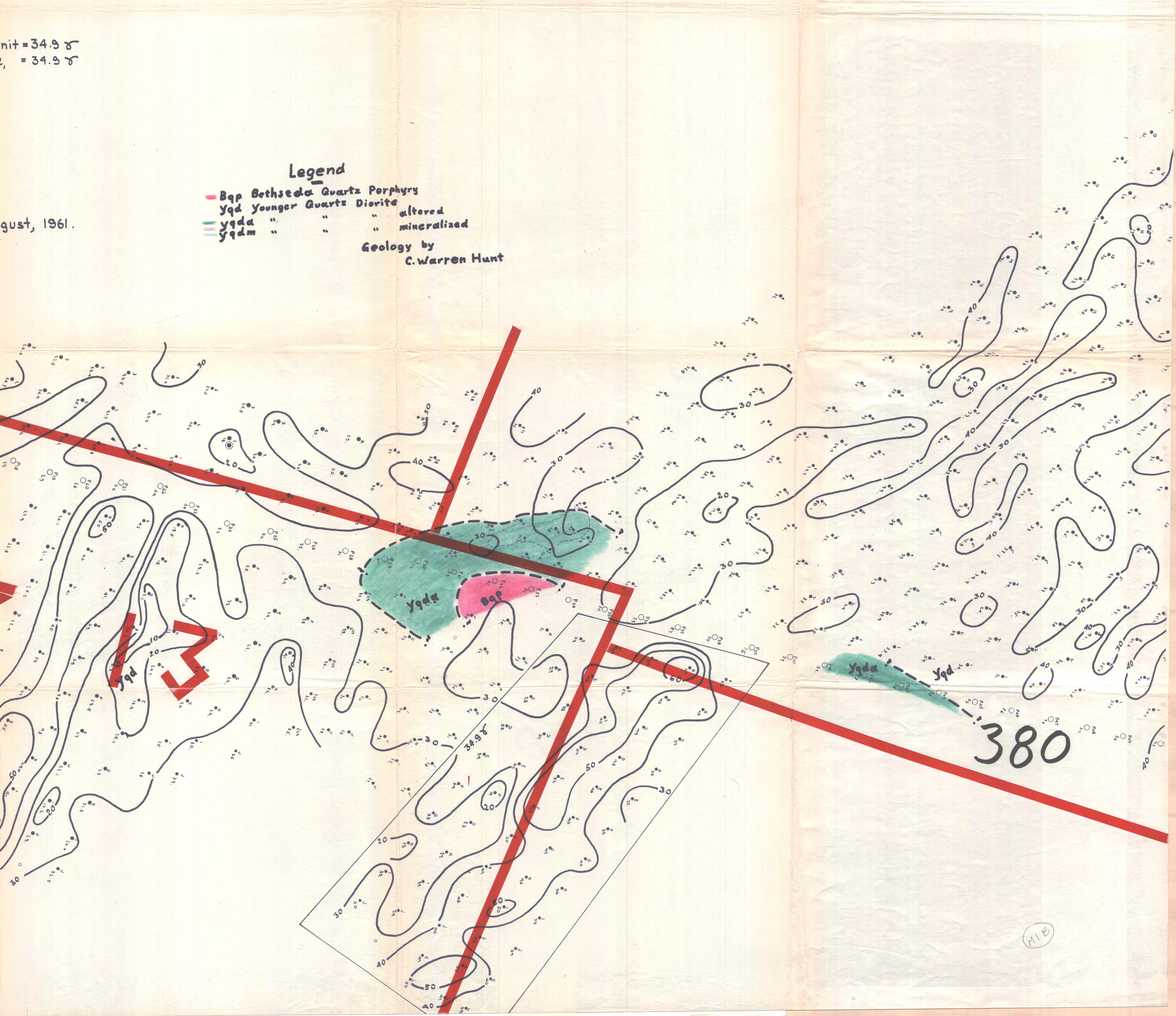
nit = 34.9 γ
, = 34.9 γ

gust, 1961.

Legend

- Bqp Bethseda Quartz Porphyry
- yqd Younger Quartz Diorite
- yqda " " " altered
- yqdm " " " mineralized

Geology by
C. Warren Hunt




HIGHLAND VALLEY LODGE
EZZ NO. 24
EZZ NO. 23
EZZ 12
EZZ NO. 11
EZZ NO. 10
EZZ NO. 9
EZZ NO. 8
EZZ NO. 7
EZZ NO. 6
EZZ NO. 5
EZZ NO. 4
EZZ NO. 3
EZZ NO. 2
EZZ NO. 1
BASE STATION P1
EZZ NO. 14
EZZ NO. 22
EZZ NO. 13
EZZ NO. 21
PAL NO. 1 MIN. CLAIM
PAL NO. 3
FRACT.
PAL NO. 1 FRACTION
PAL NO. 2 FRACT.
Ygd
Bqp
CALL NO. 3
CALL NO. 1
CALL NO. 4
CALL NO. 2
EON NO. 2
EON NO. 1
EZZ NO. 16
EZZ NO. 15
O.K. BASE STATION
ISLAND - LAKE
CALL NO. 6
CALL NO. 8
CALL NO. 5
CALL NO. 7
OK. MINE
EON. NO. 4
EON NO. 3
EZZ NO. 18
EZZ NO. 17
EON NO. 6
EON NO. 5
EZZ 20
EZZ 19
CALL NO. 15
CALL NO. 10
CALL NO. 9
CALL NO. 11
CALL NO. 12
CALL NO. 16
BRIDGE BASE STATION
CALL NO. 13
CALL NO. 14
VENT. NO. 1
VENT NO. 3
VENT NO. 2
VENT NO. 5.
VENT NO. 4.
VENT NO. 7
VENT NO. 6
VENT. NO. 9
VENT. NO. 8
VENT NO. 11
VENT NO. 10
OK. LAKE
VENT BASE STATION
MAIN BASE
ROYAL NO. 1
ROYAL NO. 2
ROYAL NO. 3
ROYAL NO. 4
ROYAL NO. 5
ROYAL NO. 6
ROYAL. NO. 7
ROYAL. NO. 8
ROYAL NO. 9
ROYAL NO. 10
ROYAL NO. 11
ROYAL NO. 12
OK. LAKE
CALLING LAKE
N
EAST CALLING LAKE BASE STATION
CANA FRACT NO. 1
CANA NO. 9
CANA NO. 10
ROYAL NO. 13
ROYAL NO. 14
ROYAL NO. 15
ROYAL NO. 16
ROYAL NO. 17
ROYAL NO. 18
ROYAL NO. 19
ROYAL NO. 20
EMPIRE
EMPIRE BASE STATION
CANA FRACT. NO. 2
BON NO. 2
BON NO. 1
BON NO. 4
BON NO. 3
BON NO. 6
BON. NO. 5
BON. NO. 8
BON NO. 7
BON NO. 16
BIG PIT
KATHLEEN
BON NO. 10
BON NO. 9
BON. NO. 12
BON. NO. 11
BON NO. 13
BON. NO. 15
CANA NO. 2
CANA NO. 1
CANA NO. 4
CANA NO. 3
CANA NO. 6
CANA NO. 5
CANA NO. 8
CANA NO. 7
CANA NO. 17
CANA NO. 18
CANA NO. 19
CANA NO. 20
CANA NO. 11
CANA NO. 12
LEGEND
IV Station Referred to in Text
.... Contact
~~ Tension Fracture
Bqp Bethsede Quartz Porphyry
Yqd Younger Quartz Diorite
Dd Dacite dike
Area of Interest

INDEX:

= ROYAL CANADIAN VENTURES CLAIMS

= C.W.HUNT EXPLOR.LTD. MAG. SURVEYS

= CLAIMS OWNED BY OTHER CO. & PERSONS

◎ = MAIN BASE & BASE STATIONS

● = TEST HOLES

C. WARREN HUNT EXPLORATION LTD.

HIGHLAND VALLEY AREA
BRITISH COLUMBIA

MAP SHOWING R.C.V. CLAIM GROUPS
AND
MAGNETOMETER SURVEYS

380 (M2)

SCALE: 1.5" = 1000' APPROX.

C. WARREN HUNT

SEPTEMBER 1961

#380

HIGHLAND VALLEY LODGE

EZZ NO. 24 | EZZ NO. 23 | EZZ 12 | EZZ NO. 11 | EZZ NO. 10 | EZZ NO. 9 | EZZ NO. 8 | EZZ NO. 7 | EZZ NO. 6 | EZZ NO. 5 | EZZ NO. 4 | EZZ NO. 3 | EZZ NO. 2 | EZZ NO. 1

BASE STATION P.I.

EZZ NO. 14 | EZZ NO. 13 | PAL NO. 1 MIN. CLAIM FRACT. | PAL NO. 3

PAL NO. 1 FRACTION | PAL NO. 2 FRACT. | CALL NO. 3 | CALL NO. 1 | CALL NO. 4 | CALL NO. 2

EON NO. 2 | EON NO. 1 | EZZ NO. 16 | EZZ NO. 15

O.K. BASE STATION

CALL NO. 8 | CALL NO. 7 | CALL NO. 6 | CALL NO. 5

O.K. MINE

EON NO. 4 | EON NO. 3 | EZZ NO. 18 | EZZ NO. 17

ISLAND - LAKE

ISLAND - LAKE

CALL NO. 10 | CALL NO. 9

EON NO. 6 | EON NO. 5 | EZZ 20 | EZZ 19

CALL NO. 11 | CALL NO. 12 | CALL NO. 13

BRIDGE BASE STATION

CALL NO. 15 | CALL NO. 14 | VENT NO. 3 | VENT NO. 1 | VENT NO. 2 | VENT NO. 5 | VENT NO. 4 | VENT NO. 7 | VENT NO. 6 | VENT NO. 9 | VENT NO. 8 | VENT NO. 11 | VENT NO. 10

VENT BASE STATION

O.K. LAKE

MAIN BASE

ROYAL NO. 1 | ROYAL NO. 2 | ROYAL NO. 3 | ROYAL NO. 4 | ROYAL NO. 5 | ROYAL NO. 6 | ROYAL NO. 7 | ROYAL NO. 8 | ROYAL NO. 9 | ROYAL NO. 10 | ROYAL NO. 11 | ROYAL NO. 12

O.K. LAKE

CALLING LAKE

EAST CALLING LAKE BASE STATION

CANA FRACT. NO. 1

EMPIRE | EMPIRE BASE STATION

CANA NO. 9 | CANA NO. 10 | ROYAL NO. 13 | ROYAL NO. 14 | ROYAL NO. 15 | ROYAL NO. 16 | ROYAL NO. 17 | ROYAL NO. 18 | ROYAL NO. 19 | ROYAL NO. 20

BON NO. 2 | BON NO. 1 | BON NO. 4 | BON NO. 3 | BON NO. 6 | BON NO. 5 | BON NO. 8 | BON NO. 7 | BON NO. 16 | BON NO. 15 | BON NO. 13 | BON NO. 12 | BON NO. 11 | BON NO. 10 | BON NO. 9

BIG PIT

KATHLEEN

CANA NO. 2 | CANA NO. 1 | CANA NO. 4 | CANA NO. 3 | CANA NO. 6 | CANA NO. 5 | CANA NO. 8 | CANA NO. 7 | CANA NO. 17 | CANA NO. 18 | CANA NO. 19 | CANA NO. 20 | CANA NO. 11 | CANA NO. 12

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BRITISH COLUMBIA

MAP SHOWING R.C.V. CLAIM GROUPS AND MAGNETOMETER SURVEYS

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M3

#380