KENNCO EXPLORATIONS, (WESTERN) LIMITED

GEOLOGICAL SURVEY

DUCKLING NO. 4 GROUP 93N/14W

(Dorothy No. 1, 3, 8 Mineral Claims)

26 miles W of Germansen Landing,

Omineca M.D., B.C.

Lat. 55°54'N, Long. 125°20'W

August 3-14, 1972

By: R.W. Stevenson, P.Eng. September 8, 1972

3955

KENNCO EXPLORATIONS, (WESTERN) LIMITED

REPORT

ON

DUCKLING NO. 4 GROUP
(Dorothy No. 1, 3, 8 Mineral Claims)

3855

Duckling Creek, 9 miles north of the Omineca River,
26 miles west of Germansen Landing,
Omineca Mining Division,
British Columbia

Latitude: 55°54'N Longitude: 125°20'W

By

R. W. Stevenson, P. Eng.

Work done between
August 3 and 14, 1972

September 8, 1972

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INTRODUCTION

The claim group described in this report is on the east side of Duckling Creek, in the Omineca River area, B. C. The report describes rock exposed by bulldozer during the summer of 1972. This is a continuation of geological work submitted for assessment credit in 1961 (Assessment Report No. 366), combined with interpretation of geophysical work submitted in 1962 and 1963. The outcrops mapped in 1961 are shown on the present map so as to present a complete geological picture. To facilitate evaluation of the 1972 geological mapping for assessment credit, the position of the outcrops mapped in 1961 is shown on a separate sepia overlay (overlay No. 1a). Only the costs actually incurred in 1972 are being submitted for assessment credit.

The geological mapping was done by R.W. Stevenson, P.Eng. Rock exposure positions were determined by M.J. Steven, S.A.M. Earle, and R.W. Stevenson.

The survey area consists of mineral claims Dorothy 1, 3 and 8. This is part of Duckling No. 4 Claim Group. Rock exposure was found on all three of the claims that were mapped.

Kennco Explorations, (Western) Limited

3855

Dorothy No. 1, 3, 8 Mineral Claims

26 miles west of Germansen Landing,
Omineca Mining Division,
British Columbia

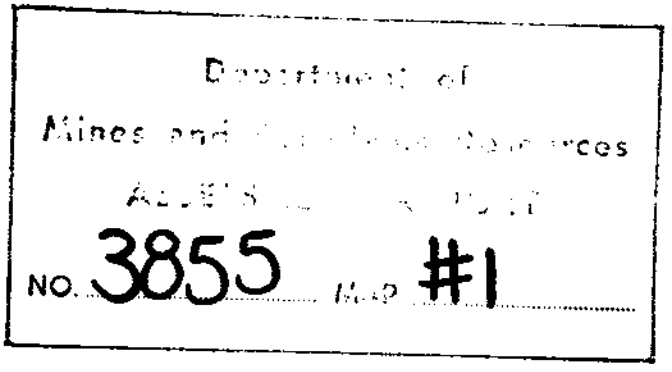
M-1

LOCATION MAP

of

GEOLOGICAL SURVEY AREA

Scale: 1:250,000


Department of
Mines and
NO. 3855 Map #1

LOCATION AND ACCESS

The survey area is about a half mile east of Duckling Creek, 9 miles north of the Omineca River, and 26 miles west of Germansen Landing, at Latitude 55°54'N, Longitude 125°20'W. It is on the west side of a north-trending ridge, with average slope about 30°. Elevations range from 4500' to 5000'. The forest cover is mixed spruce and alpine fir.

Access to the property is by four-wheel drive vehicle on the road to the Lorraine property that leaves the Department of Mines and Petroleum Resources Omineca Road at about Mile 25, northwest of Germansen Landing.

FIELD PROCEDURE

The positions of the rock exposures were determined by chain and compass survey. This was tied in to the pre-existing grid lines established for the earlier geochemical and geophysical surveys. This correlated the present work with previous geological and geophysical data. The map thus produced was used for plotting the geology at a scale of 1" = 400'.

GEOLOGY

The geology is shown on Plate No. 1 at a scale of 1" = 400'. The outcrops that were mapped in 1961 are also shown on the sepia overlays so as to facilitate evaluation for assessment credit. Only the costs incurred in 1972 are included in the report. Considerable new information was generated by the 1972 mapping; in particular the discovery that pyroxenite underlies part of the claims, as well as a better understanding of the character and extent of the leucocratic quartz diorite, and the age relation of the syenite.

The country rock underlying the claims is diorite (and some quartz diorite) of the Hogem Batholith. This contains fairly large bodies of pyroxenite, and has been intruded by dykes of leucocratic quartz diorite, and by syenite. The overburden, which consists of glacial till, is often only about two feet deep;nevertheless, natural rock exposures are relatively scarce.

Pyroxenite underlies much of Dorothy No. 1 mineral claim, and at least the northeast corner of Dorothy No. 3 mineral claim. It is a soft-weathering rock, and to the writer's knowledge does not occur in outcrop on the Dorothy property. It corresponds to Unit No. 3 on J.A. Garnett's map, and has been seen by the writer elsewhere in the Hogem area. It is a dark green to black, somewhat fine-grained rock, with varying amounts of accessory magnetite. In a few outcrops, it is somewhat chloritic. The pyroxenite bodies are probably roof pendants within the Hogem Batholith. In a few of the exposures it appears to have been intruded or partly granitized by the Hogem diorite, but sharp contacts were not found. It is cut by dykes of leucocratic quartz diorite, and by stringers of syenite.

The Hogem diorite is a medium-grained granitic rock, which contains about equal amounts of plagioclase and mafics. The latter consist of biotite, hornblende, and abundant accessory magnetite. In general, the Hogem diorite shows little alteration; however, in some of the places where it has been intruded by syenite stringers, it shows the initial stages of conversion to hybrid syenite. Some phases contain a little quartz, less mafics, and less accessory magnetite; these have been mapped as Hogem quartz diorite. These rocks correspond to Units 4 and 5 on J.A. Garnett's map.

The leucocratic quartz diorite forms two hybrid dyke swarms, one trending north-south, the other trending west-northwest. It varies somewhat in composition and texture, but a "typical" specimen contained 70% plagioclase, 20% augite, and 10% quartz. Near the contacts, the more aplitic phases contain more quartz and less augite; while in the central parts, there is occasionally up to 35% augite and no quartz. Much of the dyke rock contains only a few percent of augite. There is no accessory magnetite. It is classed as a leucocratic quartz diorite on the basis of the feldspar composition (andesine), the presence of quartz, and the general paucity of mafic minerals. The texture varies from aplitic near the chilled margins to medium-grained elsewhere; although the crystal outlines are generally somewhat blurred. In a few places, the leuco quartz diorite is cut by later dykes or stringers of the same rock type. The contacts of these later dykes are fairly sharp, but they are probably not significantly younger. One such stringer is shown in photograph No. 1. In this case, the younger quartz diorite is somewhat darker, and presumably slightly more mafic. However, there is insufficient evidence to say whether there was any consistent compositional change with time.

Xenoliths of Hogem diorite are common in some parts of the leucocratic quartz diorite. They usually show very little alteration, except for a slight lightening of colour near the edges, and a modest development of more mafic minerals near the center. One such xenolith is shown in photograph No. 2.

The trend of the north-south group of leuco quartz diorite dykes is indicated by topography, magnetics, and resistivity, as well as by outcrop distribution. The greater resistance to erosion results in a slight change in hillside slope that is readily apparent on air photographs. The leuco quartz diorite has no accessory magnetite, and contrasts with the Hogem diorite. Thus the broad trend of the dyke system shows as a magnetic low; however, detailed interpretation is complicated by several factors such as the braided nature of the dyke system, the inclusion of large xenoliths of Hogem diorite, a gradual increase from east to west in accessory magnetite content in the Hogem diorite, and the steep (30°) slope down from east to west. The dyke also shows as a resistivity high on the induced polarization data, but only a general trend is apparent because of the 200' electrode spacing.

A west-northwest trending dyke system is exposed along a mountain spur east of the map area, and it occurs in outcrop on the northeast corner of Dorothy No. 1 claim. It presumably coalesces with the north-south trending dykes on the south part of Dorothy No. 8 mineral claim. This may account for the wider distribution of leucocratic quartz diorite in this area. Unfortunately, magnetic and resistivity data are not available in this area; thus the extent of the leuco quartz diorite beyond the rock exposure is not known.

Syenite stringers cut all the other rock types. These are usually less than 1" wide, but in one case an irregular dyke swells to 2' in width. There is no consistent orientation of the stringers. They are comprised chiefly of pink feldspar. Small masses of dark green actinolite are fairly common, as seen in photograph No. 3. Minor accessory magnetite is occasionally present. Very rarely, there is 10% to 15% quartz. Potash feldspar alteration associated with the syenite stringers is common in the Hogem diorite, and in a few places approaches a hybrid syenite. The leucocratic quartz diorite is less receptive to this type of alteration; potash feldspar alteration extends only a small fraction of an inch from the syenite stringers; although in a few places, sparse grains of magnetite occur up to one inch away from the syenite stringers. One magnetite stringer, and a few small quartz veinlets were noted; these may be related to the same source as the syenite stringers. The syenite stringers and hybrid syenite correspond to Units 6 and 6A on J.A. Garnett's map.

Epidote is commonly present in the leucocratic quartz diorite, particularly along, or adjacent to, fractures. Very minor amounts of pyrite and chalcopyrite occur along fractures in Hogem diorite and pyroxenite. Widely spaced, randomly oriented jointing is fairly common in the leucocratic quartz diorite, which is not surprising considering that it is a relatively brittle rock. This produces blocks 2' or 3' across. A discontinuous fracture zone is exposed for 190' on the north half of Dorothy No. 8 mineral claim. Fragments as small as one inch across are common, but there has been no rotation. Further south, a 15' wide shear zone in leuco quartz diorite trends at 105° and has a vertical dip. At the boundary between Dorothy 1 and 8 mineral claims, a fault gouge zone 1' to 2' wide with a central 2" band of epidote strikes 20° and dips 65°E.

Vancouver, B. C.

September 8, 1972

R. W. Stevenson, P. Eng.

DOMINION OF CANADA:
PROVINCE OF BRITISH COLUMBIA.
TO WIT:

In the Matter of assessment work on the Duckling No 4 Group of mineral claims

I, R.W. Stevenson, for Kennco Explorations (Western) Limited

of Vancouver

in the Province of British Columbia, do solemnly declare that the cost of the geological survey work done on the Duckling No 4 Group in 1972 was as follows:

Locating Bulldozer cuts & Geological mapping:

R.W. Stevenson, August 9, 13, 14	@ $60.00 + $10.00 =	$210.00
M.J. Steven, August 3, 9	@ $21.00 + $10.00 =	62.00
S. Earle, August 3	@ $19.00 + $10.00 =	29.00
Drafting, typing, photos		60.00
Total =		$ 361.00

And I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath and by virtue of the "Canada Evidence Act."

Declared before me at the
of , in the
Province of British Columbia, this VANCOUVER, B. C.
day of AUG 30 1972 , A.D.

R. W. Stevenson

Sub - Mining Recorder

A Commissioner for taking Affidavits within British Columbia or
A Notary Public in and for the Province of British Columbia.

★o

In the Matter of

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Statutory Declaration

(CANADA EVIDENCE ACT)

REFERENCES

Stevenson, R.W., 1961, Assessment Report No. 366, Duckling No. 1 Claim Group, Report on Geological & Geochemical Surveys.

Stevenson, R.W., 1962, Assessment Report No. 432, Dorothy, Elizabeth, Eldor Claims, Geophysical Report.

Stevenson, R.W., 1963, Assessment Report No. 511, Dorothy, Elizabeth, Eldor. Geophysical Report.

Hallof, P.G., 1963, Assessment Report No. 513, Dorothy. Geophysical Report.

Garnett, J.A., 1972, Preliminary Map No. 9, B.C. Dept. of Mines and Petroleum Resources, Preliminary Geological Map of Part of Hogem Batholith, Duckling Creek Area.

Dorothy No. 8

Dorothy No. 1

Dorothy No. 3

Department of
Mines and [illegible] Resources
[illegible]
NO. 3855 Map #2

Duckling No. 4 Group

Outcrops – Mapped in 1961

Overlay No. 1a

R. W. Stevenson Sept 1972

Dorothy No. 8

Dorothy No. 1

Dorothy No. 3

N

LEGEND

- Mzmz Syenite
- Pegmatite Stringers
- Leucocratic Quartz Diorite
- Hqgm Quartz Diorite
- Hqgm Diorite
- Pyroxenite

SYMBOLS

- Fault
- Shearing (Strike & Vertical Dip)
- Jointing (Strike & Dip)
- Z Xenoliths
- py Pyrite
- c Chalcopyrite
- e Epidote
- Rock Exposure
- Small Rock Exposure
- Natural Clearing
- Snow Slide
- Rock Specimen Photograph

Note

The principal rock type is indicated by number or letter e.g. 3

The solution in brackets indicates

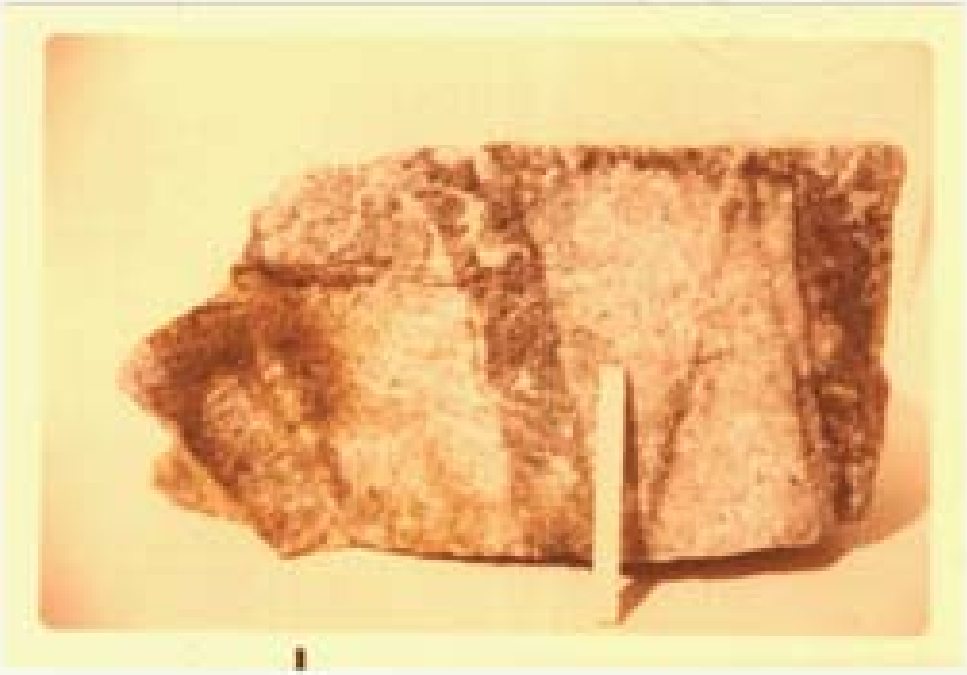
- intrusive stringers too small to map separately e.g. 3(d)
- the type of xenolith e.g. 3(gr)
- alteration or mineralization e.g. 3(a,py)

KENNCO EXPLORATIONS (WESTERN) LIMITED

Duckling No. 4 Group
Dorothy No. 1, 3, 8 Mineral Claims
28 Miles W of Germansen Landing
Omineca M.D., B.C.

Geology

DRAWN BY:	DATE: 15/5/72	SCALE:	1" = 400'
TRACED BY:	DATE:		
REVISIONS:		FILE NO.	



Photograph No. 1. Leucocratic quartz diorite cut by a later stringer of slightly darker leucocratic quartz diorite. The match stick is one inch long.

Photograph No. 2. Xenolith of Hogem diorite in leucocratic quartz diorite. Depth of the xenolith behind the rock face is about 1/4 inch. There is slight bleaching near the edge of the xenolith, and a slight increase in mafic content near the center. The match stick is one inch long.

Photograph No. 3. Syenite stringer cutting leucocratic quartz diorite. The dark mineral in the syenite stringer is actinolite. There is weak potash feldspar alteration adjacent to some fractures in the leuco quartz diorite. The match stick is one inch long.